

FINAL REPORT FOR FORD FOUNDATION COMMUNITY FORESTRY RESEARCH PREDISSERTATION FELLOWSHIP

Enriching Ecosystem Management in the Northern Forest through Participatory Research with
Maple Syrup Producers

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BACKGROUND:

My proposal for a Ford Foundation Community Forestry Research Fellowship was to explore the possibility of beginning a community-based research project with maple syrup producers in Vermont. Vermont is one of the most densely forested states in the Northern Forest, a 26-million acre area extending from Maine through New York. The Northern Forest has received attention in recent years because of the range of stakeholders interested in sustaining both the extensive forest resources, which have experienced dramatic regeneration over the last one hundred years, and the rural communities, which are currently in decline. While many programs are currently examining what it will take to sustain forest use and agricultural production in this region, very little attention has been given to the fact that most traditional land uses involved integration of the two. Maple syrup production provides a particularly compelling example of this integration, made more important by the fact that it is also an \$11 million a year industry in Vermont alone and that it has been shown to very important for many people's connection to their rural identity. Furthermore, maple syrup production systems operate on a time scale that spans generations, suggesting the accumulation of important local knowledge on the long-term sustainability of working forests in spite of the fact that there is little scientific information on the ecosystem impacts of the industry. Based on the important economic, cultural and ecological role that maple syrup production plays in the Northern Forest, and my own family connection in Vermont to the industry, I was interested in exploring whether a community-based research project could help syrup producing communities to better access the information and resources necessary to maintain their livelihoods in the face of a shifting economy.

RESEARCH QUESTIONS:

To focus my pre-dissertation research, and examine the potential for a community-based approach, I began with the following questions:

1. What variations exist in the scale of production and the systems of management of the maple sugarbushes of Vermont?
2. What kinds of research and extension support exist for maple sugarmakers and do the producers feel this is adequate?
3. What opportunities exist for further organizing within the sugarmaking community?

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4. To what extent are non-governmental organizations and regional and state agencies considering maple syrup production as a strategy for integrating development and conservation goals in the Northern Forest?
5. What value would there be in facilitating greater connections between the sugarmaking community and this broader community of entities active in the Northern Forest?

RESEARCH GOALS:

To approach these research questions and explore the potential viability of this project, I set three goals for my pre-dissertation research this past summer. The first goal was to familiarize myself with the history of syrup production, forest use and management, and community development in the regions of significant syrup production. The second goal was to work with producers to determine their levels of interest or concern in the overlapping issues of culture, livelihood and forest sustainability as they relate to maple syrup production, and to seek out other specific question areas for possible research. The final goal, building on the theory of community-based research, was to identify influential people within the community, in this case key farmers and local experts that farmers look to for information, that would be interested in joining a Community Advisory Committee to guide and oversee any subsequent resulting research.

DATA COLLECTION EXPERIENCE:

Actual data collection was preceded by an extensive review of the published and gray literature on extension and management in Vermont's maple sugarbushes. Part of this process included identifying the range of relevant stakeholders with some interest in the management and long-term productivity of Vermont's sugar maple forests. Based on the resulting information, and the gaps revealed, specifically pertaining to demographics of the industry, I then focused my research on specific areas of significant forest cover and maple syrup production, in this case the counties of Washington and Orleans. Within these areas, I then identified community contacts through production associations, extension services, agencies, NGOs, personal contacts and other referrals, using the snowballing method to expand my list of possible informants. Finally, I conducted informal, open-ended interviews on the phone or in contacts' homes, sugarbushes or places of business.

Overall, this participatory approach for initial information gathering was extremely successful and I was able to find information, areas of research interest, and additional contacts with few problems. Facilitating this process was one of the very factors that first attracted me to this project: the central role that sugarmaking plays in the lives of Vermonters. For many people now engaged in the tourism or service industries, making maple syrup every spring is one of their primary links to a tradition of rural history and culture, and syrup producers were universally proud of their work and excited about sharing their passion with others. This strongly positive spirit, and the delight people experienced as they walked with me through their sugarwoods, was particularly significant given the fact that many were simultaneously recounting their frustration with local land developments or the forced sale of much of their own families' farms. Gathering information

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within the broader conservation community was more of a mixed experience, with government agencies generally responsive and helpful, and non-governmental groups ranging from excited to completely uninterested in the possibility of engaging with maple syrup producers.

PRELIMINARY FINDINGS AND ANALYSIS:

My preliminary research revealed a range of stakeholders with some interest in the sugar maple resource falling into the following rough stakeholder groups: academic, agency, extension (both forestry and syrup), NGO, land owner association, and producer. I also discovered that while there is barely any published literature on the management, health and ecosystem diversity of maple sugarbushes, extensive unpublished and gray literature exist but have not been integrated. While hard numbers were not available because of intentional restrictions the industry places on revealing demographic information, most syrup producers fall into one of three scales of production: backyard (<300 taps); medium-sized (1500-2500 taps); or large-sized (5000-14,000 taps). Management recommendations and practice vary, but can also be placed into three coarse categories: natural age structure and species composition; maple monoculture with a multiple-aged structure; and maple monoculture with an even-aged structure. While many stories exist describing the historic prevalence of the third management system, site visits and conversations confirmed that very few of these systems remain in Vermont today. The vast majority are in the second category, however some of the most successful operations utilize the first, raising interesting questions about whether ecosystem structure and function must be simplified to ensure a successful production system.

Conversations with syrup producers revealed that extension and research services provided by county foresters, maple extension agents and the Proctor Maple Research Center seem to be adequately meeting producers' expressed needs. In some cases, producers expressed interest in information on specific management techniques, but in all cases, relevant research was underway that will be distributed through extension agents or the annual Maple Schools, which virtually all interviewed producers attend. Interviews and other research also revealed that significant organization exists within the sugarmaking community, informally (between friends and neighbors) and at county and state levels, and producers expressed little interest in further organization. The majority of Vermont's syrup producers and all of the producers I interviewed are of European descent, and in keeping with the New England Yankee tradition were strongly independent and generally not interested in high levels of formal organization. One interesting exception is Butternut Mountain Farms, which is Vermont's largest marketer of maple syrup largely due to the contract relationships that exist between the owner, Dave Marvin, and a large number of individual producers who sell the bulk of their syrup to him. This system, while hardly a true production cooperative, seems to work well for all involved, allowing economies of scale and an unusual model of social organization within the industry.

Within the group of stakeholders that I refer to loosely as the conservation community (including academics, and many public and non-governmental organizations), my interviews uncovered a debate over the conservation significance of maple sugarbushes. The debate revolved primarily around whether syrup production should be considered a challenge or an opportunity for regional biodiversity conservation, and contacts interviewed said that no meaningful information exists to resolve this debate. Several other possible research areas were raised by contacts that upon

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analysis seem to be best addressed by collaboration between the different stakeholder groups. Answering any or all of these questions, listed below, have the potential to both increase our understanding of how maple production systems operate, and also to influence policy and management on public and private lands:

1. Can public lands be opened to maple sugar production, and if so under what conditions?
2. How do the ecological and economic tradeoffs of different types of timber management compare with those of different syrup production systems?
3. What are sugarbush managers doing (by intent and by accident) to protect ecosystem health/integrity?
4. What impacts do different kinds of sugarbush management have on understory plant or amphibian biodiversity?

Relating the results of this preliminary research back to my original goals and interest, I see that some of the gaps I had expected to find around the information and organization available to syrup producers are in fact surprisingly well-filled. A community-based research project as I had initially imagined it is therefore most likely not necessary because the primary goals of such a project — providing needed information and community empowerment — are generally already met. This research did reveal import gaps that I did not expect, however, that exist between the community of syrup producers and the other stakeholder groups with significant potential to influence syrup producers. Whether through making public or private land available to syrup producers, or through facilitating tax relief that may be the only way to keep producers solvent, significant opportunity exists for producers to strengthen the role that syrup production plays in economically marginal communities. By the same token, currently unexplored opportunities for increasing the effectiveness of biodiversity conservation at the landscape scale could be explored and developed by engaging, not ignoring, maple syrup producers. This research therefore reveals an interesting opportunity to fill a range of needs not by working with maple syrup producers alone but by applying the principles of community-based research to work with a group of different stakeholders with overlapping interests. The critical next step is therefore to determine whether influential representatives of these stakeholder groups can be brought together in a constructive fashion to form an advisory committee that can guide a research project that would benefit either one geographic community, or a broader community of interest.

BENEFIT TO COMMUNITY:

Because this was pre-dissertation research confined to two months in the summer, little was achieved in the way of direct benefit to the community. I believe that significant opportunities do exist, however, to benefit a community, particularly if this project were pursued within a specific geographic community where syrup production is central. The tight weave of economic, cultural and ecological relationships provide rich material for research and community organizing, and the

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possibility of building wider partnerships has the potential to pull important allies to the defense of communities that are often marginalized by the policy and development processes.

This said, there was one albeit small contribution to the syrup production community made by my summer s research. While visiting one sugarbush on an extremely productive, rich northern hardwood site, I discovered several stems of the exotic species, European buckthorn (*Rhamnus cathartica*). When I showed a sample to the producer and landowner, he said that he had never seen it before nor heard of it in maple sugarbushes. Given this species' ability to proliferate in the kind of open understory conditions that characterize sugarbushes, it has the potential to be a significant threat both to local biodiversity and to the already labor-intensive business of producing maple syrup. With this threat now identified, it is my hope that steps can be taken to control its spread before it becomes epidemic. This is one example of the potential benefits that could be realized by both syrup producers and conservationists by bringing their worlds closer together.

LESSONS LEARNED AND RECOMMENDATIONS FOR CFRF:

My work this past summer revealed several important lessons about the research process, and in particular about what it takes to do meaningful community-based research. As I discovered, it is essential to approach research with thoughtful questions, solid information and sound methods, but also with an openness to what initial work will reveal. This pre-dissertation fellowship helped me to discover that my initial expectations did not match the actual situation in the community I cared about, and the process of analyzing my initial results for the workshop in New Mexico helped me to see the unexpected opportunities that had emerged.

Since the workshop, my work with maple syrup producers has been largely on hold, I hope for all the right reasons. I have been feeling pressure, as most doctoral students do, to move my way through the graduate process in time with my peers, which has felt largely at odds with my interest in doing community-based research because I am unfortunately not in school in the same place where I feel most drawn to work. The challenge of course in this kind of situation is that you need funding in order to be able to go live in a community, but you need to have lived in a community to really know the research needs. My pre-dissertation fellowship from Ford was very helpful in starting the process, but as is its intent, it only supported an initial inquiry. It has become clear that what I need to do is to move to the area and spend time with the communities with whom I would like to work before I attempt to further define any possible research. And since my interest genuinely is in making a difference for resource-dependent communities, I hope that my time living in the community will help me to learn whether the work that is most needed can fit with and benefit from doctoral research, or whether my biggest contribution would be other. For this reason, I chose not to apply for the CFRF dissertation fellowship until I have enough of a relationship with members of the community that we could genuinely conceive of and seek funding for a project as partners. Clearly there are bigger questions about my life and work that are wrapped up in this, but our meeting in New Mexico powerfully reinforced that I do not want to do any further academic research unless it emerges from the needs of a community I care about, and at this point I need to be there to really know.

I believe that this should be true for all of the dissertation work that the CFRF supports, and if it takes a few years before the program can receive enough quality applications for research that clearly emerge from community needs, than I think the program could consider shifting some

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funding to support more pre-dissertation grants. Given the number of people in academic settings who genuinely want to work in and for communities, and the barriers of support and funding that often make this impossible, I see great value in CFRF continuing to make possible the kind of exploration that I was able to do. The investment is small, and the potential to plant important seeds is great. Given the risk of raising false expectations or doing other damage in communities, however, I think the program would best serve students and communities if the pre-dissertation Fellows were able to participate in the workshop before going into the field, so that their primary task at the workshop would be to learn from the steering committee, other participants and their peers how best to approach working with communities in this capacity.

For this reason, I also think that it is important to continue to have pre-dissertation and dissertation Fellows attend the same annual meetings, but I think there should be more distinction made between the two, and better use taken of the mentorship potential. I'm less sure what to do about the Master's fellowships, and wonder if they should either be deliberately of a different nature (with less direct community involvement because the students have less time available) or if they should be removed altogether from the CFRF program. I see advantages and disadvantages either way, but believe that people who have received these fellowships will be best able to inform any decisions.

Finally, I would cast a strong vote that this program continues to fill the niche it fills with its pre-dissertation and dissertation fellowships. There are so few sources of funding for this kind of truly interdisciplinary, applied research in the natural sciences, and the need is great. My main concern is that the program continue to evolve in such a way that it truly serves the communities it desires to help, and that it provide Fellows the guidance, support and perhaps even training to do this with respect, sensitivity and clear focus on what should be the underlying goal of the work: supporting communities in need and the resources they depend on. I benefited enormously from my pre-dissertation fellowship, as a person and as a student, and I hope that the time will come when my work in communities is at a point where I can once again approach this program for support, and the tremendous wealth of personal and collegial resources you have to offer.