



# “Black folks do forage”: Examining wild food gathering in Southeast Atlanta Communities

Cassandra Johnson Gaither<sup>a,\*</sup>, Amanda Aragón<sup>b</sup>, Marguerite Madden<sup>b</sup>, Sheridan Alford<sup>c</sup>, Aza Wynn<sup>d</sup>, Marla Emery<sup>e</sup>

<sup>a</sup> USDA Forest Service, Southern Research Station, Forestry Sciences Lab, 320 Green St. Athens, GA, United States

<sup>b</sup> University of Georgia, Center for Geospatial Research, 210 Field St, Athens, GA 30602, United States

<sup>c</sup> University of Georgia, Warnell School of Forestry and Natural Resources, 180 E. Green St. Athens, GA 30602 United States

<sup>d</sup> University of Georgia, Franklin College of Arts and Sciences, Athens, Georgia, 30602 United States

<sup>e</sup> USDA Forest Service, Northern Research Station, Aiken Center, Room 303E, 81 Carrigan Drive Burlington, VT, 05405 United States

## ARTICLE INFO

Handling Editor: D. Dexter Locke

### Keywords:

African American communities

Food forest

Urban foraging

Wild foods

## ABSTRACT

Concerns about food sovereignty in western nations have increased in recent years, as incidents of food-borne pathogens are highlighted in the popular press, and calls for locally-sourced food have increased. Wild food foraging has emerged as a response by some segments of the population under the twin rubrics of food sovereignty and food justice. However, virtually all studies looking at these activities focus outside of the U.S. South and contain little information on African American involvement. We investigate both perceptions and participation in urban foraging by African Americans in Atlanta's Browns Mill-Lakewood community and smaller sections of adjacent communities, with attention to the role of collective efficacy as a predictor of foraging and foraging as a precursor of collective efficacy. A modified proportionate, census guided, systematic random sampling method was used to administer a door-to-door, household survey in the study area to gather these data. Twenty percent of the nearly all African American sample indicated that they had foraged in their neighborhood in the past five years, but not being aware of wild food locations was the most-cited barrier to participating. Results from ordered, logistic regression models also indicated that women were significantly less likely than men to forage, other factors equal; and those who foraged were more likely to have higher collective efficacy scores. Recommendations are made for increasing awareness of wild food locations in southeast Atlanta communities. This involves partnering with a local foraging non-profit group, Concrete Jungle.

## 1. Introduction

Urban and community forests are components of urban food systems throughout the United States (Park et al., 2019). In addition to community gardens and urban farms, recent research demonstrates that foraged plants and mushrooms from urban and community forests are a potential source of micronutrient, dense food for city residents (Bunge et al., 2019; McLain et al., 2014; Phillips et al., 2014). While results of research on urban foraging are provocative, several gaps remain. All U.S. studies to date have focused on cities outside of the U.S. South (e.g., Seattle, WA; Baltimore, MD; New York, NY; Philadelphia, PA), and the foragers studied are predominantly European American populations or immigrant groups (principally European, Asian, and Latin American) (Poe et al., 2013, 2014; Hurley et al., 2014; Synk et al., 2017; Balick

et al., 2000; Charnley et al., 2018). There is no data specific to urban, African American food/medicinal foraging anywhere in the country, although a number of studies have examined African American artisans from various Gullah communities in the South Carolina “Low Country,” who harvest “sweetgrass” for basket making (*Muhlenbergia* spp. [*M. capillaris*, *M. expansa*, *M. sericea*]) (Hart et al., 2004; Hurley et al., 2008; Grabbitt et al. (2011); Hurley et al., 2008; Hurley and Halfacre, 2011).

We address this gap in the literature with an exploratory study examining urban foraging in predominantly African American communities in southeast Atlanta, GA. This part of the city was selected as a research site because a 7.1 acre food forest, the “Urban Food Forest at Browns Mill” (UFFBM), (UFoodForest@BrownsMill) was established in the area's Browns Mill-Lakewood community. The edible landscape was

\* Corresponding author.

E-mail address: [cassandra.johnson@usda.gov](mailto:cassandra.johnson@usda.gov) (C.J. Gaither).

<https://doi.org/10.1016/j.ufug.2020.126860>

Received 19 May 2020; Received in revised form 14 August 2020; Accepted 17 September 2020

Available online 2 October 2020

1618-8667/Published by Elsevier GmbH.

installed in response to the dearth of accessible fresh food outlets for area residents. The UFFBM is the largest public food forest in the country and like the Picasso Food Forest in Parma, Italy, provides a unique take on urban food systems because of its inclusion of fruits from woody vegetation as food sources (Riolo, 2019). According to McDonald (2020), the now city-managed but community-led UFFBM takes a seven-layered approach to food provision, which includes cultivation of nut producing canopy trees, small fruit trees, berry bushes, ground cover foods such as strawberries, muscadine vines, herbs, and root vegetables—which as a system, captures forest growth patterns.

Public agencies and non-profit organizations—including the Conservation Fund, the City of Atlanta Office of Resiliency, USDA Forest Service—in tandem with community members, began envisioning and planning the site in 2017. Since then, UFFBM has gained considerable traction. In fall 2019, 2200 additional fruit and nut trees were planted at the site (GardenCultureMagazine). School children and staunch supporters of food justice and equity interests from across metropolitan Atlanta regularly visit the site. UFFBM is also featured on tours for international delegations to Atlanta, as an exemplar of the city's commitment to both sustainability and social justice. However, very little is known about residents who would most likely benefit from the food forest (i.e., those living within a one-mile radius of UFFBM), whether they have prior experience with wild food gathering or what views they hold about the appropriateness of foraging activities. UFF staff familiar with neighborhood residents' visits to the site note that most of these visits are limited to the cultivated portions of the site containing raised bed gardens. Very few locals venture into the heavily canopied portions of the site to harvest naturally regenerated wild foods or herbs although there are now trails and signage identifying some of the vegetation.

Given that the site is intended to provide fresh, whole foods primarily benefiting surrounding neighborhoods, it is important to gauge community familiarity and engagement with both the concept and practice of foraging. We examine these issues considering the broader social context of the Browns Mill-Lakewood community and other nearby neighborhoods, drawing from the sociological literature on place-making and place-based meaning. Poe et al. (2014, p.1) argue that there is a necessary responsiveness on the part of humans to their surroundings, defined as “relational ecologies of belonging.” People's presence in places is interactive, both with other humans and non-humans aspects of place: “...the contingencies and negotiations between people and the more-than-human interlocutors, and the meaning-making and place-making engagements of these relations are often overlooked” by political ecologists or others focusing mostly on daunting social structures (Poe et al., 2014, p.4). While we certainly acknowledge macro-level circumscriptions of place, we maintain that within these boundaries (and sometimes despite them), human actors have the agency of both awareness and communication and can use these proactively within spaces, more or less. This efficacy or perception of the power to do, to effect, can in turn, influence people's confidence, interest, and willingness to engage positively with that place, including their willingness to situate themselves in local, out-of-doors spaces for foraging.

To operationalize these relations between residents and other, non-human life forms occupying urban neighborhoods, we draw from Sampson et al.'s (1997) theory of collective efficacy, which holds that people perceive themselves to be effective agents in their communities when they believe that: 1) the neighborhood is socially cohesive and 2) they can exercise informal social control over neighborhood streets and other public spaces. We posit that when these conditions are met, neighborhood residents are more likely to engage in pro-social ways with each other and with surrounding flora.

Although we focus on people's ability to effect positive interactions with place, we also acknowledge that foraging is influenced by broader structures that commodify both human bodies and nature. These, in turn, influence cultural norms and the social acceptability of

foraging—that is, whether the act of foraging is perceived as being consistent with self-identify and community mores. This is an important consideration because the public presentation of self is influenced strongly by others' reactions to that presentation (Goffman, 1956). For instance, findings from a recent climate change case study of Atlanta's predominantly black Cascade community suggested that the *voluntary* use of alternative transportation modes to reduce greenhouse gas emissions was not widely-practiced by African Americans because of stigmas associated with both public transportation use and being black in American society (Johnson Gaither et al., 2016). Study participants relayed that as racially visible minorities, African Americans seek to minimize stigmas via status signaling—which involves the oftentimes ostentatious display of higher priced consumer goods to mitigate racial stereotypes, and that these displays are mostly for the benefit of other African Americans [Related, see Charles et al. (2009) study of consumer purchases by race and ethnicity]. For adult African Americans, wild food foraging may be perceived as being inconsistent with norms that reify consumerism and branding as a means of mitigating stigma. Interestingly, the media characterizes foraging as “a source of luxury commodities and experiences,” but these “luxuries” may be viewed by African Americans as “white” accouterments sourced in mostly white spaces (Sachdeva et al., 2018, p.977). Alternatively, foraging undertaken by working-class African Americans in working-class neighborhoods may be viewed by urban African Americans as a display of need or desperation. City-dwelling African Americans have a long history of growing and consuming foods from household gardens (Reese, 2019), but foraging for wild foods differs in that the places where these resources are located are not planned or cultivated but can occur spontaneously on public or unoccupied property across a community. Thus, the lack of wild foods commodification may stigmatize foraging



**Fig. 1.** Mike McCord, a Food Forest Ranger with Trees Atlanta, points out naturally regenerated wild edibles at the Urban Food Forest at Browns to a visitor.





**Fig. 2.** Celeste Lomax, herbalist and Food Forest Steward with Trees Atlanta, displays comfrey plants from the Urban Food Forest at Browns Mill's herb garden.



**Fig. 3.** Urban Food Forest at Browns Mill volunteers Doug Hardeman on left and Harold Newell on right tend raised bed plants.

(Figs. 1–4).

### 1.1. Literature review

Early architects of the urban park concept in the U.S. envisioned municipal parks and greens as anecdote to the disease, anomie, and mechanization of urban living; however, human visitors to these places were assumed to be passive beneficiaries of the healing aesthetics of



**Fig. 4.** Wild food map ranking Land Use/Land Cover classifications as high, medium, and low potential for containing edible plants and fruit/nut bearing trees and shrubs within a one-mile buffer surrounding the Urban Food Forest at Browns Mill.

urban greenery rather than active participants gleaning foods, fibers, or medicinals (Kowsky, 1987; McLain et al., 2014). Rummaging for wild foods in cities was nearly antithetical to the urban idyll. Indeed, the literature on urban foraging is still limited, although as indicated, it is growing, in large part to the activities of more recent immigrants and others with few inhibitions about the safety or propriety of wild food harvesting (McLain et al., 2012a).

In the United States, most of this research focuses on gathering activities in the northeastern or Pacific Northwest regions (McLain et al., 2012b; Synk et al., 2017). Extant studies are rooted in political ecology and critique the governance structures that prohibit local gathering (Galt et al., 2014; Hurley et al., 2014; Konijnendij, 2008; McLain et al., 2012a; 2014; Nordahl, 2009), with some articulating an explicit environmental justice framing (Poe et al., 2013). Again, with the exception of rural and peri-urban gathering by Gullah basket makers in South Carolina (Hart et al., 2004; Hurley et al., 2008; Hurley and Halfacre, 2011), Hodges and Bennett's work on *salvia* gathering and use in Florida botanicas (2006), and research on non-timber forest products (NTFP) gathering in the southern Appalachians (Chamberlain, 2006; Chamberlain et al., 2013; Connor et al., 2015; Emery et al., 2007), this literature offers little to no data from the southeastern U.S. Also, none of these studies investigate African American collecting in the urban neighborhoods and communities where they live. This lack of focus may be rooted in commonly held assumptions about the appeal of foraging to African Americans. For instance, Poe et al. (2014, p.9) relayed that a colleague responded to their urban foraging work with the blanket statement: "Black folks don't forage," despite the research team's familiarity with African American foragers in Seattle. Also, Arrington et al.'s (2017) finding of a positive association between percent African



American and crowd-sourced, foraging locations counter the argument that blacks are absent from the urban foraging scene.

As discussed, an important consideration for our study is people's perceptions of their neighborhoods and their sense of command in these contexts, specifically the degree to which residents feel that they have control over outdoor, urban environments and the cohesion or trust that they have with each other. An extensive literature exists on African Americans' perceptions of safety and well-being in black, urban communities and how this awareness influences their navigation of urban spaces (Kuo et al., 1998; Brownlow, 2006; Roberts-Gregory and Hawthorne, 2016). That literature is too broad to review here. Suffice it to say, simply being outside in one's immediate environment or neighborhood can be overlaid with fears of crime and related concerns for personal safety, especially among women and the elderly (Foster and Giles-Corti, 2008). These worries are elevated for women living in predominantly lower income African American neighborhoods (Loukaitou-Sideris, 2004).

Conceptually, Sampson et al.'s (1997), Sampson and Raudenbush's (1999) "collective efficacy" theory captures the sense of power, control, or ease that people may feel as a resident of a place. This overall feeling of command consists of two components, social cohesion/trust and social control. To the extent residents feel that they can rely on their neighbors and believe that the things they care most about are similar to their neighbors' concerns, is the degree to which social cohesion and trust exist. Collective efficacy is also reflective of people's willingness to act, to exercise control and intervene for the common good of the neighborhood when problems arise. However, Sampson et al.'s (1997) social control is informal in nature. It is not the same as official controls exerted by policing agents but rather arises because of people's familiarity and trust in the everyday activities that occur in a community. When both social cohesion/trust and willingness to intervene are high (other factors equal), this empowers individual residents and increases their positive views of the community. Importantly, when collective efficacy is high, this also enhances or facilitates "relational ecologies of belonging" or interactions between people and the non-human occupants of place. That is, positive relations among human actors in a neighborhood, for instance, instill confidence in people, such that they are more willing to explore their material surroundings and to perceive or derive actual benefits from that materiality, including plant life.

Collective efficacy derives from Sampson et al.'s (1997), Sampson and Raudenbush's (1999) seminal study examining the relationship between concentrated poverty and crime in Chicago, which indicated that both subjective and objective measures of violent crime at the community level were reduced when people felt that collective efficacy rates were higher. In terms of human health, research also suggests that collective efficacy is inversely related to obesity (Cohen et al., 2006). Cohen et al. (2008) also tested the idea that built or environmental features of place were precursors of collective efficacy rather than the other way around, and found that urban parks were positive predictors of collective efficacy; and Tieg et al.'s (2009) qualitative study looking at the influence of participating in community gardens on collective efficacy indicated that this kind of participation enhanced participants' sense of efficacy. These findings suggest that collective efficacy may be both a cause and an effect of positive neighborhood features.

Research objectives are to:

- 1 Identify factors that influence foraging, specifically collective efficacy and sociodemographic characteristics
- 2 Identify factors that influence collective efficacy, specifically foraging and sociodemographic characteristics

### 1.2. Foraging potential

Before describing the study area and results, we present findings from a land use/land cover assessment to evaluate foraging potential in the Browns Mill-Lakewood community and adjacent neighborhoods. If

our aim is to understand resident foraging activities and perceptions, then we need first to establish that these opportunities exist. Land Use/Land Cover (LULC) classification maps within a one-mile radius of UFFBM were created using visual interpretation of high-resolution aerial imagery in Google Earth and ArcMap 10.7.1. Manually delineated polygons were identified as primary LULC and vegetation types. The classes include three types of forest fragments (deciduous, coniferous, and mixed), along with shrubs, kudzu, wetlands, and open grass as locations of potential wild food sources. Land uses including residential, developed, golf course, and cemetery were also identified.

After LULC classes were identified, the classes were ranked in terms of their potential for containing wild, edible plants and fungi. Previous vegetation mapping experience, ground-level observations, and photographs of vegetation surrounding UFFBM, along with literature such as McLain et al. (2014) and Thayer (2010), informed our classification of the LULC polygons into high, medium, and low classes of potential wild foods. Included in the high potential category are shrubs, deciduous forest fragments, wetlands, and residential areas with trees and shrubs. Species such as blackberry (*Rubus allegheniensis*), elderberry (*Sambucus canadensis*), burdock (*Arctium lappa*), kudzu (*Pueraria montana*), and stinging nettles (*Urtica dioica*) are common in abandoned clearings, shrub areas, road edges, and backyards. Residential plantings often include prickly pear cactus (*Opuntia* sp.), bamboo (*Bambusoideae* spp.), yaupon holly (*Ilex vomitoria*), sweet gale (*Myrica gale*), pecan (*Carya illinoensis*) trees, and various fruit trees. Deciduous forests in urban areas of the southeast may include pecans, hawthorns (*Crataegus* spp.), black cherry (*Prunus serotina*), white mulberry (*Morus alba*) and red mulberry (*Morus rubra*) trees, and mushrooms such as chanterelles (*Cantharellus cibarius*), while cattail (*Typha latifolia*), arrowhead (*Sagittaria latifolia*), water lily (*Nymphaea odorata*), and marshmallow (*Althaea officinalis*) appear in wetlands. Areas of medium potential for wild plants are mixed forest and open grass clearings that contain edible forbs but are often managed by mowing and fertilizer applications. The classes of low ranking included areas of coniferous forest (mainly pines) and developed areas including the managed landscapes of a golf course and cemetery. The reclassified wild food potential map and tallied percent area of high (47 %), medium (31 %), and low (22 %) potential for edible plants, fungi, and trees bearing fruit and nuts are in Fig. 5.

### 1.3. Study area

The City of Atlanta categorizes communities into 25 units or Neighborhood Planning Units (NPU) labelled A to Z (omitting U) that

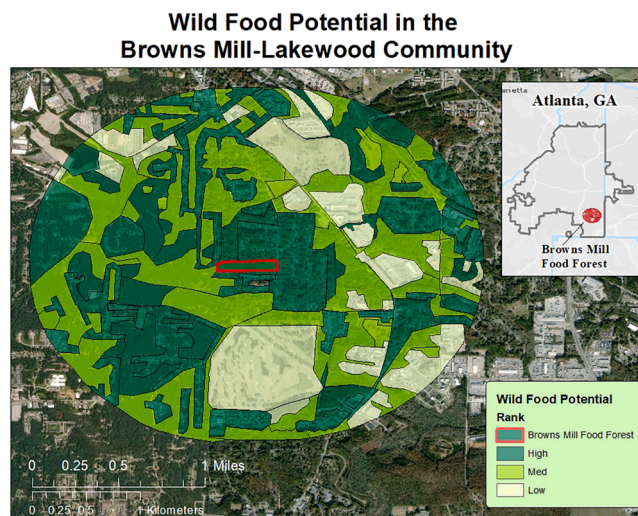


Fig. 5. Wild food potential ranking within a 1-mile radius of the Urban Food Forest at Browns Mill.

serve as citizen advisory councils to city government. Our study area is in a subsection of in NPU Z and is defined as a one-mile radius around UFFBM. Again, we are interested in assessing impressions and engagement with foraging for residents within UFFBM's immediate service area and assume UFFBM will be most relevant and of practical benefit to those within this distance. Importantly, our LULC analysis also showed ample ecological potential for foraging within one mile of the food forest.

According to the City of Atlanta 2010 Census Summary Report, 93 % of NPU Z residents are African American, and 43 % of households are headed by a female, no husband present (City of Atlanta Department of Planning and Community Development, 2017). There has been significant out-migration of residents from this part of the city over the past thirty years. The population density is just 2.8 persons per acres for NPU Z, compared to 5 persons per acre for the city; also, decennial census 2010 data indicated that the unemployment rate was 22 %, nearly double the rate for the city (12.4 %); median household income was \$26,354, compared to \$46,146 for the city, and more than one-third of the population was below the poverty line.

## 2. Methodology

### 2.1. Survey administration

For data gathering, we used a modified proportionate, census-guided (PCG), systematic random sampling method to gather data from residents living within a one-mile radius of the food forest (Palardy et al., 2018; Boley and McGehee, 2014). We administered the survey door-to-door. The survey received United States Office of Management and Budget approval (number 0596–0243) in December 2018. It was first pre-tested with ten graduate students at the University of Georgia in May 2019. We also pre-tested the survey in a community just outside the study area on 8 June 2019, intending to use the unmodified PCG method. The standard PCG methodology specifies that the survey be left at the home after the surveyor obtains a commitment from the household that the survey will be completed. Of the twenty houses contacted for the 8 June pre-test, five occupants agreed to complete the survey and leave it outside the door for later pickup; however, none did. Two surveys were administered by surveyors at the door to accommodate the respondent's preferences for participation. Factors contributing to the low response rate were the high number of apparently unoccupied homes and occupants not being home or not answering the door. We also encountered many homes with security doors but no doorbells, which made it difficult to connect with occupants. The field testing provided sobering feedback on household accessibility and responsiveness to the standard PCG methodology. We decided that a better way to receive a response was to ask that the survey be completed while we were at the door, hence the modified methodology.

For the actual survey, data were collected from seven census tracts (comprising fifteen block groups) within the study area. Most of the study area was comprised of tracts intersecting the Browns Mill and Lakewood communities, along with smaller portions of the Thomasville, Norwood Manor, Rebel Valley Forest, and Jonesboro Road Corridor communities. To identify households for sampling, we first calculated the proportion (acres) of each census tract and block group, respectively, that fell within the study area, then multiplied each block group proportion by the number of occupied houses (obtained from U.S. Census) in each block group. This number represented the universe of houses (N) for that block group. The total N was 405. The estimated number of occupied houses in each block group was divided by 405 to estimate the proportion of occupied housing units for each of the fifteen block groups. We then multiplied our sample size target ( $n = 100$ ) by each proportion to determine the number of households to contact in each block group.

Two to three teams of two persons each, administered the survey. Survey teams included University of Georgia students and faculty and a

USDA Forest Service researcher. We randomly selected a street within each block group to begin data collection and commenced until the quota for that block group was met. If no one answered the door, we proceeded to the next home. Sampling was conducted at both single family and multi-family (apartment complex) residences.

We contacted 338 households residing in both single family and multifamily dwellings. Of these, we spoke with 123 eligible persons. Seventy-one people completed the survey, and 52 refused, resulting in a 57.7 % participation rate. This rate is comparable to that obtained by Palardy et al. (2018) who obtained a 62.7 % response rate from a predominantly African American community in southwest Atlanta with a similar socio-demographic makeup. Palardy et al. (2018) used the standard PCG methodology; however, as discussed, the conventional technique was less effective in our study area. The most common reasons for refusals were lack of time or no interest in the survey. Survey administrators were all women. These included two individuals with advanced degrees and research experience, a PhD, master's, and one undergraduate student. Three surveyors were visibly "black" or African American, one was Latinx, and one was white.

When administering the survey, we provided respondents with an explanation of foraging using common examples such as "picking," "gathering," or "collecting" things like fruits, nuts, or fungi. We also stressed that our interest was on "wild foods," or those that are not intentionally cultivated in gardens. We also measured views on the appropriateness of foraging. Responses were entered into an electronic version of the survey using SurveyMonkey®. In cases where internet connectivity failed, we captured responses on paper copies of the survey and afterwards manually entered responses into an electronic spreadsheet.

### 2.2. Construct measurement

#### Foraging participation:

Three statements measured foraging participation and perception. The first was: "In the last five years, have you collected any kind of wild growing fruits, nuts, greens, or mushrooms in this neighborhood?"—with response options, "Yes, I have picked in the last 5 years;" (3) "Yes, but it has been more than 5 years;" (2) and "no" (1). Parenthetical numbers are codes used in the analyses. The second variable was: "Would you gather wild foods in this neighborhood now if you knew about foods that were safe to collect?"—with response options, "yes," (3) "not sure," (2) and "no" (1); the third item was: "What are your views on the Browns Mill Food Forest?"—with response options, "I would probably pick or gather food there" (3); "I do not know enough about it to make a decision," (2), and "I am not interested in picking or gathering from that place" (1). For those who foraged, we asked them to indicate which plants were gathered, referring to a list provided on the survey. For those who did not forage, we presented a list of thirteen constraints and asked the respondent to indicate which ones inhibited foraging. Responses to both foraged foods and constraints were coded yes (1) and no (0).

#### Appropriateness of urban foraging:

Respondent views on the appropriateness of foraging were measured with four items. The following three had the response options disagree (1), neutral (2), and agree (3). These were: 1) "Wild foods can provide a good source of healthy foods for people;" 2) "I would be embarrassed if people saw me picking wild foods in this neighborhood;" and "The grocery store or other markets are the best places to get vegetables, fruits, nuts, or herbs." Also, to gauge the consistency of foraging with neighborhood mores, we asked respondents how often they saw others in their neighborhood gathering, with the statement: "I see other people in my neighborhood gathering or picking wild foods." The response options were often (3), sometimes (2), and never (1).

#### Collective efficacy:

The original Sampson et al. (1997) scale contained ten items, five measuring social cohesion/trust and five measuring informal social

control/willingness to intervene. We added two items to the social cohesion/trust and intervention dimensions, respectively. This was done to provide a greater range of options for measurement of each factor. Scale items were measured on a five point Likert scale with response options for the social cohesion/trust items ranging from strongly disagree (1) to strongly agree (5), including a neutral category and response options for the social control/willingness to intervene items ranging from very unlikely (1) to very likely (5), including a neutral category. Also, we included a “don’t know/refused” option. “Don’t know/refused” responses were coded neutral because survey administrators observed that many respondents appeared to interpret “neutral” and “don’t know” synonymously. These responses were combined based on our understanding of the original intent of the Likert scale, which is to gauge a person’s attitude about a topic, rather than actual knowledge about that topic (Likert, 1932, p.7–20). Likert statements are not questions soliciting factual knowledge from the respondent in the form of an absolute response about a topic. Thus, if someone does not have an opinion about a Likert statement topic (i.e., “I don’t know”), this can be interpreted as being either indifferent/don’t know or neutral on that topic. The collective efficacy variable used in the models was the mean score for each respondent, categorized from one to five. Scores below 1.5 were assigned a value of 1; those between 1.5 and 2.49, a value of 2; 2.50–3.49, a value of 3; 3.50–4.49 a value of 4; and 4.50 and above a value of 5.

#### Sociodemographic characteristics:

Sociodemographic data were also collected and correlated with the foraging variables. Sociodemographic variables measured were: gender, length of time in home, homeownership, age, education level, and race. Gender was coded female = 1, male = 0; length of time in home: less than one year (1) to more than 20 years (5); homeownership (owner = 1, renter = 0); age ranging from 18 to 30 years (1) to 65+ (5); and education level (less than high school = 1 to graduate degree = 5). Race (American Indian or Alaskan Native, Asian, Black or African American, Native Hawaiian or Pacific Islander, White) and Hispanic were coded yes = 1, no = 0). Respondents could indicate more than one racial/ethnic category.

### 3. Results

Descriptive frequencies and percentages for foraging variables are in Table 1. One out of five respondents indicated that they had foraged in one of the neighborhoods within one mile of the food forest in the past five years. For those who had not gathered, close to 60 % said they would gather given safe conditions, and roughly 80 % would be interested in foraging at the Browns Mill site. Those who had foraged indicated the foods gathered most often were those typically found in this

**Table 1**  
Foraging activities.

|                                                                                                                                     | frequency | percent |
|-------------------------------------------------------------------------------------------------------------------------------------|-----------|---------|
| <b>In the last five years, have you collected any kind of wild growing fruits, nuts, greens, or mushrooms in this neighborhood?</b> |           |         |
| no                                                                                                                                  | 52        | 74.29   |
| yes, but it's been more than five years                                                                                             | 4         | 5.71    |
| yes, I have picked in the past five years                                                                                           | 14        | 20.00   |
| Total                                                                                                                               | 70        | 100.00  |
| <b>Would you gather wild foods in this neighborhood now if you knew they were safe to collect?</b>                                  |           |         |
| no                                                                                                                                  | 6         | 12.77   |
| not sure                                                                                                                            | 3         | 6.38    |
| yes                                                                                                                                 | 38        | 80.85   |
| Total                                                                                                                               | 47        | 100.00  |
| <b>What are your views on the Browns Mill Food Forest?</b>                                                                          |           |         |
| I would probably pick or gather food there                                                                                          | 37        | 58.73   |
| I do not know enough about it to make a decision                                                                                    | 22        | 34.92   |
| I am not interested in picking or gathering from that place                                                                         | 4         | 6.35    |
| Total                                                                                                                               | 63        | 100.00  |

part of the country—pecans and blackberries.

Table 2 shows a large majority of respondents believe that wild foods can be healthy and would not be embarrassed if they were seen foraging; however, attitudes about the best sources for fresh fruits and vegetables were more varied. Slightly more than not felt that grocery stores were the best places to obtain fresh vegetables and fruits. Eighty percent said that only rarely did they see others picking or gathering wild foods. Table 3 shows that for those who had never collected, or it had been more than five years since collecting, lack of knowledge about the location of resources was the primary constraint, followed by no interest, not knowing how to forage, and worries about picking either poisonous or chemically contaminated foods.

Because four items were added to the collective efficacy scale, we performed explanatory factor analysis to assess the underlying scale structure. Factors were extracted using the maximum likelihood method. Results supported a two-factor solution considering factor loadings, eigenvalues, scree test, and chi-square values. The rotated factor pattern suggested that factor 1 loadings measured social cohesion/trust, and factor two indicated willingness to intervene. Table 4 contains scale items and corresponding factor loadings obtained from the rotated factor pattern. Scale reliability was assessed with a standardized, Cronbach’s alpha ( $n = 70$ ;  $\alpha = 0.73$ ). We did not omit any of the scale items with low loadings on the expected factors because of our low sample size and the exploratory nature of the analysis.

To further examine the association between collective efficacy and foraging, we specified two, ordered logistic models which account for the ordinal, discreet nature of the response variables (Green, 2000, pp. 875–880). The first modelled neighborhood foraging as a function of collective efficacy, holding constant sociodemographic factors. The second model examined collective efficacy as a dependent variable with neighborhood foraging and other covariates as controls. This model follows Cohen et al. (2008), where the assumption is that ongoing, extant activities in a given place, for instance foraging, increase collective efficacy. Sociodemographic variables included in both models were: length of time respondent had lived in the home, whether the respondent’s home was owned or rented, gender (female), age category, and education level.

**Table 2**  
Appropriateness of wild food consumption.

|                                                                                                         | frequency | percent |
|---------------------------------------------------------------------------------------------------------|-----------|---------|
| <b>Wild foods can provide a good source of healthy foods for people</b>                                 |           |         |
| disagree                                                                                                | 0         | 0.00    |
| neutral                                                                                                 | 4         | 6.45    |
| agree                                                                                                   | 58        | 93.55   |
| Total                                                                                                   | 62        | 100.00  |
| <b>I would be embarrassed if people saw me picking wild foods in this neighborhood</b>                  |           |         |
| agree                                                                                                   | 1         | 1.64    |
| neutral                                                                                                 | 2         | 3.28    |
| disagree                                                                                                | 58        | 95.08   |
| Total                                                                                                   | 61        | 100.00  |
| <b>The grocery store or other markets are the best places to get vegetables, fruits, nuts, or herbs</b> |           |         |
| disagree                                                                                                | 23        | 37.10   |
| neutral                                                                                                 | 15        | 24.19   |
| agree                                                                                                   | 24        | 38.71   |
| Total                                                                                                   | 62        | 100.00  |
| <b>I see other people in my neighborhood gathering or picking wild foods</b>                            |           |         |
| rarely                                                                                                  | 48        | 80.00   |
| sometimes                                                                                               | 9         | 9.00    |
| often                                                                                                   | 3         | 5.00    |
| Total                                                                                                   | 60        | 100.00  |



**Table 3**

Foraging constraints. N = 49.

|                                                                                                                                                                                   | frequency | percent |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|---------|
| <b>If you have never collected wild foods or it has been more than five years since you collected, what are some reasons that prevent you from doing so in this neighborhood?</b> |           |         |
| don't know where any wild foods are                                                                                                                                               | 27        | 55.10   |
| no interest                                                                                                                                                                       | 10        | 20.41   |
| don't know how                                                                                                                                                                    | 8         | 16.33   |
| worry about picking and eating poisonous plants                                                                                                                                   | 8         | 16.33   |
| worry about picking and eating something contaminated with chemicals                                                                                                              | 7         | 14.29   |
| lack of time                                                                                                                                                                      | 6         | 12.24   |
| fear wild animals like snakes                                                                                                                                                     | 5         | 10.20   |
| trees or shrubs I used to pick from are no longer there                                                                                                                           | 5         | 10.20   |
| places I used to pick or gather from are now locked or gated                                                                                                                      | 3         | 6.12    |
| have physical or health limitations                                                                                                                                               | 2         | 4.08    |
| don't have anyone to pick or collect with                                                                                                                                         | 2         | 4.08    |
| don't like being in nature or outside                                                                                                                                             | 2         | 4.08    |
| worried about my personal safety                                                                                                                                                  | 2         | 4.08    |

Table 5, second column, shows parameters for the first model. We consider a p-value of 0.10 as indicating significant effect. In cases like ours where the sample size is relatively low, higher p-values of 0.10 and in some cases up to 0.20 may be appropriate indicators of significance because lower sample sizes can negatively affect these values (Stiglar, 2008). Women were significantly less likely to say they had foraged in their neighborhood within the past five years.

The ordered logit model allows for the calculation of cumulative probabilities, such that the probability of the multiple options total to one. For instance, the probability of foraging in the past five years for someone with a score of 5 on collective efficacy, who had lived in the home 6–10 years, owned the home, was age 31–45, female, and with a high school education only, would be 0.03; the probability of a woman with the same characteristics indicating she had foraged more than five years ago would be 0.17 and 0.80 for a woman who responded that she never foraged in her neighborhood. The probability for the highest foraging score—that is, “Yes, I have foraged in my neighborhood in the past five years,” would increase to 0.11 for a male with otherwise the same characteristics; would be 0.38 for a male foraging more than five years ago, and roughly 0.51 for a male who had never foraged.

For the second model, both foraging in the past five years and length of time in home were significant. Higher scores on each of these variables correlated positively with collective efficacy. The probability of scoring 4 or greater on collective efficacy is 0.90 for a male who foraged in the past five years, was a homeowner, had lived in his home more than twenty years, was aged 46–64, with a school diploma.

#### 4. Discussion

This study is the first to examine both the concept and practice of wild food gathering in a predominantly urban, African American community. It also differs from other examinations of African American gathering in that we surveyed the general population, a community of place, rather than a community of interest. Results suggest that there is some familiarity with foraging, as 20 % of respondents indicated that they had foraged within one mile of the food forest within the past five years, and roughly another 6% had done so before that time. This rate is consistent with the percentage (26.3 %) of foragers reported by Robbins et al. (2008) for residents of four New England states, although the New England rate is not specific to urban foraging activities. Also, for our respondents, foraging did not appear to be regarded as an inappropriate activity, as the overwhelming majority indicated that they would not be embarrassed if seen foraging. Also, nearly all indicated that they believed wild foods were healthy although results were mixed in terms of preferences for fruit and vegetable sources.

**Table 4**

Collective efficacy. Measured on a Likert scale with values ranging from 1 to 5 for each statement or question. N = 70.

|                                                                                                                                                                                                                                | Mean | Standard deviation | Factor 1    | Factor 2    |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|--------------------|-------------|-------------|
| <b>Collective efficacy</b>                                                                                                                                                                                                     |      |                    |             |             |
| <b>Social cohesion and trust</b>                                                                                                                                                                                               | 3.43 | 0.54               | –           | –           |
| This is a close-knit neighborhood                                                                                                                                                                                              | 3.65 | 1.05               | <b>0.64</b> | –0.04       |
| Most people in my neighborhood can be trusted                                                                                                                                                                                  | 3.49 | 0.97               | <b>0.65</b> | –0.03       |
| People around here are willing to help their neighbors                                                                                                                                                                         | 3.66 | 0.96               | <b>0.59</b> | 0.05        |
| People on this street do not share the same values                                                                                                                                                                             | 3.04 | 0.93               | –0.03       | 0.21        |
| I can recognize most of the people who live on my street                                                                                                                                                                       | 3.44 | 1.22               | <b>0.53</b> | –0.13       |
| People on this street generally don't get along with each other                                                                                                                                                                | 3.40 | 1.18               | –0.02       | 0.24        |
| How likely is it that you would choose to move from this neighborhood in the next five years?                                                                                                                                  | 3.14 | 1.49               | 0.22        | –0.10       |
| <b>Intervening/informal social control</b>                                                                                                                                                                                     |      |                    |             |             |
| If a group of neighborhood children were skipping school and hanging out on a street corner, how likely is it that your neighbors would do something about it?                                                                 | 3.16 | 1.28               | –0.07       | 0.20        |
| If some children were spray-painting profane graffiti on a local building, how likely is it that people in your neighborhood would do something about it?                                                                      | 3.83 | 1.30               | –0.03       | <b>0.83</b> |
| If a child were showing disrespect to an adult, how likely is it that people in your neighborhood would correct that child?                                                                                                    | 3.70 | 1.20               | 0.12        | <b>0.69</b> |
| I have no influence over what this street is like                                                                                                                                                                              | 2.99 | 1.14               | <b>0.53</b> | 0.16        |
| If a well-known neighbor was short of cash to pay bills, how likely is it that he or she would be able to borrow money from people in this neighborhood?                                                                       | 2.97 | 1.10               | 0.34        | 0.11        |
| If there was a fight in front of your house and someone was being beaten, how likely is it that your neighbors would break it up?                                                                                              | 3.69 | 1.20               | 0.18        | .015        |
| Suppose that budget cuts meant that the elementary school closest to your home was going to be closed by the city. How likely is it that neighborhood residents would organize to try to do something to keep the school open? | 3.81 | 1.17               | –0.06       | <b>0.57</b> |

The collective efficacy scale measures the extent to which respondents believe or experience that they are effective, social agents in their neighborhood. It consists of two factors, social cohesion or trust and informal social control.

Despite this seeming acceptability, very few said they saw others foraging in their neighborhoods. Also, while administering the survey, we noted somewhat subtle, yet important practices around food accessibility that may inhibit foraging. For instance, we observed informal, outdoor food and beverage markets consisting of impromptu sales of foods typically associated with African American culture—fried and grilled meats and fish meals with starchy complements and other processed sweets. Such sales are often conducted by churches, school auxiliaries, booster clubs, or other small, non-profit organizations to raise money for targeted projects. Culturally, these street corner food sales provide a venue for community gathering, allowing neighbors and others to both support community fund raising efforts and obtain familiar foods that are not taxed.

Related, we also encountered a “candy lady” in one neighborhood.

**Table 5**  
Logistic Regression Estimates: Foraging and Collective Efficacy.

| Predictors          | Forage   | 95 % C.I.   | Collective Efficacy | 95 % C.I.       |
|---------------------|----------|-------------|---------------------|-----------------|
| Intercept           | –        | –           | –5.76***            | –8.49—<br>–3.02 |
| Intercept           | –5.78*** | –10.03—1.53 | –1.96*              | –4.15—0.24      |
| Intercept           | –3.74*   | –7.80—0.32  | 1.42                | –0.87—3.70      |
| Years in home       | 0.13     | –0.39—0.65  | 0.40*               | –0.06—0.85      |
| Homeowner           | –0.77    | –2.37—0.82  | 0.64                | –0.67—1.95      |
| Age category        | 0.14     | –0.54—0.82  | –0.38               | –0.98—0.22      |
| Female              | –1.33**  | –2.59—–0.07 | –0.26               | –1.31—0.78      |
| Education level     | 0.13     | –0.51—0.78  | 0.19                | –0.35—0.72      |
| Collective efficacy | 0.71     | –0.29—1.72  | –                   | –               |
| Forage              | –        | –           | 0.65**              | –0.01—1.32      |

$p \leq 0.01$  \*\*\*  $p \leq 0.05$  \*\*  $p \leq 0.10$  \*.

The “candy lady” was and perhaps still is, an established figure in working class, African American communities, who supplements her income and fills the neighborhood food void by selling prepacked snack foods and beverages, and in some cases cigarettes or alcohol (Horton, 2017). When interviewing at this home, we observed a steady flow of customers, from small children buying candy and chips to adults wanting cigarettes. These informal, extralegal places are embedded in African American communities in both small towns and big cities; they also provide not only food but gathering places where neighborhood bonding and identities are forged. However, we suggest that easy access to these places, stocked with processed foods, reduces the need for or takes attention away from the importance of nutrient dense whole, wild foods, which admittedly, are more difficult to source. And certainly, these informal food supplies are compounded by the preponderance of licensed, fast food and convenience store foods in African American communities, which again, obscure the relevance of wild foods to a healthy diet.

Collective efficacy results are also similar to those reported by other studies, in particular Cohen et al. (2008) and Cohen et al. (2006) who reported a mean of 3.45 and 3.49, respectively. Collective efficacy was a significant predictor of foraging in bivariate analyses (not shown) but not in our regression model. However, foraging was a significant predictor of collective efficacy in both bivariate and multivariate models. Thus, neighborhood foraging may increase people’s sense of community well-being, other factors equal. Our results are suggestive of Riolo’s (2019) study of the Parma, Italy food forest, which indicated that the range of activities associated with that site also increased community cohesion. However, from casual conversations with volunteers tending raised bed gardens at UFFBM, we learned that UFFBM volunteering did not extend to places outside of the food forest. In other words, we did not get the impression that their food forest activism catalyzed a greater sense of community stewardship.

Each of the neighborhoods included in our study area has distinct histories and physical structures which may influence both collective efficacy and people’s ability to navigate their neighborhood. Some of the more interesting revelations and benefits of door-to-door surveying were gleaned from remembrances and recollections of place that older neighbors shared. Most of the neighborhoods within one mile of UFFBM were working class, but one stood out as distinctly middle class. In this neighborhood, retired professionals and owners of larger homes on streets with neatly manicured lawns and hedges spoke nostalgically about how they, as some of the first African Americans to buy homes on a particular street, witnessed rapid, white flight out of the neighborhood in the early 1970s. This was followed by ten to fifteen years or so of relatively stable conditions with residents comprised mostly of middle- and working-class African Americans. Some of these residents commented that two crucial factors, the proliferation of Housing Choice Voucher federally subsidized housing, commonly referenced as “Section

8” housing and the expansion of housing opportunities for middle class African Americans in adjacent, suburban counties, led to the exodus of many stable black families out of the community during the 1980s and 1990s. One older woman lamented, “All my neighbors are gone.” There were obviously neighbors living on either side of her, so we asked her to elaborate; she then made an exasperated gesture towards the house next door and indicated that she had had problems with those particular neighbors and more generally that the typically transient occupants of homes in her neighborhood nowadays were of a different kind than the families that purchased homes decades ago with the intention of building community.

We also observed renovation of some homes in neighborhoods across the study area. On some streets, small, ranch homes constructed in the 1950s and 1960s were being reimaged with twenty-first century styles and marketed as rentals but in some cases purchased as owner occupied homes by both white and African American professionals enticed by the relatively low real estate prices, population, and traffic in this part of the city. For instance, one of the two white respondents we surveyed was a young professional working with Atlanta’s nascent film industry. Our study was not intended to gauge the potential for green gentrification in this part of Atlanta, but we did witness some degree of change on streets that, just four or five years ago, contained a significant number of vacant or abandoned homes. There was no evidence to suggest that UFFBM contributed to gentrification.

## 5. Recommendations

It appears that a primary impediment to foraging is lack of knowledge about resources. To get a better understanding of sources in the study area, we referenced maps produced by Concrete Jungle, a volunteer-based non-profit that inventories, maps, and harvests wild edibles across Atlanta ([concrete-jungle.org/about-us/](http://concrete-jungle.org/about-us/)) and donates these to charitable organizations. Since its inception in 2009, Concrete Jungle has documented more than 2800 fruit trees in Atlanta with more than twenty varieties. Mapped fruit and other edibles on the site’s map show sources in many of the in-town and other downtown-proximate neighborhoods but virtually no mapped sources in southeast Atlanta although there is mention of one mulberry tree at UFFBM. The website fallingfruit.org also does not map locations in our study area, and we are not aware of other mappings of wild edibles in the city. Concrete Jungle is one of the food forest’s partners. One way that Concrete Jungle might enhance this partnership is to inventory wild foods in neighborhoods near UFFBM, along with their location at UFFBM and provide this information to community residents. Locating wild foods across the food forest service area would help to expand the concept and location of wild foods from a given static location (i.e., UFFBM) to a fluidity that encompasses and normalizes these resources and perhaps their harvesting throughout the community.

## Author statement August 2020

**Cassandra Johnson Gaither:** conceptualization, methodology, data collection, statistical analysis, original draft preparation; **Amanda Aragón:** data collection, including remote sensing data and analysis, draft review; **Marguerite Madden:** data collection, including remote sensing data collection and analysis, original draft preparation, draft review; **Sheridan Alford:** data collection and draft review; **Aza Wynn:** data collection and data review; **Marla Emery:** conceptualization, original draft preparation, draft review and editing.

## Declaration of Competing Interest

The authors report no declarations of interest.

Acknowledgement

University of Georgia, Office of Sponsored Programs. 16-JV-11330144-054.



## References

- Arrington, A.B., Diemont, S.A.W., Phillips, C.T., Welty, E.Z., 2017. Demographic and landscape-level urban foraging trends in the USA derived from web and mobile app usage. *J. Urban Ecol.* 1–9. <https://doi.org/10.1093/jue/jux006>.
- Balick, M., Kronenberg, F., Ososki, A.L., Reiff, M., Fugh-Berman, A., O'Connor, B., Roble, M., Lohr, P., Atha, D., 2000. Medicinal plants used by Latino healers for women's health conditions in New York City. *Econ. Bot.* 54, 344–357.
- Boley, B.B., McGehee, N.G., 2014. Measuring empowerment: developing and validating the resident empowerment through tourism scale (RETS). *Tour. Manag.* 45, 85–94.
- Brownlow, A., 2006. An archaeology of fear and environmental change in Philadelphia. *Geoforum* 37, 227–245. <https://doi.org/10.1016/j.geoforum.2005.02.009>.
- Bunge, A., Diemont, S.A.W., Bunge, J.A., Harris, S., 2019. Urban foraging for food security and sovereignty: quantifying edible forest yield in Syracuse, New York using four common fruit- and nut-producing street tree species. *J. Urban Ecol.* 1–14. <https://doi.org/10.1093/jue/juy028>.
- Chamberlain, J., 2006. Conserving the Appalachian medicinal plant industry. Proceedings of the Fourth Annual Symposium on Appalachian Opportunities-Medicinal and Aromatic Plants 5–16. <https://www.srs.fs.usda.gov/pubs/24491>.
- Chamberlain, J.L., Pringle, S., McGuffin, M., 2013. Understanding the relationships between American ginseng harvest and hardwood forests inventory and timber harvest to improve co-management of the forests of the eastern United States. *J. Sustain. For.* 1–40. <https://doi.org/10.1080/10549811.2013.798828>.
- Charles, K.K., Hurst, E., Roussanov, N., 2009. Conspicuous consumption and race. *Q. J. Econ.* 124, 425–467.
- Charnley, S., McLain, R.J., Poe, M.R., 2018. Natural resource access rights and wrongs: nontimber forest products gathering in urban environments. *Soc. Nat. Resour.* 31, 734–750. <https://doi.org/10.1080/08941920.2017.1413696>.
- City of Atlanta Department of Planning and Community Development, 2017. <http://www.atlantaga.gov/Home/ShowDocument?id=3893>.
- Cohen, D.A., Finch, B., Bower, A., Sastry, N., 2006. Collective efficacy and obesity: the Potential influence of social factors on health. *Soc. Sci. Med.* 62, 769–778.
- Cohen, D.A., Inagami, S., Finch, B., 2008. The built environment and collective efficacy. *Health Place* 14, 198–208.
- Connor, K., Chamberlain, J., Gibbs, H., Winn, M., 2015. Non-timber forest products: ramps in the Waynesville, NC watershed. In: Holley, A.Gordon, Connor, Kristina F., Haywood, James D. (Eds.), Proceedings of the 17th Biennial Southern Silvicultural Research Conference. e-Gen. Tech. Rep. SRS–203. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southern Research Station, pp. 426–430.
- Emery, M.R., Ginger, C., Chamberlain, J., 2007. Migrants, markets, and the transformation of natural resources management: Galax harvesting in western North Carolina. In: Smith, H.A., Furseth, O.J. (Eds.), Latinos in the New South: Transformations of Place. Ashgate, Burlington, VT, pp. 69–87.
- Galt, R.E., Gray, L.C., Hurley, P., 2014. Subversive and interstitial food spaces: transforming selves, societies, and society–environment relations through urban agriculture and foraging. *Local Environ.* 19, 133–146.
- Goffman, E., 1956. *The Presentation of Self in Everyday Life*. Double Day Books., New York.
- Grabitan, B., Hurley, P.T., Halfacre, A., 2011. “I still have the Old Tradition”: the co-production of sweetgrass basketry and coastal development. *Geoforum* 42, 638–649.
- Green, W.H., 2000. *Econometric Analysis*, fourth edition. Upper Saddle River, NJ: Prentice Hall.
- Hart, Z., Halfacre, A., Burke, M., 2004. Community participation in preservation of lowcountry South Carolina sweetgrass (*Muhlenbergia Filipes* [M.A. Curtis] J. Pinson and W. Batson) basketry. *Econ. Bot.* 58, 161–171.
- Hodges, S., Bennett, B.C., 2006. The ethnobotany of *Pluchea carolinensis* (Jacq.) G. Don (Asteraceae) in the botánicas of Miami, Florida. *Econ. Bot.* 60, 75–84.
- Horton, E., 2017. The Orange mound candy lady fulfills a sweet business. On the Ground Orange Mound. Wednesday September 20, 2017. <https://www.highgroundnews.com/features/OrangemoundCandyLady.aspx>.
- Hurley, P.T., Halfacre, A.C., 2011. Dodging alligators, rattlesnakes, and backyard docks: a political ecology of sweetgrass basket-making and conservation in the South Carolina Lowcountry, USA. *GeoJournal* 76, 383–399.
- Hurley, P.T., Halfacre, A.C., Levine, N.S., Burke, M.K., 2008. Finding a “disappearing” nontimber forest resource: using grounded visualization to explore urbanization impacts on sweetgrass basket making in Greater Mt. Pleasant, South Carolina. *Prof. Geogr.* 60, 556–578.
- Hurley, P.T., Emery, M.R., McLain, R., Poe, M., Grabbatin, B., Goetcheus, C.L., 2014. Whose urban forest? The political ecology of foraging urban nontimber forest products. In: Isenhour, Cindy, McDonogh, Gary, Checker, Melissa (Eds.), *Sustainability in the Global City: Myth and Practice*. Cambridge University Press, pp. 187–212.
- Johnson Gaither, C., Himmelfarb, D., Hitchner, S., Schelhas, J., Shepherd, M., KC, B., 2016. “Where the sidewalk ends”: examining the potential for climate change mitigation in Atlanta’s cascade community. *City Soc.* 28, 174–197.
- The fruitful forest. In: Konijnendijk, Cecil C. (Ed.), 2008. *The Forest and the City: The Cultural Landscape of Urban Woodland*. Springer, New York, pp. 49–62.
- Kowsky, Francis R., 1987. Municipal parks and city planning: frederick law olmsted’s Buffalo Park and parkway system. *J. Soc. Architect. Hist.* 46, 51.
- Kuo, F.E., Sullivan, W.C., Coley, R.L., Brunson, L., 1998. Fertile ground for community: inner-city neighborhood common spaces. *Am. J. Community Psychol.* 26, 823–851.
- Likert, R., 1932. A Technique for the measurement of attitudes. *Arch. Psychol.* 140, 1–55.
- Loukaitou-Sideris, A., 2004. Is it safe to walk here? Design and policy responses to women’s fear of victimization in public places. Research on Women’s Issues in Transportation, Volume 2 Technical Papers [online], 102–112. Available from: <http://onlinepubs.trb.org/onlinepubs/conf/CP35v2.pdf>.
- McDonald, J., 2020. *Secret Atlanta: a Guide to the Weird, Wonderful, and Obscure*. Reedy Press, St. Louis.
- McLain, R.J., Hurley, P.T., Emery, M.R., Poe, M.R., 2014. Gathering “wild” food in the city: rethinking the role of foraging in urban ecosystem planning and management. *Local Environ.* 19, 220–240.
- Nordahl, D., 2009. *Public Produce : The New Urban Agriculture*. Retrieved from. Island Press, Washington, DC, USA. <http://site.ebrary.com/lib/alltitles/docDetail.action?docID=10511989>.
- Palardy, N., Boley, B., Johnson Gaither, C., 2018. Resident support for urban greenways across diverse neighborhoods: comparing two Atlanta BeltLine segments. *Landsc. Urban Plan.* 180, 223–233.
- Park, H., Kramer, M., Rhemtulla, J.M., Konijnendijk, C.C., 2019. Urban food systems that involve trees in Northern America and Europe: a scoping review. *Urban For. Urban Green.* 45, 126360 <https://doi.org/10.1016/j.ufug.2019.06.003>.
- Phillips, K.M., Pehrsson, P.R., Agnew, W.W., 2014. Nutrient composition of selected traditional United States Northern Plains Native American plant foods. *J. Food Compos. Anal.* 34, 136–152. <https://doi.org/10.1016/j.jfca.2014.02.010>.
- Poe, M.R., McLain, R.J., Emery, M., Hurley, P.T., 2013. Urban forest justice and the rights to wild foods, medicines, and materials in the city. *Hum. Ecol.* 41, 409–422.
- Poe, M.R., LeCompte, J., McLain, R., Hurley, P., 2014. Urban foraging and the relational ecologies of belonging. *Soc. Cult. Geogr.* 15, 901–919.
- McLain, R., Poe, M., Hurley, P.T., Lecompte-Mastenbrook, J., Emery, M.R., 2012a. Producing edible landscapes in Seattle’s urban forest. *Urban For. Urban Green.* 11, 187–194.
- McLain, R.J., MacFarland, K., Brody, L., Hebert, J., Hurley, P., Poe, M., Buttolph, L.P., Gabriel, N., Dzuna, M., Emery, M.R., Charnley, S., 2012b. Gathering in the city: an annotated bibliography and review of the literature about human-plant interactions in urban ecosystems. General Technical Report 849. USDA Forest Service, Pacific Northwest Research Station. Retrieved from [https://www.fs.fed.us/pnw/pubs/pnw\\_gtr849.pdf](https://www.fs.fed.us/pnw/pubs/pnw_gtr849.pdf) Accessed February 27, 2020.
- Reese, A.M., 2019. *Black food geographies: race, self-reliance, and food access in Washington, D.C.* University of North Carolina Press, p. 162.
- Riolo, F., 2019. The social and environmental value of public urban food forests: the Case study of the Picasso Food Forest in Parma. Italy. *Urban Forestry & Urban Greening* 45, 126225. <https://doi.org/10.1016/j.ufug.2018.10.002>.
- Roberts-Gregory, F., Hawthorne, T., 2016. Transforming green walls into green places: black middle-class boundary work, multidirectional miscommunication and greenspace accessibility in southwest Atlanta. *Geoforum* 77, 17–27. <https://doi.org/10.1016/j.geoforum.2016.09.016>.
- Sachdeva, S., Emery, M.R., Hurley, P.T., 2018. Depiction of wild food foraging practices in the media: impact of the great recession. *Soc. Nat. Resour.* 31 (8), 977–993. <https://doi.org/10.1080/08941920.2018.1450914>.
- Sampson, R.J., Raudenbush, S.W., 1999. Systematic social observation of public spaces: a New look at disorder in urban neighborhoods. *Am. J. Sociol.* 105, 603–651.
- Sampson, R.J., Raudenbush, S.W., Earls, F., 1997. Neighborhoods and violent crime: a multilevel study of collective efficacy. *Science* 277, 918–924. <https://doi.org/10.1126/science.277.5328.918>.
- Stiglar, S., 2008. Fisher and the 5% level. *CHANCE* 21 (4), 12. <https://doi.org/10.1007/s00144-008-0033-3>.
- Synk, Colleen M., Kim, Brent F., Davis, Charles A., Harding, James, Rogers, Virginia, Hurley, Patrick T., Emery, Marla R., Nachman, Kieve, E., 2017. Gathering Baltimore’s bounty: characterizing behaviors, motivations, and barriers of foragers in an urban ecosystem. *Urban For. Urban Green.* 28, 97–102. <https://doi.org/10.1016/j.ufug.2017.10.007>.
- Thayer, S., 2010. *Nature’s Garden: A Guide to Identifying, Harvesting and Preparing Edible Wild Plants*. Foragers Harvest Press, 512.
- Tieg, E., Amulya, J., Bardwell, L., Buchenau, M., Marshall, J.A., Litt, J.S., 2009. Collective efficacy in Denver, Colorado: strengthening neighborhoods and health through community gardens. *Health Place* 1115–1122.