

# The forestry community, belief systems and consensus: Implications for public communication and outreach

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The environmental educators working within the forestry community are an integral part to the forest-based education and outreach that is disseminated to Maine's public. Their early outdoor life experiences in Maine have made a valuable contribution to how these educators view the state's resources and consequently contribute to the personal goals, values, and beliefs they work toward within their education and outreach efforts. Despite their diverse views toward management and uses of Maine's forests they all hold strong forests beliefs toward ensuring the continuation of Maine's forests that may be useful in developing a unified collaborative effort among many of the organizations within the forestry community of Maine.

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<http://www.nsrcforest.org>

# Project Summary

Environmental educators within the forestry community (FC) have often relied on forest-based education as a tool for presenting ideas to the public (Schaaf and Broussard, 2006). This was accomplished in hopes of generating greater public knowledge and awareness of forest ideas (Parkinson, Force, and Smith, 2003; Loomis, Bair, and Gonzalez-Caban, 2001). To improve quality and content of educational programs many research studies and evaluators have examined the effectiveness of forest-based education on adults, youths, and professionals (Taylor and Daniel, 1984; Broussard et al., 2001; Jacobson, Monroe and Marynowski, 2001; McCaffrey, 2004). However, little has been done to study the educators' perspective and the contributions they provide toward education. A better understanding is needed of the environmental educators' views and actions in order to further the quality and effectiveness of current forest-based education initiatives. It is the educators themselves that may be making the greatest contribution to forest-based education. By exploring the educators' point of view this study probes the potential connections that educators' values, beliefs, motivational goals, and perceptions may have on educational efforts and provided recommendations toward a larger collaborative effort among the educators.

# Project Summary

Employees from 23 forest-based organizations were interviewed about the education they perform in their jobs. Within these interviews a variety of topics, ideas, and experiences were covered about the forest and education. Aside from providing valuable input, on influences of forest values and beliefs, participants' responses suggest the importance that identity and life experiences provide in their work. Outdoor life experiences as children, with family, and with professional foresters were frequently mentioned in relation to their values, beliefs, and identity. By examining commonalities that existed among these educators, similarities were found regarding their beliefs about Maine's forests. Participants held the belief that Maine's forests need to be kept as forests. These commonalities found among Maine's many forest-based organizations suggest that collaboration may be possible, despite diverse views and forest focuses. These areas of consensus may also provide an educational foundation for developing a unified forest-based message too. Furthermore, a large collaborative venture provides the FC organizations with an opportunity to develop clearer and more concise forest-based messages. This would improve the FC chances of success in their educational efforts.

# Background and Justification



The forestry community (FC) utilizes education as a communication tool for improving the public's knowledge and awareness about important forest-based issues and policies (Measell, Grado, & Capella; 2003; Parkinson, Force, & Smith, 2003; Loomis, Bair, & Gonzalez-Caban, 2001). This community is made up of businesses, groups, and organizations that provide some form of forest-based communication due to their strong interest in the use, management, or protection of forests. Reasons for such efforts are related to the concerns that these organizations may have over the public's ability to make informed educated decisions about the forests.

The public is often presented with forest resource-based messages that may be complex in nature or feature conflicting views of the same topic by different FC education providers. This potentially, may lead to greater misunderstanding, mistrust, and misinformation within the general public. An important component to understanding educational content and messages are the educators themselves, who construct and conduct the education and outreach. To improve upon the forest-based education being done within the FC there needs to be a better understanding of the educators who are directly involved in developing the education. It is these educators along with their perceptions, experiences, values, and beliefs that may be providing the greatest influences to the development of educational messages and programs. By studying their efforts and investigating the shared traits they exhibit there is a greater possibility for collaboration among the FC organizations which in turn may lead to improved understanding and support in the general public.

# Background and Justification

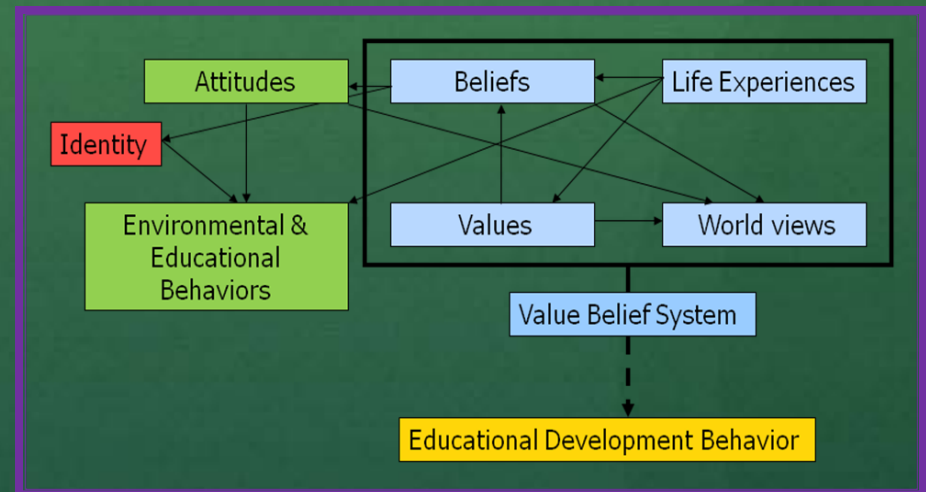
Though prior research has linked the importance of experiences to value formation and of values to belief and attitudes. Prior research has left a noticeable gap in the current knowledge based of education by ignoring the efforts of educators in non-formal education.

Most research focused on:

- Formal educational settings i.e. classrooms, schools, and universities
- Outcomes and evaluations of forest resource programs
- Public attitudes and perceptions

While ignoring the educators within the FC and their:

- Personal perceptions
- Reasoning and justifications
- Contributions toward development of education



- Life experiences to beliefs and attitudes (Ewert, Place, and Sibthorp; 2005), and values (Brody and Tomkiewicz; 2002)
- Values to belief formation (Rokeach; 1973)
- Beliefs to attitude and behaviors (Ajzen and Fishbein; 1980)
- Values, beliefs, and behaviors (Van Liere, Mertig and Jones, 2000)
- Identity to beliefs, motivations, and behaviors in education and workplace (Beijaard, Verloop, and Vermunt, 2000; Malm, 2004; and Hekman, 2009)



# Background and Justification

- Previous environmental education (EE) studies have focused on the outcomes of education, primarily by measuring its impact on the public and their perceptions, values, and beliefs. What is lacking is a better understanding of the effect that the educators' value belief system (VBS) has on forest resource education.
- In addition are the importance that the environmental educators' personal goals, values, and needs may have toward influencing the motivations and perceptions (Van Den Berg, Dann, & Dix, 2009; Pelletier & Sharp; 2009; Carter, 1995; Chen-Hsuan Cheng, & Monroe, 2010) they have toward developing and presenting education. Understanding the educational motivations, content, and messages of these programs implemented by the FC is important for effective and efficient forest-based communication.
- This research was conducted to better understand the FC educator's who construct and conduct public communication and how this involvement might direct the development of forest-based education. Specifically, this study is interested in the contributions these educators may supply to forest-based education through the incorporation of a proposed conceptual model referred to as the educator's value belief system (VBS).

# Methods

One of most forested states within the nation

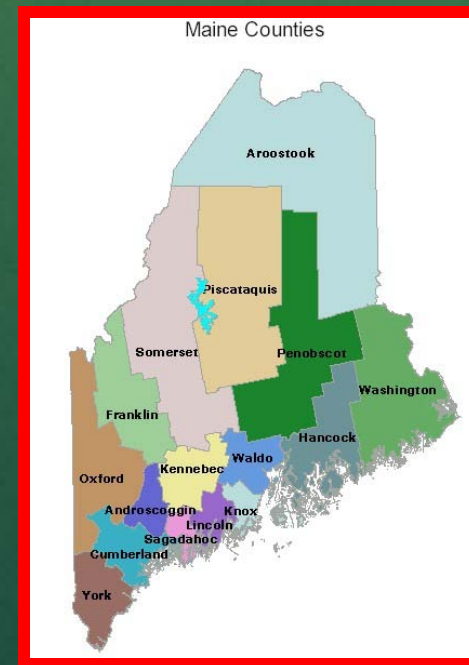
- 17.1 million acres of timberland
- > 89% of state is forested

Forest provides benefits including:

- Aesthetics, tourism, environment, forest products, jobs, and revenue
  - ✓ 2005 over 31,000 jobs and billions of dollars in revenue (NEFA, 2007)

High interest in forest resources brought about by:

- Public interest in use and availability of forest
- Public has ability to influence forest policy
- The FC would want a public that is both aware and informed about the forest and its resources



# Methods

Maine provided a rich case study location because of numerous forest-related environmental education efforts and initiatives. Within the state, educational and communicative efforts include: programs, workshops, pamphlets, magazine publications, radio spots, internet websites and blogs. Here is a small sample of some of forest-based education and outreach that is being done in Maine by various FC organizations and groups:

**Forests for Maine's Future** 



WAYS OF THE  
WOODS 

TAKE IT  
OUTSIDE!



**Leave Your Firewood At Home**

**Buy It Where You Burn It  
Don't Give Bugs a Free Ride!**



LEAF

<http://www.mainetreefoundation.org/>  
<http://www.northernforest.org/ways-of-the-woods.shtml>

<http://www.forestsformainesfuture.org/>  
<http://www.maine.gov/doc/mfs/fhm/pages/firewood.html>  
<http://take-it-outside.com/>



# Methods

- Educators are employees of the FC that are directly involved in the development, planning, or presentation of forest resource education and outreach initiatives.
- To be a participant of this study the individual must be a member, employee, or volunteer within the FC; have had at least one year experience with forest resource education or outreach; and have been personally involved in the development of forest-based education.
- 23 qualitative interviews were conducted using a network sampling method.
- Categories within the FC include: professional forestry and logging organizations, forest product industries and private companies, research centers, universities, government agencies, Cooperative Extension, and non-government, environmental, or conservation organizations.
- These interviews used a semi-structured protocol with open ended questions.
- Topics covered: values, beliefs, personal goals, important experiences and stories, perceptions about public, and methods employed in forest resource education

# Results/Project Outcomes

The educators world view or paradigm was collectively formed by the significant life experiences, values, and beliefs they formed toward the forest and education.

## Observed relationships

### Life Experiences

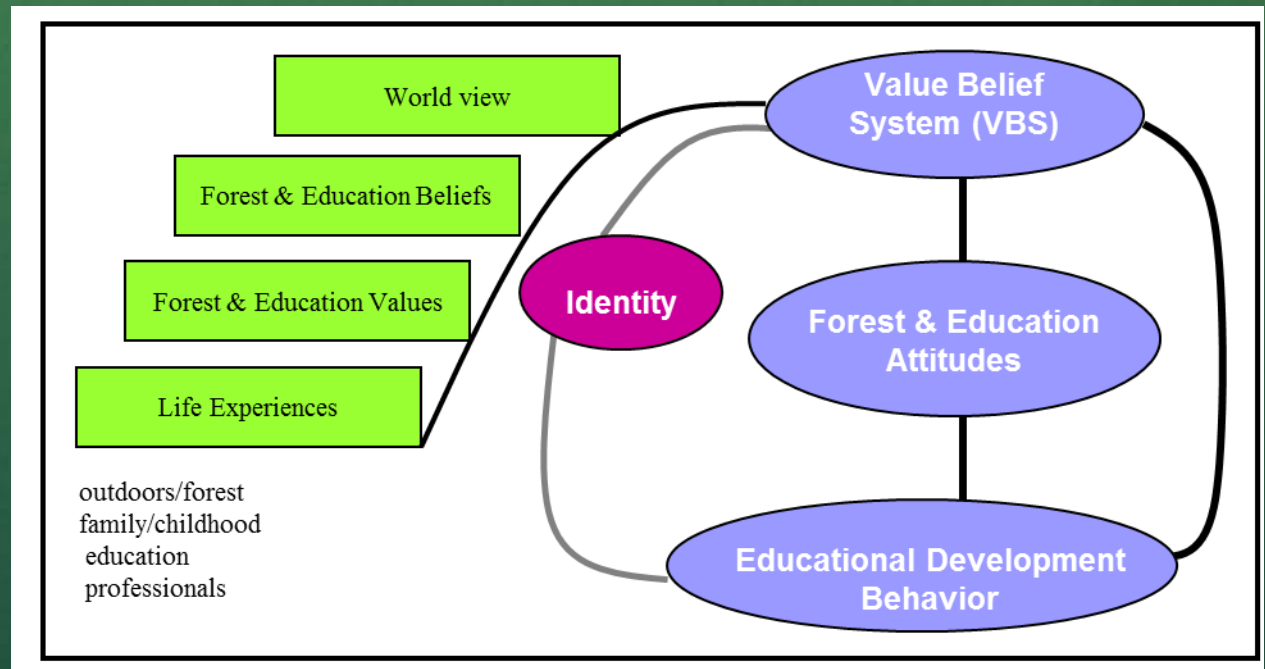
- Values
- Beliefs
- Identity

### Values

- Beliefs
- World views

### World views

- Beliefs
- Attitudes



These forest and education based life experiences, values, beliefs, and world views were connected to the educators educational behaviors (i.e. presentation style, content, etc) and expressed identity.

# Results/Project Outcomes

Educators provided many examples to suggest these relationships:

## Life Experiences and Values

- “I interacted with foresters on that ground and I think that...[really] spark [my interest] for forestry. I’d been a Boy Scout... I enjoyed the forest. So, it was probably that coupled with my folks buying the land in Maine and I did some management activities; pruning trees, cutting firewood, just enjoying it so...to go to work in the woods was a pretty big benefit.”

Life experiences to forest interests and values

## Beliefs

- “If I don’t indicate that I have some sense of understanding of what their economic realities are then... [the audience will] write me off as just... another environmentalist who wants to tie up all the land... in order for my message to get across and for me to be understood, heard, respected, and be credible, I need to show that I have an understanding of all sides of the issues.”

Beliefs to educational development behavior

## World Views

- “... we all live on the same planet, and I believe that the planet needs help and we need to protect it...”

Environmental values and beliefs to world view

## Identity

- “I want to make sure people really learn. ... I don’t want to waste people’s time... was a logging contractor.... I feel very responsible for the quality of training we deliver.”

Life experiences to identity and formation of personal motivations and goals

# Results/Project Outcomes

## Intrinsic based goals

- Interests
- Viewed as important
- Desired/valued

## High levels of autonomy/freedom

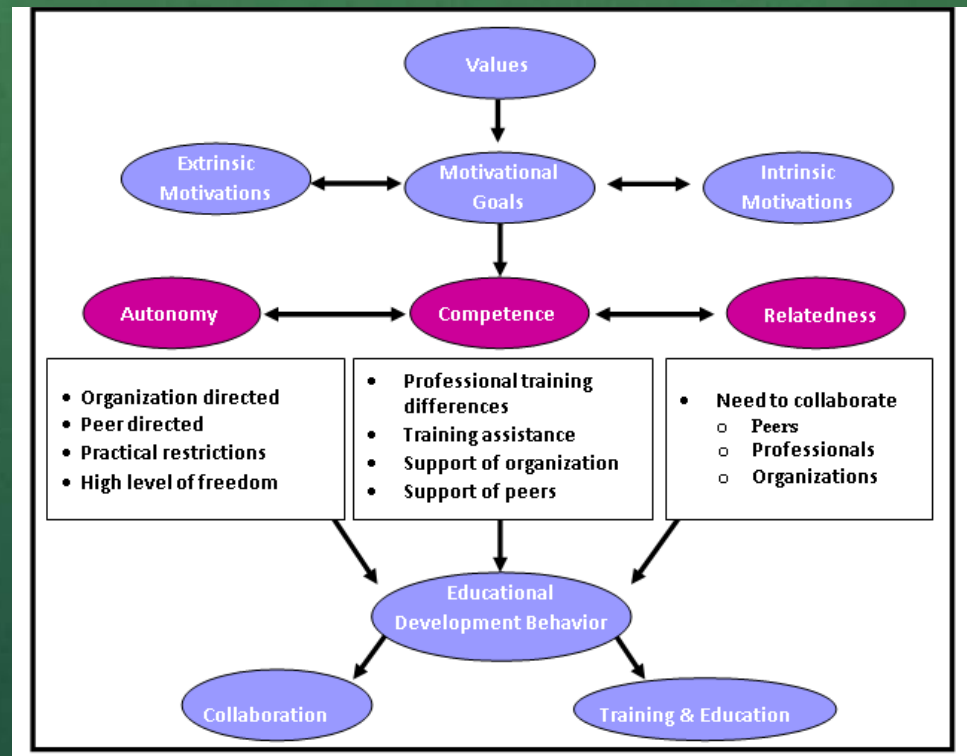
- Influences from peers/organization perceived as positives
- Limited resources such as time and funding perceived as negatives

## Perception of competence varied

- Prior training
- Expertise
- Opportunities to improve

## Behavioral outcome

- Need/use for collaboration
- Social networking



# Results/Project Outcomes

Educators provided many examples relating to motivations, goals, and perceptions in developing forest-based education and outreach:

Example of intrinsic goals:

- “you take them on a hike... they’re energized... their problems are left behind, and they’re having a great time... those are my motivators.”
- “I get a great deal of satisfaction out of helping people [by] just doing a job.”

High levels of autonomy/freedom:

- “I ended up selecting (with the teacher) what the curriculum was going to be for the day... I got the foresters together and then gave them their topics... that was more control than I really wanted, but there was nobody around [to take] the reins...”
- “... we have a wide range of people that want to review it before it goes to press just to make sure that it’s representative of the issue, the wider issue, and not just sort of what I think as a person.”

Perception of competence:

- “... what I was doing was something that I enjoyed, and believed in, and [that job] gave me the experience I think I needed to work in this [current] type of atmosphere because a lot of what I was doing [then] was the same thing that I was doing today [but] on a smaller scale.”

# Results/Project Outcomes

## Perception of competence [continue]:

- “I wrote all of that and I put it all together and I had advisors and people reviewing it and looking at it, but I was very much the driver of it... [the organization was thinking] “I’m sure he’ll do a good job!” and in the end I think I did and everyone was happy with it...”
- “... My background is...in environmental communications... I’m not a child’s educator. I do communications, which is different... I’m not a forester by trade...[I] facilitate the things that happen and I do enjoy this outreach project.”

## Behavioral outcomes of collaboration and need for relatedness:

- “... we try to work collaboratively and proactively with the groups that are doing land conservation like the [organization], to help direct [land conservation]... [its] not so much an outreach than it’s just kind of a partnership thing... [its] imperative for us to work more collaboratively with the landowners to make sure that they have... information about the ecological significance of... sites on their land.”
- “My favorite method is drafting a message that I think works... [is the] participation by all our members... it usually takes days or weeks to get a final product done, but when it’s done, everybody’s had their input... and it’s usually something that everybody is either excited [about] or...can live with...”

# Results/Project Outcomes

Despite differences in world views interviewed educators did express ideas that showed areas of consensus.

Similarities across the educators included:

- Life experiences of particular importance were those that related to nature and to Maine's forests. Specifically educators referred to moments they remember as children, as part of youth programs, family influences, or from other forest resource professionals.
- They reported these significant life experiences, especially those from their childhood and outdoors, as contributing to the formation of their own forest values.
- All interviewed educators reported strong connections or belief to the forests. A commonly reported idea or theme was the desire or need to maintain Maine's forests as forests.
- Motivational goals were self-focused (personal reasons), audience-focused (other people), and forest-focused (environment/forest) goals. Despite a diversity of goals most responses were noted to relate to providing quality/trusted communication for the public or for forest related reasons.

# Results/Project Outcomes

## Similarities continue:

- Identity roles were reported related to the self (i.e. leader), the profession (i.e. professional forester), the organization (i.e. associate manager), or to Maine.
- The idea of a Maine identity was particularly noteworthy. The majority of interviewed educators perceived the public to be supportive or receptive to the state having an identity associated with forests.
- Educators all indicated that the public needed to improve/strengthen its connection to the forest while learning.

These findings also suggested that the educators would be receptive to a more collaborative effort if there existed areas of agreement or overlapping of values and beliefs.

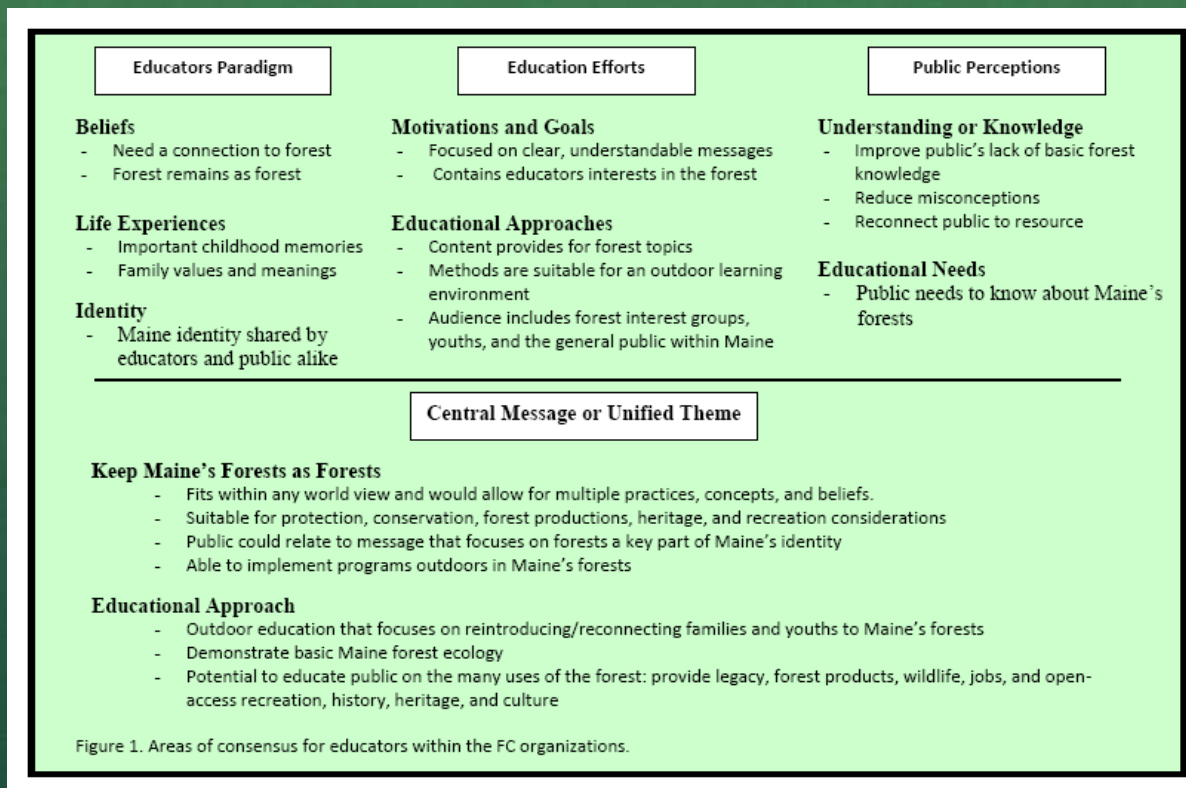


# Implications and Applications in the Northern Forest Region

- This research contributed to previous value and belief models by providing the VBS model that integrates life experiences, values, beliefs, world views, and identities into one inclusive model.
- This study contributed to our knowledge of the FC organizations' educators and their paradigm. This provided a qualitative understanding and foundation for FC educators' motivations and behaviors in the development of forest-based education.
- A long-term outcome would be the increase potential for a more broad and collaborative effort in forest-based education and outreach by the FC.
- The desire for more peer assistance and organizational collaboration on educational messages suggest that educators are open to the use of collaboration as an educational development tool.
- Recognition of commonalities among the FC and educators' actions, values and beliefs could be applied to a more unified collaborative efforts in reaching the public.

# Implications and Applications in the Northern Forest Region

One such example might be the theme or message of “Keeping Maine’s forests as forests.”



This would apply similar beliefs, would related to residents “Maine Identity”, is applicable to many different forest-based organizations/industries/business, and could be used in outdoor educational programs.

# Future Directions

Many questions were raised over the course of this investigation of FC educators.

Would direct observation of presentations reveal any more information about the educator's VBS?

What values, beliefs, and worldviews are evident in the messages and content of the education?

- What differences, if any, exist between educators perception of their programs' messages and the audiences perception upon receiving?
- How accepting/supportive is the audience to the FC educator's messages?
- Is trust a factor for understanding the educator's messages?
- Would the public be as receptive to the concept of a Maine identity as the educators believe them to be?

How much is the educators perceptions (such as freedom and competence) affecting their personal motivations?

What can their FC organizations do to help improve current motivation levels?

# Future Directions

To address these questions future studies should consider the following:

- Directly observing FC educators programs, events, presentations, and workshops. This would also provide additional information about the content of the programs, the audience's reaction to the messages, and the educators' feelings toward the educational program itself.
- After observing programs a follow-up survey may be helpful in assessing audience' reception of the educator's message.
- A larger scale survey might be beneficial toward understanding the public of Maine and would provide more information on the public's forest-based knowledge, understanding, awareness, and uses.
- A quantitative study should also be employed on the educators themselves specifically their motivations, perceptions, and goals. Surveys would provide the opportunity to effectively measure these factors of the educators. This would also allow for the application of a motivational theory specifically the self determination theory which has never been used before on the FC's educators.

# List of Products

## Publications

### Thesis Paper:

- Zimmerman, J., Leahy, J., Doran, K., & Lindenfeld, L. (2010). From seeds to trees: A study of educators' influences on forestry outreach development. M.S. Thesis, UM, Orono, ME.

### Submitted:

- Leahy, J., Zimmerman, J., Lindenfeld, L. & Doran, K. (2010). The role of educators' value belief system and identity on forest resource education efforts.

### In Preparation:

- Leahy, J., Zimmerman, J., Lindenfeld, L. & Doran, K. (2010). Environmental educators' motivations toward forest-based communication in Maine.
- Leahy, J., Zimmerman, J., Lindenfeld, L., & Doran, K. (2010). View points and similarities of forest resource educators in Maine.

# List of Products: Continued

## Conference Presentations

### Posters

- Zimmerman, J., Leahy, J., Doran, K., & Lindenfeld, L. (2008). The forestry community, belief systems and consensus: Implications for the public communication and outreach. ECANUSA 2008.
- Zimmerman, J., Leahy, J., Doran, K., & Lindenfeld, L. (2008). Where's the consensus for environmental educators in Maine? Edith Patch Presentation. Orono. ME.
- Zimmerman, J., Leahy, J., Doran, K., & Lindenfeld, L. (2009). The role values and beliefs play in developing forest resource education and outreach in Maine. 2009 Maine EPSCoR State Conference. Orono, ME. September 21, 2009.

### Presentation

- Zimmerman, J., Leahy, J., Doran, K., & Lindenfeld, L. (2010). Education efforts within the forestry community: Influences of the educator's values and beliefs. ISSRM 2010, 16th International Symposium on Society and Resource Management. Corpus Christi, TX. June 9, 2010.