

Recommendations for Sustainable Development of Non-Timber Forest Products

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Non-timber forest products—or NTFPs—are considered here to be botanical products harvested or originating from forest-based species, but excluding primary timber products, industrial boards and composites, and paper products.

A recent study of non-timber forest products in Ontario, Canada, identified at least 50 types of NTFPs and hundreds of specific products used for food, health and personal care, materials and manufacturing, environmental purposes, landscape and gardening, and aesthetics (fig. 1). These products range from non-commercial goods used culturally and traditionally to commercial items that broaden the economic base of many regions.

However, commercial development of NTFPs can place substantial pressures on the viability of a resource, and other concerns about health and safety, and about social and economic factors are also important. Sustainability of the resource may be compromised through unrestricted harvest of products for lucrative commercial mass markets. Health risks are a reality when medicinal products, e.g., natural health products, are developed with little attention to natural toxicities in some plant species or in certain environments. Socioeconomic concerns often accompany large-scale product development that uses wildcrafted materials collected by poorly paid gatherers, or in which indigenous providers of strategic knowledge are prohibited from sharing product revenues. To succeed, commercial development must be designed to avoid such pitfalls, or the sustainability of the NTFP enterprise itself becomes endangered.

Sustainable commercial development is a shared responsibility. Governments, landowners, developers, and even product users each play a role. Government, in particular, can serve several key functions:

- **awareness**—providing information on opportunities, ecology, risks, and funding programs
- **facilitation**—coordinating partners, and research support
- **stewardship**—providing incentives for responsible management, compliance monitoring, quality control, and habitat protection
- **promotion**—increasing awareness of success stories, and expanding markets nationally and internationally
- **research**—testing new products, enhancing resource productivity and quality
- **conflict-resolution**—resolving multiple-use issues

OVERALL RECOMMENDATIONS

Several recommendations are offered here that may help to advance the NTFP sector in a sustainable fashion.

Recommendation #1 Emphasize Value-Added Products

Income levels for collectors of bulk NTFP materials are typically low, and the demand for the products can fluctuate widely. By concentrating on value-added products, which command a higher price, developers may be able to earn more with less plant biomass, and may be buffered more against sharp decreases in demand for bulk supplies. Also, there is less competition for bulk markets, which may already be adequately served by other jurisdictions with better established large-scale collection.

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Non-Timber Forest Products

FOOD PRODUCTS



- berries
- beverages
- essential oils
- flavouring agents
- herbs and spices
- honey
- maple syrup, sugar, taffy, butter
- mushrooms
- nuts
- seeds
- teas
- vegetables

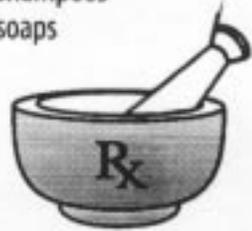
MATERIALS & MANUFACTURING PRODUCTS



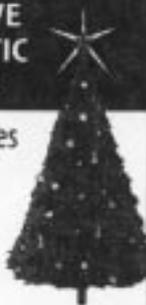
- adhesives
- alcohol
- candles
- cloth
- dyes
- essential oils
- fragrances
- incense
- lignosulfonates
- resins
- specialty wood products
- stuffing material
- thread & rope
- turpentine

HEALTH & PERSONAL CARE PRODUCTS

- aromatherapy oils
- cosmetics
- drugs
- essential oils
- herbal health products
- nutraceuticals
- perfumes & fragrances
- pet care products
- shampoos
- soaps

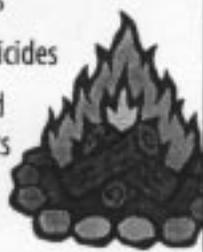


DECORATIVE & AESTHETIC PRODUCTS



- Christmas trees
- cone crafts
- bark crafts
- wood crafts
- carvings
- floral arrangements
- wreaths, garlands, swags
- natural dyes

ENVIRONMENTAL PRODUCTS



- biofuels
- biopesticides
- recycled products

LANDSCAPE & GARDEN PRODUCTS



- landscape trees
- shrubs
- wildflowers
- grasses
- mulches
- soil amendments

Taken from Mohammed (1999).

Figure 1.—Non-timber forest products in Ontario.

Importantly, there may be less risk of overharvesting wild plant stocks using this approach.

**Recommendation #2
Use Waste Materials for New Products**

Materials such as emptied seed cones, pulp waste materials such as tall oil, and various byproducts of wood processing can be valuable sources of new products. Collection costs are low with this option because the material is already being harvested for other purposes.

**Recommendation #3
Coordinate Collection of NTFPs with Timber Harvest and Tending Operations**

Although forest lands can provide a wealth of products, in Ontario we have tended to emphasize timber and pulpwood. Fuller use of the forest's productive capacity through NTFP development could mean a greater flow of benefits to various users. For instance, collection of weed materials that would otherwise be burned or chemically controlled could provide biomass for other products. (Some biomass and debris should remain on site for ecological benefits such as maintenance of wildlife habitat and soil nutrient balance.) Collection of weeds and other products such as birch bark, boughs, etc., can be coordinated with normal forest operations to minimize interference with those activities and possibly assist in achieving some objectives.

**Recommendation #4
Emphasize Rural and Community-Based NTFP Opportunities**

Development of niche products with a local character can be a profitable venture for many communities. A good example is the range of manomin and wild berry products being created by the Wabigoon Lake First Nation in northwestern Ontario, where traditional knowledge is being applied to produce interesting new specialty foods. Such novel products may be more successful in a competitive marketplace.

**Recommendation #5
Develop Methods for Cultivation of NTFP Species**

Unrestricted harvesting of wild plants can severely compromise the viability of natural populations and eventually endanger important species. Instances of these occurrences are common in many jurisdictions. Further, some medicinals can vary too much in quality when taken from wild sources because of the considerable influence of environmental factors, genetic source, and site conditions on the quality and consistency of extracts. Damage to habitat is also a major concern. However, in many instances wild plants have been brought into cultivation successfully, using either agroforestry, farm forest, nursery, or even laboratory mass propagation methods. Chemically, it is now possible to synthesize a variety of chemicals that serve the pharmaceutical industry. Controlled production methods, wherever feasible, should be explored. This approach also avoids some issues around territorial rights to lands.

**Recommendation #6
Increase Coordination Within Government and Between Government, Public, and Private Stakeholders**

NTFP development needs to occur in an atmosphere that is conducive to innovation and free of unnecessary administrative controls. Entrepreneurs will benefit from access to ecological information, education programs, startup funding or tax incentives, market assistance, and research support. Government agencies can help to foster this climate. Development for commercial purposes also needs to occur in partnership with the private sector and with non-governmental groups such as First Nations peoples, who have been instrumental in stimulating ideas for NTFPs through the sharing of traditional knowledge.

LITERATURE CITED

Mohammed, G.H. 1999. Non-timber forest products in Ontario: an overview. For. Res. Info. Pap. 145. Sault Ste. Marie, ON: Ontario Forest Research Institute (Ontario Ministry of Natural Resources).



◀ *Richard David, Mohawk Black Ash Crafting, shows some of the tools and raw materials used in basket making. (Photo courtesy Bobbie Harrington)*



▲ *One of the beautiful crafts on display at the conference: Dene beadwork on moosehide from the Dene Cultural Institute in Yellowknife, Northwest Territories, Canada. (Photo courtesy Bobbie Harrington)*



◀ *Marlene Cameron, Cameron Birch Syrup & Confections, displays her company's syrup, marinade, and other products made from birch sap. (Photo courtesy Bobbie Harrington)*