

Indicator 2.14.

Annual Harvest of Nonwood Forest Products

What is the indicator and why is it important?

This indicator measures harvest levels of nonwood forest products (NWFPs). NWFPs include medicinal plants, food and forage, floral and horticultural products, resins and oils, arts and crafts materials, and game animals. As demand for these products grows, it becomes increasingly important to monitor the removal of products from forests, and the effects of their removal on the viability of current and future forest ecosystems. Lack of management of NWFPs may result in negative effects to species diversity, ecosystem dynamics, cultural practices, and other ecological, economic, and social frameworks.

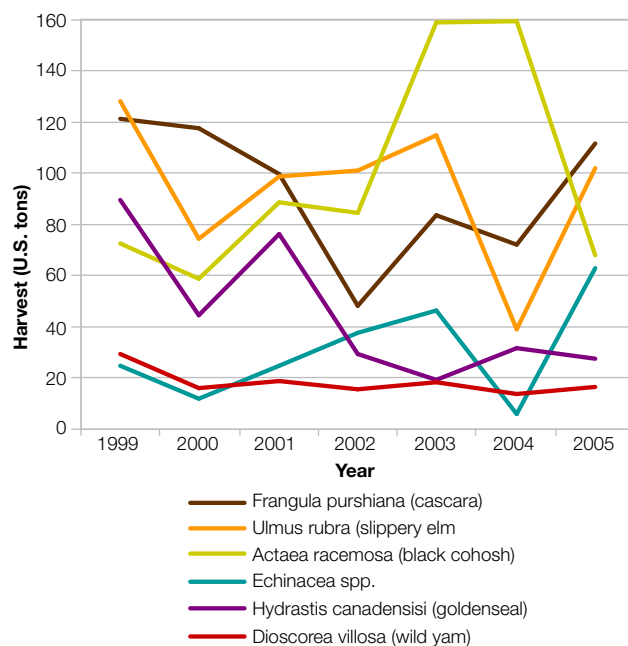
What does the indicator show?

Nonwood Forest Products run the gamut from pinecones to fur-bearing animals, so it is not currently feasible to measure a total harvest for the United States across all categories or even within an individual category. Instead, harvest levels are given here for representative products of particular importance or interest ecologically, economically, or socially. Information on additional products for which data are available can be found in the supporting technical document in the data report.

Medicinal Plants—17 of the 22 medicinal plants studied by the American Herbal Products Association (AHPA) in 2004 and 2005 were wild harvested. Harvests of medicinal plants occur throughout the country, although the temperate forests of the Eastern United States supply larger quantities of medicinal plant species. Of the species recorded by AHPA (2004 to 2005), 16 occur in the South, 14 occur in the North, 10 occur in the Rocky Mountain Region, and 2 occur on the Pacific Coast. Not enough data were available to state with certainty which specific States within regions harvested particular medicinal species from wild (not wild cultivated) stock. According to AHPA, saw palmetto (*Serenoa repens*) fruit was the most harvested medicinal plant in terms of dry weight (tons). The 2005 reported wild harvest of saw palmetto berries reached 2,893 tons—nearly double the 2004 reported volume. AHPA attributes the increase to fluctuating berry prices and supplies (AHPA 2004 to 2005). The top six primary commodities in terms of harvest volume following saw palmetto include cascara bark (*Frangula purshiana*), slippery elm bark (*Ulmus rubra*), black cohosh root (*Actaea racemosa*), Echinacea spp. herbs and roots, goldenseal leaves and roots (*Hydrastis canadensis*), and wild yam tubers (*Dioscorea villosa*) (fig. 14-1).

Food and Forage Plants—The Forest Service and the Bureau of Land Management (BLM) keep records of permits and contracts issued for harvests on their respective land, and provide some insight into harvest quantities. Contract and permit data are based on approximations only, because they represent the volume of permitted harvest rather than actual harvest. In addition, based on the proportion of public to private land in the United States, we make the assumption that harvests on National Forest System (NFS) lands probably represent about 20 to 30 percent of total national supply, although harvests on BLM land probably represent between 2 to 15 percent of the total national supply (*Susan Alexander, Forest Economist Forest Service Region 6, personal communication, 2009*). Approximately 1.6 million pounds and an additional 250 bushels of edible fruits, nuts, berries, and sap were permitted for harvest on NFS land in 2007; nearly double the quantity permitted for harvest on public land in 1998 (fig. 14-2a). Permitted harvests of edible plants on public lands were highest in the Pacific Coast, at 1.4 million pounds, or about

Figure 14-1. Quantity of top six wild-harvested dried plants (excluding saw palmetto) for 1999 to 2005 as reported by the American Herbal Products Association (Voluntarily reported by survey respondents, American Herbal Products Association 2004 to 2005).



3 pounds for every 100 acres of public NFS and BLM forest lands. Although data on the volume of NWFPs harvested on private land are lacking, a 2006 survey of United States private forest landowners indicated that, of an estimated 10 million private landowners nationwide (excluding Alaska, Hawaii, west Oklahoma, and west Texas), 10 percent collected edible plants (Butler 2009).

Maple syrup represents a large NWFP industry in the North Region. In 2007, 1.3 million gallons of maple syrup from more than 7 million taps were produced in the United States (National Agricultural Statistics Service 2007). Only a little more than 10,000 (about one-half of 1 percent) of those taps were permitted taps on public land. Maple production has remained stable in the United States since 1998, and currently only a small proportion of the available resource is being used for syrup production (Hansen et al., *In Press*).

Permits purchased on BLM and NFS land for forage plants were included here even though some harvested grasses may occur outside areas defined as forest. Alfalfa, hay, and grass permits were lumped together for this analysis, although some grasses (e.g., beargrass) are also used for Arts, Crafts, and Floral products. Permitted harvests of alfalfa, hay, and grass for forage and crafts use on public lands were highest in the Pacific Coast Region, at more than 2,000 tons permitted. Permitted harvest quantities on public land have remained fairly stable since the late 1990 and early 2000s (fig. 14-2b). The spike in 2004 is because of the sale of beargrass, which is typically used in the arts industry. Much of the alfalfa, hay, and grass grown on private land is considered an agricultural commodity rather than a NWFP, and is therefore outside the scope of this report.

Christmas trees—According to the National Christmas Tree Association (NCTA), 25 to 50 million live trees are sold yearly in the United States (NCTA, 2005). The overwhelming majority of Christmas trees sold in lots or stores come from farms where trees are planted, grown, harvested, and replanted just as

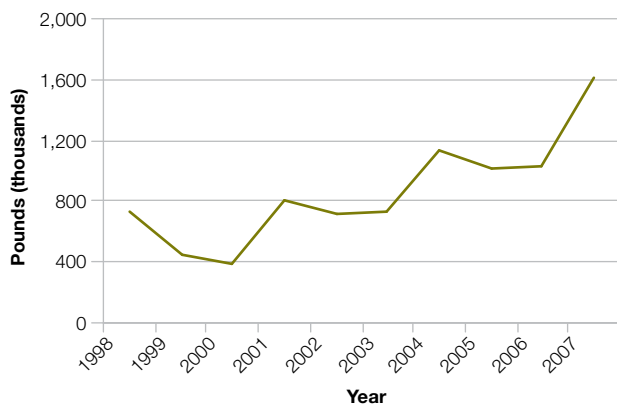
any other agricultural crop, therefore it is difficult to separate out trees wild harvested for use as Christmas trees from trees commercially grown for that purpose. A small proportion of live trees are harvested from public land, yearly. Permits issued on national forest lands for Christmas tree harvest have declined steadily since 1998. In 2006, a little more than 50,000 permits and contracts were issued for Christmas tree collection—a 20-percent increase from 2005, but a 71-percent decrease from 1998. Permitted Christmas tree harvests have declined on BLM land, also. The number of Christmas trees harvested on BLM land decreased from 27,709 trees in 1998 to 13,866 trees in 2007. Most of the wild-harvest Christmas trees coming from publicly owned land are harvested in the Pacific Coast and Rocky Mountain Regions.

Arts, Crafts, and Floral—Permitted harvest quantities of arts, crafts, and floral products on public lands totaled more than 622,000 tons in 2007. Foliage, limbs, and boughs comprised the largest product category of removals by weight in tons. Most of the permitted harvests occurred in the Pacific Coast and Rocky Mountain Regions. An estimated 727,000 private landowners also collect NWFPs from their own properties for decorative use, according to 2006 surveys, although the volume of their harvests is unknown (Butler 2009).

What has changed since 2003?

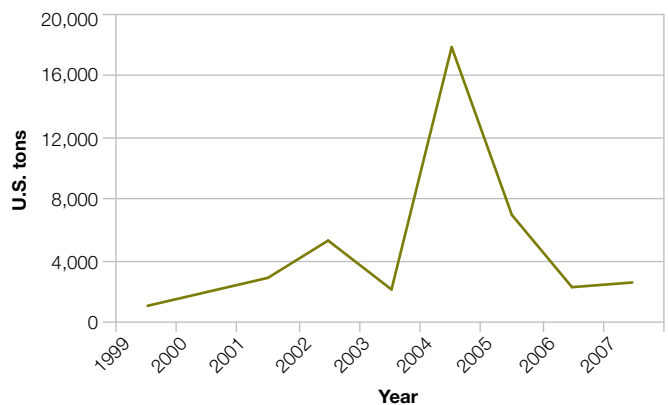
The availability of a wider range of data sets represents the most significant change since the 2003 sustainability report. Based on the available data, nonwood forest products continue to be in demand, although the cultivation of some resources (for example, Christmas Tree farms) may be replacing the wild harvesting of select products. Although we now have the data necessary to track some harvest levels on public land, and some information about use on private land, we still lack the ability to determine the level of harvest that could be considered sustainable.

Figure 14-2a. Quantity of edible fruits, nuts, berries, and sap permitted for harvest on National Forest System and Bureau of Land Management land by year.



Source: USDA Forest Service and U.S. Department of the Interior, Bureau of Land Management

Figure 14-2b. Quantity of grass, hay, and alfalfa permitted for harvest on National Forest System and Bureau of Land Management land by year.



Source: USDA Forest Service and U.S. Department of the Interior, Bureau of Land Management