

FINAL REPORT

FOREST SERVICE GRANT NO. NA-98-0332

Period covered by this report: July 29, 1998 through August 31, 2000

NOTE: Please review the following information and revise/complete as necessary.

Issued to: Community Resources, Inc.
Address: 4900 Wetheredsville Road, Baltimore, MD 21207

Congressional District Number: 7

Project Name: Valuing Urban Non-Timber Forest Products (NTFPs)

Contact Person/Principal Investigator:

Name: Paul Jahnige
Mailing Address: Same as above
Phone Number: (410)448-4900
Fax Number: (410)448-0874
E-Mail Address: info@communityresources.org

Your Organization's Internet home page address: www.communityresources.org

Date of Award: July 29, 1998

Grant Modifications: N/A

Date of Expiration: August 31, 2000

Funding: Federal Share: \$41,975 plus **Grantee Share:** \$41,975 = **Total Project:** \$83,950

FS Grant Manager: Phil Rodbell

Address: USDA Forest Service - NA, 11 Campus Blvd, Suite 200, Newtown Square, PA 19073

Phone Number: (610) 577-4133

Fax Number: (610) 557-4136

Provide an abstract on your project and its results. This abstract will be posted on the NUCFAC Internet site. (approximately 200 words or less).

Understanding and marketing the full value of products from the urban forest, including "Non-Timber Forest Products (NTFPs) (such as nuts, fruits, saps, bark, florals, mushrooms, etc.) is critical for developing and sustaining healthy urban and community forests and forest related micro-enterprise opportunities. This study documents the importance and values of NTFPs collected and cultivated from trees and forests in urban areas. These urban non-timber forest products include a variety of edible, medicinal, horticultural, and craft products. They are used for personal consumption, gifts, raw sale, and processed sale. These products are

collected from street trees, yard trees, vacant lots, open park areas, forest edges, and closed-canopy forest areas. Collectors of urban forest products represent a wide diversity of socio-economic and ethnic groups. We also quantified the net product value (price less collection costs) and the net annual plant value (net product value times estimated annual plant yield) of 60 product producing species. We conducted non-timber forest product inventories and valuations in three selected one-acre plots, two in park areas, and one in a high-density residential area to demonstrate the potential values of urban forest products. We discuss a number of critical issues, that should be considered, concerning urban non-timber forest product collection including lack of collector empowerment, collector conflicts, sustainable levels of harvest, health risks, and management issues. We conclude that by overlooking the importance of urban non-timber forest products, we are ignoring the significant value that various individuals from a variety of ethnic groups place on the urban forest, and underestimating the value of the urban forest.

Project objectives:

- 1) Identify and document current and potential urban NTFPs;
- 2) Quantify the current and potential values of various urban NTFPs in Baltimore, MD;
- 3) Document and communicate these NTFP uses and values nationally; and
- 4) Begin to explore urban NTFP issues such as land tenure, collection permits, contributions to household sustenance, market potential and cultural meanings to various ethnic groups.

Objectives met successfully:

Obj. 1) Identify and document .. .

Complete: We have identified 163 Urban NTFPs in Baltimore, MD. Of these products, we documented at least 103 products from 78 species that are currently collected by individuals within Baltimore City. These 103 currently collected urban NTFPs include edible products (43%), medicinal products (8%), horticultural or nursery products (31 %), and decorative and craft products (18%). Our discussions with individuals in other cities suggest that this number of products is not unique to Baltimore. This is far more products and species than we had anticipated. To document these urban NTFPs we have developed a database of products which includes information about species, plant parts, uses, collection sites, collectors, economic uses, value added opportunities, and seasonality.

Obj. 2) Quantify the values ..

Complete: We quantified the direct economic benefits to collectors using methods outlined in Godoy and Lubowski, 1992 and Participatory Valuation of Wild Resources (IIED, 1998). Since the majority of these forest products are collected for personal use we first calculated the direct economic value to the collector for personal use for the 60 products for which we had sufficient information. We calculated the Net Product Value per product unit as: (Net Product Value = Farmers Market or Discount Market Price - Collection Costs). Collection costs we calculated using average collection times, processing times and any special equipment costs per product unit. Times were translated to costs by multiplying by the minimum wage of \$5.50 per hour. We then calculated the Annual Tree Value as: (Annual Tree Value = Net Product Value * Estimated Annual Tree Yield). Examples of quantified products include:

- Chinese Chestnuts have a Net Product Value (price-costs) of \$2.74 / lb and a Net

Annual Tree Value (for mature producing trees) of \$137/tree;

- Oyster mushrooms have a Net Product Value of \$9.09 / lb;
- White pine cones have Net Product Value of \$10.50 / 100 cones;
- Per trees values range from \$4 - \$103 / year; and
- Sample per acre values range from \$91 - \$943 / acre / year. (Notes these do not represent average per acre values of the urban forest, but acres were selected to demonstrate the potential value of Urban NTFPs on a per acre basis.

Obj. 3) Document and communicate .

Complete/Ongoing: We are seeking to expand our Urban NTFP initiative in other areas, and have communicated our concepts and initial finding personally to over 50 urban forestry and natural resource professionals around the country. We attended and publicized our project at a major NTFP conference in 1998. We presented our preliminary finding to the Annual Meeting of the Baltimore Ecosystem Studies Project. We have also finished a draft of the projects findings and have listed our project overview on our Web Site. We have and are continuing to explore a variety of avenues for publications and media releases of our findings. We recently published an article in the 7th American Forest Congress Communities Committee newsletter. We will have a chapter on urban NTFPs appearing in a National Assessment of U.S. NTFPs to be completed this year. We have had the opportunity of having our projects findings featured on National Public Radio's "Morning Addition", and can now be heard on our website. We hope to also have it publicized on other shows such as "All Things Considered" and "Living on Earth". Our working paper has been completed and will be sent to the Journal of Arborculture for publication as well as displayed on our web site.

Obj. 4) Begin to explore . . .

Complete/Ongoing: Through our interviews we have explored a wide range of issues surrounding Urban NTFPs, product collection, and the collectors of these products. Such issues include the cultural meanings products hold for different ethnic groups, the variety of non-market values they hold for collectors, how products are prepared and used, toxicity and environmental justice issues, dis-empowerment of collectors, sustainable harvest issues, urban forest management issues, and micro-enterprise opportunities. We have also conducted a professional market analysis of the green industry in the Baltimore / DC area.

Objectives not met:

Currently we feel that all of our four objectives for this project have been completed above our expectations. However, we continue to submit articles to various publications and seek media releases for dissemination. We continue to explore the issues and opportunities surrounding Urban NTFP' S.

List the major research or policy findings of your project?

Some of the major research and policy findings are as follows.

- The fact that NTFP's are collected in urban areas
- NTFP's are collected by several soci-economic and ethnic groups, in a range of cities.
- Collectors lack access to those who make decisions about our urban forests and urban forest management.

If not apparent in the above, or if your project did not involve research, how did the project increase the knowledge we have about urban forestry? How did (will) the public benefit?

Through this project we have learned and are continuing to learn about an area of urban forestry that had not been explored by anyone -- that of Urban NTFPs and the collection and uses of these products in urban areas. Consistently, when we describe this project to urban forestry professionals, their initial reaction is one of surprise since this is an area about which there is no literature, research, knowledge, or even discussion in urban forestry circles. However, as we describe the project and our findings, those reactions turn to interest. Specifically, we expect that this will change the way that some urban forestry professionals think about product producing trees, product collection, urban forest management, and community forestry issues.

This project will benefit the public by making known an unexplored value of the urban forest, and by illuminating issues surrounding NTFP collection and use. It will especially benefit those individuals and groups that are involved in collection. These collectors, we are discovering, tend to be somewhat "invisible," and are also more likely to be minority or disadvantaged urban residents. These collectors are also people who lack access to those who make decisions about our urban forests and urban forest management. We hope that this project will encourage urban forestry professionals to consider these groups and these products more seriously as they develop planting strategies, urban forest management plans, and community forestry strategies.

What recommendations might you make for community foresters or others who might benefit from your project?

First, urban forestry professionals need to recognize the importance on NTFP's and product producing species. We should then recognize that collectors are stakeholders and deserve a voice in urban forest management. As tree species are planted serious consideration should be placed in product-producing species, for such species add significant value to the urban forest. And as we work with communities to develop urban forest planting and management plans, we should consider the value and importance of NTFP's, and the individuals who can benefit from these values.

Attach copies of reports; publications, or videos. If your work has been published (journals, popular press, etc.), provide where they have been published or reported and how copies can be obtained.

We now have a publication titled " The Bounty of the Urban Forest; The Uses and Values of Urban Non-Timber Forest Products." (see previously sent copy) This publication can be purchased by contacting Community Resources at: **Community Resources, 4900 Wetheredsville Rd., Baltimore, Md 21207, 410-448-4900 (phone), 410-448-0874 (fax)**. The interview featured on National Public Radio's "Morning Addition" can be found by visiting our website at www.communityresources.org. The article published in the 7th American Forest Congress Communities Committee newsletter (attached) can be acquired by contacting them at: **Communities and Forests, Communities Committee of the Seventh American Forest Congress, Box 356, Hayfork, CA 96041, 530-628-4206 (phone), 530-628-5100 (fax), wsc@tcoe.trinity.k12.ca.us**

How were your results disseminated to the public?

We have and are continuing to use a variety of different distribution and dissemination methods to insure that our results are available as widely as possible. These include:

- Documenting results of our work in a Working Paper and on our Web Site.
- Seeking publication of our research results in a nationally circulated professional journal (such as the Journal of Arboriculture).
- Sending summaries of our results to the Federal and State Urban Forestry Coordinators and urban and community forestry councils nationwide regardless of the outcome.
- Developing and submitting press releases of our results and circulate them to both local and national media organizations.
- Submitting articles for publication in the Communities Committee Forest Council.
- Developing a Web Page detailing our study, methodology and results.
- Posting summaries of our results and links to our Web site from appropriate Web sites and Internet discussion lists including Tree-Link, TreeTown, USDA Forest Service and City-Farmer.
- Presenting our results at appropriate conferences and meetings around the country as invited.

List the active partners (key individuals or organizations) involved in the project:

Our partners and advisors on this project to date have included:

- Baltimore City Section of Forestry: Marion Beddingfield
- Maryland State, Dept. of Natural Resources - Forest Service
- Dr. Marla Emery, USDA Forest Service, Burlington, VT
- Dr. Jenifer Davis, Economist, Massachusetts Institute of Technology
- The Community Forestry Program of the Parks & People Foundation in Baltimore
- Marilyn Hoskins, Former Community Forestry Officer for the UN Food and Ag. Org. (FAO)
- Baltimore Ecosystem Study (long-term ecological research project)

Photo or Illustration: If possible, please provide a photo or illustration for our use that summarizes or represents the project. Indicate how this illustration should be credited.

See attached photos. Other photos and captions found in the publication may also be used.

If a no-cost time extension has been requested for this project, why is (was) it needed?

N/A

How would you evaluate the grant process? What changes, if any, would you recommend?

We found the grant process to be fairly straight forward, the electronic payment system was quick and convenient. The reporting was also clear and convenient. One possible area for suggestion would be to better link all of the NUCFAC grantees, in order for grantees to learn about other projects and grants.

Comments considered of importance but not covered above:

We are extremely excited about the results of this project to date. We truly believe that we are discovering formerly unknown information about an area of human-forest relations which is economically, nutritionally, and culturally important especially to minority, disadvantaged, and disenfranchised urban populations.

As such we are seeking to expand this Urban NTFP initiative in a variety of directions.

We would welcome your spreading the word about the excitement of this initiative to the council and potentially interested parties around the country.

This report was prepared by:

Name:	Nichelle Bolden	Mike McConnell
Title:	Program Associate	Director
Phone Number:	410-448-4900	same
Date:	January 16, 2000	



At one of Baltimore's open markets you will find a collector who sells his woodland mushrooms.



This family comes to the nearby park to collect chinese chestnuts. This park is known throughout the city for its chestnut trees.

Communities and Forests

The newsletter of the Communities Committee of the Seventh American Forest Congress

Volume 3, Number 4

Winter 1999-2000

Harvesting from the urban forest

What do Chinese chestnuts, puffball mushrooms, raspberries, grape vine, and pokeweed have in common? They're all products collected from urban forests for human consumption or economic use.

Foresters and planners have long documented a plethora of benefits provided by urban trees and forests, including improved air quality, cooling effects, soil stabilization, wildlife habitat, and scenic beauty. But until recently, scant attention has been paid to the role of non-timber forest products (NTFPs) in urban life.

In an effort to improve understanding of these products, Community Resources, a nonprofit organization based in Baltimore, Maryland, undertook a detailed study of urban NTFPs between 1998 and 1999. Already, this research has yielded some remarkable insights about the diversity of uses and users of urban forest products.

Through interviews, observations, and phone surveys, Community Resources has documented a total of 103 forest products harvested by urban residents in Baltimore alone. These include fruits and nuts, seedlings, bark, roots, sap, flowers, cones, vines, mushrooms, and honey.

continued on page 6



Forest workers Cece Headley and Juan Mendoza show their affinity for the forest in Redwoods State Park on the California Stewardship Field Tour. Jane Braxton Little photo

Congressional staffers visit pilot stewardship contracting projects

On a mountainside high in the Trinity Mountains of northwest California, a group gathers on a dirt road winding through the woods northwest of Hayfork. It is by all means an eclectic crew: Congressional staff members representing both Democrats and Republicans, U.S. Forest Service officials and timber contractors, forest policy specialists, community leaders, and forest workers.

What brings them together, and to this remote forest site, is an experiment in forest stewardship management on federal land. At Grassy Flats, the Forest Service hopes to demonstrate that it can improve forest health using contracts spanning several years and requiring work that helps restore the ecosystem as well as produce sawlogs. In addition to thinning 272 acres of the Trinity National Forest, the Grassy Flats contractor must maintain a 305-acre plantation, build a shaded fuel break on 211 acres, and put to bed over four miles of road.

Agency officials don't know whether it will work, says Andrei V. Rykoff, U.S. Forest Service coordinator of the Hayfork Adaptive Management Area. "It's a new thing for us. We're talking about what the land needs and trying to treat all of those needs at the same time."

Across the West, the Forest Service is conducting stewardship experiments on 28 sites under legislation authorized by Congress last year. Some test new methods of harvesting timber, some new ways to pay for it. Other stewardship pilot projects include the harvest of non-traditional forest products and test ways to improve the use of local workers' skill and knowledge.

continued on page 3

Feature: Harvesting from the urban forest	1
Policy: Congressional staffers visit pilot stewardship contracting projects	1
Letter from the Vice Chair	2
Member profile	4
News & Views	5
Resources	7
Feature: Innovations in research	8

Urban NTFPs, continued from page 1

Collectors of urban special forest products come from all sectors of the urban community. Community Resources has identified collectors from households with annual incomes of less than \$10,000 and more than \$100,000. They are African-American, Anglo-American, Italian-American, Greek-American, Korean-American, and Native American. They range in age from five to 65 years.

Food, craft, medicinal, and economic uses

Community Resources researchers found collectors harvesting nuts from street trees, fruit in backyards, pokeweed from vacant lots, berries by the roadside, cones and green in open parks, and mushrooms from closed canopy forests. People collect from their own yards, in local parks, and in some cases, will travel across town or into the city from the surrounding counties to reach some of these valuable urban resources.



A woman washes ginkgo nuts she collected from urban trees from a channelized stream in Baltimore. Photo by Rick Hersey.

The uses of urban forest products are as diverse as the people who collect them. Many products—such as berries, mushrooms, pokeweed, honey, and nuts—are gathered for food. Others are used for craft projects, such as baskets and wreaths. Some people even collect medicinal products from the urban forest.

Many individuals and institutions collect seeds and seedlings they will transplant elsewhere. In most cases, urban forest products are gathered for personal use and gifts. But in some instances, collectors sell raw products, food, craft items, or seedlings for personal income or institutional fundraising. For example, senior centers often hold holiday greens sales as fundraisers, and their greens come from local trees and shrubs.

Many benefits from urban NTFPs

Collectors derive a variety of benefits from urban NTFP collection. For many, collection offers a pleasant form of recreation—a back-to-nature activity in busy, urbanized life. For others, it reinforces cultural traditions and gives older family members an opportunity to teach younger members about traditional foods and medicines. For example, collecting Chinese chestnuts is a traditional family activity for many

Korean-Americans in the same way that picking out a Christmas tree is an important activity for many European-American Christians.

For some, freshly harvested foods are a particularly nutritious (and inexpensive) dietary supplement. Finally, many collectors derive economic benefits either from collecting products for personal use or from selling products directly to restaurants, at farmers' markets, or at holiday fairs.

As part of its study, Community Resources made an effort to quantify some of the benefits of urban NTFP collection. They have documented financial benefits for individual collectors from reduced food costs, income from sales, and other savings. The direct net economic value of products ranges from about 30 cents per pound for pokeweed to over ten dollars per pound for some seeds and mushrooms.

The widespread use of urban NTFPs is not limited to Baltimore. In just a handful of calls to people in other major U.S. cities, Community Resources' staff was able to confirm that forest products collectors are active in urban areas from Seattle to Philadelphia to Boston.

Management considerations

Given the importance of urban NTFP collection, forestry and community-development professionals may want to familiarize themselves with the potential products and the collection processes in their cities, and consider ways to address collectors' needs and impacts.

As it now stands, collectors are a decentralized and largely disempowered group. Decisions regarding the management of street trees and city parks rarely, if ever, consider the implications for NTFP collectors.

Among the issues that may need to be explored in greater depth are the potential health risks of consuming urban forest products, especially when those products are collected from the sides of roads where traffic is heavy or in areas where pesticides are sprayed. Also, it is worth considering the potential impacts of harvesting on the urban ecosystem. While many products are harvested from common and even invasive species, others may be depleting populations of rare or endangered plants. Finally, some efforts may be needed to prevent or defuse conflict among collectors targeting the same limited resource.

Despite these concerns, the documented benefits of NTFP collection are so great that urban foresters may wish to increase opportunities for collection, especially on streets and in parks. Just as planting trees on city streets improves the urban quality of life by reducing temperatures and improving air quality, so might planting cherry trees or raspberry bushes provide significant benefits to urban residents and increase their investment in community parks and public spaces.

In many ways, urban areas are an ideal place for non-timber forest product collection. The combination of native and introduced species means a greater variety of products are available to residents. The heat-island effect gives urban areas a longer growing season than surrounding suburbs and rural areas. Finally, the abundance and diversity of urban residents means there are plenty of people knowledgeable about forest products and eager to collect them.

Sara St. Antoine and Paul Jahnige, Community Resources