2003

An Exploratory Look at an Evolving Tourism Industry: Maine's Nature-based Tourism Industry in Transition

Marc Edwards

Follow this and additional works at: http://digitalcommons.library.umaine.edu/etd

Part of the Forest Sciences Commons, Recreation, Parks and Tourism Administration Commons, and the Tourism and Travel Commons

Recommended Citation
http://digitalcommons.library.umaine.edu/etd/457

This Open-Access Thesis is brought to you for free and open access by DigitalCommons@UMaine. It has been accepted for inclusion in Electronic Theses and Dissertations by an authorized administrator of DigitalCommons@UMaine.
AN EXPLORATORY LOOK AT AN EVOLVING TOURISM INDUSTRY:
MAINE’S NATURE-BASED TOURISM INDUSTRY IN TRANSITION

By

Marc Edwards
B.S. University of Maine, 1997

A THESIS
Submitted in Partial Fulfillment of the
Requirements for the Degree of
Master of Science
(in Forestry)

The Graduate School
The University of Maine
August, 2003

Advisory Committee:

Wilbur LaPage, Associate Professor of Forest Recreation Management, Advisor
John Daigle, Assistant Professor of Forest Recreation Management
Stephen Reiling, Professor of Resource Economics and Policy, Associate Director, Maine Agricultural and Forest Experiment Station
Maine’s natural resources have been attracting visitors to the State for more than 150 years, from artists drawn to the beauty and wildness of the coast, such as Thomas Cole in 1844, to Henry David Thoreau’s well-documented trip to Katahdin popularized in his collection of essays *The Maine Woods*. Early artists like Cole lodged with local farmers and Thoreau’s journeys into the Maine woods were aided by Native American and local guides. These early artists and adventurers could be said to be among the first nature-based tourists in Maine, while those who provided lodging and guide services were among the first nature-based tourism entrepreneurs in the state. This tourism attraction continues today, with nature-based tourism accounting for a sizeable share of Maine’s overall tourism market. In 2000, twenty-one percent of the 4.3 million visitors who came to Maine on overnight marketable trips cited nature-based tourism as a motivation for their visit, nearly twice the national average of eleven percent.

Through interviews with selected nature-based tourism entrepreneurs in Maine and a one-day symposium in which these entrepreneurs interacted with State agency
representatives, extension and university specialists, and others, descriptive information was gathered on: common characteristics of this sampling of nature-based tourism enterprises, common concerns of the selected nature-based tourism, and perceived policy needs to address sustainability, growth, development, and support of the nature-based tourism industry in Maine.

Nature-based tourism enterprises can be seen as “guardians” of Maine’s 150 year-old image as a nature-based tourism destination. While the first century and a half was based primarily on consumptive nature-based tourism (hunting and fishing), today there is clearly a shift to non-consumptive uses (canoeing, birding, and hiking, for example).

As guardians of the new, non-consumptive nature-based tourism image, Maine’s nature-based tourism enterprises face many challenges. Through a better understanding of the nature-based tourism industry and the challenges it is faced with, clear and consistent policies can be developed to protect the industry, the natural resources on which it depends, and the State’s image as a nature-based tourism destination.
# TABLE OF CONTENTS

LIST OF TABLES...............................................................................................................................iv  
LIST OF FIGURES...............................................................................................................................v

Chapter

1. INTRODUCTION.................................................................................................................................1  
   1.1. Nature-Based Tourism in Maine.................................................................................................1  
   1.2. Definitions and Terminology.....................................................................................................3  
   1.3. The Problem...............................................................................................................................5  

2. REVIEW OF RELATED LITERATURE.................................................................................................8  
   2.1. Characteristics of Nature-Based Tourism Enterprises...............................................................8  
   2.2. Challenges to Nature-Based Tourism Enterprises....................................................................13  
   2.3. Evaluating Nature-Based Tourism Enterprises.......................................................................15  

3. RESEARCH METHODS AND ANALYSIS.......................................................................................21  
   3.1. Research Objectives.................................................................................................................21  
   3.2. Methods and Analysis..............................................................................................................21  
      3.2.1. Research Methods.............................................................................................................21  
      3.2.2. Data Analysis...................................................................................................................25  

4. RESULTS AND DISCUSSION...........................................................................................................28  
   4.1. Common Characteristics and Comparisons..............................................................................28  
      4.1.1. Summary of Common Characteristics.............................................................................28  
      4.1.2. Common Characteristics.................................................................................................30
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.1.2.1. Marketing</td>
<td>30</td>
</tr>
<tr>
<td>4.1.2.2. Customer Service</td>
<td>32</td>
</tr>
<tr>
<td>4.1.2.3. Innovative Business Practices</td>
<td>35</td>
</tr>
<tr>
<td>4.1.2.4. Success</td>
<td>38</td>
</tr>
<tr>
<td>4.1.2.5. Future of Nature-based Tourism</td>
<td>40</td>
</tr>
<tr>
<td>4.1.2.6. Business Profile</td>
<td>40</td>
</tr>
<tr>
<td>4.1.3. Comparisons</td>
<td>41</td>
</tr>
<tr>
<td>4.1.4. Evaluating Maine’s Nature-based Tourism Enterprises</td>
<td>43</td>
</tr>
<tr>
<td>4.2. Challenges to Nature-based Tourism in Maine</td>
<td>45</td>
</tr>
<tr>
<td>4.2.1. General Issues Facing Nature-based Tourism in Maine</td>
<td>46</td>
</tr>
<tr>
<td>4.2.1.1. Protecting Natural Resources</td>
<td>46</td>
</tr>
<tr>
<td>4.2.1.2. Access</td>
<td>46</td>
</tr>
<tr>
<td>4.2.1.3. Private Landowner Relations</td>
<td>47</td>
</tr>
<tr>
<td>4.2.2. The State’s Role in Nature-based Tourism</td>
<td>48</td>
</tr>
<tr>
<td>4.2.2.1. Promotion</td>
<td>48</td>
</tr>
<tr>
<td>4.2.2.2. Support for Small Businesses</td>
<td>48</td>
</tr>
<tr>
<td>4.2.2.3. Research</td>
<td>48</td>
</tr>
<tr>
<td>5. CONCLUSIONS</td>
<td>50</td>
</tr>
<tr>
<td>6. POSTSCRIPT</td>
<td>55</td>
</tr>
<tr>
<td>BIBLIOGRAPHY</td>
<td>56</td>
</tr>
<tr>
<td>BIOGRAPHY OF THE AUTHOR</td>
<td>59</td>
</tr>
</tbody>
</table>
# LIST OF TABLES

<table>
<thead>
<tr>
<th>Table 1.</th>
<th>Classification of surveyed nature-based tourism enterprises in British Columbia</th>
<th>19</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table 2.</td>
<td>Identified categories and sub-categories from interviews</td>
<td>26</td>
</tr>
<tr>
<td>Table 3.</td>
<td>Identified categories and themes from symposium</td>
<td>27</td>
</tr>
<tr>
<td>Table 4.</td>
<td>Characteristics of nature-based tourism enterprises in Maine shared in common with nature-based tourism enterprises in other areas, based on Bottrill &amp; Pearce (1995)</td>
<td>42</td>
</tr>
<tr>
<td>Table 5.</td>
<td>Classification of surveyed nature-based tourism enterprises in Maine</td>
<td>44</td>
</tr>
</tbody>
</table>
LIST OF FIGURES

Figure 1. Nature-based tourism case study map.............................................23
Chapter 1

INTRODUCTION

1.1. Nature-based Tourism in Maine

Maine’s natural resources have been attracting visitors to the State for more than 150 years, from artists drawn to the beauty and wildness of the coast, such as Thomas Cole in 1844 (National Park Service, 1995), to Henry David Thoreau’s well-documented trip to Katahdin popularized in his collection of essays *The Maine Woods* (1864). Early artists like Cole lodged with local farmers (Turner, 1995) and Thoreau’s journeys into the Maine woods were aided by Native American and local guides (Thoreau, 1864). These early artists and adventurers could be said to be among the first nature-based tourists in Maine, while those who provided lodging and guide services were among the first nature-based tourism entrepreneurs in the state. This tourism attraction continues today, with nature-based tourism accounting for a sizeable share of Maine’s overall tourism market. In 2000, twenty-one percent of the 4.3 million visitors who came to Maine on overnight marketable trips cited ecotourism (nature-based tourism) as a motivation for their visit, nearly twice the national average of eleven percent (Longwoods International, 2001). Other motivations cited in the Longwoods report (2001) included historical tourism (20%), and cultural tourism (14%). While the term ecotourism was not defined in the Longwoods report, it can be assumed that it is included in the broader category of nature-based tourism.

The Maine Office of Tourism has identified ecotourism, or nature-based tourism, as a segment of the tourism industry to be promoted as a means to both increase tourism
to inland and northern areas of the state, and to protect the state’s natural and cultural
resources, stating that:

Our obligation must be to insure that what makes Maine unique – its
natural resources, its character, its history, and its people – are not
significantly altered, disrupted, or damaged (Maine Office of Tourism,
2002).

The importance of nature-based tourism to Maine has also been recognized by local and
regional organizations. The Down East Resource Conservation and Development
Council (DECRD), for example, put together a strategic plan for sustainable tourism
development in 1998 with a stated mission to:

...provide for the conservation of local natural resources, preservation of
cultural heritage, and regional economic development for present and
future communities of Washington and Hancock Counties through
sustainable development of cultural and nature tourism opportunities.
(DECRD, 1998)

Nature-based tourism enterprises in Maine vary greatly in experiences offered, and
include both consumptive and non-consumptive use of resources. They include guided
wilderness canoe trips, dogsledding trips, whitewater rafting, guided fly-fishing,
wilderness camps, sporting camps (fishing and hunting), wildlife watching, boat cruises,
cross-country skiing, mountain biking, hiking, and sea kayaking, and other visits where
nature, and its challenges, are the primary attraction.
1.2. Definitions and Terminology

There is a variety of definitions and terminology used to describe the segment of the tourism industry concerned with: (1) sustaining both the natural and cultural resources on which it depends and (2) sustaining the local host population’s culture and economic well-being. Perhaps the most widely used term to describe this type of tourism is ecotourism (Backman et al., 1994; Jaakson, 1997). Many have suggested that it may have been Ceballos-Lascurian who first coined the term ecotourism, or at least developed the first, and perhaps most often cited, definition of ecotourism:

Ecotourism is purposeful travel to natural areas to undertake the cultural and natural history of the environment, taking care not to alter the integrity of the ecosystem, while producing economic opportunities that make the conservation of natural resources financially beneficial to local citizens (Ceballos-Lascurian, 1987, cited in Jaakson, 1997).

Many definitions of ecotourism build on the major components of this definition: travel to natural areas, protecting the resources, economic benefits to local populations. The Ecotourism Society, for example, defines ecotourism as “responsible travel to natural areas which conserves the environment and sustains the well-being of local people (The Ecotourism Society, 1999).” Similarly, Western (1993) defines ecotourism as incorporating “both a strong commitment to nature and a sense of social responsibility,” while Beeton (1998) includes education and sustainable management as key elements of ecotourism. Other definitions, such as Honey’s (1999), include travel to rare, pristine,
wilderness, or protected natural areas as a key component of ecotourism. Her definition reads:

Ecotourism is travel to fragile, pristine, and usually protected areas that strives to be low impact and (usually) small scale. It helps to educate the traveler; provides funds for conservation; directly benefits the economic development and political empowerment of local communities; and fosters respect for different cultures and for human rights (Honey, 1999).

Another term associated with the segment of the tourism industry is nature-based tourism (also referred to as nature tourism). Nature-based tourism can be broadly defined as tourism dependent on and associated with an appreciation for an area’s natural resources (EPA, 2002; Beeton, 1998). While some use these two terms interchangeably, it is thought that ecotourism (most stringently defined) operates within the broader defined nature-based tourism category (Beeton, 1998; Burton, 1998). So, while all ecotourism is nature-based tourism, not all nature-based tourism is ecotourism. However, the broad definition of nature-based tourism can be narrowed somewhat to come closer to the lofty ideals of ecotourism by defining it as not only being dependent on an area’s natural resources, but also being concerned with the preservation or conservation of these resources (Kline, 2001).

There is much discussion in the literature as to a universal definition of ecotourism and the classification of ecotourism operations (Burton, 1998; Bottrill & Pearce, 1995; Reiner, 1997). There is also a growing trend to develop new terms for what might otherwise be defined as ecotourism, as many feel that the term has been
misused to the point of losing all association with the original concepts of ecotourism. Though however defined, ecotourism can be seen as an ethic, or a set of principles that can be applied to any nature-based tourism enterprise, setting them apart from the rest (Jaakson, 1997; Western, 1993). Nature-based tourism operations can, therefore, be evaluated based on a predetermined set of ecotourism ethics, or principles. It is within this context that we will use the term nature-based tourism in lieu of ecotourism; nature-based tourism being defined, for the purpose of this paper, as tourism dependent on and associated with an appreciation for, and the protection of an area’s natural and cultural resources.

1.3. The Problem

Tourism is Maine’s largest industry, generating $5.2 billion in revenue from tourist spending and creating roughly 77,000 jobs (Maine State Planning Office, 2001). The nature-based tourism segment accounts for a sizeable share of this huge industry, with nearly a quarter of out-of-state tourists citing it as a motivation for their visit (Longwoods International, 2001). Those seeking a nature-based tourism experience are generally well educated, they stay longer and spend more money than general tourists (i.e. tourists not actively interacting with nature), and they cite wilderness setting, wildlife viewing, and hiking as the three most important elements of their visit (The Ecotourism Society, 1999). Recognizing the importance of nature-based tourism, the Maine Office of Tourism is looking to expand the marketing of this tourism segment by working with regional organizations and statewide associations (MOT, 2002). The Maine Office of Tourism also recognizes the need to balance nature-based tourism development with the need for preserving, protecting, and enhancing Maine’s natural resources. It proposes to
accomplish this through “a coordinated team effort of industry leaders and a wide array of government agencies (MOT, 2002).” This may present a challenge, as Vail et al (1998) note that while many individual tourism enterprises may be good resource stewards, the industry as a whole remains competitive and market driven, which does not encourage a “collective responsibility” for protecting the common pool resources that both the tourism industry and the communities that support them depend. There are, however, some initiatives working in Maine to address this challenge, such as the Down East Resource Conservation and Development Council’s DESTINY 2000 Strategic Plan, and the work of Mountain Counties Heritage, Incorporated. Through working with local governments and businesses, Mountain Counties Heritage (an independent non-profit organization) promotes economic and community development in the western mountains region through the “creative and sustainable use of [the] region’s heritage assets, including natural, historical, and cultural resources.”

While Maine’s other natural resource dependent industries (forestry, agriculture, and fishing, for example) are guided by state and federal policies aimed at maintaining the balance between the health of the resource and the health of the industry, no such policies exist explicitly for nature-based tourism. Many industries, including the general tourism industry, have statewide, regional, and/or national associations through which to advocate, network, or promote industry standards and best practices. While there are statewide associations for specific activity oriented segments of nature-based tourism, such as the Maine Windjammer Association, Maine Association of Sea Kayak Guides and Instructors, Maine Professional Guides Association, and Maine Sporting Camp Owners Association, there is no one association for nature-based tourism as a distinct
'industry'. Without an organized, defined, and identifiable nature-based tourism industry in Maine there is a problem identifying and addressing the concerns and needs of nature-based tourism enterprises. Without an identifiable industry there is also the problem of identifying industry leaders who can work with the state in their "coordinated team effort" to both develop nature-based tourism opportunities and protect the natural resources on which they depend. We need to better understand this 'invisible industry' if we are to keep it healthy and help it to grow.

Through interviews with selected nature-based tourism entrepreneurs and a one-day symposium in which these entrepreneurs interacted with State agency representatives, extension and university specialists, and others, descriptive information was gathered on: common characteristics of a sampling of nature-based tourism enterprises in Maine compared to similar nature-based tourism enterprises outside of Maine, common concerns of selected nature-based tourism enterprises in Maine compared those of similar enterprises outside of Maine, and perceived policy needs to address sustainability, growth, development, and support of the nature-based tourism industry in Maine.
Chapter 2

REVIEW OF RELATED LITERATURE

While there is a great deal of literature debating how to define nature-based tourism, there is little written on the entrepreneurship and business development occurring within this fastest growing segment of the overall tourism industry (McKercher & Robbins, 1998; Szivas, 2001). Valentine (1990) states:

The unfortunate reality is that we have few properly documented case studies of nature-based tourism successes or failures which may help design new ventures.

Several recent surveys of nature-based tourism enterprises in Australia and the UK begin to address this gap, giving us a snapshot of established nature-based tourism providers, their motivations, goals, and challenges, as well as other characteristics of these businesses.

2.1. Characteristics of Nature-Based Tourism Enterprises

Nature-based tourism enterprises tend to be small micro-enterprises operating outside of the mainstream tourism industry with most being owner-operated or run by families (Getz & Carlsen, 2000; McKercher & Robbins, 1998; Szivas, 2001). In a survey of tourism entrepreneurs in the UK Szivas (2001) found that of ten motives respondents cited for entering the tourism industry, money related motives were at the bottom of the list. The most often cited reason for starting a tourism business was for a lifestyle change. Getz and Carlsen (2000) found similar results from a survey of tourism
operators in Western Australia where enjoying a good lifestyle and living in the “right environment” were the top rated motives for entering into the tourism industry, while “making lots of money” was the lowest ranked motive. It is clear, but perhaps not surprising, that quality of life and an enjoyable work environment are key motivations for starting a nature-based tourism enterprise. Many of these so-called “lifestyle entrepreneurs” (Szivas, 2001) will forego certain business growth opportunities, or opt for modest growth to maintain the lifestyle their current situation affords (Ateljevic & Doorne, 2000 cited in Szivas, 2001; Getz & Carlsen, 2000).

Studies have found that the majority of nature-based tourism operators have a post secondary school education (Getz & Carlsen, 2000; Szivas, 2001), while very few (11% in the UK) had any experience or training in the tourism industry when starting their business. This indicates that higher education is not prerequisite to entering into the tourism industry, but rather a predisposition. Szivas (2001) sees entrepreneurs with higher educations as having “ventured into new areas and skills and, perhaps, accepted some devaluation of their human capital in return for a more satisfying way of life.” With many of these businesses being started by entrepreneurs with little or no prior tourism experience, most lacked marketing skills, business plan development skills, and management skills (Getz & Carlsen, 2000; McKercher & Robbins, 1998; Szivas, 2001). Hiring staff or contracting the services of those with the above mentioned skills may seem a logical solution, but many cannot afford this option, so many of these skills are obtained “on the job” (Getz & Carlsen, 2000; McKercher & Robbins, 1998). While a lack of experience in tourism, marketing, and business planning may often lead to business failure (McKercher & Robbins, 1998; Getz & Carlsen, 2000), it is suggested that
nature-based tourism enterprises that do succeed offer a product of "enhanced quality" (Szivas, 2001). The fact that successful entrepreneurs have invested much of their own human and financial capital resources into their businesses (Szivas, 2001; McKercher & Robbins, 1998), and the identified link between their business and a higher quality of life may account for the enhanced quality of the tourism product. However, many entrepreneurs noted that prior training in marketing and business planning would have been a great benefit (Getz & Carlsen, 2000; McKercher & Robbins, 1998; Szivas, 2001).

While pursuing a satisfying quality of life is a key motivation for tourism entrepreneurs, there is much more to maintaining a successful nature-based tourism business. While marketing and business planning skills are important, good customer service skills are essential to nature-based tourism enterprises (Getz & Carlsen, 2000; McKercher, 1997; McKercher & Robbins, 1998; Szivas, 2001). Customer service skills are especially important given the often intimate size of many of the businesses where owner and customer contact is close and frequent (Getz & Carlsen, 2000). McKercher (1997) puts it succinctly: "[t]ourism is first and foremost a people business." When asked to list the most useful skills for running a tourism business, respondents to a UK study overwhelmingly listed the ability to handle people as the most useful while knowledge of the tourism industry ranked fifth out of nine skills listed (Szivas, 2001).

Given the definition of nature-based tourism (tourism dependent on and associated with an appreciation for, and the protection of an area's natural and cultural resources), environmental interpretation is another essential component of a nature-based tourism enterprises (Honey, 1999; Bottrill & Pearce, 1995; Burton, 1998; Jaakson, 1997; McKercher & Robbins, 1998; Orams, 1995; Ross & Wall, 1999; Wallace 2002).
Protection of the resources on which nature-based tourism depends can be achieved in several ways:

- Through the actions of nature-based tourism providers and their customers (practicing Leave No Trace principles, recycling, etc.).
- Through the financial contributions by nature-based tourism providers and/or their customers to local conservation efforts.
- Through direct volunteer efforts of nature-based tourism providers and/or their customers.

Interpretation is seen as the first step towards the process of instilling a sense of stewardship in nature-based tourists. It is through this sense of stewardship and understanding of the resource that the protection goals of nature-based tourism may be realized (Jaakson, 1997; Tilden, 1977). While some may have a cynical view of interpretation’s role in resource protection (Orams, 1995), others are quite passionate about its potential:

[I]t is through a first-hand personal experience of ecosystems, in both pristine and devastated areas, that we come to accept the urgency to change how we live. The pristine areas teach us the importance of sustaining them; the devastated areas teach us the importance of rehabilitating them and of preventing such devastation elsewhere. Pristine ecology ecotourism and devastated-ecology ecotourism teach us, each in an opposite way, the same lesson about care for the environment. This
learning experience should instill in us a deep sense of humility and what I call a positive fear for the well-being of the environment (Jaakson, 1997).

To offer interpretation that can instill this sense of stewardship, nature-based tourism providers must have a deep knowledge of and an “even stronger affinity” for the resources in and around which they operate (McKercher & Robbins, 1998). Nature-based tourism providers in Western Australia note that it is not good enough to simply know the names of plants and animals, but that they must show the “inter-relationships and particularly any impacts which are threatening their sustainability” (McKercher & Robbins, 1998).

In summarizing the characteristics of nature-based tourism enterprises in Australia Burton (1998) lists four common attributes:

1. Small size.
2. Offering small group tours.
3. Relatively expensive tours.
4. Run by people with either a professional (e.g. teaching, local government, ecologist) background, or who were ‘bushmen’ (i.e. having experience living and working/farming in the bush) and significantly not those who had trained and worked in the tourism industry.

Of particular note is item number four. Burton noted, quite paradoxically, that those running the more environmentally responsible tourism operations lacked tourism experience, while those trained in the tourism industry “appeared to lack the motivation to undertake environmentally sensitive practices.”
2.2. Challenges to Nature-Based Tourism Enterprises

A major challenge to nature-based tourism enterprises may be in providing a quality product or experience while maintaining one of the core ideals of nature-based tourism: protecting the natural and cultural resources on which it is dependent. As Vail et al. (1998) noted, while many individual tourism enterprises may be good resource stewards, the industry as a whole remains competitive and market driven, which does not encourage a “collective responsibility” for protecting the common pool resources that both the tourism industry and the communities that support them depend. In other words, the market is incapable of preventing the tragedy of the commons. This concern is shared by nature-based tourism enterprises and general tourism enterprises in both the UK and Australia. Commercial viability is needed to support the goals of nature-based tourism as marginally successful businesses are forced to trade off environmentally beneficial actions as they redirect scarce funds to support their core business operations (McKercher & Robbins, 1998; Getz & Carlsen, 2000). Marginal businesses force the market driven competition that Vail and others referred to by driving down prices and lowering standards, ultimately hurting the entire industry. As Mckercher and Robbins (1998) put it:

As with most other sectors, the nature-based sector is only as strong as its weakest members. A healthy sector can add significantly to the total tourism experience available in a region, as well as optimize the social, economic and ecological benefits of nature-based tourism. A weak sector, on the other hand, will achieve few of these lofty ideals.
These challenges become more evident as growth in the nature-based tourism sector occurs, and small scale nature-based tourism operations are most vulnerable (Burton, 1998). Since most nature-based tourism enterprises are micro-enterprises, this is of serious concern for the nature-based tourism industry, especially as many rural and economically depressed areas are looking towards developing and growing nature-based tourism as a means for sustainable economic development.

Related to this problem of resource protection within the tourism industry, is the concern that, without sufficient policies in place, nature-based tourism will be in competition with other ‘claimants’ to the resources on which it depends (Scace, Grifone, & Usher, 1992; Vail & Hultkrantz, 2000).

Despite the steady growth of tourism in natural areas (visitation to national parks for example), there is little evidence that nature-based tourism is growing in proportion (Burton, 1998). One suggested explanation of this apparent paradox is that nature-based tourism is merely a “passing phase” in the process of tourism growth as laid out in Butler’s model of the Tourist Area Cycle of Evolution (Duffus & Dearden, 1990 cited in Burton, 1998; Hvengaard, 1994 cited in Burton, 1998). Butler’s (1980) model consists of six stages of tourism development: exploration, involvement, development, consolidation, stagnation, and decline/rejuvenation. The exploration stage is characterized by irregular visits by explorers. As visitation increases the host community provides facilities and visitor services, marking the involvement stage. As development continues the area becomes institutionalized and the market is shaped by advertising; this is the development stage. Next is consolidation, when local control and involvement decreases and the economy is strongly tied to tourism, which evolves into stagnation,
when environmental and social problems become more apparent. Finally the area reaches a state of decline. The passing phase that Duffus and Dearden (1990 cited in Burton, 1998) and Hvengaard (1994 cited in Burton, 1998) see nature-based tourism in is the development stage of Butler's model. If this holds true, it does not bode well, as nature-based tourism can be seen as being on “the leading edge of mass tourism,” rather than an alternative to it (Thomlinson & Getz, 1996 cited in Burton, 1998).

A study of Australian nature-based tourism enterprises in different geographic areas at different stages of tourism development suggests that they were more likely to be successful in areas at earlier stages of development (Burton, 1998). This can be expected as more non-specialized and non-nature-based tourism enterprises ‘squeeze’ out the nature-based tourism enterprises which cannot compete without giving up on the ideals of nature-based tourism.

Access to bank financing is also a challenge to nature-based tourism enterprises. Banks often are not interested in financing such operations, and entrepreneurs often have difficulty providing the standard collateral that banks are looking for (Fleischer & Felsenstein, 2000; McKercher & Robbins, 1998; Victurine, 2000). When entrepreneurs can find financing, the interest rates are often high.

2.3. Evaluating Nature-Based Tourism Enterprises

With the abundance of definitions and terminology used to convey the concepts of ecotourism, it can be challenging to determine which nature-based tourism enterprises are operationalizing these concepts. Overuse of the term has also done little to clarify the concepts of ecotourism and nature-based tourism (Bottrill & Pearce, 1995; Burton, 1998; Orams, 1995; Jaakson, 1997).
The abundance of different and often stringent definitional criteria, it may be unlikely that many nature-based tourism enterprises would qualify as ‘true’ ecotourism. For this reason, several authors suggest that nature-based tourism enterprises operate more on a continuum of ecotourism ideals (Burton, 1998; Orams, 1995; Jaakson, 1997). One model (Burton, 1998; Orams, 1995) suggests that on one end of the continuum tourism enterprises meet none of the established criteria, or just do the minimum required, while enterprises at the other extreme meet all criteria and can be categorized as ‘true’ ecotourism enterprises. It is noted, however, that the criteria used is derived from the definition(s) the researcher chooses.

Jaakson’s (1997) continuum model is based on seven categories of attributes to evaluate ecotourism and its ethics. He proposes that the essence of ecotourism is an ethic that separates it from other types of tourism rather than definitional criteria. Each category is evaluated on attributes along a continuum with ecotourism at one end and conventional tourism at the other. This model (the spectrum of ecotourism) is flexible and adaptable, allowing for the application of ecotourism ethics to various sites and tourism contexts that definitional criteria might exclude. For example, Jaakson (1997) states:

Let us agree that ecotourism is not restricted to pristine nature or wilderness but that ecotourism potentially may include any setting of human-environment interrelationships. Let us agree also that ecotourism is not about physical place, but about a type of tourist behavior. We would conclude that the Bordeaux wine country cannot be judged a priori as precluding ecotourism. Instead, we would investigate the cultural
landscapes...for its potential for ecotourism, perhaps by experimenting
with the “spectrum of ecotourism.” Ecotourism does not presuppose a
specific environment, but it does presuppose a specific ethic of how
tourism takes place in that environment.

For the purpose of this research, Bottrill and Pearce (1995) offer perhaps the most useful
model for evaluating nature-based tourism enterprises in the field, as they propose a key
elements approach. Drawing key elements of ecotourism from existing literature, a
methodology for classifying nature-based tourism enterprises in Canada was designed. A
checklist is used to evaluate enterprises in the field based on their meeting the criteria of
each key element. The key elements are taken from two perspectives: the visitor’s
perspective, and the operator’s. From the visitor’s perspective the key element is the
visitor’s motivation, which is broken down into three sub-categories: physical activity,
education, and level of visitor participation. Physical activity relates to the level of
activity the visitor is expecting to perform. This includes hiking, walking, paddling,
climbing, etc. Education relates to level of knowledge or information about local natural
and cultural resources the visitor is expecting to gain from the experience. Participation
relates to the level of involvement in the experience the visitor is expecting. For
example, will the visitor participate in preparing meals, or actively participate in an
enterprise’s recycling, composting, gardening, or trail maintenance program? From the
operator’s perspective the key elements are: sensitive management activities, and
operating in a protected environment. These elements relate to the operator’s
commitment to running the operation in an environmentally sensitive manner (recycling,
composting, using solar power, and practicing Leave-No-Trace principles, for example), and operating in protected areas such as national parks, reserves, and wildlife refuges.

Twenty-two small individually owned and operated enterprises in Australia were interviewed (whale watching and fishing to wilderness tours, white water rafting, and guest ranches) and evaluated based on whether they met the criteria for each key element (see Table 1). Only five met all of the criteria, and therefore declared true ecotourism enterprises. Only six met the criteria for operating in a protected area, a key component of the most stringent definitions of ecotourism from which this key element is taken. This brings up the possibility that perhaps the instances of ecotourism in the study area were not as great as initially thought. It also suggests, particularly in the instance of using operating in protected areas as a key element, that perhaps the criteria that true
## Key Elements

<table>
<thead>
<tr>
<th>Ventures</th>
<th>Motivation</th>
<th>Sensitive management</th>
<th>Protected environment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Physical activity</td>
<td>Education</td>
<td>Participation</td>
</tr>
<tr>
<td>Whale watching 1</td>
<td>Y</td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td>Whale watching 2</td>
<td>Y</td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td>Sea Kayaking 1</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Sea Kayaking 2</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Wilderness sailing</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Marine fishing/</td>
<td>Y</td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td>tourist resort</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wilderness</td>
<td>Y</td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td>fishing resort</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>‘Native’ fishing resort</td>
<td>Y</td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td>Guest ranch</td>
<td>Y</td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td>Guest ranch (multi-activity)</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Outfitter 1</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Outfitter 2</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Huts system/guiding</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>White-water rafting</td>
<td>Y</td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td>Heritage museum</td>
<td></td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Heli-skiing 1</td>
<td>Y</td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td>Heli-skiing 2</td>
<td>Y</td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td>Wilderness flights</td>
<td>Y</td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td>‘Wilderness’ bus tours</td>
<td></td>
<td></td>
<td>Y</td>
</tr>
<tr>
<td>Adventure tours/trips</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Wilderness resort</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
<tr>
<td>Freshwater fishing resort</td>
<td>Y</td>
<td>Y</td>
<td>Y</td>
</tr>
</tbody>
</table>

Source: Bottrill and Pearce (1995)

**Table 1.** Classification of surveyed nature-based tourism enterprises in British Columbia
Ecotourism can only occur in these areas needs to be reassessed. By determining how important a particular key element is in determining whether an enterprise is a true ecotourism enterprise this model may be adapted to specific applications. In the process of this determination Bottrill and Pearce (1995) ask questions such as: can high fuel consuming enterprises be considered true ecotourism no matter how environmentally sensitive the rest of the operation might be? They go on to state:

[W]hat the key elements approach to the classification of ecotourism entails is not the search for a comprehensive all-embracing definition but the designation of a set of measurable key elements whose presence is required if specific operations are to be recognized as constituting ecotourism ventures.

This model, being adaptable and not linked to any one definition of ecotourism or nature-based tourism, may prove useful in evaluating Maine's nature-based tourism enterprises.
Chapter 3

RESEARCH METHODS AND ANALYSIS

3.1. Research Objectives

While Maine’s natural and cultural resources have been attracting tourists for more than 150 years, little is known of the segment of the overall tourism industry that might be defined as nature-based tourism. This exploratory case study research is designed to provide an improved understanding of private sector nature-based tourism in Maine by identifying the key elements and principles of ecotourism being applied in selected exemplary nature-based tourism enterprises. Comparing the common characteristics of the case studies to similar cases elsewhere in the world where, particularly in Australia, nature-based tourism enjoys policy attention at the regional and federal levels of government will further expand this understanding. We will be able to view Maine’s ‘invisible’ nature-based tourism industry within the context of a highly visible and legitimate world-wide nature-based tourism industry.

This research will also identify the challenges facing Maine’s nature-based tourism enterprises and its policy needs of sustainability, growth, development, and support of nature-based tourism within the State.

3.2. Methods and Analysis

3.2.1. Research Methods

This research was initiated and sponsored by the Maine Office of Tourism to gain a better understanding of nature-based tourism as one step in the process of meeting their goal of promoting the development of nature-based tourism. Given the paucity of
information on nature-based tourism in Maine, an exploratory case study approach was taken to give the Maine Office of Tourism a ‘snapshot’ of the industry. Exploratory case study research may be seen as the prelude to a larger study (Berg, 2001), and as Babbie (1992) writes:

> Exploratory studies are most typically done for three purposes; (1) to satisfy the researcher’s curiosity and desire for better understanding, (2) to test the feasibility of undertaking a more careful study, and (3) to develop the methods to be employed in a more careful study.

The Maine Office of Tourism provided a list of sixteen enterprises representative of the nature-based tourism sector to be included in this research (see Figure 1). All were identified by the Maine Office of Tourism as “successful businesses.” It must be noted that at the time a working definition of nature-based tourism had not been developed, and the sixteen enterprises were most likely broadly viewed as tourism dependent and associated with an appreciation for an area’s natural resources. The sixteen case studies cover a range of operations from salt water boat cruises and high-end sporting camps to wilderness canoe trips and dogsledding expeditions. No conscious attempt was made at securing geographic representation, size of investment, or years in business as characteristics of the sample. It can best be viewed as a sample of convenience provided by the Maine Office of Tourism to be reflective of nature-based tourism enterprises in the state. Other case study research in nature-based tourism has focused on identified
Figure 1. Location of tourism case studies.
geographic regions (Bottrill & Pearce, 1995; Burton, 1998) largely due to the use of ecotourism definitions which include travel to protected areas.

During the spring, summer, and autumn of 2001 the selected enterprises were contacted and asked to participate in a study of nature-based tourism in Maine. All sixteen agreed to participate in the study, although some expressed reservations about the Office of Tourism’s involvement. The study consisted of on-site interviews with the each business owner(s). A semi-standardized interview strategy (Berg, 2001) was used to structure the interviews. This strategy allows for using a set of predetermined questions as well as providing the flexibility to “probe far beyond the answers” (Berg, 2001). For example, rather than accepting an answer such as “yes” to the question “do you consider your business successful,” (which would suffice in a quantitative approach) this strategy allows for gaining an understanding of how the respondent may define success through what Berg (2001) calls “unscheduled probes.” Each interview took approximately one hour to complete and was recorded with the permission of the participants. No notes were taken during the interview. However, notes were taken immediately following each interview on observations of behaviors and attitudes of the participants which might not be apparent on the audio tape. Since the interviews were completed on-site, this allowed for personal field observation of grounds and facilities, although no observations of tourism practices were made at the interview locations. The interview questions were constructed around five major themes: (1) marketing, (2) customer service, (3) innovative business practices, and (4) success. There was no attempt made to collect sensitive information such as annual operating costs or income.
A symposium on nature-based tourism was held in conjunction with this research in April, 2002. The research participants took part in a series of panel discussions concluding with a panel made up of representatives from five state agencies with a stake in nature-based tourism: Maine Office of Tourism, Bureau of Parks and Lands, Department of Inland Fisheries and Wildlife, Department of Agriculture, and State Planning Office. Questions directed to the panelists and responses were recorded manually for analysis as part of this research. Data was also collected at the symposium from a questionnaire distributed to panelists and attendees. This was not to gain statistically valid data, but rather to be used in conjunction with the recorded data to identify themes that emerged from the symposium related to two main categories: (1) important issues facing nature-based tourism, and (2) the State’s role in nature-based tourism.

3.2.2. Data Analysis

The taped interviews were transcribed to allow for thorough content analysis of the information collected. Before analysis could begin, the information was organized and categorized based on the major themes on which the interview questions were based. This process helped to reduce the amount of information to be analyzed, an important step, as the length of the transcripts ranged from 10 to 30 pages. As Berg (2001) notes, information reduction is necessary to make the information “more readily accessible, understandable, and to draw out various themes and patterns.” The information was then coded to begin the process of interpretation and analysis. Coding is the process by which categories, or themes, are identified in the information and labeled (Kelleher, 1993). Within two of the four predetermined main categories of (1) marketing, (2) customer
service, (3) innovative business practices, and (4) success, coding helped to identify sub-
categories, or themes, as shown in Table 2.

This process also led to the identification and addition of two main categories: (5) the
future of nature-based tourism in Maine and (6) business profiles. The information was
coded manually using a color-coded system to mark each of the identified themes, or sub-
categories.

<table>
<thead>
<tr>
<th>Main Category</th>
<th>Sub-category</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Marketing</td>
<td>(1a) Identifying market niche</td>
</tr>
<tr>
<td></td>
<td>(1b) Reaching market niche</td>
</tr>
<tr>
<td>(2) Customer service</td>
<td></td>
</tr>
<tr>
<td>(3) Innovative business practices</td>
<td>(3a) Community mindedness</td>
</tr>
<tr>
<td></td>
<td>(3b) Environmental awareness</td>
</tr>
<tr>
<td>(4) Success</td>
<td></td>
</tr>
<tr>
<td>(5) Future</td>
<td></td>
</tr>
<tr>
<td>(6) Business profile</td>
<td></td>
</tr>
</tbody>
</table>

Table 2. Identified categories and sub-categories from interviews

With the information categorized and coded it was examined to identify common
characteristics among the sixteen nature-based tourism enterprises. The determination as
to whether the characteristics were common to the sample of nature-based tourism
enterprises was based on the researcher's interpretation of the qualitative information
collected, not a statistical analysis. For example, while only seven owners explicitly
stated that money was not a factor in determining success, which represents 44% of the
businesses, a detailed and thorough analysis of the data indicated that the percentage is
actually quite higher. Once identified, the common characteristics were then compared to
characteristics common to nature-based tourism enterprises in other parts of the world as identified in a review of current literature.

The information gathered from the symposium was analyzed using the same process of categorizing and coding. Within the two main identified categories of (1) important issues facing nature-based tourism and (2) the State’s role in nature-based tourism, several themes emerged (see Table 3). These were then compared to similar themes relating to nature-based tourism found in a review of current literature.

<table>
<thead>
<tr>
<th>Main Category</th>
<th>Theme</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Issues</td>
<td>(1a) Protecting resources/character</td>
</tr>
<tr>
<td></td>
<td>(1b) Access</td>
</tr>
<tr>
<td></td>
<td>(1c) Private landowner relations</td>
</tr>
<tr>
<td>(2) State’s role</td>
<td>(2a) Promotion</td>
</tr>
<tr>
<td></td>
<td>(2b) Support for small businesses</td>
</tr>
<tr>
<td></td>
<td>(2c) Research</td>
</tr>
</tbody>
</table>

Table 3. Identified categories and themes from symposium
Chapter 4
RESULTS AND DISCUSSION

Analysis of the information gathered from this research revealed several characteristics common to nature-based tourism enterprises in Maine relating to the categories and sub-categories listed in Table 2. First these main categories, sub-categories, and common characteristics will be listed in summary form, followed by a more in depth view and comparison to findings in similar research. To further the comparison, the sixteen case studies will then be compared to evaluations of nature-based tourism enterprises based on the key elements model of Bottrill and Pearce (1995). This will be followed by a review and analysis of information gathered from the nature-based tourism symposium from which several themes emerged relating to the categories listed in Table 3.

4.1. Common Characteristics and Comparisons

4.1.1. Summary of Common Characteristics

The following is a summary of the common characteristics of selected nature-based tourism enterprises in Maine identified through analysis of the gathered information. The bulleted items represent the most common characteristics and are not ranked in any particular order:

Marketing

Market Niche

- Comprising of those who appreciate nature and the outdoors
- Geographic area: Greater Boston and New England region
Reaching the Market

- Use of Internet/website
- Reliance on word of mouth
- Ability to attract travel and feature writers

Customer Service

- The overall experience transcends and is more important than a specific nature-based tourism activity
- Provide information on local natural and cultural history (interpretation)
- Get to know customers/build relationships with customers

Innovative Business Practices

Community Mindedness

- Support the local business community
- Donate services, money, and time to local organizations

Environmental Awareness

- Support local resource conservation/protection/management efforts
- Use environmentally friendly business practices (i.e. recycling or composting)
- Promote ethical practices by customers

Success

- Not measured in financial terms
- Measured in quality of life
- Defined as reward for providing quality customer satisfaction
- Defined by ability to maintain business operation as sole source of income
Future of nature-based tourism

- Dependent on resource protection/quality
- State government to play a larger role
- Cooperation among nature-based tourism enterprises

Business profile

- Small individually owned
- Owner operated
- Seasonal

4.1.2. Common Characteristics

The following is a more detailed look at the common characteristics identified within the main categories and sub-categories. Only four of the five main categories lend themselves to comparison with findings of similar research: customer service, innovative business practices, success, and business profile. A detailed case study book describing how these key elements are applied within each of the sixteen nature-based tourism enterprises was published for use in nature-based tourism symposium based on this research in April 2002. Random quotes will be used to highlight specific examples of the common characteristics as they apply to specific enterprises.

4.1.2.1. Marketing. The most common characteristic of the nature-based tourism market segment, cited by nearly all sixteen businesses, and transcending all demographics is: having a love and appreciation for the outdoors. This was true for the clients of a bear hunting guide, who have “such an incredible love for Maine,” as well as for those families visiting a wilderness inn who want to “submerge themselves in the
natural environment...trying to expose their children to something they can go away with...rather than a waterslide at Attitash.”

One clearly defined demographic profile common to all of the enterprises did not emerge from the data. One owner stated that the market was a constantly “moving target,” while others noted seasonal and temporal shifts in their customers’ demographic. The geographic range of the market was consistent with nearly all enterprises citing the greater Boston area and the New England region as the primary source of customers.

To reach target markets, the use of the internet and a website emerged as perhaps the most important and valuable marketing tool:

...the Internet is mostly the way people find us...we rarely ever get a written inquiry any more, or even phone inquiries, it's almost all email.

The next two most widely cited marketing tools were cited by at least half of the respondents, they are: word of mouth advertising and attracting travel and feature writers. Many of the owners cited repeat and referral business as the backbone of their operations, which is supported largely by word of mouth advertising and superior customer service:

Most of this industry is driven by repeat and referral business, so there are many people that will strike their belief set firmly in the idea that it's much easier to spend money on customer service and keeping your customer happy and grow your business that way than it is to spend lots and lots of money on marketing, have customers come and be marginally satisfied and not come back. Certainly we buy into that philosophy.

Of the three most common marketing strategies identified, the most cost effective is to attract travel writers to feature the tourism operation in a major publication, as this is
cost-free and most of the businesses have limited marketing funds. One of the enterprises relies almost exclusively on this marketing strategy:

_We’ve been unbelievably lucky from the get-go because we’re odd enough to be interesting to journalists. In twenty-one years we’ve been profiled in regional, national, and international magazines forty-three times, so we have an advertising budget of zero, with the exception of brochure printing and mailing._

4.1.2.2. Customer Service. Quality customer service emerged as one of the categories most important to the success of all sixteen nature-based tourism enterprises. The most common characteristic to emerge from within this category is the idea that the overall experience of being immersed in a natural environment transcends a specific nature-based tourism activity. That is to say, for example, that whether a fly fisher on a wilderness fishing trip catches ‘the big one’, or any at all, is subordinate to the experience of being in a beautiful natural setting with a knowledgeable guide and getting lost in the moment:

_Sometimes when they come on a fishing trip, the fishing is just the excuse to be here. They want solitude, they want to listen to the loons, or just be out there on a pond fishing all by themselves. That’s what we sell._

A critical observation is that the experiences these nature-based tourism enterprises offer are real and authentic, not contrived. In other words, situations are not choreographed to impose “ideological goals.”

Natural and cultural history interpretation is another characteristic of customer service common to all sixteen businesses. Whether they are interpreting the history of
forest management in Maine, the history of their century-old sporting camp, or the
géologic history of a land form, interpretation emerged as an integral part of nature-based
tourism enterprises. In talking about guiding a nature tour in a region well-known for
moose watching, one operator stated:

We want to offer another trip that they can do so they’d get something
more out of the area than just a moose. There’s a lot of other things
happening here.

Without using the word ‘interpretation’ these owners and operators are putting the
principles of interpretation into practice. Many of the businesses recognized the potential
of interpretation as a means to protecting resources, following Tilden’s observation
(Tilden, 1977).

Getting to know their customers and building relationships with them emerged as
the final characteristic of customer service common to each of the nature-based tourism
enterprises in this study. Many of the businesses are small and owner-operated, and
several offer guided trips, some for extended periods, for small groups of customers.
These situations lend themselves to close and frequent encounters with clients, a basis for
building relationships:

I think that’s one of the best things about this kind of business, you spend a
week with people; you have time to get to know them fairly well. It’s not
like having someone stay in your Bed & Breakfast for a couple of nights.
You’re really working with them.

To maintain these relationships owners keep in touch with their customers in the off
season through personal correspondence or newsletters. Since many of the businesses
have a high percentage of return customers year after year (some reporting second and third generation customers), these relationships may be long lasting. Some owners have been invited to customers’ weddings, witnessed christenings, and attended the funerals of customers.

Applying a personal touch to customer service is important in helping to build relationships with clients. For example, some owners may keep notes on individual clients so that they may prepare a client’s favorite meal on their arrival, or take note of other preferences in order to provide individualized customer service.

_We want that personal touch, personal feel. We feel most of our best friends we make are from this business… it’s important to make your customers your friends._

A common understanding of all sixteen businesses was that they were, above all else, in the people business:

_No matter what you do in life in the outdoor business, if you’re in the kayak business, whale watching, hunting guide, fishing guide, you can think you’re all those things, but the bottom line is you’re in the people business._

Two of the characteristics of customer service common to the nature-based tourism enterprises in this study are also recognized as characteristics common to nature-based tourism enterprises in Australia, Canada, and the UK: interpretation and the recognition that tourism operators are concerned foremost with handling people. Many researchers acknowledge the value and importance of interpretation in nature-based tourism (Honey, 1999; Black, 19??; Bottrill & Pearce, 1995; Burton, 1998; Jaakson, 1997; McKercher &
Robbins, 1998; Orams, 1995; Ross & Wall, 1999; Scace, Grifone, & Usher, 1992; Wallace, 2002), and Orams (1995) states that an effective interpretation program “may be the means by which nature-based tourism can truly become ‘ecotourism.’” Studies of tourism enterprises in the UK and Australia revealed that the ability to handle people as the most useful skill for running a tourism business (McKercher & Robbins, 1998; Szivas, 2001).

4.1.2.3. Innovative Business Practices. Two sub-categories emerged from the category of innovative business practices: community mindedness, and environmental awareness (action). These two categories are major components of many ecotourism definitions (Beeton, 1998; Honey, 1999; The Ecotourism Society, 1999; Western, 1993) and may prove important in evaluating and classifying the case studies from both a definitional perspective and key elements approach.

Within the category of community mindedness three common characteristics were identified: support for the local business community, donating services, money and time to local organizations, and making referrals to other local nature-based tourism enterprises if needed.

Support for the local business communities comes in many forms. A high-end lodge sells locally produced arts and crafts in the small gift shop, an outfitter hires a local woman to dry all the food for extended length trips, and a larger white-water rafting outfitter does not serve lunch, but rather sends customers to local restaurants. This is of particular note since this business includes a restaurant. In explaining this decision, the owner states:
When we chose to build our base...we wanted to be closer to town so that our guests would be able to a) enjoy amenities and services offered in town and b) contribute because there had been a lot of criticism about rafting companies that are up [further]...once your guests drive through this town and go to a rafting company, they don’t come back to town until they drive through on their way out. And we said all right, if we’re going to change the role that rafting plays, we need to be in this community more directly.

The nature-based tourism enterprises also support the local business community by referring customers to other nature-based tourism operations, either because they are over booked or do not provide a particular serviced desired by the customer, and, in the case of a white-water rafting outfitter, lending equipment to competitors when needed. The owner of a wilderness canoe guide service said that this networking, rare in years past, is on the increase as competitors recognize the need to work together on resource management issues:

Guides seem to be more willing, I think, to send business to other businesses even though they might not do the same style of guiding. It’s important that we regard each other as colleagues more than as competitors when we all depend on the same resource.

Another way in which the businesses demonstrate a strong commitment to their local communities is through donating services, money, and time to local organizations. Examples include a guide service putting together a slideshow at the local Grange Hall for National Trail Days, a tour boat operator taking the local school out for a free trip
each year, and a mountain bike outfitter making an annual donating to the town’s recycling committee. While discussing the strong link to the community one owner stated:

*You can’t expect to set up shop and just put blinders on and not be involved with the stuff in a little small community like this and make out. I can’t see how it can be done.*

Within the category of environmental awareness three common characteristics emerged: the support for local resource conservation, protection, and management efforts, the use of environmentally friendly business practices, and promotion of ethical practices by customers.

The nature-based tourism operators support local conservation efforts in many ways, from being involved with local land trusts to testifying in Augusta on resource management issues. Examples include a guide service that makes a donation to The Nature Conservancy’s purchase of 185,000 acres of the upper St. John River each year that they do a trip on the St. John, a sporting camp that helped protect an important stream from development, and a fishing guide working with state biologists and actively promoting catch-and-release and sustainable management of fresh water fisheries:

*I believe we’ve improved the fishing over the years, it’s gotten better and it’s going to get better, and it’s sustainable over the years. [We are] very involved with the IF&W, being very active and proactive and trying to protect what we have. You have to. If the fish are gone we’re gone, and it’s over.*
Environmentally friendly business practices employed by the businesses ranged from a wilderness inn that was completely off the grid to a boat tour operation that uses soy-based ink for brochures printed on recycled paper and recycles to reduce the waste stream generated from their operation. Other examples include a high-end lodge that uses motion detected outdoor lighting to reduce light pollution (and conserve energy), a mountain bike outfitter that uses a solar power shower, and a wilderness camp that composts its waste and maintains an organic vegetable garden.

Promoting ethical environmental practices by their customers is accomplished by overt means as well as leading by example. The owner of one business matter-of-factly states that “the motivation to start this business was to save the planet.” Business owners hope that through interpretation and exposing their customers to environmentally sound practices and ethics their customers will incorporate these ethics in their day-to-day lives:

...because of what they've learned here they're going to go back home and try to encourage their community, friends, or their family to change things. So, on a broad basis, guests are taking their experiences back with them to try to improve conditions back home.

4.1.2.4. Success. All sixteen businesses were identified by the Maine Office of Tourism as being successful nature-based tourism enterprises. Success, however, was not defined. Definitions of success came from the businesses, and from the data three common characteristics emerged: success is not measured in financial terms, it is measured in terms of quality of life, it is defined in terms of customer satisfaction, and it is defined in terms of the ability to maintain the business as a sole source of income.
Many of the businesses do not equate success with financial rewards. In other words, being financially successful is viewed as being very different than being successful in the nature-based tourism industry:

Financially we about break even, so it hasn't been real successful that way. Artistically I think it's been really successful.

I'd say we're wildly successful by our standards. If you were to take whatever we earn in a year and show it to somebody...they might be surprised and say, “Huh? How can you live on that?”

The most common measure of success was in terms of quality of life; the fact that many owners are living the life they want to live. Many view the quality of life measure as compensating for the lack of financial success. Related to the quality of life measure is the definition of success in terms of maintaining the business as the sole source of income:

People really do respect what we are doing and would consider us successful because we've been doing it just totally guiding, and that's it, without having to get other part-time jobs.

Customer satisfaction is another measure of success for many of the businesses. They define success in terms of their customer’s experiences. This stems from a commitment to customer service and to providing a quality experience:

Success in my opinion is having people feed back to us what we hoped they gained by being here, and upon leaving saying, “This is just what we
came for. I just thoroughly enjoyed being here.” That is success, that’s the definition of success in my opinion.

These characteristics, common to nature-based tourism enterprises in Maine, are also common to nature-based tourism enterprises in other parts of the world. Studies in the UK and Australia cite quality of life as the key motivation for starting a nature-based tourism business and show clearly that money, while important to the maintaining the business, is at the bottom of the list of reasons for being in the nature-based tourism business (McKercher & Robbins, 1998; Szivas, 2001).

4.1.2.5. Future of Nature-based Tourism. Three major themes emerged from the data regarding participants’ views towards the future of nature-based tourism in Maine: the future is dependant on natural resource protection (and the quality of the resources), State government should play a larger role, and cooperation among nature-based tourism enterprises will be necessary and more common. These themes are very closely related to the themes that emerged from the analysis of the nature-based tourism symposium and will be discussed in further detail in section 4.2.

4.1.2.6. Business Profile. Within this category three common characteristics of nature-based tourism enterprises emerged: they are small and individually owned, they are seasonal, and they are owner-operated. These characteristics are consistent with characteristics of nature-based tourism enterprises in the UK, Canada, and Australia, where they tend to be small micro-enterprises with most being owner-operated or run by families (Getz & Carlsen, 2000; McKercher & Robbins, 1998; Szivas, 2001).
4.1.3. Comparisons

To view nature-based tourism in Maine in the context of a defined nature-based tourism industry in other parts of the world, a comparison can be made of characteristics common to both. Characteristics common to the nature-based tourism industry outside of Maine were derived from studies done in the UK, Canada, and Australia as well as from definitions of nature-based tourism and ecotourism found in the literature. Those falling under the category of innovative business practices are derived from definitions of ecotourism similar to The Ecotourism Society’s (1999), which include environmental conservation and social responsibility (community mindedness), while those under the categories of business profile, success, and customer service were derived from the previously mentioned studies.

As seen in Table 4, of the twenty common characteristics identified with nature-based tourism enterprises in Maine, eleven are characteristics shared with nature-based tourism enterprises identified by Burton (1998), Getz and Carlsen (2000), McKercher and Robbins (1998), and Szivas (2001). Five of those eleven shared characteristics are consistent with elements of The Ecotourism Society’s definition of ecotourism. It should be noted that while a characteristic may appear not to be in common with nature-based tourism enterprises elsewhere (see Table 4), this should not be inferred. Due to differing research methods and objectives, a wide variety of characteristics of nature-based tourism enterprises have been identified in the literature, many of which this research either made no attempt to identify (such as age of owner or source of business capital), or which simply did not emerge from the data. Conversely, this research revealed characteristics that were not measured in the literature reviewed, such as marketing methods.
<table>
<thead>
<tr>
<th>Category</th>
<th>Sub-category</th>
<th>Characteristic</th>
<th>In common</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marketing</td>
<td>Market Niche</td>
<td>Appreciation of nature and outdoors</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Boston/New England</td>
<td></td>
</tr>
<tr>
<td>Reaching the Market</td>
<td>Internet/website</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Word of mouth</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Travel writers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Customer service</td>
<td></td>
<td>Importance of experience</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Interpretation</td>
<td>*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Relationship with customers</td>
<td>*</td>
</tr>
<tr>
<td>Innovative business</td>
<td>Community mindedness</td>
<td>Support local business community</td>
<td>*</td>
</tr>
<tr>
<td>practices</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Donate services, time, money</td>
<td>*</td>
</tr>
<tr>
<td>Environmental</td>
<td></td>
<td>Support local conservation efforts</td>
<td></td>
</tr>
<tr>
<td>awareness</td>
<td></td>
<td></td>
<td>*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Environment friendly business practices</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Promote ethical practices by customers</td>
<td>*</td>
</tr>
<tr>
<td>Success</td>
<td></td>
<td>Not measured in financial terms</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Measured in quality of life</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Defined in terms of customer satisfaction</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Defined in terms of business as sole source of income</td>
<td></td>
</tr>
<tr>
<td>Business Profile</td>
<td>Small</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Owner operated</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Seasonal</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Table 4.** Characteristics of nature-based tourism enterprises in Maine shared in common with nature-based tourism enterprises in other areas, based on Bottrill & Pearce (1995).
4.1.4. Evaluating Maine’s Nature-based Tourism Enterprises

Based on Bottrill and Pearce’s model of evaluating nature-based tourism enterprises in Canada (1995), an evaluation of the sixteen case studies was made as a means of comparison (see section 2.3.). Using a checklist of key elements, the case studies were evaluated based on their meeting the criteria of each key element. The key elements are taken from two perspectives: the visitor’s perspective, and the operator’s. From the visitor’s perspective the key elements are physical activity, education, and level of visitor participation. From the operator’s perspective the key elements are sensitive management activities, and operating in a protected environment. It is noted that without clearly measurable indicators, it is largely up to the researcher to determine whether the criteria has been met for each key element. As Bottrill and Pearce (1995) state:

Deciding what constitutes a reasonable level of environmental management is complicated by the different types of operation, sites and facets of management. Any assessment at this stage is largely arbitrary and based on considered judgment.

To address these situational factors, Wallace (2002) has identified six key elements, each with a set of indicators which can be used to develop site or situational specific measurable indicators. However, in two studies using this approach Wallace noted that there was an “over-reliance on researcher judgment in developing both indicators and standards” (2002).
Table 5. Classification of surveyed nature-based tourism enterprises in Maine
As seen in Table 5, only one of the sixteen case studies can be viewed as ‘true’ ecotourism using Bottrill and Pearce’s model. This is due largely to the requirement that ecotourism must take place in a protected environment. As with the Canadian study, without this requirement more operations would be viewed as ‘true’ ecotourism. The one tourism operation meeting this requirement borders a National Forest. If we were to include areas in conservation easements or land trusts as a protected environment, the number of enterprises meeting this criterion would increase. Also, some enterprises offer trips into protected environments, but not exclusively.

The intent of this evaluation of the case studies is to compare nature-based tourism enterprises in Maine to those in Canada using a common model. A clear similarity exists between the two, though more of the Canadian nature-based tourism enterprises meet all the requirements of ‘true’ ecotourism due to meeting the protected environment criterion. Without this element, the two are almost identical. There is a high level of researcher discretion in using this model, however, and as both Bottrill and Pearce, and Wallace point out, more debate and discussion needs to take place to resolve this issue and develop a method for evaluating nature-based tourism enterprises in the field.

4.2. Challenges to Nature-based Tourism in Maine

Clearly emerging from the interview data and symposium discussions and questionnaire is a consensus that there are challenges facing Maine’s collective nature-based tourism operators. These challenges can be grouped into two main categories: (1) general issues, and (2) the State’s role in nature-based tourism. Analysis of the data revealed several themes within these categories (see Table 3).
4.2.1. General Issues Facing Nature-based Tourism in Maine

4.2.1.1. Protecting Natural Resources. Protecting the natural resources on which nature-based tourism depends is the single most common challenge facing Maine’s nature-based tourism providers. This was echoed by both the research participants, panelists, and symposium attendees. Not only is the protection of the physical resources seen as a challenge, but many owners view the protection of the quality of resource important. As the experience they offer their customers is seen as more important than the activity (see section 4.1.2.2.), many operators are challenged with providing a quality wilderness experience:

…it’s pretty hard to get lost in the Maine woods, and it’s very difficult to find wilderness. So...as guides, I find myself now, rather than keeping our clients found, we’re trying to [get them lost], to find them wilderness.

That’s our job now.

Resource protection is also a cornerstone of many definitions of nature-based tourism, and central to most, if not all, definitions of ecotourism. Many of the enterprises are involved with local conservation efforts, but without sufficient statewide policies in place, nature-based tourism will be in competition with other ‘claimants’ to the resources on which it depends (Scace, Grifone, & Usher, 1992; Vail & Hultkrantz, 2000). The need for policy action in this area was a clarion call at the symposium.

4.2.1.2. Access. Closely related to the issue of resource protection, particularly to the issue of the quality of the resource, is the issue of access. The problem is not that there is too little, but nature-based tourism operators see it as being too much. Many see unrestricted access to waterways in particular as eroding the quality of the experience,
especially when the access may lead to increased motorized use of a waterway, a use they
view as being in contradiction with a wilderness experience in the context of nature-
based tourism ideals. This is a challenge that has been identified elsewhere. It has been
suggested that nature-based tourism in general is merely a “passing phase” in the process
of tourism growth as laid out in Butler’s model of the Tourist Area Cycle of Evolution
A study of Australian nature-based tourism enterprises in different geographic areas at
different stages of tourism development suggests that they were more likely to be
successful in areas at earlier stages of development (Burton, 1998). This can be expected
as more non-specialized and non-nature-based tourism enterprises ‘squeeze’ out the
nature-based tourism enterprises which cannot compete without giving up on the ideals of
nature-based tourism. If this holds true, it does not bode well for Maine, as nature-based
tourism can be seen as being on “the leading edge of mass tourism,” rather than an
alternative to it (Thomlinson & Getz, 1996 cited in Burton, 1998).

4.2.1.3. **Private Landowner Relations.** Many of the land-based tourism
operators cited landowner relations as an important issue. Many of the sporting camps
and lodges are on private leased land, and hunting and fishing guides rely on access to
private lands for their livelihood. Not only do these businesses rely on access, but also on
the quality of the resource (see 4.2.1.1.). One camp owner actively works with a large
landowner to protect freshwater fisheries. With 98% of Maine’s forests privately owned
(Field, 1980; Maine Forest Service, 2000), landowner relations are indeed important to
the nature-based tourism sector. With a long tradition of public access to these private
lands, it had come to be viewed as a right by Maine’s citizens (Vail & Hulkrantz, 2000),
and was hardly given a thought by land managers (Irland, 1996). However, the perceived right of access to, and sense of ownership of the northwoods combined with an increasing awareness of environmental issues has changed the picture. The public is now a player in the policy process affecting the management of the northwoods, which has changed the relationship between owner and user (Irland, 1996; Vail & Hulkrantz, 2000).

4.2.2. The State’s Role in Nature-based Tourism

4.2.2.1. Promotion. The most common theme to emerge from the State’s role in nature-based tourism is that of promotion. Many felt that the State could best serve their interests by promoting Maine as an ecotourism destination. Many also noted that in order for Maine to promote itself as an ecotourism destination it must be willing to invest in the product, i.e. the resources. As one business owner commented:

*Motor recreation is already established. Maine, if it is to want a share in the wilderness/quiet user [market], must be able to deliver.*

4.2.2.2. Support for Small Businesses. Another common theme related to the category of the State’s role is that of support for small nature-based tourism entrepreneurs. With many of these businesses operating as small micro-enterprises, their time and financial resources are limited. It was stated by many of the participants that they simply did not have access to the resources that may help them and the entire nature-based tourism sector.

4.2.2.3. Research. Of the three major themes relating to the State’s role, the research theme emerged as crucial to underpinning any of the State’s efforts with regards to nature-based tourism. Many noted a lack of hard information on the nature-based tourism sector of the economy. Also noted was the need for research on tourism impacts
and capacity studies to guide future nature-based tourism development. This was voiced by many, and articulated well by one business owner:

*Go out in the field, collect input and act on the recommendations in any way possible as quickly as possible. It's a fantastic, underestimated industry that could help shore up an economy that is loosing revenue...at a rapid rate.*

The sense of urgency in this statement is reflective of the conviction that many feel with regards to the possibility of nature-based tourism as a way to diversify the rural economy in Maine.
Chapter 5

CONCLUSIONS

This exploratory case study research provided only a snapshot of Maine’s nature-based tourism sector. Through the voices of sixteen exemplary case studies we now have a better understanding of what the common characteristics of successful nature-based tourism entrepreneurs and their enterprises are, and what challenges this sector of the tourism industry is facing. We are able to hold this picture up to similar pictures of nature-based tourism enterprises in other parts of the world and compare common characteristics.

Of the twenty-two common characteristics of nature-based tourism enterprises in Maine that were identified, eleven are common to enterprises across the UK, Australia, and Canada. Five of the eleven characteristics are consistent with characteristics of ecotourism as identified by The Ecotourism Society (1999): supporting the local business community, donating services, time, and money to local community organizations, supporting local conservation efforts, promoting environmentally friendly business practices, and promoting ethical practices by customers. Through this comparison, and using a key elements approach (Bottrill & Pearce, 1995) to evaluate the case studies in comparison with Canadian nature-based tourism enterprises, we see that Maine’s nature-based tourism enterprises are typical of those throughout the developed world. This allows us to view Maine’s private nature-based tourism sector in the context of a world-wide industry.

Six major challenges to nature-based tourism enterprises, both individually and collectively, are identified. These include: (1) protecting natural resources, (2) amount
and type of access to natural resources, (3) relations with private landowners, (4) promoting nature-based tourism at the State level, (5) support for small nature-based tourism enterprises from the State, and (6) tourism research at the State level. A review of current literature identified at least three of these challenges as common to nature-based tourism as a whole: protecting natural resources, amount and type of access to natural resources, and support for small nature-based tourism enterprises.

Given what we now know about Maine’s nature-based tourism industry, its characteristics and its challenges; and given our view of the industry in context with a recognized world-wide industry based on current literature, the following conclusions are drawn:

- Concern for protecting the natural resources is basic to sustainability. It has been noted that marginal businesses force market driven competition by driving down prices and lowering standards, ultimately hurting the entire industry. Commercial viability is needed to support the goals of nature-based tourism as marginally successful businesses are forced to trade off environmentally beneficial actions as they redirect scarce funds to support their core business operations (McKercher & Robbins, 1998; Getz & Carlsen, 2000). Public policy can make up for these market imperfections. A policy to specifically support small nature-based tourism enterprises is warranted given the overall importance of Maine’s nature-based image. It has been shown that public support for smaller tourism enterprises is more cost-effective than for larger enterprises (Fleischer & Felsenstein, 2000), and given that viable nature-based tourism enterprises are important to the environment, the policy question is not “whether to support them or not, but
rather, what form of support and at what level.” Such policy will address two of the challenges to Maine’s nature-based tourism industry: natural resource degradation due to market imperfections, and lack of support for small nature-based tourism enterprises.

- The need for further research on nature-based tourism in Maine is clearly a public sector responsibility. There is a paucity of information on Maine’s nature-based tourism industry; how many enterprises are there? Offering what opportunities? How are they defined? Public policy is enhanced by solid research. There is an absence of meaningful quantitative data, such as could be produced in the form of a monitored database, on nature-based tourism in the state. This can provide the State with an opportunity to take a proactive role in developing a state-wide network of nature-based tourism enterprises. This research will not only help to guide future policy, but will help to guide promoting the State as a nature-based tourism destination; one of its identified marketing goals.

- Further research is needed to focus on the identification of threats to the sustainability of the nature-based tourism industry as identified through the research and the associated symposium on nature-based tourism held in April, 2002. These threats include: rising land values (particularly coastal), amount and types of access, changing land ownership patterns, and inconsistent wildlife management policies. There is clearly a concern among Maine’s nature-based tourism enterprises for the future of the state’s natural resources, and many see
inconsistencies in the State’s attention to these concerns. While some wanted the State to take a more proactive role in addressing these threats and concerns, others preferred to see the State take a more passive role. Further research in this area will help guide which policy action the State takes (proactive or passive) to address the threats to sustainability of nature-based tourism in a consistent manner.

- The businesses in this study do not see themselves as serving an ecotourism market, but they clearly do see their market as being “into” nature and having an appreciation for the outdoors. This is a clear distinction, as much of the literature views ecotourism from two perspectives: the tourists’ and the operators. This is to say that “true” ecotourism is dependent, in part, upon the motivation of the tourist being in line with the ideals of ecotourism (Orams, 1995). Another observation is that of the sixteen case studies that more closely resemble “true” ecotourism, they were adamant that the term ecotourism not be used in defining their business. This is due largely to the “greenwashing” of the term. That is the misuse of the term by entities purporting to be ecotourism enterprises but not living up to the label. There is also confusion and misunderstanding surrounding the term that drives many businesses away from using it, and even from implementing ecotourism principles (Berry & Ladkin, 1997). There is a need to clearly define this segment of the tourism industry that we call nature-based tourism, and, more importantly, to develop effective policies to translate the ideals of nature-based tourism into action.
Nature-based tourism enterprises can be seen as “guardians” of Maine’s 150 year-old image as a nature-based tourism destination. While the first century and a half was based primarily on consumptive nature-based tourism (hunting and fishing), today there is clearly a shift to non-consumptive uses (canoeing, birding, and hiking, for example). One of the sixteen case studies, a bear hunting guide who has been in business for forty years, said, “You know, the future of tourism in this state is non-consumptive, canoeing and hiking. It’s just under the surface of a volcano ready to explode in Maine. If I were younger I would get into that stuff, but I’m ready to get out of the business in a few years.”

As guardians of the new, non-consumptive nature-based tourism image, Maine’s nature-based tourism enterprises face many challenges. Through a better understanding of the nature-based tourism industry and the challenges it is faced with, clear and consistent policies can be developed to protect the industry, the natural resources on which it depends, and the State’s image as a nature-based tourism destination.
Events subsequent to this study and the publication of the April 2002 symposium case study book indicate an accelerated interest in nature-based tourism on the part of the State Legislature and the Maine Tourism Commission. Specifically ecotourism legislation was introduced in January 2003, and a Natural Resources Committee was formed within the Maine Tourism Commission, which is charged with looking into issues affecting tourism and natural resources and the relationship between both.
BIBLIOGRAPHY


Marc Edwards was born in Baltimore, Maryland on August 31, 1963. He was raised in Japan, England, and the United States, and graduated from Old Mill Sr. High School in Glen Burnie, Maryland. After attending Anne Arundel Community College in Arnold, Maryland, he worked as a fire protection engineer in Maryland, Washington, D.C., and Florida before moving to Maine to attend the University of Maine in 1992. He graduated with a Bachelor's degree in Recreation and Park Management in 1997. Marc worked with the US Forest Service and the National Park Service before returning to the University of Maine in the fall of 2000 to pursue a Master's degree in Parks, Recreation, and Tourism.

After receiving his degree, Marc will continue his position as Executive Director for the Downeast Heritage Center, a new regional interpretive and tourism center in Calais, Maine. Marc is a candidate for the Master of Science degree in Forestry from The University of Maine in August, 2003.