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Special Forest Products in Context: Gatherers and Gathering in the Eastern United States

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Abstract

This report provides an introduction to the people who gather special forest products (SFPs) in the eastern United States, the role these resources play in their lives, and implications for management on national forest lands, particularly in relation to the Pilot Program on Forest Botanicals (P. L. 106-113, § 339(a)). SFPs encompass a wide variety of products and provide important livelihood support through both market and nonmarket economic values. In addition, many gatherers value social dimensions of SFPs outside the economic realm. Gatherers are a diverse group (men and women, varied ethnic and cultural backgrounds), who often draw on substantial knowledge to harvest SFPs. Many are concerned about conservation and the sustainability of harvesting practices. Contextual factors affecting SFP activities include land management regimes and social conditions, such as household economies and life stage, at scales that range from macro-level markets (national, international) to micro-level household and individual use.

These patterns have implications for the development of SFP programs. Identifying the full range of SFPs harvested in an area and the values associated with them will be a challenge. Emphasis should be placed on products with special cultural and livelihood importance and/or that enter the formal market. Overlaps in economic benefits and personal uses of SFPs complicates the task of collecting fair market value while allowing for free personal use. Variations in the scale of SFP markets, from local to international, will require familiarity with many sources of economic information. To assure reliable information on prices, managers should confer with multiple sources to learn variation through time and between places, and to compare information as a check on accuracy. Calculation of fair market value also must include costs to gatherers. Cumulative effects of regional land use and management change will condition the impacts of programs on gatherers and SFP populations. Gatherers' knowledge and conservation concerns make them strong potential collaborators in the development and implementation of monitoring protocols. However, no single individual or social group can represent all gatherers and accounts of other groups' activities must be treated with caution. Building relationships of trust and collaboration with gatherers will be essential to developing SFP programs that are socially and ecologically sustainable. Though these case studies are drawn from the eastern United States, lessons from them should be applicable throughout the country.

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Executive Summary

Special forest products (SFPs) have been the focus of increasing attention during the past decade. This attention is reflected in legislation passed in 2000 by the United States Congress (P. L. 106-113, § 339(a)), which directs the Secretary of Agriculture to implement a program of charges and fees for the harvest of forest botanical products for the National Forest System. These products are the functional equivalent of SFPs, as defined by the United States Forest Service (USFS). In this context, the USFS will collect fair market value for products harvested from the national forest lands, analyze the sustainability of such harvesting, provide for free personal use of SFPs, and recover the administrative costs of the program. This represents a potentially significant new arena of action for the USFS.

This report provides an introduction to the people who gather SFPs in the eastern United States and the role these resources play in their lives. It does so through a series of case studies. The report also identifies key patterns that run through the cases and assesses implications for management of SFPs on national forest land with particular attention to the 2000 legislation. While the report is based on experience in the eastern United States, it is likely that the broad patterns found here occur elsewhere. As a result, the key findings and implications should be of value to forest managers across the United States.

Key Findings

The cases presented here provide evidence about the variety of products and values associated with SFPs, the people who gather them, the role of knowledge and sustainable practice in gathering, and the range of contextual factors that affect SFP activities. Key findings relevant for understanding the SFP arena are:

- SFPs encompass a wide variety of products that include but are not restricted to edibles, decorative materials, and medicinals.
- SFPs provide important livelihood support for some gatherers through both market and nonmarket economic values.
- Many people who engage in SFP activities value cultural and other social dimensions of SFPs outside the economic realm.
- Gatherers are a diverse and spatially-dispersed group that includes individuals and families, men and women of varied ethnic and cultural backgrounds.
- Gatherers draw on ecological, economic, and use knowledge.
- Processes by which knowledge about SFPs is shared, lost, or withheld range from informal interactions to formal consultation with experts.
- Many gatherers are aware of and concerned about conservation and the sustainability of harvesting practices.
- Contextual factors affecting SFP activities include land management regimes and social conditions, such as household economies and changing demographics.
- Dynamics of SFP activities occur at scales that range from macro-level markets (national, international) to micro-level household and individual use.

Implications

Based on patterns in the cases presented here, development of sound and sensitive approaches to managing SFP activities requires consideration of the following:

- The variety of people, products, and practices associated with SFPs strongly suggests a need for local assessments. Managers face a challenge in identifying SFPs harvested in their area and the multiple values associated with them. They should concentrate on products with special cultural and livelihood importance and/or that enter the formal market.

- No single individual, family, or social group can represent all gatherers active in an area. Managers should talk to a broad cross section of people who gather. Where conflicts between gatherers exist, managers should treat accounts of other groups' activities with special caution.

- Managers should be aware of changes in landownership and management around their forest and how these may affect access to and availability of SFPs. They should consider and monitor impacts of their actions on the viability of gathering and SFP populations in relation to cumulative effects of regional land use and management change.

- Variations in the scale of SFP markets, from local to international, will require managers to become familiar with many sources of economic information and understand their relationship to what happens at the individual forest level.

- To assure reliable information on prices, managers should confer repeatedly with multiple sources to learn variation in price through time, between places and individuals, and compare prices as a check on accuracy.

- Managers should be aware that the price received by gatherers is not equal to the rate of return on their labor. Calculation of fair market value that will be assessed to gatherers must include costs to gather, which include transportation, cost of access, tools or materials, and time required to scout, harvest, and deliver product.

- Assessments of the sustainability of SFP harvesting will require the integration of both social and ecological information. It will also require monitoring. Gatherers' knowledge and conservation concerns make them strong potential collaborators in the development and implementation of monitoring protocols.

- Overlap in economic benefits and personal uses of SFPs presents challenges in calculating fair market value and allowing for free personal use. Navigation of this tension will require dialog between managers and gatherers.

- Changing social and technological conditions will require continuous review of SFP programs.

- Building relationships of trust and collaboration with gatherers will be essential to developing SFP programs that are socially and ecologically sustainable.

Managers can take lessons from the cases in this report to identify issues they may face and questions they should address in establishing programs that will capture market values, support continued personal use, and promote the sustainable harvest of forest botanical products. The cases indicate that this is an arena characterized by diversity and adaptation. Furthermore, it includes people who live subsistence lifestyles or otherwise exist at the margins of economic markets. In addition, some are in less powerful positions in their communities and in society more generally due to cultural and ethnic tensions. To better understand the dynamics in this arena, we need to continue to examine and take into consideration the relationships that exist among people, communities, and SFPs from cultural, economic, political, historical, and ecological perspectives.

Introduction: Multiple Dimensions of Special Forest Products in Individual and Household Contexts in the Eastern United States

Clare Ginger and Marla R. Emery

The importance of special forest products (SFPs) in rural communities has increasingly garnered attention in the United States during the past decade (Richards 1997; Chamberlain et al. 1998; Liegel et al. 1998; Emery 2001; Jones et al. 2002). This can be attributed to various factors, including shifts in the industrial logging sector in the United States (particularly in the Pacific Northwest where timber production has become increasingly controversial); increased recognition of forests as diverse ecosystems that contain a wide range of natural resources; and application of lessons from community forestry studies in other countries in understanding the social dimensions of forestry in the United States (McLain and Jones 1997, Emery and McLain 2001).

Increased attention to SFPs in the United States is evident in action taken by the United States Congress with legislation that directs the Secretary of Agriculture to establish and implement a "Pilot Program of Charges and Fees for Harvest of Forest Botanical Products" for the National Forest system.[1] The legislation defines forest botanical products as "any naturally occurring mushrooms, fungi, flowers, seeds, roots, bark, leaves, and other vegetation (or portion thereof) that grow on National Forest System lands." In the work presented here, we assume that this definition is a functional equivalent of SFPs as defined by the U.S. Department of Agriculture, Forest Service (USFS): "products derived from biological resources collected in forests, grasslands, and prairies for personal, educational, commercial, and scientific use (U.S. Department of Agriculture 2001)." We consider SFPs and forest botanical products to be comparable to other terms applied to such materials, for example, nontimber forest products.

The legislation directs the Secretary of Agriculture, and by extension the USFS, to charge and collect fair market value for forest botanical products harvested on national forest lands. It also requires the collection of fees from harvesters to cover costs to the government of administering, monitoring, and conducting analyses associated with a forest botanical program. In addition, the law mandates analyses of how and whether SFPs can be harvested on a sustainable basis. Finally, it recognizes nonmarket values of these products in that it exempts materials harvested for 'personal use' from charges and fees.

This approach to SFPs represents a significant change for the USFS. It assumes that valuable SFPs are likely present on national forest lands and that the government ought to collect their market value. It further assumes that there is demand for SFPs and that the harvest of these products should be managed on a sustainable basis. The development of sound and sensitive approaches to managing SFP activities in response to this legislation, and beyond, requires attention to (a) types of products and values associated with them, (b) people who gather, process, use, sell, and purchase them, (c) the knowledge and practices used in these activities, and (d) contextual factors that affect SFP activities on national forest land, including other land management regimes and broader social conditions such as household economies and demographics. Further, recognition of market and personal use values in the legislation suggests the importance of understanding the dynamics of SFP activities at scales ranging from macro-level markets (national, international) to micro-level household and individual use.

The cases in this report provide an introduction to SFPs at the household and individual scales. They supply evidence that a broad range of people gather these products for various reasons and that SFP

[1]U.S. Laws, Statutes, etc.; Public Law 106-113, div. B, Sec. 1000(a)(3)[title III, Sec. 339]. **Pilot Program of Charges and Fees for Harvest of Forest Botanical Products.** Act of Nov. 29, 1999. Page 113 Stat. 1535, 1501A-119-200; 16 U.S.C. 528.

activities hold livelihood, cultural, and recreational value. The cases also illustrate the knowledge important to gathering as well as concerns of some gatherers about conservation practices. Finally, they provide a glimpse of some challenges, such as land tenure arrangements and access to SFPs, changing lifestyles, and potential tensions arising from demographic shifts and cultural differences. Many of these factors are important to USFS efforts to develop and implement a program for collecting charges and fees for SFP harvesting in the national forest system.

Background

The 12 case studies in this report were generated as part of a larger USFS project on SFPs. The larger project examined key questions about sustainable use and development of SFPs from three perspectives: environmental, social, and economic. Researchers gathered case-study data to explore the richness of individual and household experiences with SFPs in the eastern United States. As the project moved forward, it became clear that the case studies deserved attention in their own right as evidence about (1) the diverse and flexible roles that such SFPs play in people's lives and (2) challenges for the USFS in the eastern United States, where much of the land base is in mixed-tenure ownership and SFPs have received less attention than in the Pacific Northwest.

We interviewed gatherers in rural areas of the eastern United States. We sampled across a range of geographic locations, SFPs gathered, and characteristics of gatherers (age, gender, ethnicity). Gatherers were identified through a network of USFS contacts, craft cooperatives, historical and folkway groups, and professional organizations, including ethnographers and rural economic development specialists. Once identified, each person or family was asked to participate in an interview about their gathering activities, with the assurance of anonymity in the report of findings (names used in the case studies are not the real names of the people interviewed, except where noted). Eleven interviews were conducted at homes or at a public place near the gatherer's home. One interview was conducted over the telephone.

Three people conducted these interviews in 2000 using the same protocol. Interviews lasted between 45 minutes and 4 hours. All were tape-recorded and transcribed. Each interviewer wrote case narratives for the gatherers they interviewed. Each narrative was then reviewed and edited by another member of the research team, in consultation with its primary author. The level of detailed information provided in each narrative varies according to the approaches of the three researchers.

The cases come from Alabama, Connecticut, Mississippi, New Hampshire, North Carolina, Ohio, Vermont, and West Virginia. Total land area in these states ranges from 3.1 million acres (Connecticut) to 32.48 million acres (Alabama). The percent forested land varies from 30 percent in Ohio to 86 percent in New Hampshire, with seven of the eight states 60 percent or more forested (Smith et al. 2001). Ownership of this land also varies. In five of the states (Mississippi, New Hampshire, North Carolina, Vermont, West Virginia), the USFS holds between 6 and 15 percent of the forest land. In Alabama, the USFS holds 2.8 percent; in Ohio, the agency holds 2.75 percent, and in Connecticut, the USFS does not manage any land.[2] Of the remaining forest land in the eight states, between 67 percent and 89 percent is in non-industrial forest ownership. State, county, and municipal government holdings vary from 1.5 percent to 14 percent. Finally, forest industry ownership of forest land in the states ranges from 0 to 21.8 percent (Smith et al. 2001).

These case studies introduce readers to a broad array of experiences and challenges associated with SFP gathering in rural, mixed land-tenure areas of the eastern United States. They suggest the need for the USFS to investigate and consider various factors in designing and implementing policies and programs for forest botanical products. These factors include variation of SFP markets (e.g., local,

[2]This differs significantly from patterns in the Rocky Mountain and much of the Pacific Coast regions, where the USFS manages between 40 and 50 percent of the forest land (Smith et al. 2001).

regional, national, international), intersections between market and personal uses of these products, the nature and roles of knowledge in conservation practices, the influence of land-use decisions and land tenure on access to products, and the impact of changing social and technological conditions on SFP values.

Key Themes

Five themes recur throughout the case studies and provide a means for exploring the factors described above:

- diversity in gatherers and SFP values
- the nature and role of knowledge in gathering activities
- the importance of conservation practices to many gatherers
- the impact of changing land tenure and use on gatherers' access to SFPs
- the implications of changing social context for gathering activities

Diversity in Gatherers and SFP Values

The gatherers profiled in these cases come from various cultural backgrounds and parts of the eastern United States. They include four men, four women, and four family groups. Half of the individuals were over age 60 and the other half were between 40 and 60 years old at the time of the interviews. Many mentioned experiences with SFPs at earlier stages in life and for some, memories extend back to childhood.

Three categories of SFPs are represented: edibles (e.g., berries, mushrooms, maple syrup); medicinal plants (e.g., ginseng, goldenseal, witch hazel); and decorative materials (e.g., galax, pine needles, ferns).[3] While many of the interviews focused on the gathering of a single SFP, several illustrate diversified approaches to gathering that include multiple products and seasonal variation in gathering activities. In addition, some interviewees mentioned having gathered different materials at different points in their lives.

The gatherers vary in their economic uses of SFPs, though these products have been an important component of livelihood for nearly all of them at some stage of their lives. These examples show that SFPs provide (a) a way to get by during times of hardship, (b) a way to generate supplemental income, and (c) the basis for a subsistence livelihood over an extended period. The economic aspects of SFPs in these cases encompass market and nonmarket values.

For some people, SFPs are one component of diversified livelihood strategies that include land and non-land (e.g. housekeeping, teaching) based income. In one case, a farmer gathers and sells witch hazel to supplement his farm income. In another case, a family uses maple sugaring and farming activities in a livelihood strategy that includes nonfarm work. Another family gathers and sells galax as a part of an overall livelihood strategy that includes harvesting fruit and pruning trees. One man gathers, cultivates, and sells wild medicinals in addition to his primary job in a state agency. One couple depends on an array of edible and medicinal plants as they have done for many of the 20-plus years they have been together.

These cases also show that activities may be linked to either formal or informal labor markets. In some cases, people interviewed gather and distribute SFPs as a part of markets recognized,

[3]Products are referred to in the cases with the common names used by the gatherers. See appendices for tables that cross reference these names with Latin names for each species mentioned.

monitored, and/or regulated by government (e.g., gathering and selling witch hazel, herbal tea, or galax), while others do so as a part of labor markets and/or subsistence livelihoods that are not monitored or regulated by government (e.g., making and selling baskets on an informal basis, gathering berries for household consumption, some forms of gathering and distributing wild medicinals). Whether their activities are connected to formal or informal markets, the gatherers typically have modest lifestyles and economic expectations and receive a small return on their labor.

Some individuals also explicitly seek to maintain cultural and family values through gathering. For example, SFP activities are valued because they draw on and contribute to the maintenance of Native American traditions. SFP activities also provide connections across family generations. In addition, some people discussed the pleasure they take in gathering and working with SFPs.

These cases illustrate the values that people place on these activities and the diversity of experiences that can occur between individuals and within a single person's lifetime. The cases support the idea that this arena is characterized by flexibility and adaptation among gatherers: they adjust their use of SFPs based in part on the availability of formal employment. They also adapt their use of SFPs to their needs, time, and capacity from one life stage to the next.

Knowledge

Types of knowledge and the ways in which knowledge is shared, lost, or withheld are all important in SFP activities. Emery (2001) identified three dimensions of knowledge relevant to SFPs: ecological (where and when material can be found); economic (costs and benefits of SFP activities including tangible and intangible components); and use (what can be used and how, how to harvest material, how to process material). All of these dimensions appear in this collection of cases.

Most of the cases provide evidence of the importance of knowledge about where and when to find plant materials to gather. One man's detailed understanding of the growing patterns and conditions for goldenseal and ginseng are an example of the role of ecological knowledge in gathering and cultivating these SFPs. The importance of ecological knowledge is further evident in concerns about conservation practices (see below, Conservation and Stewardship Practices).

The goldenseal and ginseng gatherer's experience also accentuates the importance of economic information. He emphasizes the importance of knowing market prices, how these can vary, and how he uses this knowledge to evaluate his gathering activities. Other cases show how changes in a product's supply, location, and accessibility affect the costs and profitability of gathering. Some gatherers place importance on this information and calculate the costs and benefits associated with their SFP activities.

Given that many individuals use these products for income, some readers might assume that gatherers maximize profits and depend largely on knowledge of monetary values to calculate costs and benefits of gathering. However, several cases challenge this assumption. Information about nonmonetary benefits and costs is relevant and some gatherers have goals other than profit maximization. For example, benefits arising from the pleasure of the activity and the need to subsist and maintain some livelihood when other employment options are quite limited can be significant aspects of a gatherer's calculus.

In many cases, the importance of use knowledge is apparent in descriptions of how people learned about and use various SFPs. One couple describes the critical importance of knowing which mushrooms are edible and which are poisonous. They do not sell mushrooms to restaurants that buy from other gatherers to avoid the risk of bearing the consequences of others' lack of knowledge about these SFPs. One woman's experience demonstrates the importance of knowing how to process pine needles into baskets that she can sell.

Nearly all of the cases illustrate the ways in which knowledge is shared, lost, or withheld. Often, knowledge about SFPs is shared between generations and within social networks. For example, one man describes how he learned about wild medicinal plants from his mother and how this knowledge was shared among siblings. One family learned to gather from friends. As they gather in extended-family groups they, in turn, pass that information from one generation to another. One woman obtained information from her sons about timber harvesting patterns that was useful for finding berries.

Some individuals rely on multiple sources of information to support their SFP activities, such as Native American traditions, personal observations, and literature. One man similarly depends on traditional knowledge from past generations in his family, his own observations over three decades, and books. Some gatherers have created organized approaches for sharing information and teaching others about SFPs. The impact of such approaches can be seen in a woman who learned basket-making skills from a person who was supported through a grant from the Alabama State Council on the Arts.

Some gatherers describe their unsuccessful efforts to pass knowledge along to other family members and the next generation. Their experience raises questions about whether and why knowledge about SFPs may be lost over time. This loss of information may be attributable, in part, to changes in the social context and lifestyle choices that people make.

By contrast, two people describe their desire to withhold information to protect resources that are potentially both valuable and vulnerable. They said that by doing so, they reduced the likelihood that the plants would be overharvested. The efforts to withhold information to protect plants indicate that knowledge is linked to another general theme that exists across these cases and is important to the USFS: conservation and stewardship practices.

Conservation and Stewardship Practices

A number of the people express concern about the conservation of SFPs and the need to use good stewardship practices. Some discuss threats to the long-term viability of products. Many describe their harvesting techniques as they relate to conservation. For example, in response to a decline in tree health, one family adjusts their techniques for harvesting sap for maple syrup. Their concern about the impacts of acid rain on the health of maple trees has led them to discontinue tapping some trees and reduce the number of taps they put in other trees. Another woman implements gathering methods to reduce impacts on plants that she uses. In addition, she works to bring public attention to the effects of strip mining on natural resources and relocates plants from land that is about to be developed.

In North Carolina, families that gather galax express concerns about the effects of improper harvesting techniques and increased gathering on the health of the plant population. These gatherers discuss the need to check that roots are not pulled up while gathering leaves from the plants. In addition, they believe that harvesters should observe a season for gathering galax to reduce the potential for overharvesting and they acknowledge USFS efforts to manage harvesting of galax to ensure its sustainability. Other gatherers teach responsible harvesting methods. Concerns about conservation of SFPs and sustainable harvesting practices are complicated by the land tenure and management contexts in which they work.

Land Tenure and Management Context

Nearly all cases provide evidence that SFP activities are affected by land tenure or ownership patterns, the uses and development of land, and management regimes associated with uses such as logging and farming. Patterns of land tenure can affect the access people have to these products and how they arrange for it. Access may be arranged explicitly or it may exist based on unspoken agreements. As

ownership changes, access may change or be eliminated. Gathering activities also may change as landowners alter how they use or manage their land.

One man notes that, as farms are divided and sold, some new owners do not allow people on their property to gather witch hazel. Another describes how his ability to gather fruit from trees in the yards of an urban area depends on obtaining permission from the owner. When mining companies bought land in West Virginia, one gatherer purchased new property and moved to a different location to have better access to the materials she relies on for subsistence.

Land sales by timber companies to conservation groups and government agencies may change the nature of access arrangements from unspoken to explicit agreements for another gatherer. Moreover, it is not clear whether new agreements will allow the same level of access as had been allowed by the timber companies for such activities. The experience of the families who gather galax illustrate how decisions made by public land managers about permitting and law enforcement can affect access to products.

The negative impact of some management regimes is apparent in several cases. The use of pesticides can make it inadvisable to gather and ingest SFPs as suggested by two gatherers' experiences. Strip mining may be expected to eliminate all SFPs in some areas where another lives.

By contrast, timber harvesting impacts are more variable. One woman observes that berry picking opportunities are positively affected by logging while another notes that increased logging results in fewer patches of ferns. The experience of a third shows that changes in forest types, which are influenced by land management regimes, altered the material available for making baskets from white oak to pine needles.

Social Context

Additional complexities emerge when considering the role of social contexts, including lifestage and changing economies, technology, and demographics. One woman said that she no longer has time to gather berries because of changes in her life that have occurred as she has gotten older. Another gatherer adapts his SFP activities as his income and employment change over the years, while others make decisions that alter the role of SFPs in their family from the basis of a profit-making business to materials that support a subsistence-level standard of living. Two gatherers indicate that changes in social values and lifestyle make it less likely that their children will gather, although one of these gatherers indicates that her children rely on her for home remedies.

The impact of changing technologies and demographics can be seen in at least two cases. Smaller quantities of witch hazel are required for production making it less economically viable for one man to continue gathering. In addition, the transition from a rural to a suburban population may mean that the gathering of witch hazel will cease to occur in the area where he lives. In another case, improved health care, higher incomes, and better access to services reduced the demand for wild medicinals for home remedies. Shifts related to standard of living can mean that knowledge of SFPs is potentially lost over time because people are not engaged in gathering activities.

The example of galax gathering in North Carolina raises a different set of issues related to demographic changes: people who gather galax appear to be shifting from dominantly Anglo-Americans to dominantly Latino immigrants. This demographic shift has generated questions about who gathers galax and whether they are doing so sustainably. The experience of other gatherers raises similar questions about socio-cultural and political dynamics as they arise in the interaction between Native American cultures and the development and production-oriented cultures that dominate the United States. Given ongoing cultural and ethnic tensions in the United States, such cases might involve tension between groups who engage in SFP activities.

The importance of language and culture is apparent in the experience of one gatherer who immigrated to the United States from France in the 1950s. She needed to find work outside the formal employment sector because this sector required English language skills that she did not have. Gathering SFPs offered her a good alternative. Whether such activities continue to provide a viable alternative for recent immigrants to the United States is an important question.

Because several cases emphasize cross-generational connections, questions arise about how SFP traditions are linked to issues of legitimacy and cultural identity within gathering networks. For those who are a part of these networks, long-standing traditions of gathering may reinforce identities and help to maintain positive social networks. However, the sense of legitimacy that can accompany such traditions may create barriers to newcomers and be linked to social conflict associated with questions about who should be allowed to gather and whether they are doing so appropriately.

Implications

As attention to SFP activities continues and expands, agencies such as the Forest Service will be called upon to incorporate them into their overall land-use planning and management tasks. This trend is linked to a larger context of changing views of forests and human communities. With these changing views, longstanding 'unseen' activities, such as the gathering described in these studies, will be recognized and brought into sharper focus. As the USFS takes action on forest botanical products, it will be important to understand their value more broadly and to investigate the dynamics associated with them at various scales.

The stories in this report begin with individual people and families. Our intention was to provide descriptive detail about gatherers and SFP activities. We also hoped to develop some insight into patterns that might exist across age groups, ethnicity, and major types of products in the eastern United States. As such, these stories are best understood as an introduction to the range of people who gather, the values associated with the items gathered, and the nature of knowledge in SFP activities. In addition, these cases provide a glimpse of some concerns including whether members of the next generation will carry on gathering activities, how to promote sustainable practices, how land tenure affects access to SFPs, how pesticide use and other land management regimes affect the safety and availability of such products, and how changes in demographics and lifestyle affect SFP activities.

These cases strongly suggest the need to consider how SFP activities are influenced by social-political dynamics related to economic structures, demographics, race, culture, and gender. These dynamics will have implications for USFS efforts to develop programs to capture market value of forest botanical products while supporting their personal use. Changing lifestyles and demographics might affect the stability of market values for SFPs as well as the labor pool engaged in these activities. In addition, agency programs may generate conflict as they affect access to these products. They may have an impact on people who are in less powerful positions in their communities and in society due to cultural and ethnic tensions. They also may alter livelihood options for individuals who live subsistence lifestyles or otherwise exist at the margins of economic markets.

All of these issues are potentially relevant to USFS managers as they respond to the mandate from Congress to develop programs for forest botanical products. Managers can take lessons from these cases to identify issues and questions they may face in establishing programs that will capture market values, generate revenue to recoup administrative costs, support continued personal use, and promote the sustainable harvest of forest botanical products.

This report is a contribution to an ongoing arena of work. A variety of sources and studies exist that can contribute to managers' understandings of the dynamics of forest botanical products and SFP activities (See Literature Cited and Other References for information on some of these sources). Some of this work focuses on single products (e.g., ginseng). The cases presented here suggest that it

is also relevant to focus on the individuals and families who use, enjoy, and depend on SFPs. They highlight some of the commonalities among gatherers across areas within the eastern United States. They also indicate that gatherers may depend on more than one product with a variety of livelihood uses, which can change throughout their lifetimes. To gain greater insight into the importance of such products, we recommend also considering the significance and value of SFPs in communities. To better understand the dynamics in this arena, we need to continue to examine the varied relationships that exist among people, communities, and SFPs from cultural, economic, political, historical, and ecological perspectives.

Guide to Key Themes

The case studies that follow offer insights into gatherers and gathering in the eastern United States.[1] While every story is unique, common patterns and processes are evident throughout the collection. The *Key Themes* that precede each case study highlight the characteristics and issues illustrated by that family's or individual's story. These *Key Themes* are intended to help managers and others easily identify issues that may be of interest to them and synthesize information across case studies. The definitions below describe the themes and their many variations.

SFP Types – The direct, material ways that SFPs are used, whether by gatherers or by others. The most common SFP categories in the eastern United States are edibles, medicinals, and decoratives. Utilitarian uses (for example, cordage, dyes, and materials for building and tool making) were more commonplace historically but continue to a lesser extent today. Ceremonial uses also can be important, though none are illustrated here. Products are referred to in the case studies by common names used by the gatherers. See Appendices A and B for indices to common and Latin names for each species mentioned.

SFP Values – The contribution(s) of SFPs to the lives and livelihoods of the people who gather them. These include economic, social, and cultural values. Economic values are derived from activities in formal and informal markets as well as nonmarket activities. Social values often revolve around the maintenance of family ties and traditions. Cultural values include preserving time-honored lifeways and the ability to survive outside the market economy. In some instances, economic, social, and cultural values are linked so closely that they are regarded as inseparable.

Knowledge – The knowledge that gatherers draw on to find and use SFPs and the means by which SFP knowledge is acquired, shared, lost, or withheld. This includes ecological knowledge (such as associated land types, plant communities, and phenology), economic knowledge (how an SFP can contribute to the gatherer's livelihood), and use knowledge (what can be used and how). Knowledge sources are both traditional (experience and observation, sometimes over several generations) and/or formal (obtained from books, scientific reports, etc.). Social networks and intergenerational transfer are key to the transmission of SFP knowledge. Changes in lifestyle and social values can contribute to the loss of SFP knowledge.

Conservation and Stewardship Practices – Practices observed by gatherers to ensure the continued availability of the SFPs they harvest. Common stewardship practices include conscientious harvesting methods and efforts to propagate or increase the biomass of harvested species. Both self-interest and commitment to environmental values are motivations.

Land Tenure and Management Context – The effects of land ownership and management on SFP species and gathering activities. This includes the terms of access; that is, the formal and informal rules that dictate where SFPs are harvested. Land use and vegetative management also can affect the availability of SFPs by increasing, reducing, or eliminating populations or by introducing new species. The use of chemical inputs, such as pesticides and herbicides, might render edibles and medicinals unsafe and, thus, unusable.

Social Context – The social factors that influence who gathers and support, constrain, or otherwise condition their activities. Life stage, household economies, lifestyle expectations, and labor structures affect who gets out into the woods to gather and how SFPs are integrated into their lives. Social networks, ethnicity, and length of residence may affect who is welcomed as a legitimate gatherer in an area. Changes in technology and market demand can alter the viability of an SFP as a source of income. Social context may also affect where a product is sold, to whom, and how it is distributed.

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[1]The reader will note that the level of detail varies considerably, in keeping with the respective approaches of the three researchers who produced them.

Una Holder, Pine Needle Gatherer and Basket Weaver — Alabama

Siri Newman

Key Themes

- *SFP Types*: decorative; medicinal; utilitarian
- *SFP Values*: supplemental and emergency income; family ties
- *Knowledg*: use; sharing; technical assistance; intergenerational transfer; loss
- *Land Tenure & Management Context*: proximity and access; management practices and availability (pesticide use)

Una Holder was born in 1940 into a family of 15 children in the rural countryside of southwestern Alabama. Since her childhood, she has lived on the family property, located about 2 hours southwest of Birmingham. The property has changed hands since 1940, transferring from Una's parents to a cousin. Today she and her husband, Roosevelt, live in a small house they rent from her cousin. She spoke about the pine straw[1] baskets she makes and showed off her handiwork. She also commented on the role of this activity in her life, the impact of a changing landscape on materials used in basket-making, and on the use of wild medicinal plants by her family.

Photo by Siri Newman

Una Holder makes pine needle baskets and sells them for much needed income when she cannot find a job. Making baskets is also a source of pleasure for her and she has tried to pass the skill on to younger family members.

Basketry became an important part of Una's life in 1985.

"I was laid off from my job. I worked at Deborah Knit, making ladies garments," Una said. "And, well, needed some money and went to this festival that they have in Eutaw every fourth Saturday and fourth Sunday. And this lady was making these pine needle baskets, and I wanted one. But I didn't have any money to get any. I asked her if she teaches people and she said she did. She had a grant from the Alabama State Council on the Arts to teach people how to do it." Una took lessons and began to make baskets to sell at local fairs and expositions.

While developing her skills, Una discovered a supply of long pine needles in her sister's yard, only a few hundred feet from her own home. The discovery was essential as it provided Una with an ample supply of pine needles. She also gave her teacher needles for her basket weaving.

Since Una's lay off from the garment factory, work has been sporadic and she has struggled to stay employed in this rural area. Her latest period of unemployment began in 1998 when she reached the two-year limit on the federally funded employment program through which she was working.

"The garment factory filed bankruptcy. So, I stayed out of work for about a year," she said. "Then I went to work at the Green County Sheriff Department. I stayed there for about 2 or 3 years and they laid off all their dispatchers. So then I stayed off work for a year again. Then I went back to human resources until 1998. So now I am in between jobs." Roosevelt also has been out of work due to a job injury.

In a time and place where job opportunities in the formal market are limited, basketry is a valuable trade. Over the years, Una has turned to weaving and selling pine needle baskets when she needed

[1]The needles of longleaf pine are referred to as "pine straw."

income. The intermittent nature of her basketry work follows closely the Holders' employment cycle. They rely especially on Una's baskets when both are out of work.


Photo by Siri Newman

While the sale of baskets generates income during times of limited or no employment in the formal market, the return on Una's labor is very modest. Presently, each of Una's small baskets sells for $10 and takes three hours to weave. At this rate, she earns less than minimum wage for her work. When the costs of raffia, thread, sewing needles, and transportation to craft fairs to display the products is added, the return on baskets declines even further. Una realizes this limitation and understands that she does not recover the cost of her time and labor in the sale of baskets. However, she gathers pine needles and weaves baskets not only for income, but also for the pleasure of the activity.

"It's enjoyable and rewarding, and to see people and how they rejoice over them," she said. "You know, it is rewarding."

Una is not the first basket weaver in her family. Her father also made baskets, though he used white oak rather than pine needles.

"See now, when my father was growing up he used to do those white oak baskets," she recalled. "He would make cotton baskets, feed baskets, picnic baskets." But, she added, "this whole place was different when I was born." As the economy has changed in southwestern Alabama, so too, have the traditions of basket weaving as the demand for cotton and feed baskets has disappeared. Now baskets are decorative items, not essential goods. A change in the landscape also led to the decline in production of white oak baskets in Alabama.

"Well, it is kind of hard right now to get white oak. You know, when I was growing up there was a whole lot of it. And now you can't hardly get it," Una remarked, "They sure are beautiful. I would make those if there were more trees."

Una also recalls her parents using medicinals. Flag root, blackberry root, mullein, collard leaf, sweet gum bulbs, and poke salad were used in a variety of home remedies. With these remedies, Una's mother protected her children from illness and treated many of their symptoms when they did get sick. This use of wild medicinal plants ended as surrounding plantations began to use pesticides to improve the growth of their cotton and feed crops.

"They were putting so much chemicals in feed and corn for cows and stuff like that and you don't want that stuff in your body," Una lamented.

Today Una holds on to what little knowledge she has of the medicinals her parents used. While she remembers the names of the plants, she noted that she would not be able to find some of them. She still uses mullein to soothe swollen feet and fevers and realizes the general benefits of medicinal plants. Unfortunately, as one of the youngest of the 15 children and with no children of her own, she may be among the last in her family to retain this knowledge.

Una hopes to pass on her basket-making knowledge and has reached out to family members to teach them how to weave baskets.

“One [niece] tried. One time she did one basket and that was it,” Una said. “I also taught my cousin. But now she says she can’t use her fingers too much.” Though Una has not been able to get her family members to take up basketry, she has taught them where to gather pine needles and how to make the baskets so that the next generation will have the knowledge to continue this activity. Una also hopes that some of her younger nieces and nephews will take up basket weaving,

“Well, I hope they will keep the tradition going. But they haven’t said yet. They are in college right now.”

While Una tries to educate her family about the tasks associated with basket weaving, from locating and gathering pine needles to processing and weaving, there is little she can do to protect this activity, or the wild medicinal plants they might use to treat illness, from a changing social climate and landscape. After observing the impact of crop dusting and pesticides on the use of medicinal plants, Una is concerned about how such changes will affect future generations. She hopes her family will be able to rely on resources around them to supplement household incomes in times of need and that they will maintain and use some of the knowledge of her parents’ generation about wild medicinal plants.

Bill Cooper, Witch Hazel Gatherer — Connecticut

Siri Newman

Key Themes

- *SFP Types*: medicinal
- *SFP Values*: supplemental income
- *Knowledge*: economic; ecological; sharing; intergenerational transfer
- *Land Tenure & Management Context*: ownership and terms of access; changing development patterns and proximity
- *Social Context*: changing technology

Country roads lead the way to an old farmhouse in eastern Connecticut where farmer Bill Cooper gathers witch hazel. Bill, a tall, white-haired man, was born in this house in 1935 and, like his parents, has made much of his living by working on the farm. As a young child, Bill was introduced to harvesting witch hazel by his parents.

"This was a means of the farmers making a living over the years in the winter months when they had nothing else to do," Bill explained. "I've done it all my life and my folks before me all of their lives for the past hundred years, anyway." He has looked repeatedly to witch hazel when farming alone could not provide sufficient financial resources to support his family.

Witch hazel, a primary product in the cosmetics industry, thrives in the terrain of eastern Connecticut.

"There's witch hazel everywhere…" Bill said. "There's enough witch hazel between here and Vermont to supply the world with witch hazel for the next 100 years with no problem, 1000 years."

The proximity of a distillation plant combines with the large population of this shrub species to provide an opportunity for farmers in the area.

Witch hazel blossom

"About every farmer in the town or county here has cut witch hazel brush over the years," Bill said. "It's something to help pay the taxes and keep the farm in existence, you see. It's a means of keeping the wheels turning."

The tools and equipment required to harvest and process witch hazel also make it an especially suitable activity for farmers. Bill has invested in tools and machinery for his farm work and uses them to gather, process, and transport witch hazel.

"I have all these things anyway," he said. If I didn't have these things I couldn't subsist. I have the truck. You gotta have a truck. You gotta have a tractor to ship it with. You gotta have a chipper. You gotta have all this machinery. I got them on the farm anyway." An investment in this expensive machinery (a chipper he purchased recently cost $6,500) only to gather witch hazel would not provide enough of a return to pay off the tools.

Bill is concerned about the feasibility of gathering in the future because of the changing landscape and advancements in technology. As farms are sold off and surrounding rural land is developed for homes, the access to and availability of witch hazel is threatened.

"It has changed very much because of the concentration of people that there was relative to 50 years ago," Bill said. "There were large tracts of land 50 years ago. The farms, now they've been developed and consequently there's much less, fewer places you can go." Even in areas where the land has not been divided and developed, gatherers depend on the landowners who control the use of their property.

"Some people don't want you to set foot on their property. Others don't care. But everybody is different," Bill commented.

As the number of sites for gathering witch hazel decrease, those that remain are also more dispersed across the area and Bill has to travel greater distances to gather the material. This increases his time and fuel costs. To make the 50-mile trip from his home to the witch hazel distillation plant worthwhile, Bill feels that he must have at least 5 to 6 tons to deliver. As he drives greater distances to gather these amounts, the profitability of the activity decreases.

Witch hazel fruit
Photo by Mike Williams, Ohio Department of Natural Resources

A new distilling process requires less plant material to generate processed product. As a result, the distillation plant does not require the same volume of plant material it once did. Faced with a lower demand, the gatherer sells less of the raw product and gets a lower return.

A combination of a ready supply of witch hazel and the relative proximity of a distillation plant created an opportunity for farmers to supplement their income in eastern Connecticut. Bill's family was able to take advantage of this to maintain their farm, pay property taxes, and get by on money gained through an activity for which they had all the necessary tools and machines. The changing landscape and technology now threaten the viability of witch hazel gathering as a source of supplemental income. The next generation of farmers may have to look for other ways to make ends meet.

Quenton Winslow, Medicinal Gatherer — Mississippi

Siri Newman

Key Themes

- *SFP Types*: medicinal
- *SFP Values*: subsistence and hard times; family consumption
- *Knowledge*: ecological; sharing; intergenerational transfer; loss of knowledge
- *Land Tenure & Management Context*: ownership and terms of access
- *Social Context*: changing social conditions, lifestage

Quenton Winslow was born in 1923 outside of Oxford, Mississippi, where he continues to live. During the early part of Quenton's life, which spanned the Depression, his family depended on the resources around them for survival. They relied on both farm-grown produce and wild medicinal plants. As a young child in a family of 12, Quenton learned early how to subsist off the land.

"Back in those days my daddy dug ditches for 35 cents a day," Quenton said. "Now, Mother was watching us, and we were out there working all the time. We were shucking corn and hoeing cotton and hoeing in the garden. I wish you could have seen those days. Now, listen, we had a garden and I guess it was around 2 acres or more and we raised everything and anything."

Poverty and lack of sanitary facilities promoted the spread of disease in their community. However, the Winslow family had little expendable income for doctor visits.

"The only time we would have doctors was when my mother was having babies," he said. "Well, I guess I was about 28 or 29 years old when I went to the first doctor," he recalled.

Consequently, wild medicinal plants used in home remedies were essential to the family's health. Describing his mother, Quenton said, "Somehow or another she had more home remedies and we didn't go to doctors. " His mother used plants such as pokeweed root, sassafras root, walnut leaves, peach leaves, and pine tar to treat her family's ailments. These plants grew in forested land and along riverbanks surrounding the Winslow's home.

Quenton's mother taught the children where medicinal plants grew and how to gather them. She instructed the older children so they could gather the plants for her. The older children passed their knowledge on to their younger siblings.

"Oh yeah, we had to get out there and dig up those roots," Quenton said. "See, the oldest brothers knew and they would take us out and show the young ones. As we came up, the older brother would show the younger brothers what to do."

As a young boy, Quenton and his brothers gathered poke salad root to treat itches they had picked up from other children at school.

"Well now, like if we had the itch we would dig up poke salad roots and boil it and wash yourself in that and then that would kill the itch," he said. "You see a lot of people back in those days used to go to school with an itch and we would catch it. We would be sitting close to them and they put their hand on you or something."

Over time, living conditions and health care improved in the rural south and the diseases associated with Quenton's generation waned. Quenton and his brothers did not pass their knowledge of medicinal plants and gathering to their younger siblings or children. Quenton described the transition away from home remedies within his own generation.

Photo by Siri Newman

Growing up in rural Mississippi during the Depression meant that when Quenton Winslow and his siblings were sick, his mother used wild medicinals to create home remedies. He laments the loss of that knowledge in subsequent generations but thinks it would be recovered if people were in need.

"Now see, my sisters, by the time they got to be children, things got better you see," he said. "They didn't have the itches like we did. They don't know much about it. Now my older sister, she saw what Mama taught and we were taught. But none of them had to do what we did."

Better living and health conditions also meant that in raising his own family of four children, Quenton did not use home remedies and wild medicinal plants. His children were not as sick as he was as a child. When the children were sick, Quenton's wife took the children to see a doctor. As a result, the knowledge of gathering that was passed down from his mother to him and his older siblings has been lost, a loss he laments.

However, he also believes that if people were placed in a situation where they had to live off the land to survive, some would rediscover home remedies.

"Now, the thing is, if everybody was to have a depression and you didn't have money to carry the kids to the doctor, you would think about a remedy then," he said. "Well, I tell you, people don't know those good old days like I do. I tell you if we ever had 'em I would know kinda what I had to do. But a lot of people wouldn't."

Quenton also expressed concern about decreased access to areas for gathering products.

"It used to be you could go across down here on anybody's land and hunt and nobody would ever say a thing," he said. "You could get rich pine off of it. You could ask them if you could buy it and they would say yeah, go ahead. Now you can't do that. Nobody wants you on their place now. You have to be careful." He also observed a reduction in access to forest resources after his father sold some of the family land.

"When the government bought us out, well, there was a lot, and we used to go on the government land. That was before they got too tight," he said. "We'd take a mule over there and haul pine out and have kindlin' and make tar. But now you can't go on there. They won't let you have a thing. You have to go pay for it. You have to get a permit."

Quenton feels confident that if people were placed in a situation in which they had no money, no health care, and a sick family, they would educate themselves on the useful wild medicinal plants that surround their home. On the other hand, he is concerned about how people will gain access to plants that are on private and public land. With posted signs that restrict access and permit fees, he is uncertain that people will be able to gather in the future.

Hudson Family, Maple Sugarers – New Hampshire

Siri Newman

Key Themes

- *SFP Types*: edible, medicinal, utilitarian
- *SFP Values*: supplemental income; microenterprise; family ties
- *Knowledge*: economic; use
- *Conservation & Stewardship Practices*: harvesting methods; concern about tree health
- *Land Tenure & Management Context*: land ownership and terms of access; proximity
- *Social Context*: maintaining relationships with neighbors

Tim and Mary Hudson live on a farm 30 miles north of Concord, NH. Maple sugaring activities were evident in the woods along the gravel road leading to their home. Tim and his brother purchased this land in the 1950s to produce maple syrup and generate supplemental income to support their families. Their experience with sugaring and other SFPs dates back to their childhood.

Tim was born in 1930 and his family, like many others during the Great Depression, faced poverty. Self provisioning became a way of life for Tim, his two brothers, and their mother and grandmother. The Hudson family relied on wild edible and medicinal plants that grew near their home in southern New Hampshire. The family gathered berries for jams and witch hazel and sweet fern for medicines and poultices.

Tim recalls his start in maple sugaring.

"Oh God, it started like a lot of 'em started. It started in my childhood. I grew up in the 30s and, well, there was no money. We tapped trees and made our own maple syrup for subsistence. Course in those days you didn't buy spiles. We made our own out of sumac. And of course we had a wood stove. And then the telephone line that went by was more like telegraph wire. It was bigger around than my pinky and it was fairly stiff. There was always telephone wire around. So we used to put telephone wire on the stove and get it red hot and run it through the middle of the sumac, you know, the branches. Because you know sumac is kind of hollow, the pith is soft. So we always used to make our spiles out of sumac."

As early as Tim can remember, he and his brothers tapped trees. For a time, though, they abandoned sugaring when they found formal employment. Tim worked two jobs to support his family: a full-time position in a print shop, and a part-time position at a gasoline station.

"I was trying to get ahead because I grew up poor and I said that, by God, I am not going to be poor all my life," he recalled. In the late 1950s, he added a third strategy to supplement his income. He and his younger brother bought the property where Tim and Mary currently live and continue to produce maple syrup.

At the time, Tim and his brother searched for and purchased property that held potential for the harvest of more than one product.

"We were looking for maple trees and apple trees," he said. "This place came up and it had a sugar house and it had like 350 apple trees. So it was just what we were looking for."

The brothers were creative in their use of the land. They harvested vegetables in summer and apples in fall to be sold in local grocery stores, Christmas trees for the holidays, and maple sugar in winter and early spring. Working as a team, they maximized resources on the property and supplemented their primary incomes from other non-farm work. This helped make ends meet for both families.

Photo by Siri Newman

Mary and Tim Hudson produce 500 gallons of maple syrup annually, tapping trees on their own and neighbors' land. The supplemental income is only part of the reason they sugar. "It gets in your blood and you look forward to it," Tim said.

Unfortunately, the farm demands became too much for Tim's younger brother and he had to stop participating. At the time, Tim had just started his own print shop and could not take on all the responsibilities of the farm.

"When my brother and I split up I couldn't do everything," he said. Sugaring, a 3 to 4 month commitment, was more manageable than the 11-month commitment to apples. He let the apples and vegetables go and relied solely on sugaring for supplemental income.

After more than 40 years of sugaring on his property, some of the trees can no longer be tapped.

"We have got some orchards that Tim used to tap when he first came here that we don't even tap anymore because the trees are gone," Mary observed.

Other areas of the property are difficult to get to and far from the sugarhouse. Extracting sap from trees in these areas is costly. Tim explained, "I have got trees down back that I have never tapped because they are too hard to get to."

Currently, to ensure a profit on their sugaring operation, the Hudsons must have access to a larger volume of sap than that available on their property. They rely on their neighbor's trees, in addition to their own, to support their annual production of 500 gallons of syrup. The arrangements they have with their neighbors change over time and illustrate some of the challenges the Hudsons face in maintaining a profitable business.

Until about 10 years ago, Tim had placed more than 500 taps on their closest neighbor's property. About 360 of these taps ran straight to the Hudon's sugarhouse. The relative proximity of these trees to the sugarhouse made this arrangement highly profitable. However, a decade ago, the state forester assessed the trees and recommended that tapping be stopped to protect their health. Currently, the Hudson's depend on four or five more distant neighbors to supply them with sap. They travel 3 miles in one direction and 1 mile in the other direction to collect sap. As the gathering range increases, the time, energy, and work involved also increases and profits decline.

Aware of the effect of tree access and proximity to the sugarhouse, the Hudsons try to maintain positive relations with their neighbors. A neighbor whose maple trees are in his front yard gets special

consideration from the Hudsons. They set his taps last and remove them first to minimize the unsightly appearance. This consideration works in the Hudsons' favor as they try to ensure future access to the trees. They also compensate their neighbors with money or syrup, based on the number of tap holes per tree.

The availability of sap also depends on the health of the trees. An overall decline in maple tree health has resulted in lower sap production and the Hudsons think acid rain accounts for at least some of that reduction.

"Acid rain has compromised a lot of the trees in the last 10 to 15 years," Mary said. " It is something that just gets worse and worse."

The sugar content of the sap produced by the Hudsons' trees also has changed and this has a significant impact on the amount of sap they use. Tim described this as follows: "Yeah, we used to boil sap that had a sugar content of 4.0 (percent) and now, boy oh boy, we can't get hardly over 2, 2.2, 2.3. Heck we boiled some 1.7, 1.8 this year." As a result they must gather greater volumes of sap to produce the same quantity of syrup.

While there is little the Hudsons can do to curb what they think are the effects of acid rain or other large-scale environmental changes, they do use methods that promote the health of trees. They limit the number of taps per tree depending on tree size and health.

"We don't go over three (taps per tree) generally because the trees normally are not big enough for four. There again, that has changed. Forty years ago we put four taps in a tree. Now we only put two or three in it. Trees that we used to put two into, we only put one.

As Tim's son prepares to take over the business, he faces issues that threaten its feasibility and profitability. But presently it still provides a source of supplemental income.

"You don't get rich. It maybe pays your taxes," Mary said. "And it is also possibly a little income that comes in throughout the year."

While sugaring does make money, Tim indicated that few people in New Hampshire look to it as their primary source of income. But he also admitted, "It is like a lot of things, it gets in your blood and you look forward to it. You swear you won't do it again. But every spring you do it."

Mesner Family, Floral Greens Gatherers – North Carolina

Siri Newman

Key Themes

- *SFP Types*: decorative
- *SFP Values*: supplemental income; cultural values
- *Knowledge*: economic; ecological; intergenerational transfer
- *Conservation & Stewardship Practices*: harvesting methods; sustainability concerns
- *Land Tenure & Management Context*: resource base and proximity; regulation
- *Social Context*: changing demographics (ethnicity); length of residence

Galax, a plant whose leaves are used in the floral industry, provides an important source of income for people living in the hills of southern Appalachia. As a child, Karen Mesner watched her mother gather and pack galax leaves, which grew in the woods surrounding their home. Her mother relied on this plant, which she gathered with friends and neighbors, to earn money for holidays and birthday celebrations. Given the limited employment opportunities available in the rural hills near Asheville, NC, gathering galax was the main source of income for others.

Photo by Siri Newman

Karen Mesner remembers watching her mother pick and package galax leaves when she was a child. Later, when she and her husband Mike needed extra money, they also picked galax near their home. Now Mike has to travel farther to find good patches, a change that he attributes to an influx of new gatherers who, he believes, do not know how to harvest sustainably.

Though Karen was introduced to galax gathering as a young child, it was not until later in life, when they needed extra money, that she and her husband Mike took up this activity. For the past 25 years, Mike has gathered galax seasonally to supplement their income from Mike's work as a landscaper and caretaker and Karen's work as a housekeeper.

However, changes in the galax industry in their region have generated significant challenges. The major change that Karen and Mike identified is an influx of workers from Mexico who have increased the number of galax gatherers, with new people starting every year. In the Mesner's judgment, this has led to poor harvesting practices and negative impacts on both the galax plant population and their ability to gather galax as a part of their income strategy.

Describing their own gathering techniques, Karen and Mike indicated that they have been careful to protect the galax population so that they could ensure its availability into the future.

"We could pull year-round, just around close to home here because we always know how to take care of crops, and they always grow back," Mike said. " We used to leave the old, cut ones, the torn ones for the worms to eat on. They would replenish themselves and come back from seed, too. We would swap around and pull a different place each year and that would give them time to come back."

Referring to current trends in harvest times and techniques, Mike said he thinks the increase in harvesters was associated with an expansion in the harvesting season from 8 to 12 months.

"It used to be a seasonal thing," Mike said. "(But now) people are gathering in March and April and May and June, which they didn't used to. People are gathering year-round, everyday." He also thinks that gatherers who are new to the area use techniques that harm the health of galax populations.

"They just pull them so close that they won't grow back. They pull up all the seed stalks too early in the season, and that hurts the crop for reseeding."

Mike described changes he has observed in the galax population in terms of his ability to find plants and return to familiar sites.

"Well, it used to be it just grows big, you know, on the ground. We didn't have any trouble finding it, you know. We'd know where all the patches were. They just keep growing back every year." But where plants have been improperly harvested, he said, "It is worthless now to go out and look at the patches, you know, where they pull them so close. They just don't grow and there are really not enough worth pulling for."

To find patches where he can gather, he has had to change his approach. "It is like gold mining. You might find a little nugget, you might not." Some days he will drive in search of galax and find nothing. Other days he will find 5,000 or 6,000 plants.

As Mike looks for new gathering sites, he has extended his range. Currently, he might drive as far as 100 miles to a new gathering location. His 8-hour gathering day has turned into a 12-hour day including the commute. The increases in costs of fuel, time, and energy spent on searching for new galax patches have meant that his earnings have decreased.

While costs increase for both Anglo and Latino gatherers, Mike thinks what he terms 'local' (i.e., Anglo) gatherers feel the greatest impact. He suggested that, because Mexican gatherers travel and work in extended family groups, they can generate a greater profit for their family than he can by working as an individual. The cost of driving greater distances is distributed among more individuals and has a relatively lower impact on profitability. As a consequence, Mike thinks that 'local' gatherers are being squeezed out of the market.

As the profitability of gathering galax has decreased, Mike and Karen have moved away from this activity as a source of supplemental income. While it used to provide 4 months of work, Mike currently gathers galax only on an occasional basis. The Mesners believe they are not alone in this transition.

"Yeah. Most of the local people don't pull. It is just the Hispanics, Mexicans, 98 percent of them probably."

The Mesners would like to see changes in the galax industry. In particular, they think that an identified gathering season and improved monitoring of harvest practices would increase the galax population and ensure its long-term viabilty.

"They need to have more of a seasonal gathering time," Mike said. "Harvesting crops, maybe 2 or 3 months out of the year. Give them time to grow back or either close it for a couple of years and let them catch up." He also identified a need to impose higher fines on people who gather in restricted

areas. In his estimation, current fines of $30 to $100 do not deter gatherers or curb detrimental harvesting practices. He suggested fines of $500 for pulling in restricted areas. If the industry changed and the galax population increased, Mike indicated he would return to gathering. Until then, he will not continue with work that provides little return for the effort, time, and money invested.

Torres Family, Floral Greens Gatherers – North Carolina

Marla R. Emery

Key Themes

- *SFP Types*: decorative
- *SFP Values*: regular income component; family ties
- *Knowledge*: economic; ecological; sharing; social network; intergenerational transfer
- *Conservation & Stewardship Practices*: harvesting methods; commitment to sustainability
- *Land Tenure & Management Context*: ownership and terms of access; proximity; regulations
- *Social Context*: changing demographics (ethnicity); labor cycle

The Torres family arrived in the southeastern United States from Mexico about 6 years ago. For 4 years prior to that, one or more of the older sons had been an agricultural worker in California. The men made their way east and began working a circuit of seasonal labor from North Carolina to Florida. In the summer of 2000, three generations of the family lived year-round in modest apartments where the children could attend school or safe, affordable daycare and the adults could find work within commuting distance through most of the year. The extended family consists of a couple in their late 40s to early 50s, their six children, daughters- and sons-in-law, and grandchildren. Their income is primarily from agricultural labor and gathering the floral green, galax.

Photo by Siri Newman

The Torres family makes a living as agricultural workers in North and South Carolina. Picking galax leaves provides critical income during the two times each year when there is no work to be found in the region's apple and peach orchards. They also enjoy the opportunity to work together as a family in the woods.

Rodrigo, his wife, María, and his father, Gilberto, spoke of their lives and livelihoods. Over the course of a year, they pick apples and peaches, prune apple trees, and harvest galax[1]. Apple picking provides about 9 weeks of work in September and October. This is followed by pruning apple trees for about 14 weeks between early November and late January. They fill in a 6- to 8-week hiatus in May and most of June with day labor when they can find it. Peach picking, at 4 to 5 weeks in late June and July, is the shortest season in their work cycle. By contrast, they draw longest on earnings from harvesting galax. With two periods, from February through April and another from late July through August, there are approximately 19 weeks in which the family turns to this floral green for income.

Because gasoline is a major expense, the distance to each activity in their annual labor cycle impacts net earnings. The 5 months of apple picking and pruning is closest to their home, requiring a 15- to 20-minute drive. The peach orchards are approximately 25 minutes from their residence. Galax takes the biggest toll in fuel costs. The family has purchased a van (probably by pooling their earnings) in which all the adults can travel. They drive an hour or more to the forests where patches of the evergreen leaves are found. After the leaves have been picked, bundled, and packed they are

[1]Other adult family members pick different produce such as tomatoes. However all appear to harvest galax at least occasionally.

transported to buyers located an hour drive in another direction from the Torres' home. They try not to make this trip until they have several boxes (several days' worth) of leaves.

"We put together about 10 or 15 boxes between all of us," Rodrigo said. "And then we take them out there to sell them. Because if we took just three or four boxes, well, we'd spend it all on gasoline and we wouldn't earn anything, right?"[2]

Time also is an important factor influencing the family's earnings from galax. Though they rely on gathering during approximately 19 weeks, weather frequently keeps them out of the woods. Leaves cannot be picked when they are wet from rain because they spoil and are not marketable. Danger from falling trees and limbs during high winds also keeps them out of the woods, as does extreme cold. The spring of 2000 was very rainy, keeping the family from harvesting for days at a time and sometimes an entire week. To determine whether they will go out the next day, Rodrigo checks the 11 p.m. news each night for the weather report. When weather permits, they drive 50 to 70 minutes to the forest, then they walk from 20 minutes to 2 hours to get to patches that are ready for harvesting. They can pick for as many as 8 hours a day in the summer, but the abbreviated daylight of winter shortens the time available for picking in February and early March.

Before the addition of galax to their labor cycle, the men of the family went to Georgia and Florida to pick other crops in the period between apple tree pruning in North Carolina and peach picking in South Carolina. During their first 2 years working in North Carolina, friends mentioned the leaves and offered to show them where and how to pick them. Initially the men hesitated to try something unfamiliar and continued to move south to harvest agricultural crops. However, Rodrigo said that the constant movement kept the family from being together and deposits for apartment rentals and utilities ate up any money they were able to save. Thus, the addition of galax to their work schedule had a very positive impact on their overall quality of life.

They harvest galax in an extended family group of six or seven people that usually includes Gilberto and his wife, Rodrigo and María, and one or two other siblings, often with their spouses. During school vacations, older children may accompany the adults but younger children are in daycare while their parents work. With lunches packed by the women and a cooler of sodas for the end of the day, the family travels to the woods where they spend the day picking the thick, shiny leaves. Because galax prefers north-facing slopes (as Rodrigo put it, the cool side of a hill where the sun doesn't get in), they frequently walk up and over more than one mountain ridge a day. It is difficult work but they take obvious pleasure in it. Roberto and Gilberto emphasized the joy and importance they place on working together, several times repeating the phrase "pura familia" (just family). María quietly echoed this sentiment as we walked down a forest road and she told me how, after a childhood spent in her family's shop in Mexico, she enjoys being outdoors with the other adults of the family into which she married. That pleasure is enhanced by the wildlife they observe in the forest. The walls of the family's apartment are decorated with postcards of bear, bobcat, squirrels, snakes, and other animals they have observed while working.

Galax leaves are harvested by hand, plucking one leaf at a time. Three times during the interview and again while in the woods, Rodrigo talked about the proper way to pick galax. He stressed the importance of not pulling up the root so patches would continue to produce leaves in subsequent years. He indicated that the first year they harvested, they did not know this and often had brought up the shallow roots with the leaves. Returning to the same patches the following year, they realized that there were many fewer leaves and began to take care not to remove roots. Their efforts convinced them that proper harvesting was good for them and the galax.

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[2] "*Y entonces ya se juntan como unas diez o quince cajas. Entre todos las juntamos. Y ya las llevamos a vender para allá. Porque, si juntamos tres o cuatro cajas, pues, gastamos mas del puro gas y no vamos a ganar ?verdad?"* Translation by M.R. Emery.

"We try to take care of the forest… We know that we earn money from it and we try to take care of the plants ourselves so that there will be a few more plants every year. [We try] not to mistreat the plants."[3]

Rodrigo lamented their observation that increasing numbers of people in the woods do not know how to pick correctly. He said galax harvesters in the past tended to have patches that they worked, taking care to pick so they could return to the same spots year after year. He said it is now common to arrive at one of those patches and find that it has been picked out by someone who doesn't know how to do it correctly.

The Torres family gathers most, if not all, of their galax on national forest land and must purchase permits to do so. Each individual is required to carry a permit at all times, recording daily the times s/he enters the woods and departs, and pounds of leaves picked. When the family obtains permits, they are given a map that tells them where they can harvest. They say these are generally quite clear and that, if they find no galax where they have been sent, the Forest Service is good about sending them to an alternative location. However, Forest Service personnel tend to speak only English and most of the adults in the Torres family have limited command of the language. So it is challenging for them to understand instructions, especially if there have been changes. Gilberto noted with obvious pride that when his 13-year-old daughter is not in school, she usually accompanies them to purchase permits and helps enormously with the language challenge.

Galax
© William S. Justice
Courtesy of USDA, NRCS,
The PLANTS Database

In an average week of working in the woods, they say they encounter a Forest Service representative once or twice. That individual checks to see if they have their permits properly filled out and the family carries a small bathroom scale to confirm the weights they recorded. The Forest Service employee also checks that they are not harvesting roots, a measure that Rodrigo heartily supports. Now that the Torres family understands the regulations and the proper way to harvest galax, they say these encounters are largely problem free. However if the employee were to find any violation, the family's leaves could be confiscated and they indicate that they could be fined up to $100.

The economic returns of gathering galax depend on the price buyers are paying, the cost of gasoline, and the cost of permits. In the previous year or two, there had been a number of changes in the permit system that affected the Torres family's earnings for the time they spend in the woods. When they first began going out as an extended family, galax permits were good for a year. That permit cost $20 and covered harvest of up to 800 pounds of leaves. When I spoke with the family, permits were good for a period of up to 6 months. They could be purchased for quantities of 100 to 800 pounds at a cost of 25 cents per pound. Thus, the family has experienced a 10-fold increase in the cost of permits in the 4 years they have been gathering. In addition, Gilberto says that a permit for 800 pounds will not cover 6 months of harvesting. He indicated that in a good-to-average day, he might pick 50 pounds of leaves. Working 2 to 3 days per week he could reach the 800-pound limit in 16 days, or less than 6 weeks. Thus, in the longer winter season, he might have to purchase 3 or 4 permits and another for the summer season, for a total of up to $1,000 in permits in a year.

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[3]"*Lo que tratamos es tambien de cuidar al bosque, ?verdad? …Pues, sabemos que de aquí sacamos un poco de dinero tambien y tratamos de cuidar nosotros mismos las plantas para así tener un poco mas plantas cada ano, cada ano. No tratar de maltratar las plantas."* Translation by M.R. Emery.

As they pick in the woods, the Torres family stacks and ties the galax in bundles of 25 leaves using paper-covered wires like those used to close bags of bread. When they return home, the bundles are packed in newspaper-lined boxes provided by the buyer: 100 bundles to a "half" box, 200 to a box. Rodrigo indicates that the weight of a half box (2,500 leaves) can vary between 10 and 20 pounds, depending upon the size of the leaf and stem. Permit prices are based on weight, but buyers purchase on a per-box basis. So the lighter the box, the more the gatherer earns. Prices paid by buyers vary throughout the year. At the time that we spoke, the Torreses said that they were getting $15 for a half box. Calculating on the basis of 50 pounds of galax leaves harvested in an 8-hour day, approximate hourly earnings for a box weighing 10 pounds would be $7.81 before deducting the cost of permits, gasoline, and ties. By contrast, hourly earnings for a box weighing 20 pounds comes to just $3.23 before deducting costs.[4]

Such earnings are modest, to say the least. Increased costs in gasoline or permit prices could eliminate galax gathering as a viable livelihood strategy. However, for the past 4 years, the addition of this floral green to their annual labor cycle has made it possible for the Torres family to live and work together in one place with some source of income virtually year-round.

[4]At this price, permit costs would account for 16 percent and 33 percent of gross revenue to the gatherer for 10 and 20 pound boxes, respectively. However, as noted earlier, prices paid for galax fluctuate throughout the year and between years.

Chip Harris, Medicinals Gatherer and Agroforester — Ohio

Marla R. Emery

Key Themes

- *SFP Types*: medicinal
- *SFP Values*: supplemental income; family ties
- *Knowledge*: economic; ecological; traditional and formal; sharing; intergenerational transfer; technical assistance
- *Conservation and Stewardship Practices*: harvesting methods; commitment to sustainability; propagation
- *Land Tenure and Management Context*: ownership and terms of access

For Chip Harris and others in southern Ohio, ginseng hunting is a tradition passed down from one generation to another. His father introduced him and his brothers to this prized root. He remembers digging, an activity he refers to as wildcrafting, in the early to mid-1970s while he was still in high school. Chip and his father have wildcrafted ginseng off and on ever since. In those early years, they dug "whenever the mood struck us. We didn't make a lot of money, because we didn't spend a lot of time at it. But [we made] a fair amount."

At the time, he says, there were a lot of oldtimers who had places where they harvested. They dug the roots that were ready from patches revisited annually or on an every-other-year rotation. He remembers finding a few large patches with mature roots. Chip and his father also dug goldenseal.

"There's been a steady market for goldenseal. It's not worth as much as ginseng. But there's always been a demand for it," he said.

Now "old timers" themselves, Chip and his father have harvested regularly on the same land for 20 years or more. Each year Chip buys a permit to harvest on the Wayne National Forest. Father and son also harvest on local private land. Chip says that most of it is owned by farmers whose economic culture doesn't include wildcrafting, so they don't mind letting their neighbors harvest. However, these landowners are becoming increasingly aware of the value of ginseng and have begun keeping an eye out for people who come onto their land to harvest without permission, a practice Chip refers to as poaching.

Photo by Robert Donnan

Chip Harris began digging ginseng and goldenseal with his father in the 1970s. Today, he is experimenting with ginseng, goldenseal, and black cohosh cultivation on his farm in southern Ohio. Besides the decades of experience that he and his father have, Chip reads anything he can find and has received technical assistance from a local nonprofit community development organization as well as the research facility of a medicinal herbs company.

Today, Chip owns his own farm. It's land that he says is better suited to growing trees than row crops, so he encourages the volunteer ash, elm, and oaks that grow on the level ridges and sloping sides of the rolling hills on this former livestock farm. His family's main sources of income currently come from two jobs off the farm. Chip has worked for the Ohio Department of Natural Resources, Division of Wildlife, for about 20 years. His wife is the manager of an area bakery. Chip also performed timber-stand improvement work for the Wayne National Forest, including grapevine control and weeding and thinning around regrowth. This was a small but reliable source of income for him from the early 1980s until the mid-1990s, when national forest timber harvesting was curtailed.

Ginseng and goldenseal continue to provide some income. Harvesting these medicinal roots requires a combination of hard physical labor, skill, and luck. Ginseng often grows in rocky soils, sending its roots down between stones. So Chip uses a mattock (a two-headed tool similar to a pick) to dig, prying apart rocks to get at them when necessary. By contrast, goldenseal roots grow just beneath the leaf layer on the forest floor. He and his father use a three-pronged garden tool to lift back the leaf litter and dislodge the goldenseal roots. Goldenseal reproduces primarily by sprouting from its roots in a process known as rhizomal propagation. Consequently, once it is well established, goldenseal grows in dense patches while ginseng, which reproduces through its seed, or berries, generally occurs as single plants or small numbers of plants growing near each other.

Ginseng blossom
Courtesy of USDA, NRCS, The PLANTS Database

Their distinctive growth patterns make hunting ginseng and goldenseal different experiences.

"When you go goldenseal hunting you know you'll spend 90 percent of the time digging and 10 percent of the time walking," Chip said. When he and his father find a patch, they are on their hands and knees, moving from root to root. Because they know where to look, it's more grubby work than mental challenge. He described ginseng hunting as less physically demanding than goldenseal digging "because you're moving. You have to cover a lot of ground to hunt ginseng and you're looking closely. It's kind of a surprise when you find a nice one."

The increasing number of wildcrafters in the woods means that the most productive places to hunt are those that require extra work and skill. The best spots are far from roads where the brush is dense and difficult to move through, making it tough to spot plants in the undergrowth. As the years have passed, they have had to cover more ground and it seems to Chip that the plants they find are smaller than they used to be. One good day in the early 1990s, he and his father found about 100 plants as they walked through the woods. Now, in a half day of digging goldenseal, they may see only four or five ginseng plants. Chip attributes this dramatic decrease in the ginseng population to unscrupulous diggers. Though there is a ginseng season, he says it's difficult to enforce and some people will harvest at any time of the year.

"If it keeps up," he lamented, "there may not be any wild ginseng to dig."

Because of his concern about the wild populations and the increased difficulty of finding good roots, Chip hasn't wildcrafted ginseng for 5 or more years.

"Eventually, if you wildcraft enough, you get the notion of cultivating," he said. So the last time that he and his father hunted ginseng, they relocated the roots to a spot behind his house. Their intention was to use these transplants as a source of seed for starting patches of what is known as wild-

simulated ginseng (that is, ginseng that is intentionally planted and tended in conditions that mimic their wild habitat as much as possible). Unfortunately, ginseng is sensitive to growing conditions and Chip began to have trouble with some of the sites. When mice ate several of the biggest and best roots among his wild transplants, he dried and sold the remainder.

After he stopped wildcrafting ginseng, Chip's interest switched to goldenseal. Because of its rhizomal propagation, he said that you can go into a patch and remove the mature roots, leaving the small ones to "fill in the voids." Most years, he and his father have continued to wildcraft goldenseal. He also has replanted some of the former ginseng sites to goldenseal and now has between 1 and 1 ½ acres of the yellow root planted on his land. His planting stock came mainly from wild sources that he and his father transplanted. They harvest once the plant has set its bud for the next year's growth in July, until as late as November, with September and October the best time to harvest.

"Goldenseal is hardy," Chip said, contrasting it to ginseng. "If you dig it and keep it from drying out, it's almost guaranteed to grow." Once they have dug up the root, they break off the stem and place the root in a bag to keep it moist until they pack it out of the woods. They can harvest about 1 1/2 pounds in an hour and usually dig for about 4 hours before returning to plant the roots at his farm. In the past, they harvested their entire wild-simulated beds, dried, and sold the roots and then replanted. Now Chip plans to experiment with harvesting only the mature roots, leaving the younger ones to grow for later harvest. He hopes this will reduce the intensity of the labor he and his father must put into cultivating the goldenseal and lead to self-sustaining patches.

Chip and his father also have begun cultivating black cohosh. Long used as a traditional medicinal, some experts predict an increasing demand for cohosh in the near future. Some private and nonprofit organizations have already raised concerns about over harvesting of wild populations. However, Chip indicates that cohosh is easy to find in his area and he has noticed no signs of it being over harvested, a fact that he attributes primarily to the low price of $2 per pound paid to wildcrafters. Nevertheless, they have begun to experiment with cultivating it. As with ginseng and goldenseal, their first planting stock was transplanted from the wild. Because cohosh is a comparatively large plant with large roots (averaging 6-8 ounces in their area), Chip harvests it with a mattock. He says that the roots come up with a lot of dirt, making them heavy to pack back to the road. Because wildcrafting the roots is such a labor-intensive process, he is trying to produce his own seed.

Goldenseal
© Jeff Nekola
Courtesy of USDA, NRCS,
The PLANTS Database

Chip's knowledge of wildcrafting and cultivating medicinal herbs comes from a number of sources. Multiple generations of harvesters and his own three decades of experience provide extensive traditional knowledge of local ginseng and goldenseal ecology and economics. He also has sought more formal knowledge from books. Additional help with cultivation and marketing came from a local nonprofit community development organization, Rural Action, and a research farm established in the area by herbal medicinals firm, Frontier Herbs.

"We're very fortunate to have Rural Action and Colin and the Frontier Herbs research farm," Chip said. Colin Donohue, until recently Rural Action's conservation-based development director, has contacted people to help Chip sell his goldenseal. Also with help from Colin, Chip has been part of an effort to establish a medicinal plant-growers association in the region. By providing information and support, the group encourages people to grow medicinal plants as a hobby or for supplemental income. Eventually they hope to bring production in the region up to a level that will enable them to market their medicinals as a group at rates that will be more favorable to all.

According to Chip, the price of medicinals fluctuates considerably and is unpredictable from one year to the next. He mentioned price ranges for ginseng seed from $40 to $100 per pound. In his experience, the price of wildcrafted goldenseal root has been relatively stable at $20 to $25 per dried pound, but as high as $40 per pound one year, falling the next year to less than $20. He was able to sell his most recent harvest of wild-simulated goldenseal, which has been certified organic, for $50 per dried pound. He attributed the most recent rise and dip in the price paid for wildcrafted goldenseal to high harvest volumes and makes a direct connection between the price paid to wildcrafters and pressure on wild populations, with higher prices leading to greater pressure.

Chip said that by cultivating medicinal plants on his hilly land, "I'm going the route of what's easiest to do." He said he's always had an interest in the woods and trees and growing medicinals is a good way to make use of them. While he was clear that income is his primary motivation, he also mentioned the personal rewards of spending time in the woods. Chip would prefer to live entirely on income produced by his farm but doesn't think he or his wife will be able to give up their outside jobs any time soon. His wife has talked about spending more time making crafts and they discussed the possibility of starting a pick-your-own raspberry patch and cultivating bittersweet for the decoratives market. But with help from his father, Chip is concentrating his energies on goldenseal and cohosh. He hopes that medicinal plants will generate "a significant side income" that will carry them into retirement.

Linda Marcoux, Berry Picker — Vermont

Michael R.B. Giammusso

Key Themes

- *SFP Types*: edible
- *SFP Values*: personal consumption; family ties
- *Knowledge*: ecological; sharing; intergenerational transfer
- *Land Tenure & Management Context*: ownership and terms of access; management practices (including pesticide use) and availability
- *Social Context*: changing lifestyle; lifestage

Linda Marcoux's home is located in Granby Village, a small collection of modest buildings, dirt roads, and open fields in the wooded hills of northeast Vermont. Similar to many towns in this region—commonly known as the Northeast Kingdom—Granby is lightly populated, and economically and culturally linked to its forest resources. Many Granby residents make their living in the forest products industry, and forest-based activities, such as snowmobiling, hiking, and hunting, are popular. Gathering of SFPs is also common, for subsistence, recreation, and often some combination of both.

The Marcoux family has connections to Granby and the Northeast Kingdom that extend back at least three generations. Although born in Concord, Vermont—located about 15 miles to the southwest—Linda has lived most of her 64 years in Granby. Her parents also spent most of their lives in town, as did her grandfather on her father's side. Today, Linda, her husband, two children, and at least two grandchildren remain in Granby. Other family members have moved out of town, but continue to live and work in neighboring communities.

Berry picking is a skill Linda learned as a young child from her parents. She recalled "berry-picking days," when she and her family would take pails to various local spots and pick wild berries. One day was dedicated to each berry in the appropriate season: strawberries in June, raspberries in late July and early August, and blackberries and blueberries in late August. When not eaten fresh, berries were canned and made into jams, jellies, and baked goods. Though berry picking was her primary gathering activity, Linda also recalls gathering naturalized apples. These often were made into sauces and pies. Dandelions, fiddleheads, and boughs from spruce and fir trees also were gathered occasionally. Most products were used by her family and occasionally they were given as gifts.

Linda maintained the tradition of family gathering days when her children were young. However, now that they are grown and have children of their own, they have largely ceased to gather. Only one daughter sometimes travels to 'pick-your-own' strawberry and apple farms. Linda attributed the decline of her children's gathering traditions to busy work and family schedules. Linda's gathering activities also have decreased, which she attributed to her advancing age and the time required to care for her grandchildren.

Linda explained that most of her gathering activities have taken place within Granby or the surrounding area. Specific gathering sites depend largely on the product being sought. Raspberries, for example, could be found in recently harvested timberlands, blackberries along powerline corridors, and blueberries on abandoned agricultural land. The methods of locating and gathering the products are linked to several factors. These include knowing where to find the products, the physical existence or availability of the products, and having rights of access to the products. As Granby's natural landscape and socio-economic structure have shifted, these factors have changed, affecting Linda's ability to find and obtain SFPs.

Photo by Marla R. Emery

Berry picking was a tradition in Linda Marcoux's family. As a child, Linda went with her parents and siblings for a full day dedicated to each berry in the appropriate season. When her children were young, Linda took them berry picking, too. Berry crops are particularly plentiful 5 to 10 years after a timber harvest. Because Linda's husband and sons were loggers, knowing where they had worked gave her special knowledge about the availability of berries.

Linda recalled that as a child, her parents would guide her and her siblings to productive berry sites. As an adult, however, Linda's knowledge of gathering sites was often provided by her husband and sons, who worked as loggers. She explained that raspberry bushes grow where trees have recently been harvested but will not grow in closed forests. Knowing where her family had been logging gave her special access to these berries. Though her gathering activities have waned in recent years, Linda's knowledge of productive berry locations is sustained through a son who continues to work in the logging industry.

Nevertheless, the physical availability of berries has decreased with the changing use of land in Vermont. Agricultural land decreased from 80 percent in 1900 to 23 percent in 1995 (Klyza and Trombulack 1999).[1] During this period, the state's forest cover has rebounded to approximately 75 percent of total land area (Vermont Department of Forests, Parks, and Recreation 1999). These trends are evident in Granby, where today only one small farm remains. As abandoned agricultural lands have returned to forest, the blueberries and raspberries once found in their fields have become scarce. Linda described Granby's changing landscape, and the effect these shifts have had on her access to wild edibles:

"There aren't as many berries as there used to be," she explained, "…used to be lots of old farms…you could go on. But there aren't too many around anymore…a lot of it's grown up into woodlands." Though it is unclear if her access to apples also has declined with forest regrowth, Linda noted a shift in the character of orchards from 'tame' to 'wild' trees.

Linda's berry use also has changed as concern over herbicides has grown. A powerline corridor runs north to south through Granby. Linda and other residents know that the land along the corridor is

[1]These figures are based on agricultural statistics. However, Klyza and Trombulack note that estimates of forest land and farmland are extremely rough, especially before 1950. Also, large proportions of land classified as farm were often forested and used as woodlots.

kept free of forest through the use of herbicides. The absence of trees and tall weeds makes this a productive berry site. Unfortunately, the herbicide use also has limited her use of SFPs in some of the town's more productive areas because of health and safety concerns.

"If we know it's [sprayed], we don't go there," she explained. Nevertheless, Linda indicated that she understood why the land is sprayed and expressed no displeasure over the decreased availability of the berries.[2]

Though chemical spraying has resulted in a potential decline in the availability of berries that can be eaten safely, Linda's right of access to gathering sites has remained largely constant throughout her lifetime. Currently, the proportion of private land in Granby stands at about 93 percent, with much of it in the hands of large industrial timber companies. She described her relationship with these companies. "You didn't bother them, they didn't bother you," she said.

It is uncertain, however, how recent land sales involving public agencies and the establishment of conservation easements will affect her future rights of access. Over the last decade, more than 6,000 acres in Granby were sold by industrial landowner Champion International to a combination of private and public owners. These properties are now encumbered by conservation easements that limit forestry practices and require that public access be maintained for 'traditional uses' such as hiking, hunting, and some snowmobiling. Though a traditional use by most definitions, SFP gathering is not specifically listed as permissible under the current easements. In Granby and the Northeast Kingdom, the effect of easements on access to SFPs has yet to be determined. Linda said there has been no observable conflict between gathering and easement restrictions. But she added, "Things change every day…so you never know."

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[2]By way of contrast, another Granby resident had a decidedly less accepting perspective on herbicide use on the powerline, and expressed considerable unhappiness about diminished availability of resources that have not been sprayed.

Mary Girard, Floral Greens Gatherer — Vermont

Siri Newman

Key Themes

- *SFP Types*: decorative
- *SFP Values*: supplemental income
- *Knowledge*: ecological; withholding
- *Conservation & Stewardship Practices*: harvesting methods
- *Land Tenure & Management Context*: proximity and access; changing management and availability
- *Social Context*: language; lifestage; labor structure

Mary Girard has lived in southern Vermont since the early 1950s and gathered ferns, princess pine, and boughs in the area in the 1950s and 60s. She described how these decorative materials came to play an important role in her life, how she harvested them, and how changing land use and ownership patterns affected the gathering of these products.

Mary moved to the United States from France in 1946, at the age of 22, with her husband, an American GI. Following a divorce, she remarried and moved to Vermont in 1952. Her husband, John, worked as a plumber, but his income was insufficient to meet all their household expenses. Mary looked for ways to bring in additional money. However, as a French immigrant and mother, her life was incompatible with many formal employment opportunities, which required English language skills and time commitments that she could not fulfill. Fortunately, they lived near a forested area where she had access to decorative products that were in demand in New York City.

Mary found that the work associated with gathering fit well with her lifestyle. The solitary nature of gathering meant Mary did not have to communicate in a foreign language. In addition, the flexibility of setting her own schedule made it possible for her to incorporate gathering into her busy life of childcare and housework while increasing the annual household income.

Mary described the cycle of her gathering activities, beginning in spring with signs that ferns[1] would soon be ready for harvest.

“The fiddleheads come first. So you watch for the fiddleheads and you know very well after that it is two weeks,” Mary said. “So in May and June you start gathering the ferns.” Once the ferns were up, John would drop Mary off at a nearby, forested area, 6 miles from their home. Mary would hike 2 miles into the forest and spend the entire day searching for ferns and princess pine. Each evening John would return to the same location and pick Mary up with her tarp filled with ferns.

Mary enjoyed these days. “It was fun to go in the woods,” she said. “You know, it was nice and clear and lots of things to see.”

Early on, Mary found an ideal spot to gather ferns and princess pine. Each year this site provided her with an ample source of these decorative plants. Because it was close to her home, Mary could visit regularly. The density of the decorative products at this site and its relative proximity made it lucrative and desirable. To protect the site Mary implemented gathering methods that promoted plant health and density and minimized negative impacts.

[1]Note the distinction between mature fern fronds (species unknown) used as greens in floral arrangements, etc., and the emerging fiddleheads of ostrich fern, or *Matteucia struthiopteris*, which are an edible.

As a French war bride who moved to Vermont with her American soldier husband, Mary found that gathering ferns fit well with her limited English language skills, responsibilities as a parent, and need to increase the family's annual income. She also enjoyed the time she spent picking in the woods near her home. Logging eliminated ferns from her gathering sites and changes in land ownership have left many alternative sites with restricted access.

"You don't cut them all out," she said. "You leave some. You just cut the big ones. You know, the long ones. The small ones you leave for the next year, the next crop."

In addition to exercising care in her methods, Mary withheld information about her site from other gatherers to minimize threats to her supply and to protect the plants from overharvesting.

"I found a good place for ferns. So, you know, I didn't tell anyone. I wanted to keep it for myself after all," she said.

However, she was unable to influence land management regimes. These would eventually change the landscape and reduce the availability of ferns and princess pines.

"I had a good spot. Now it is no more because the area has been cut," she said. "A big log trail was cut. So it is gone now." Once her gathering site was logged, the once-abundant ferns and princess pine disappeared.

Changes in land ownership also have affected access to these resources as new owners have posted their land.

"Now they own the land and there are 'no trespassing' signs," Mary explained. Gatherers have been forced to look for new locations, adding costs such as time invested in finding new sites and increased travel costs. Although these concerns about land use and ownership will not affect Mary because she no longer gathers, she worries about future generations of gatherers. She recognizes the importance of this activity and the role it can play in providing supplemental income. Mary wonders what some families will do without it.

Nova Kim and Les Hook[1], Wild Edibles Dealers — Vermont

Marla R. Emery

Key Themes

- *SFP Types*: edible, medicinal, decorative
- *SFP Values*: subsistence; regular income component; microenterprise; cultural values
- *Knowledge*: economic; use; ecological; traditional and formal; sharing
- *Conservation & Stewardship Practices*: harvesting methods; commitment to sustainability
- *Social Context*: lifestage; lifestyle expectations

Nova Kim grew up on a ranch in Wyoming, majored in international affairs at George Washington University, and worked for a time in Washington, D.C. as a member of the foreign diplomatic press corps. Les Hook, who was born and raised in the mountains of Vermont, has done many kinds of work including farming and logging on his family's land. Like many local farmers, he also has worked in several processing plants – creameries, chicken, footwear heels, and veneer. During the 20-plus years that Nova and Les have been life partners, they have supported themselves in good part on their knowledge of the land. They have hunted, fished, and trapped, sold seed and nursery stock, dug ginseng, produced and marketed herbal teas, and sold wild edibles to upscale restaurants. They have worked in suits and in flannel shirts. At times their lifestyle has included a well-appointed house; at other times a converted truck trailer to which they hauled water.

Photo by Marla R. Emery

Nova Kim and Les Hook gather much of their own food and medicine. They also sell wild edibles to upscale restaurants in the northeast United States. Their strong environmental convictions are evident in their emphasis on proper harvesting methods and their disapproval of many of the land management practices they observe around them.

A diverse array of SFPs is a major part of Nova and Les's current livelihood. The products they use and sell change with the seasons and from year to year, depending on natural variability and the couple's other activities. So, too, does the mix of market and nonmarket resources that SFPs bring to their household economy. They gather much of what they consume and believe strongly that the wild foods they eat have helped improve their health. (Nova had three heart attacks by the age of 35 and Les, who is a polio survivor, has macular degeneration). Nova is fond of saying, "Your food is your medicine. Your medicine is your food."

Reflecting their knowledge and resourcefulness, a variety of SFPs also have been primary sources of cash income over the years. Nova's artistic talents led to an exhibit of her scrimshaw-like etchings on shelf mushrooms, commonly known as artist's conk, at the Hall of Nations in Paris. The couple also has gathered seed and stock for nurseries and reforestation projects in the Northeast and Midwest.

Les's lifetime experience digging ginseng and replanting its berries provided the basis for one of their most formal business endeavors – Nature's Own Tea Company. They began selling the ginseng teas they prepared for themselves at a rural Vermont fair. Blending ginseng with other herbs, they produced several teas that they sold directly to specialty foods stores in the region. They soon discovered that packaging and the store placement of their teas greatly influenced sales. They developed materials to highlight product quality and their commitment to the environment. With some assistance from the state of Vermont, their efforts led to increased sales and a broader market.

[1]Ms. Kim and Mr. Hook asked that their real names be used.

That market expanded dramatically when Harrods department store in London, England, offered Nova and Les's teas for sale as part of a "Christmas in New England" promotion in 1992.

While this business success was a source of pride and considerable income, it also was cause for concern. Eight years later, they say that at least two aspects of their expanded business troubled them. First, the demand had outstripped their ability to do all the work themselves. To meet demand, they needed additional help, but hiring others meant they no longer had personal control over every step of the business. It also meant expanding the business's financial needs and commitments. Their second concern was that an enlarging business would be an unsustainable business. They worried that increased demand for ginseng and other wild plant materials would exceed what they felt could be responsibly harvested. Their strong convictions about sustainable, respectful practices made them reluctant to trust harvesting to anyone else. They also worried that committing themselves to employees would create the need to make more money. They felt as if they were facing a spiral in which increasing sales would create increasing need for materials to meet increasing costs and demands. Eventually, these concerns contributed to their discontinuing the tea business.

Today, Nova and Les make more of their living supplying wild edibles to upscale restaurants in the region. Their foraging takes them through Vermont and adjacent states. They have developed strong relationships with chefs who value the quality and variety of their wild foods. Their annual food delivery schedule includes spring leaves and shoots, blossoms and pods, greens and stalks, berries and fruits, roots and tubers, and nuts. Their regular mushroom list includes 69 varieties, from the comparatively mundane shaggy mane to the exotic apricot jelly. Because of the risk of poisoning, they insist that restaurants to which they supply mushrooms buy exclusively from them. They do not want to run the risk of being held liable for any misidentified toxic mushrooms brought in by others.

Shaggy Mane Mushroom
Photo by Dave Powell, USDA Forest Service
ForestryImages.org, 0808028

The knowledge that Nova and Les bring to these activities is both traditional and formal. Nova is part Osage. Growing up on a ranch, she says, gave her an appreciation of the land. Les, who is also part Native American, was raised in a mountain tradition that included knowing the plants and animals around him as both important parts of the landscape and vital sources of food and income. Together they have spent decades observing the land where they live and seeking out others with traditional knowledge. Nova reports that during the winter she reads field guides and scientific literature on wild edibles and medicinals like some people read novels.

Nova and Les are committed to sharing their knowledge. Over the years, they have given many workshops, often sponsored by local environmental organizations or state branches of national groups. They initiated a wildcrafters' apprenticeship program for the Vermont Department of Training, Labor, and Industry and a regional college. They also conduct SFP inventories on small private properties. Nova and Les receive fees from the organizations through which they conduct instructional activities and compensation of various sorts for their inventories of private land. Thus, sharing their knowledge of SFPs provides them with important income.

Since 1995 they also have been committed to establishing an institute where this information might be freely shared but are still seeking funding to acquire land that would make this possible. They hope that the institute will make it possible for them "to teach The People the wild foods and medicine without charge while providing a transitional/economic bridge for attaining self-sufficiency" (excerpted from a request for funding for the proposed center). Although they believe that wild edibles and medicinals can be important resources for people, they are also careful to qualify the information that they pass on. Nova, who does the larger part of the talking when they

teach, peppers her instruction with phrases like, “I have been taught…” and “We have found…,” cautioning students to check with multiple sources and remember that every person’s body is unique and may respond differently to a specific plant.

Responsible harvesting methods are a primary emphasis of Nova and Les’s instructions. Their workbooks teach students to obtain permission or permits where necessary, be careful with fragile environments, observe appropriate gathering times, never harvest threatened or endangered species, carefully limit harvested quantities, and use gardening and propagation techniques to assure continued plant populations. They provide general rules about the percentages of a stand to harvest (10 percent of native whole plants and roots, 30 percent of naturalized plant species or native leaves and flowers). To avoid inadvertently exceeding these amounts, they further caution their students against harvesting where it is obvious that someone else has done so.

Their concern for responsible wildcrafting is part of a larger pattern of environmental activism. Conversations with them frequently turn to their strong disapproval of common timber harvesting practices. Nova has been active in environmental issues at the local and national levels and both have vocally opposed what they believed to be unsound land management in their region. They do not hesitate to criticize the actions of some environmental groups when they feel important principles are being compromised, a practice that appears to have cost them support where previously they had enjoyed workshop sponsorship. Their convictions about the proper relationship between people and nature is summed up in this credo, which was once posted on their website:

WILD plants & All My Other Relations

I have been taught
that all beings are my relatives
(the plants as well as the animals) and
entitled to the same dignities and survival.
I have been taught that we,
as participants in the Circle of Life
have no choice but to take from it,
and in so doing
inevitably alter that Circle.
I have been taught that not only
for our own survival, but
for all the others within the Circle of Life,
we must maintain a balance and harmony
within that Circle,
for our Mother, the earth.

(Nova Kim, 1995)

A decade after Harrods marketed their teas, Nova and Les have given up the trade shows, far-flung business, and fancy house. Their workshops and sales of wild edibles to area restaurants support an extremely simple lifestyle. They keep their need for cash low, at times going without a telephone to avoid having a bill. Statistically, their income might qualify them for poverty status and to many their lifestyle would be unacceptably lacking in material comforts. While they would no doubt welcome more cash, they speak with pride of their independence, self-sufficiency, and minimal participation in what they believe is an excessive consumerism that is unhealthy for people and ecosystems.

Robert Reznik,[1] wild edible gatherer — Vermont

Siri Newman

Key Themes

- *SFP Types*: edible
- *SFP Values*: supplemental income; personal consumption
- *Conservation & Stewardship Practices*: harvesting methods
- *Land Tenure & Management Context*: urban area; ownership and terms of access; management practices and availability
- *Social Context*: changing household economy

Photo by Maureen Cannon

Robert Reznik has picked wild edibles for personal consumption, sale, and barter. At times, berries and mushrooms have been important livelihood resources but now he gathers largely for pleasure and is teaching his children how to recognize the wild things they can eat.

Robert Reznik, of Burlington, VT, has pursued his passion for gathering edibles for more than 25 years. He recalls that as a child growing up in New Jersey, he knew very little about edible plants. His interest in wild foods began after he moved to Vermont for college.

"For years I didn't have a car and I used to walk around," he said. "I am the type of person that likes to look around, see things anyway. And I'm interested in things that are growing." He recalled discovering a variety of fruit trees lining the city streets. Daily observations revealed ideal gathering times and sites and soon, gathering became an important part of his life. The products he has gathered include raspberries, blackberries, cherries, and mushrooms.

Over time, Robert has looked to wild edibles as a source of cash income, a resource to trade for meals in restaurants, and the focus of a captivating hobby. While he has always taken great pleasure in gathering, the role of this activity has shifted over the course of his life as his interest, needs, and employment opportunities have changed. About 15 years ago, his interest expanded from fruit trees to wild mushrooms found in the forested areas around Burlington. Both fruit and wild mushrooms have provided Robert with access to cash during times of need. In more recent years, his formal employment opportunities have become more lucrative and the basis for his interest in gathering has shifted, becoming more avocational.

Robert has pursued a diverse livelihood strategy, particularly before he married. He has worked as a musician, instrument repairman, librarian, radio show host, retail salesman, and a record shop manager. Early in his adult life, gathering provided an important source of supplemental income, helping fill financial gaps in this variety of activities. Robert acknowledged the importance of this source of income and said the extra cash was a welcome benefit from an activity that he loved.

"There have been times when I haven't had a lot of money when it was really nice to get eighty or a hundred bucks. It was like pennies from heaven."

[1]Mr. Reznik asked that his real name be used.

In addition to selling edibles for cash, Robert also used them to barter with restaurants, local grocery stores, and independent business owners. Robert recalled an early exchange with the owners of Ben and Jerry's Ice Cream.

"One year I found so many raspberries that I actually bartered with Ben (Cohen) and Jerry (Greenfield). This was back when they had first started out. They made ice cream out of some of my berries and I got some of the ice cream." He added, "I would often trade for meal tickets, for dinners at restaurants, because I didn't have a lot of money." Thus, Robert's gathering made it possible for him to enjoy meals at restaurants otherwise beyond his means.

Robert has never considered turning to this activity as a primary source of income.

"Unless you are out there constantly, you are not going to make really very much money to speak of doing this," he said. "Though some people claim that they do, I really don't believe it." Now that Robert has a full-time, professional job, the financial gain from the sale or barter of wild edibles does not equal the costs of the activity, which include time and energy. What has kept Robert chasing wild edibles is his love for them.

Robert thinks that if people harvest in an educated and conscientious manner, SFP populations will not be significantly affected. However, when poor gathering practices are used, the population will be threatened.

Speaking of mushrooms, he said, "As long as you are not tromping around and ripping up the substrate and doing stupid things, which you can't trust people not to do of course, once the mushroom is out and the spores are being dropped, then theoretically you shouldn't be harming things." Robert believes his own activities are not a threat to mushrooms. "I can tell you there is a place that I know where I pick chanterelles year after year after year and there still seems to be chanterelles," he said.

Fresh chanterelles
Photo by Chris Schnepf, University of Idaho Extension ForestryImages.org, 1176021

However, landowner decisions and management practices can significantly affect availability and access to wild edibles, he indicated. Often, the land where he gathers mushrooms is privately owned and there is a constant threat of loss of access to sites or that mushroom populations will be destroyed, depending on forest management practices.

"I always hope whoever it is, isn't going to build on it or log it, do something that is going to mess it up," he said.

In Burlington, where many of the trees he picks fruit from belong to private homeowners, some view the trees as a nuisance because the fruit stains cars, sidewalks, and porches. They may remove the trees and, consequently, eliminate a gathering spot for Robert. Such was the case with his favorite apricot tree.

"The house had probably seven or eight fruit trees on the property. Right in the front yard is this beautiful apricot tree and it grew these little yellow sweet blush. They were just wonderful. I used to

make apricot leather out of them. They were really good apricots. But somebody sawed the tree down because it was dropping apricots all over the car," he said.

Though he no longer needs to supplement his income, Robert continues to gather. He visits some sites annually, bringing his children with him.

"There are a couple of places where there are wild cherries. The cherry tree that I use all the time is on the property of a law office," Robert said. "I knocked on the door and I said, 'If you guys aren't using these cherries I would like, love to pick them.' I have been picking them for years and I bring my kids now and we bring a ladder and everything. We do it every year."

Thus, he has begun to pass on his knowledge in hopes that it will also be a part of his children's lives. His gathering is strictly for personal consumption now, because of his love of wild edibles. His family uses the fruit in jams and pies and the mushrooms as an addition to soups and sauces. While the specifics of his relationship with wild edible products have changed, this activity continues to be a central part of his life.

Jane Overfield, Edible and Medicinal Plants Gatherer – West Virginia

Siri Newman

Key Themes

- *SFP Types*: edible; medicinal, utilitarian
- *SFP Values*: subsistence; cultural values; family ties
- *Knowledge*: ecological; use; sharing; intergenerational transfer; withholding
- *Conservation & Stewardship Practices*: harvesting methods; commitment to sustainability
- *Land Tenure & Management Context*: changing ownership and terms of access, changing management and development patterns and availability
- *Social Context*: changing social values; lifestyle expectations

Jane Overfield has lived in the mountains of northern West Virginia since she was born 50 years ago. She has gathered edible products, such as hickory nuts, violet leaves, grape leaves, berries, and mushrooms; medicinal plants such as dandelion, sassafras, and cohosh; and ornamentals, such as willow and honeysuckle for basketry. She described how she learned about gathering to maintain a subsistence living and the forces that threaten her way of life.

Photo by Siri Newman

Gathering wild edibles and medicinals has been central to Jane Overfield's life since her American Indian grandmother taught her as a child to recognize and use wild plants. Today she works to maintain a subsistence way of life as much as possible, but worries that strip mining and commercial development make that increasingly difficult.

Jane's interest in wild plants, gathering, and home remedies began as a child. Her grandmother Ruth, an American Indian, took her into the forests surrounding their community and introduced her to gathering.

"My grandma Ruth, she was a character," Jane said. "And one of the first things she did with me when I was little was we'd sneak off from the family. She wasn't like the rest of my family. She was funny and uninhibited and we'd go off and I could remember because I had to hold her hand, she had to keep me right there with her. We'd go walking through the woods and we'd stop and we'd pick this and we'd pick that, you know, and she'd take it home and she would show me how to use it."

In addition to learning from her grandmother, Jane's understanding of and interest in wild plants was affected by where she lived and how she played. Her childhood home was located in a "mini reservation" where she and extended family members lived in a small village. At the time, television, shopping malls, and video games had not infiltrated rural areas like northwestern West Virginia. She spent time outside, exploring the woods around her home.

"As soon as the dew was off the grass, you were outside and you didn't come in until well after dark," she said. "We used to walk over hills and dales and through creeks and everything else. We spent our lives in the woods and the fields so that you know where everything is. That was the world to us."

Jane's interactions with elders who had great knowledge of wild plants, together with her experience exploring the woods, have enabled her to maintain subsistence practices throughout her adult years. Today, Jane and her husband still live largely off the land. Each year, she cans and stores enough food

to feed herself and her husband through the winter. She also harvests wild medicinal plants to keep her family, friends, neighbors, and pets in good health.

"They all come to me every time something or somebody gets sick," Jane said. "You know, I just had to rush out the other day and tend to a couple of dogs. One had a bladder infection and the other had like a kennel cough."

To protect the plants she uses in her home remedies, Jane uses gathering methods that minimize impacts and promote growth and regeneration. These range from taking only a quarter of the plants or leaves of a given plant, always taking the medium-size leaf or plant, never the largest or smallest, and never taking an entire root.

She also withholds information about the plants from the people she supplies with home remedies. "I don't tell them where I get it," she said. She believes that limiting the number of people who know about the plants and where they grow reduces the risk that they will be improperly harvested.

Shagbark Hickory Nuts
Photo by Paul Wray, Iowa State University
ForestryImages.org, 0008212

Jane also is concerned about the impact of strip mining and other commercial ventures on the land and plants. These, she believes, are a serious threat to the resources on which she and others depend. She has witnessed how strip mining has transformed the landscape and reduced the presence of wild edible and medicinal plants. The community where she grew up is no longer a haven for these plants. She described it as a dry wasteland unable to sustain plant life. As the land changed hands, it affected her gathering activities and where she lives.

The land around her family's property was sold as the younger generations moved to urban centers where they could find employment to support themselves and their families. Strip mining companies, which were able to pay more for the land than anyone else, purchased the land.

"All the older families started dying and the children did not want to come back because there were no jobs or they had just settled someplace else," she said. "And we had a man that lived up the road who has a strip mining company. So he's taken advantage of the fact that he can pay a little bit more money for these properties than most people want to or can pay."

As her neighbors sold their land, Jane understood that she would no longer have access to plants on these properties. At the time, she attempted to save some of the resources that were going to be destroyed.

"When I knew that the property was changing hands, I spent several years going to these properties, sometimes in the dead of night, and transplanting everything that I could get my hands on," she said.

The impact of strip mining in the area was significant, she said. "The creek's drying out. There are no more nuts of any kind, no berries. Nothing is there, nothing. Even the sweet flag that grew along the

creek is not there anymore. All it is, is just a really dry, clay soil and people have moved in. They've put mobile homes on it. There isn't a single tree on this stripped land, not a single tree."

As the resources upon which Jane depended began to disappear, she and her husband relocated to an area where plants could grow and they hoped would not be threatened by strip mining. Nevertheless, she continues to be concerned about the future of subsistence living.

"Well, the city is coming to the country and people are being literally forced to live this other lifestyle, whether they like it or not," she said. "If they want to survive, they're gonna have to do what the conquerors do…We're having to fight tooth and nail just to hang on and it's getting to the point where we have to go to the grocery store more and more."

Jane thinks that as rural people depend more on retail stores for food, and as wild plants become less available people will lose their independence from wages and cash income. "I don't see any hope at all," Jane said. "None. There are becoming more and more conservation groups. But let's face it, this country is ruled by the rich. And most of the rich, I'm not saying all of them, I'm saying most of the rich who are controlling the country can only think in terms of high rises and development, development, development."

Jane also reflected on how changes in social values have influenced her children and resulted in a waning interest in gathering. She has tried to pass on her knowledge to her four sons and daughter, just as her grandmother passed this knowledge on to her.

"I noticed when my daughter was growing up that she was kind of interested at first, until she had to start going to school," she said. "And then if she would say something about her mother was doing this or her mother was doing that, the other kids would make fun of her. So I think a lot of it is peer pressure and the other people just drive them away from this kind of life because they feel that it's something to be ashamed of. It's backward."

Though her children have not taken an interest in learning about gathering, they do call home when someone is ill.

"Oh, yes. Every time somebody gets sick. 'Hey mom, what you got in your little bag, I got a cold,' 'Hey mom, Joyce is having cramps, you got anymore crampbark?'" Jane understands that her children are too busy to gather, but she is frustrated that they depend on her and do not take time to learn about the plants. "I should tell 'em to go out and get it themselves, but they're not going to do it. They'll just be sick and wind up accumulating a lot of doctor bills for nothing."

Jane continues to work to protect the natural environment and to maintain her freedom from dependence on wages and cash to access food and health care. However, long-term and large-scale landscape changes from mining and development present a significant barrier for her to continue her way of life. In addition, knowledge of and interest in gathering may be in danger due to changes in social values. This, too, presents a significant challenge to the continuance of gathering practices that were passed on to her by her grandmother.

Conclusion:
Managing Special Forest Products in Context

Marla R. Emery and Clare Ginger

The dozen case studies collected here speak to who gathers special forest products (SFPs) and the role these resources play in their lives. Each story is unique in its mix of people and products. Yet there are clear patterns that run through the testimonies of these individuals and families. The ensemble reveals the values, practices, and knowledge of the people who gather SFPs. The importance of household economies, lifestage, land use, and land management also becomes clear.

As the people who are actually in the woods, gatherers will be most directly and immediately impacted by agency decisions, making them important stakeholders in any SFP program. They are also a valuable source of information on the local context within which policies will be implemented. Having concentrated the bulk of this report on gatherers' perspectives, we now shift our attention to the lessons they provide for the development of SFP programs. The key themes that precede each case study reveal common threads among them as well as the richness and complexity of gatherers' perspectives. Bringing that information to the operational level, three themes particularly stand out: 1) diversity of products and values, 2) diversity of gatherers, and 3) the role of land ownership and management.

Diversity of products and values

A great variety of SFPs are gathered in the eastern United States and provide numerous values to the people who harvest them. The individuals and families whom we interviewed mentioned 44 products or groups of products (see Appendices A and B). The absence of such widely-used species as wild leeks from the list indicates that this is a partial enumeration of eastern SFPs. Nevertheless, our experience suggests that it is a fairly representative sample of the range of SFPs, their uses, and values. The list clearly demonstrates that SFPs provide livelihood values to gatherers through both market and nonmarket means. The high-profile products with national and international markets (e.g., ginseng and galax) are few in comparison to the products harvested for personal use or sale in local to regional markets. In addition to economic considerations, gatherers repeatedly emphasized social and cultural values associated with harvesting and using SFPs. It is probably not possible or necessary for managers to be aware of everything gathered on their forest. Management efforts are best concentrated on products with special cultural and livelihood importance and/or that enter the formal market.

Diversity of gatherers

Gatherers are as diverse as the products they gather and there is no simple way to identify them by demographic profile or economic status. The gatherers interviewed for this report are men and women of African, American Indian, European and Latino descent. Some are multigenerational residents of the places they gather while others are recent immigrants. A few are comfortably middle class, some are struggling for an economic toehold, and others are committed to leading subsistence lifestyles. Most are middle-aged or older and their stories illustrate the changing role that SFPs can play throughout an individual's lifetime. Many older gatherers expressed concerns about a lack of interest by younger generations. However, several gather in family groups, suggesting that while SFPs may be particularly important for people in their middle years and beyond, people of all ages harvest these resources. The frequency with which people harvest in family groups and the emphasis that interviewees placed on the family nature of the activity also distinguishes gathering from many other forest-based livelihood activities. Clearly, then, no single individual, family, or social group can represent all the gatherers who are active in an area. To have a complete picture of gatherers' experiences and needs, managers need to talk to a broad cross sectionof people who gather in an area about their personal activities.

Role of ownership patterns and land management

The interviews also demonstrate that changes in land ownership can lead to changes in access to SFPs. In some cases, changes in land owner can result in closure of long-standing harvest areas. Land management actions, such as spraying on adjacent fields, may not eradicate SFP species but can render plants unfit for their traditional uses, while radical changes in land cover can eliminate local populations entirely. The cessation of particular land management activities also can change the availability of plant materials that have been gathered in the past, as when farmland reverts to closed forest, eliminating berry habitat. Such changes in ownership and management can lead to changes in the spatial patterns of harvesting. Gathering activities that do not cease altogether may be displaced to other locations. In some cases, coordination across land ownership boundaries and management agencies may be critical to ensuring the sustainability of SFP activities.[1]

Developing policy to carry out legislation

The dynamics of SFP uses and users have particular implications for development of policy to carry out the four provisions of the Pilot Program of Charges and Fees for Harvest of Forest Botanical Products (P.L. 106-113, § 339(a)): establishing fair market value, recovering administrative costs, analyses of sustainability, and providing for personal use.

Establishing fair market value — Though a minority of eastern SFPs enters the formal market, these are the products for which there is a mandate to establish and recover fair market value. The case studies illustrate some economic dynamics of these products that present challenges in doing so. Most conspicuously, like timber and agricultural crops, many SFPs are volatile commodities: prices can fluctuate widely from year to year and within a single season. SFPs that enter bulk commodity markets are linked to chains of market transactions that include gatherers, manufacturers, wholesalers, and retailers (Alexander et al. 2002). Figures reported in the news media and repeated in casual conversation tend to emphasize prices at later points in the market chain or are based on infrequently occurring maximum values. Such reports can create inflated assumptions about the returns of SFPs to the people who harvest them. However, there are few existing data available for assessing SFP markets (Blatner and Alexander 1998). Formal economic statistics are currently available for only a few SFPs, such as ginseng and maple syrup. The rest tend to be aggregated into larger agricultural commodity categories such as floral greens, if they are tracked at all.

An important subset of SFPs is sold as value-added products processed by gatherers themselves. Though they are exchanged for cash, the dynamics of these products differ in several ways from SFPs that enter bulk commodity markets (Emery 1998). The volume of product used is limited by the gatherer's capacity to process it, alone or with assistance from family members, and therefore tends to be orders of magnitude smaller. Often these value-added products are sold at community events like fairs. No records are created and their value to household economies is not recorded directly by formal statistics.

The volatility of prices for commercially traded SFPs and the lack of data have important implications for establishing fair market value at the gatherer level, the point at which the Forest Service and other public land management agencies have direct contact with SFP commodity chains. The only way to establish the price being received by gatherers is through direct contact with them and the people to whom they sell product. To assure a steady, reliable source of information on prices, managers will need to confer repeatedly with multiple sources to ascertain price variation over time, between places and individuals, and to compare reported prices as a check on accuracy. Visits to

[1]Minnesota's Balsam Bough Partnership provides an example of such coordination. The partnership brought together bough cutters, buyers, wreath manufacturers, tribal councils, county agencies, the USDA Forest Service, and the Minnesota Department of Natural Resources to develop guidelines for conserving and managing this resource (University of Minnesota Extension Service 2002).

community events can help in the identification of the price of value-added products at the final point of sale.

However, the price paid to gatherers is only part of the equation. A gatherer's earnings depend on costs, which include transportation (generally the greatest expense), the price of access (such as permits or leases), tools or materials used, and the time required to scout, harvest, and deliver product. Returns to gatherers are often extremely modest and occasionally negative. If fees do not reflect the actual earnings and costs of gatherers, SFP programs may eliminate some products as viable livelihood strategies and compromise cultural values associated with them. For some SFPs, it might also contribute to the conversion of independent gatherers to wage labor for capitalized interests.

The Special Forest Products Appraisal system, developed by the Pacific Northwest Region of the USDA Forest Service, provides an example of one method for factoring gatherers' costs and earnings into the price of SFP permits (USDA Forest Service 2002). It uses a residual approach to establish the price of a permit, deducting the value of an average wage (generally set at the legal minimum wage), round-trip mileage from the point of harvest to the point of sale, production costs (tools, materials, etc.), a rollback factor to account for market fluctuations (typically 10 percent), and any unusual or additional costs from the fair market value.[2] Fair market value is set at least annually in each of four zones within the Region. All values are recorded in a spreadsheet that is available on the Internet and at Ranger Districts that sell permits. Any of the values used in the program may be changed if a gatherer presents persuasive evidence that it is incorrect. Personnel who are familiar with the process stress that taking the time to establish trust with buyers and gatherers is key to the fair and accurate functioning of the system.

Recovering administrative costs — The characteristics of SFP economics at the gatherer level also have implications for strategies used to recover administrative costs. The resources required to develop and implement a SFP appraisal and permit program can be substantial. Costs become still greater when inventory and monitoring procedures are implemented. In some regions, managers may need to consider how to charge for costs to oversee and administer the program for diverse products with wide-ranging market values. For example, should administrative costs be charged at the same rate for mushrooms or ginseng as compared to other products when the former bring a comparatively higher price on the market? Whether these costs are distributed across programs or recovered on a product-by-product basis will likely impact who can afford to purchase permits for commercially traded SFPs. The economics of a program designed to recover administrative costs through fees levied on a product-by-product basis almost certainly would displace individual gatherers, the majority of whom are low income, in favor of capitalized interests. Such an approach also could eliminate SFP-based cottage industries by pricing permits out of their reach.

Analyses of sustainability — The sustainability of SFP harvesting is a function of the ecological characteristics of a species, harvesting practices and volumes, and the effects of other land use and management activities on SFP populations. As a group, gatherers have knowledge of these factors that can be a valuable resource for any analysis of sustainability. In many cases, their understanding of the ecology of species they harvest is based on years, if not generations, of experience. Sometimes it is supplemented by extensive reading. Even gatherers who are relative newcomers to an area may have valuable ecological knowledge based on careful observation, particularly if they have made use of natural resources in their place of origin. Few SFP species have been thoroughly examined, either ecologically or socially, in the scientific literature. In these cases, gatherers' knowledge may be the only available source of information. For products that have been researched more extensively,

[2]However, note that permit costs cannot fall below a nationally determined minimum price, even when this might result in a negative economic return to the gatherer.

gatherers' knowledge can be a good way to verify and integrate generalized scientific information with local circumstances.

Timing, tools, techniques, and selection all affect the sustainability of harvesting practices. Because of the spatially and temporally dispersed nature of harvesting, managers will rarely have the opportunity to observe these aspects of harvesting unless they have made arrangements to do so. As a rule, gatherers who are concerned about the sustainability of their activities make strong efforts to leave few, if any, indicators of their activities. Consequently, speaking with gatherers is virtually the only way to learn about their practices. Here, as in most fields of inquiry, first-hand information should be regarded as most reliable. Managers should exercise caution in accepting reports about others' practices, especially if one social group is portrayed as being universally destructive. And, of course, gatherers, like others, tend to present themselves in the most positive light and may neglect to describe practices they believe would be met with disapproval. Thus, managers should plan to speak with many gatherers, just as they would take multiple measurements when collecting ecological data. This will provide information on the range of practices and provide the opportunity to check the accuracy of information obtained through interviews.

Assessing the sustainability of SFP programs will require monitoring efforts. Gatherers' knowledge of the woods and the realities of harvesting, as well as their conservation concerns, make them strong potential collaborators in the development of monitoring programs. They may assist in the development and implementation of experimental protocols to ensure that these reflect actual practices, thus increasing the reliability of monitoring program results as a basis for policy.

However, managers are likely to face at least two challenges in working with gatherers: given the varied sources of knowledge (e.g., experiential versus experimental), tensions related to the validity and accuracy of information may arise; and knowledge is likely to be linked to issues of power and trust. Some gatherers may be reluctant to share their knowledge if they perceive that it may be used to limit their access. Alternatively, some gatherers may be reluctant to support initiatives linked to market-based harvesting of SFPs because they see such harvesting as unsustainable. In developing and implementing SFP programs, managers can work with gatherers to understand their concerns and build on their conservation ethic. This approach also may help generate support for agency programs.

Providing for personal use — Personal use probably accounts for the largest number of SFP uses in the eastern United States (although possibly the smallest volume of plant material). In some cases, these direct uses of SFPs provide important food, medicines, and cultural materials. For many, gathering preserves cultural values and enriches family ties. It is valued as a productive leisure activity through which individuals pass knowledge on to new generations who may need it in the future. However, there is not always a clear distinction between the multiple values of gathering. A gatherer may combine harvesting for personal use and sale in one outing, especially in the case of edibles.

This overlap in the values of SFPs will present special challenges for managers. In developing programs that capture market values of SFPs, it will be important for managers to keep in view that they are often intertwined with nonmarket and non-economic values. Emphasizing economic interests may obscure other values. To avoid this, managers can recognize and address the multiple values and uses associated with SFPs, and consider how charging fees in a market context may affect other social and cultural values.

Conclusion

Future SFP management in the eastern United States will occur in a complex and dynamic environment. The mixed land ownerships and rapidly changing land uses that are characteristic east of the Mississippi River will make landscape-scale analysis and planning especially important. At the same time, the place-based nature of gathering activities requires a thorough understanding of local

players and processes. Variations in the scale of SFP markets, from local to international, will require managers to become familiar with many sources of economic information and understand their relationship to what happens at the individual forest level. Efforts to assess the sustainability of SFPs will require the integration of both social and ecological information. The intersection of market and personal uses and the changes in SFP uses that occur throughout an individual gatherer's lifetime suggest the need for flexible and adaptive management programs. Finally, changing social and technological conditions will require ongoing review of SFP programs.

As these case studies suggest, gatherers are potentially strong partners for the development of sound, sensitive programs for SFP management within this dynamic context. They can be a critical source of information on SFP uses, values, and ecology. Meeting and working with a cross section of gatherers who are active in an area (i.e., all ages, ethnicities, income groups, and both genders) will help assure that programs are equitable and consistent with on-the-ground realities. Regulations that build on gatherers' interests and their knowledge of the products they harvest likely will increase compliance and, thus, the effectiveness of programs. This and other publications (see Other References) can provide general information about gatherers. However, the variety of people, products, and practices will ultimately require local assessments. The people who agreed to be interviewed for this report are indicative of gatherers' willingness to share information when they feel that it will be used in a nondetrimental way. Building relationships of trust and collaboration with gatherers will be essential to developing SFP programs that are both socially and ecologically sustainable. We have drawn on the voices of gatherers from the eastern United States to produce this report. However, the broad patterns of gatherers' lives and experiences are echoed elsewhere and we hope that the lessons found here will be valuable throughout the United States.

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Appendix A. Index of special forest products and uses by Latin name

Latin name	Common name	Functional[1] uses	Livelihood[2] uses	State(s)	Case study(ies)
Abies balsamea	Fir boughs	D	PC, GS	VT	Linda Marcoux
Acer saccharum	Sugar maple sap	E	PC, SP	NH	Hudson family
Acorus calamus[3]	Sweet flag	M	PC, GS	WV	Jane Overfield
Cannot be specified	Berries, various	E	PC, GS, SR	NH, WV, VT	Hudson family, Jane Overfield, Nova Kim & Les Hook
Cannot be specified	Mushrooms, various	E	PC, GS, BT, SR, SP	WV, VT	Jane Overfield, Robert Reznik
Cantharellus spp.	Chanterelle mushrooms	E	PC, BT, SR	VT	Robert Reznik
Carya spp.	Hickory nuts	E	PC, GS	WV	Jane Overfield
Cimicifuga racemosa	Black cohosh	M	PC, GS, SR	WV, OH	Jane Overfield, Chip Harris
Comptonia peregrina	Sweet fern	M	PC	NH	Hudson family,
Coprinus comatus	Shaggy mane mushrooms	E	PC, SR	VT	Nova Kim & Les Hook
Fragaria virginiana	Strawberries	E	PC, GS	VT	Linda Marcoux
Galax urceolata	Galax	D	SR	NC	Mesner family, Torres family
Ganoderma applanatum	Artist conk	D	SP	VT	Nova Kim & Les Hook
Hamamelis virginiana	Witch hazel	M	PC, SR	NH, CT	Hudson family, Bill Cooper
Hydrastis canadensis	Goldenseal (yellowroot)	M	SR	OH	Chip Harris
Iris versicolor	Flag root	M	PC	AL	Una Holder
Juglans nigra	Walnut leaves	M	PC	MS	Quenton Winslow
Liquidambar styraciflua[3]	Sweet gum bulbs	M	PC	AL	Una Holder
Lonicera spp.[4]	Honeysuckle	U, D	PC, GS	WV	Jane Overfield
Lycopodium obscurum complex	Princess pine	D	SR	VT	Mary Girard
Matteuccia struthiopteris	Fiddleheads	E	PC, GS	VT	Mary Girard, Linda Marcoux
Panax quinquefolius	Ginseng	M	SR, SP	OH, VT	Chip Harris, Nova Kim & Les Hook
Phlogiotis helvelloides	Apricot jelly fungus	E	PC, SR	VT	Nova Kim & Les Hook
Phytolacca Americana	Poke salad, root & greens?	M	PC	MS, AL	Quenton Winslow, Una Holder
Picea spp.	Spruce boughs	E	PC, SR	VT	Linda Marcoux
Pinus australis	Pine straw	D	SP	AL	Una Holder
Pinus spp.	Pine tar	M	PC	MS	Quenton Winslow
Prunus persica[4]	Peach leaves	M	PC	MS	Quenton Winslow

[1]Functional uses: E – edible, M – medicinal, D – decorative, U – utilitarian
[2]Livelihood uses: PC – personal consumption, GS – gift or share, BT – barter or trade, SR – sale raw, SP – sale processed
[3]Most likely species, [4]Introduced species, [5]Naturalized individuals of introduced species, [6]Now regarded as carcinogenic

Latin name	Common name	Functional[1] uses	Livelihood[2] uses	State(s)	Case study(ies)
Prunus serotina	Cherries	E	PC	VT	Robert Reznik
PTERIDOPHYTA family	Ferns	D	SR	VT	Mary Girard
Pyrus spp.[5]	Apples	E	PC, GS	VT	Linda Marcoux
Quercus alba	White oak	U	PC, SP	AL	Una Holder
Rhus typhina & glabra	Sumac	U	PC	NH	Hudson family
Rubus idaeus	Raspberries	E	PC, BT, GS, SR	VT	Robert Reznik, Linda Marcoux
Rubus sp.	Black raspberries	E	PC, BT, SR	VT	Robert Reznik
Rubus sp.	Blackberry root	M	PC	AL	Una Holder
Rubus spp.	Blackberries	E	PC, BT, GS, SR	VT	Robert Reznik, Linda Marcoux
Salix spp.	Willow	U, D	PC, GS	WV	Jane Overfield
Sassafras albidum[6]	Sassafras	M	PC, GS	WV, MS	Jane Overfield, Quenton Winslow
Taraxacum officinale[4]	Dandelion	E, M	PC, GS	WV, VT	Jane Overfield, Linda Marcoux
Vaccinium spp.	Blueberries	E	PC, GS	VT	Linda Marcoux
Verbascum thapsus[4]	Mullein	M	PC	AL	Una Holder
Viola spp.	Violet leaves	E	PC, GS	WV	Jane Overfield
Vitis sp.	Grape leaves	E	PC, GS	WV	Jane Overfield

[1]Functional uses: E – edible, M – medicinal, D – decorative, U – utilitarian
[2]Livelihood uses: PC – personal consumption, GS – gift or share, BT – barter or trade, SR – sale raw, SP – sale processed
[3]Most likely species, [4]Introduced species, [5]Naturalized individuals of introduced species, [6]Now regarded as carcinogenic

Appendix B. Index of special forest products and uses by Common name

Common name	Latin name	Functional[1] uses	Livelihood[2] uses	State(s)	Case study(ies)
Apples	*Pyrus spp.*[5]	E	PC, GS	VT	Linda Marcoux
Apricot jelly fungus	*Phlogiotis helvelloides*	E	PC, SR	VT	Nova Kim & Les Hook
Artist conk	*Ganoderma applanatum*	D	SP	VT	Nova Kim & Les Hook
Berries, various	*Cannot be specified*	E	PC, GS, SR	NH, WV, VT	Hudson family, Jane Overfield, Nova Kim & Les Hook
Black cohosh	*Cimicifuga racemosa*	M	PC, GS, SR	WV, OH	Jane Overfield, Chip Harris
Black raspberries	*Rubus sp.*	E	PC, BT, SR	VT	Robert Reznik
Blackberries	*Rubus spp.*	E	PC, BT, GS, SR	VT	Robert Reznik, Linda Marcoux
Blackberry root	*Rubus sp.*	M	PC	AL	Una Holder
Blueberries	*Vaccinium spp.*	E	PC, GS	VT	Linda Marcoux
Chanterelle mushrooms	*Cantharellus spp.*	E	PC, BT, SR	VT	Robert Reznik
Cherries	*Prunus serotina*	E	PC	VT	Robert Reznik
Dandelion	*Taraxacum officinale*[4]	E, M	PC, GS	WV, VT	Jane Overfield, Linda Marcoux
Ferns	*PTERIDOPHYTA* family	D	SR	VT	Mary Girard
Fiddleheads	*Matteuccia struthiopteris*	E	PC, GS	VT	Mary Girard, Linda Marcoux
Fir boughs	*Abies balsamea*	D	PC, GS	VT	Linda Marcoux
Flag root	*Iris versicolor*	M	PC	AL	Una Holder
Galax	*Galax urceolata*	D	SR	NC	Mesner family, Torres family
Ginseng	*Panax quinquefolius*	M	SR, SP	OH, VT	Chip Harris, Nova Kim & Les Hook
Goldenseal (yellowroot)	*Hydrastis canadensis*	M	SR	OH	Chip Harris
Grape leaves	*Vitis sp.*	E	PC, GS	WV	Jane Overfield
Hickory nuts	*Carya spp.*	E	PC, GS	WV	Jane Overfield
Honeysuckle	*Lonicera spp.*[4]	U, D	PC, GS	WV	Jane Overfield
Mullein	*Verbascum thapsus*[4]	M	PC	AL	Una Holder
Mushrooms, various	*Cannot be specified*	E	PC, GS, BT, SR, SP	WV, VT	Jane Overfield, Robert Reznik
Peach leaves	*Prunus persica*[4]	M	PC	MS	Quenton Winslow
Pine straw	*Pinus australis*	D	SP	AL	Una Holder
Pine tar	*Pinus spp.*	M	PC	MS	Quenton Winslow
Poke salad, root & greens?	*Phytolacca americana*	M	PC	MS, AL	Quenton Winslow, Una Holder

[1]Functional uses: E – edible, M – medicinal, D – decorative, U – utilitarian
[2]Livelihood uses: PC – personal consumption, GS – gift or share, BT – barter or trade, SR – sale raw, SP – sale processed
[3]Most likely species, [4]Introduced species, [5]Naturalized individuals of introduced species, [6]Now regarded as carcinogenic

Common name	Latin name	Functional[1] uses	Livelihood[2] uses	State(s)	Case study(ies)
Princess pine	*Lycopodium obscurum complex*	D	SR	VT	Mary Girard
Raspberries	*Rubus idaeus*	E	PC, BT, GS, SR	VT	Robert Reznik, Linda Marcoux
Sassafras	*Sassafras albidum*[6]	M	PC, GS	WV, MS	Jane Overfield, Quenton Winslow
Shaggy mane mushrooms	*Coprinus comatus*	E	PC, SR	VT	Nova Kim & Les Hook
Spruce boughs	*Picea spp.*	E	PC, SR	VT	Linda Marcoux
Strawberries	*Fragaria virginiana*	E	PC, GS	VT	Linda Marcoux
Sugar maple sap	*Acer saccharum*	E	PC, SP	NH	Hudson family
Sumac	*Rhus typhina & glabra*	U	PC	NH	Hudson family
Sweet fern	*Comptonia peregrina*	M	PC	NH	Hudson family
Sweet flag	*Acorus calamus*[3]	M	PC, GS	WV	Jane Overfield
Sweet gum bulbs	*Liquidambar styraciflua*[3]	M	PC	AL	Una Holder
Violet leaves	*Viola spp.*	E	PC, GS	WV	Jane Overfield
Walnut leaves	*Juglans nigra*	M	PC	MS	Quenton Winslow
White oak	*Quercus alba*	U	PC, SP	AL	Una Holder
Willow	*Salix spp.*	U, D	PC, GS	WV	Jane Overfield
Witch hazel	*Hamamelis virginiana*	M	PC, SR	NH, CT	Hudson family, Bill Cooper

[1]Functional uses: E – edible, M – medicinal, D – decorative, U – utilitarian
[2]Livelihood uses: PC – personal consumption, GS – gift or share, BT – barter or trade, SR – sale raw, SP – sale processed
[3]Most likely species, [4]Introduced species, [5]Naturalized individuals of introduced species, [6]Now regarded as carcinogenic

Emery, Marla R.; Ginger, Clare; Newman, Siri; Giammusso, Michael R.B. 2003. **Special forest products in context: gatherers and gathering in the Eastern United States.** Gen. Tech. Rep. NE-306. Newtown Square, PA: U.S. Department of Agriculture, Forest Service, Northeastern Research Station. 59 p.

This report provides an introduction to the people who gather special forest products (SFPs) in the eastern United States, the role these resources play in their lives, and implications for management on national forest lands, particularly in relation to the Pilot Program on Forest Botanicals (P. L. 106-113, § 339(a)). SFPs encompass a wide variety of products and provide important livelihood support through both market and nonmarket economic values. In addition, many gatherers value social dimensions of SFPs outside the economic realm. Gatherers are a diverse group (men and women, varied ethnic and cultural backgrounds), who often draw on substantial knowledge to harvest SFPs. Many are concerned about conservation and the sustainability of harvesting practices. Contextual factors affecting SFP activities include land management regimes and social conditions, such as household economies and life stage, at scales that range from macro-level markets (national, international) to micro-level household and individual use.

Keywords: forest botanicals, nontimber forest products, forest management, fair market value, nonmarket values, traditional ecological knowledge, land use change

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