

Who, What, and Why: The Products, Their Use, and Issues About Management of Non-timber Forest Products in the United States

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Abstract.—Non-timber forest products in the United States include floral greens, Christmas ornamentals, wild edibles, medicinals, crafts, and transplants. Non-timber forest products are important to many people for many reasons. People harvest products from forests for personal use, cultural practices, and sale. The tremendous variety of species harvested for the many markets stands in stark contrast to our poor knowledge of the biology, prices, or responses to harvest and habitat change for most of the species. The diversity of species harvested, lack of knowledge about the plants or their use, and inadequate institutions to ensure sustainable harvesting complicate policymaking and law enforcement.

INTRODUCTION

Definitions of what constitutes non-timber forest products, and even what to call them, differ. De Beer and McDermott (1989) included wildlife, fuelwood, and rattan in their discussion of products in Southeast Asia. The Food and Agriculture Organization (FAO) of the United Nations does not include fuelwood but does include household income in its definition (Wickens 1991). Key words to look for include non-wood forest products, non-timber forest products, and special forest products. This paper on non-timber forest products in the United States uses the categories floral greens, Christmas greens, wild edibles, medicinals, crafts, and transplants.

Non-timber forest products are important to many people for many reasons. Long historical use of many plants and fungi from forests is part of many regional cultures in the United States. Native Americans have used plants and fungi for food, medicine, housing, arts, and many other cultural and traditional purposes

for thousands of years, and continue to do so. Other groups, as they came to the United States, brought traditions of forest use with them. Many groups have, for example, harvested boughs for seasonal decoration and foods for traditional and subsistence uses. Commercial markets have developed for numerous forest products (Alexander and McLain 2001, Savage 1995, and others). Medicinal plants and fungi have been harvested and traded for a long time; several species such as American ginseng (*Panax quinquefolius*) and goldenseal (*Hydrastis canadensis*) are mentioned specifically in state laws. Markets for some products, like wild edible mushrooms, are more recent and are growing rapidly. Some of these emerging markets have tremendous potential. Many of the species are not well understood, and current cultural and recreational uses have not received much formal attention. Promoting these products for economic development needs to take into account issues of forest ecosystem sustainability and species conservation, impacts on rural communities, and issues about public and private land use and property rights.

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FLORAL AND CHRISTMAS GREENS

One of the largest non-timber forest product markets consists of the floral and Christmas greens industries. In the U.S., significant



plants in the floral industry include salal (*Gaultheria shallon* Pursh), evergreen huckleberry (*Vaccinium ovatum* Pursh), and beargrass (*Xerophyllum tenax* (Pursh) Nutt) in the Pacific Northwest, *Smilax smallii* and *Tillandsia usneoides* in the Southeast, *Kalmia latifolia* in the Northeast, and various *Phoradendron* and several moss and fern species in many parts of the country. These products are harvested in the forest by local people and by workers who travel from one place to another throughout the season. People may harvest alone, in family groups, or in crews. The products are sold to “sheds” and then shipped to urban markets. Floral products from the U.S. are used in floral arrangements sold throughout the world; next time you are in a supermarket, take a close look at the floral section. Prices paid to harvesters for floral products in the western United States have been reported by Blatner and Alexander (1998), Blatner and Schlosser (1998), Douglass (1970), and others. Products rise and fall in popularity because the floral greens market depends on trends and tastes in the floral industry. Many products such as salal and evergreen huckleberry have been commercially produced since the early 1900s, however, and have held a place in the market. Floral greens are harvested year-round except in the spring when the new growth is tender. Christmas greens are harvested primarily in the fall and winter as they are used in traditional products for the winter holidays. Commercial species include many trees from which boughs are harvested, such as noble fir (*Abies procera* (Rehder)), Douglas-fir (*Pseudotsuga menziesii* (Mirbel) Franco), and western redcedar (*Thuja plicata* Donn.) in the Pacific Northwest, and balsam fir (*Abies balsamea*), Fraser fir (*A. fraseri*), and Virginia pine (*Pinus virginiana*) in the Midwest and eastern United States. The boughs are used to make wreaths, swags, and other products. Many floral greens are exported (Savage 1995). In 1989, Schlosser *et al.* (1991) surveyed 60 floral and Christmas greens businesses in Washington, Oregon, and southwestern British Columbia. The businesses employed about 10,300 people and sold \$128.5 million worth of floral and Christmas greens. Emery (1998) reported use of boughs in Michigan for many purposes, including grave blankets. The harvest of florals, boughs, and Christmas trees for personal use is an important tradition in many families. Many people harvest small

forest trees for use as Christmas trees and cut boughs for personal use.

WILD EDIBLES

Wild edibles are also important to many people. Markets for wild edibles, such as berries, fruits, nuts, tree sap, and fungi have existed for a long time. Some of the markets have expanded somewhat in the past two decades. The harvest of wild huckleberries, blueberries, and cranberries (*Vaccinium* species) has been and remains important to Native Americans. Many people pick wild huckleberries for personal use, and going to the forest to pick berries is an important late summer activity in many states. Wild huckleberries are harvested commercially and exported from both the west and east coasts of the United States to several countries, including Canada, Australia, Germany, and Japan. National forests in the Northeast, Midwest, and Pacific Northwest have initiated berry management treatments including burning and overstory removal to enhance berry production in traditional picking areas (Thomas and Schumann 1993, Alexander *et al.* 2001). Maple syrup production has been an important activity in the northeastern and midwestern U.S. for centuries. In 1995, 4.1 million liters of maple syrup were produced in the United States, with an estimated value of \$25 million (U.S.) (Viana *et al.* 1996).

The wild mushroom industry has existed for quite some time at a small scale but has been expanding considerably since the early 1980s (de Geus 1992, Denison and Donoghue 1988, Molina *et al.* 1993). In the Pacific Northwest, the four most important commercial mushrooms are morels (*Morchella* species), chanterelles (*Cantharellus* species), boletes (*Boletus* species), and pine mushrooms, also called matsutake (*Tricholoma magnivelare* (Peck) Redhead). Many people enjoy picking mushrooms for personal use, and many others pick for incidental income. As with floral greens, people pick alone, in family groups, and even with crews. Most commercially harvested wild mushrooms are exported, but domestic demand is rising. Values for mushrooms and other wild edibles have been reported by Schlosser and Blatner (1995) and Blatner and Alexander (1998). Policy issues about mushrooms have been discussed by Denison and Donoghue (1988), McLain *et al.* (1998),

Molina *et al.* (1993), Pilz *et al.* (1999), Richards and Creasy (1996), and others. In part because the industry has expanded so fast, permit systems, fees, access, property rights, and other regulatory and rights issues are of concern to gatherers and property owners.

MEDICINALS

Native Americans and other people have harvested medicinal plants and fungi for centuries. Growing interest in holistic medicine has increased demand for wild plants and fungi from U.S. forests (Alexander and McLain 2001, Vance 1995). The economic value of medicinal products can be substantial. Prices for ginseng root in 1994 ranged from \$25 (U.S.) per pound for domesticated root to as high as \$300 (U.S.) per pound for wild root. Ginseng exports in 1994 were valued at more than \$75 million (U.S.) (Viana *et al.* 1996). Current medicinal plant and fungus use among Native Americans has not been extensively documented because of concerns about intellectual property rights and privacy issues. Many of the plants and fungi are poorly known biologically; for example, responses to harvesting or habitat change may be unknown. The diversity of species harvested and lack of knowledge about medicinal plants and fungi among many forest land managers complicate policymaking and law enforcement. Demand for medicinal plants and fungi is on the rise, and harvest pressure on the resource is increasing. The medicinal market will likely face more debates similar to the one about access to yew (*Taxus breifolia*) bark in federally managed forests in the Pacific Northwest during the late 1980s and early 1990s.

CRAFTS AND TRANSPLANTS

Gathering and use of forest materials for crafts and transplants is an old, varied, and ongoing activity. Transplants are used in landscaping throughout the U.S. Xeric landscaping has become popular as water has become scarcer; the use of native plants in landscaping allows less use of water and makes survival of the plants used more likely. Plants removed from areas with planned activities such as under-burning or tree harvest can be transplanted or used for craft activities (such as green manzanita (*Arctostaphylos patula* Greene)

plants or branches). Use of forest materials for crafts has been reported by many authors in the United States, including Cohen (1989), Densmore (1974), and Emery (1998). Stems of vine maple (*Acer circinatum* Pursh) and red alder (*Alnus rubra* Bong.) are harvested and sold for use as tree trunks for the plastic-leaved creations sold in department stores and used by restaurants and resorts. Birch (*Betula papyrifera* Marsh.) bark is used to make baskets, vases, and Christmas ornaments, among other things. Twigs are used to make buttons and give form to wreaths; bark is used to make baskets, planters, and birdhouses; and cones are used to make ornaments and decoration for wreaths. The uses and opportunity for artistic expression are endless. Crafts may be made for personal use or for gifts, or they may be sold in a variety of ways. Crafts are an expression of the individual, the culture, and the region. They are an important part of American life and traditions.

SUMMARY

When we speak of non-timber forest products in the United States, we embrace a tremendous variety of products and species. The issues are as variable as the products. From an economic standpoint, products traded in commercial markets can have highly variable prices within a season or from one season to the next. Price may be a function of international supply and demand, market saturation, competing imports from other countries—all the effects felt by domesticated agricultural products. Ephemeral products such as mushrooms are particularly subject to year-to-year variations in availability. Social issues have also received some attention. Harvesters of NTFPs are often categorized as traditional, recreational, or commercial users, but most have some combination of reasons to harvest and use non-timber forest products. Another important issue about non-timber forest products is the lack of published information on the biology, supply, demand, or prices for most of the plants and fungi sought by harvesters. Harvesters and others in the industry are knowledgeable about the species and products, but the information is not generally available—the knowledge has either been discounted by those outside the non-timber forest products industry or has been withheld as proprietary information. The topic of non-timber forest products is fascinating in its diversity and in



the number of issues embedded in the study of the products, their harvest, use, marketing, regulation, and management. As more people ask more questions, some of the issues may be resolved while others are brought to light. The only solution is to keep asking questions.

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