Land Use Policy 57 (2016) 555–563

Contents lists available at ScienceDirect

Land Use Policy

journal homepage: www.elsevier.com/locate/landusepol

Gathering plants and fungi along the urban-rural gradient: Uncovering differences in the attitudes and practices among urban, suburban, and rural landowners

Anne G. Short Gianotti [a,*], Patrick T. Hurley [b]

[a] Boston University, Department of Earth and Environment, 685 Commonwealth Ave, Suite 130, Boston, MA 02215, USA
[b] Ursinus College, Department of Environmental Studies, PO Box 1000, Collegeville, PA 19426, USA

ARTICLE INFO

Article history:
Received 21 September 2015
Received in revised form 3 June 2016
Accepted 16 June 2016

Keywords:
Gathering
Nontimber forest products
Urban-rural gradient
Natural resource management
Urban ecosystems

ABSTRACT

Gathering non-timber forest products (NTFPs) in cities and rural areas has received growing attention in research and news media. Yet little is known about the frequency of these activities and how attitudes about and the practice of gathering differ across urban, suburban, and rural areas. We report on findings from a mail survey of landowners across two urban-rural gradients in central and eastern Massachusetts, USA. The survey queried (a) attitudes towards gathering and a variety of other environmental benefits, (b) the practice of gathering, and (c) where gatherers harvest species. Survey responses reveal that gathering is not a controversial use of land and is a relatively widespread activity across urban, suburban, and rural areas. Further, the results show that gathering occurs on a mix of private and public lands and that there are important differences in the practice of gathering among individuals living in urban, suburban, and rural areas. Our findings have implications for understanding the social and ecological dynamics of gathering and suggest that more research on gathering and other natural resource management issues is needed, particularly in (sub)urban areas.

1. Introduction

As the Earth's population becomes increasingly urban, there is growing interest in the ways that people living in different settlement patterns benefit from, interact with, and influence nearby ecosystems. Forests and conservation lands are recognized as important sources of forest products, natural amenities, and a wide range of ecosystem services that benefit both local and distant residents. Growing population density and landscape changes alter the forest structure and the flux of nutrients, organisms, and water in urbanizing ecosystems (Grimm et al., 2000; McDonnell and Pickett, 1990; Pickett et al., 2011). Yet, even in these highly modified urban landscapes, local ecosystems have been shown to be important sources of ecosystem services ranging from flood control to pollination to recreational opportunities (see, for example, Alberti, 2008; Konijinendijk v.d. Bosch, 2008; Haase et al., 2014). In both cities and their hinterlands, scholars continue to draw attention to the myriad ways that ecosystems support subsistence practices, social reproduction, and integration into markets that sustain livelihoods and communities. While knowledge about the importance of local ecosystems and the ways that humans modify those ecosystems is growing, less is known about the variability in the ways that people living in areas characterized by different settlement patterns value and interact with natural resources.

One aspect of human-environment interactions and resource use that has received growing attention in research as well as the media is the gathering of non-timber forest products (NTFPs). Like many natural resource issues, there is a rich body of literature examining the practice of gathering in rural areas. At the same time, a growing body of literature also focuses on gathering in cities, suburbs, and in urbanizing areas (e.g., rural places experiencing suburban and exurban transitions; McLain et al., 2014; Hurley et al., 2008, 2015). Conceptually varied in their research questions, these studies suggest that gathering is an important activity for cultural and material well-being (Jones et al., 2002; Hart et al., 2004; Matthewson, 2007; Hurley et al., 2012) and NTFPs provide economic and social benefits (Emery and Pierce, 2005; Emery et al., 2007; Robbins et al., 2008) to a diverse set of individuals irrespective of cultural, racial, or ethnic identity (Emery et al., 2003; McLain et al., 2014; Poe et al., 2013).

* Corresponding author.
E-mail addresses: agshort@bu.edu (A.G. Short Gianotti), phurley@ursinus.edu (P.T. Hurley).

http://dx.doi.org/10.1016/j.landusepol.2016.06.019
0264-8377/

Qualitative research on NTFP harvesting in the United States has raised critical questions about where and how NTFP harvesters secure access to key materials. These studies suggest that changes in land management on public and private lands as well as the competing priorities of managers and harvesters affect the ecological availability of NTFPs for gathering (Jones et al., 2002; Hurley et al., 2008; Ginger et al., 2012). In addition, and more importantly for some scholars, changes in landownership, new management goals, and differences in land tenure may shape access to key plant materials (Emery et al., 2003; Hurley et al., 2008; Grabbatin et al., 2011; Hurley et al., 2012).

While this body of research provides important insights into the diversity of gatherers and the challenges of accessing harvest sites that occur in rural as well as urbanizing areas, less is known about the relative importance of gathering for individuals in urban, suburban, and rural environments (Robbins et al., 2008) and what types of land these different groups of gatherers rely on for their harvesting activities. Quantitative studies of NTFPs are rare; yet a better understanding of the frequency of gathering, where harvests occur, how gatherers and non-gatherers feel about gathering, and how these characteristics differ across different settlement patterns is fundamental for understanding the social, economic, and ecological implications of this activity across urban-to-rural areas and identifying areas where policies that intersect with gathering may be productively re-examined.

In this article, we respond to these gaps through an exploration of residents' perceptions and practice of gathering across the urban-rural interface. To do so, we administered a mail survey to landowners across two urban-rural gradients in central and eastern Massachusetts. Our results support previous findings that gathering is a relatively widespread activity and also demonstrate how the practice is anchored in and dependent on a mix of private and public land types. Further, the results suggest important differences in the rates of gathering among individuals living in urban, suburban, and rural areas as well as the relative importance of different land types for supporting this practice.

2. Toward an understanding of gathering across the urban-rural gradient

2.1. Gathering NTFPs in rural, urban, and urbanizing areas

The literature on gathering Nontimber Forest Products (NTFPs) is extensive and a full review of this literature is beyond the scope of this article (see Jones et al., 2002; Laird et al., 2010; Shackleton et al., 2011; Stanley et al., 2012). NTFPs "include 'wild' plants and fungi (that is, species that have not been altered through horticultural techniques or genetic engineering), "feral" plants (cultivars that spread or persist without intentional human intervention), and the fruits or other desired parts of domesticates where these are incidental to the primary reason for which the specimen was planted" (Hurley et al., 2015: 188). Gathering involves the collecting, foraging, or harvesting of entire plants, selected parts of a plant (e.g., fruits, flowers, leaves, cones, seeds, roots), or plant exudates. These products can be extracted from native or non-native species as well as invasive and non-invasive species (see Poe et al., 2013).

Within the United States, there has been relatively sustained scholarly interest in the gathering of NTFPs for over a decade (Jones et al., 2002; Emery et al., 2003; Nolan, 2007; Hurley et al., 2008; Newfont, 2012). Much of this research has focused on rural areas (Emery et al., 2003), considering gathering on both public lands (Emery et al., 2003) and in private forests (Emery et al., 2003; Hurley et al., 2012). While this research seeks to understand the full range of NTFPs that underpin rural livelihoods (Jones et al., 2002; Emery et al., 2003), including insights into the role of floral greens (Emery et al., 2007) and botanicals industries (Vance, 1995; Lynch and McLain, 2003; Butler et al., 2005), the greatest attention has been paid to the harvest of berries, nuts, mushrooms, and other wild food-related items (Molina et al., 1993; Richards, 1997; Liegel et al., 1998; Freed, 2001; Palmer, 2000; Pouta et al., 2006). These scholars have concluded that gathering provides critical social, cultural, and material benefits to indigenous and non-indigenous peoples who are living in and around public and industrial forest lands (Emery, 1998; Jones et al., 2002; Emery et al., 2003; Emery and Pierce, 2005; Robbins et al., 2008).

Recent research from New England, USA suggests that the gathering of plants is not limited to indigenous peoples or people living in rural areas, but may be more widespread than often assumed (Robbins et al., 2008). Using a phone survey of residents living in cities and rural areas in Maine, Massachusetts, New Hampshire, and Vermont, Robbins et al. found that 17.9 percent of respondents had participated in NTFP gathering within the past 12 months and 26.3 percent of respondents had gathered some type of NTFP within the previous five years. They conclude that gathering is a practice that transcends a range of socioeconomic backgrounds and involves diverse individuals "entering environments around them to gather products for their own purposes, directly using and consuming plants" (272).

Likewise, there is growing awareness of urban forests as spaces that provide NTFPs for those living in cities (Jahnige, 2002; McLain et al., 2012, 2014; Poe et al., 2013; Hurley et al., 2015). Drawing on ethnographic methods, this line of inquiry draws attention to the practice of gathering and how its existence fits within the typical management frameworks of conventional urban land management (Jahnige, 2002; McLain et al., 2012; Hurley et al., 2015). This small body of work also examines who gathers in cities, the motivations for and importance of gathering for these individuals, and how diverse types of lands contribute to meeting the needs of those individuals seeking out NTFPs. Gathering research in Seattle, WA; Baltimore, MD; Philadelphia, PA; and New York, NY reveals that diverse peoples gather a variety of NTFPs for multiple reasons. The gathering of these products supports household economies, both of poorer and relatively wealthy individuals (McLain et al., 2012; Hurley et al., 2015); contributes to food security and culturally important foods and medicines (Poe et al., 2013); and contributes to personal interactions with, appreciation of, and learning about nature (Poe et al., 2014).

Urban NTFPs are harvested from a range of locations in the city, including public rights of way, on parklands and in protected areas, on institutional campuses, and from private yards (Jones et al., 2002; McLain et al., 2014). Some people may even gather wild plants, such as dandelions, from their yards for consumption (Robbins and Sharp, 2003; Hurley et al., 2015). In Seattle, indigenous peoples, immigrants, and non-immigrant residents engage in gathering from public and private spaces, including from species that grow as wild individuals, species planted in association with restoration projects, and from species found in ornamental plantings that were likely not intended to provide natural resources for human consumption (Poe et al., 2013, 2014). Meanwhile, in Philadelphia, gathering is part of a growing trend to rediscover the edibility of common weeds, both in grassland and forested areas, as well as to rediscover the edibility of species not generally thought of as providing food (Hurley et al., 2015). Although a full range of NTFPs has been documented in these studies of urban NTFP gathering, the harvest of species for edible purposes is a recurrent finding. Berries, nuts, and to a lesser extent, mushrooms are key items gathered (McLain et al., 2014; Poe et al., 2013; Hurley et al., 2015).

At the same time, there is an emerging interest in the "transitional forests" in between rural and urban areas, a term that seeks to capture forest and forest use dynamics associated with suburban and exurban areas (Colgan et al., 2014). Colgan et al. call for greater