



# Article Wild Food Foraging in Oklahoma: A Pathway to Creating Imagined Foodways and Foodscapes

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Abstract: Foraging, the gathering of wild edibles for food and medicinal use, opens opportunities to connect with local environments and pursue sustainability and food sovereignty. We engage with insights from semi-structured qualitative interviews, participant observation, and site visits with individuals identifying as foragers and wildcrafters across Oklahoma to better understand foragers' interactions with local wild food and foodscapes. We ask: Why do individuals in Oklahoma forage and/or wildcraft? How do foraging practices provide a pathway to support the creation of imagined foodways and foodscapes? We review the literature on foraging and foodways to situate foraging within alternative food systems and consider dimensions of sustainability and sovereignty within foodscapes. Foragers and wildcrafters reveal that their practices foster both tangible and non-tangible benefits, including deep connections with place and nature in the process of procuring wild edibles. While participants come to foraging in various ways, their strategies include engagement with sustainable practices and greater control and agency in food access. Building on the concept of 'imagined foodways', we introduce 'imagined foodscapes' to illustrate foragers' ability to create food practices and spaces based on their ideal methods of procuring and connecting with food.

**Keywords:** alternative foodways; foodscapes; food sovereignty; foraging; imagined foodways; sustainability; wildcrafting; wild foods

# 1. Introduction

A traditional practice and an alternative option for food access, foraging has gained attention due to growing concerns related to food insecurity and the operation of global food systems [1,2]. While types of foraging vary, the literature describes this practice as the act of gathering wild materials and foods to be consumed or crafted "for sustenance, medicine, household materials, social and community cohesion, and establishing connections with nature" [3]. Foraging allows practitioners to procure food freely while promoting a deeper connection with local nature and foodscapes.

We employ foodways and foodscapes as concepts to situate foraging as an alternative food access strategy. Foodways, which operate at the micro and meso levels, link food preparation and consumption practices with one's regional and/or cultural identity. The concept also encourages consideration of social, economic, and sometimes political dimensions of food [4–7]. Recognizing foraging as a foodway offers insight into multiscalar dimensions related to place and the ways individuals creatively and uniquely address gaps in their food system. Relatedly, the term foodscape, a combination of 'food' and 'landscape', is used to explore social, structural, and spatial dynamics and disparities occurring in food systems. Vonthron, Perrin, and Soulard note four approaches to foodscapes in their review of extant literature—spatial, social, behavioral, and systemic—noting "the foodscape is not an environment external to individuals but a landscape including, perceived, and socially shaped by individuals and policies" [8] (p. 15). Employing the notion of foodscape helps us situate foraging in broader contexts and consider how participants think about, connect with, and consume food items in their local and place-based environments [9].



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**Copyright:** © 2024 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (https:// creativecommons.org/licenses/by/ 4.0/). We add to a growing body of research on foraging by considering its premise and practices, as well as its ability to foster sustainability and self-reliance among practitioners [3,10]. We ask: Why do individuals in Oklahoma forage and/or wildcraft? How do foraging practices provide a pathway to support the creation of imagined foodways and foodscapes? We employ the term foraging but also use wildcrafter based on participant preference.

We argue that foraging is one of several alternative, sustainable, and place-based strategies individuals employ to address food access gaps and issues in the broader food system, as well as achieve more intentional and environmentally thoughtful ways of consumption. We extend the premise of foodways to also consider 'imagined foodways'. Drawing from work on imagined communities [11], imagined foodways "capture the cultural and territorial distance between imagined and actual dietary patterns" to illustrate how participants employ alternative foodways to pursue their ideal food future [7] (p. 333).

We highlight studies in the literature on foraging as a practice and discuss scholarship on alternative food practices and networks to consider the role of sustainability, sovereignty, and imagined foodways. We then turn to the research design and methods, followed by analysis and findings. Our work contributes to a growing body of literature on foraging as a practice and to scholarship on alternative foodways and imagined foodways. We argue that imagined foodways incorporated in the daily lives of participants may be both connected with and contribute to what we refer to as 'imagined foodscapes'.

#### 2. Literature Review

We begin our literature review with a discussion of who forages, the ways practitioners gather wild edibles and materials, and introduce Lamalice et al.'s [7] concept of imagined foodways. We then focus on research addressing alternative food practices, networks, and foodscapes, noting that alternative food strategies serve as pathways to achieve sustainability and sovereignty. We close with a conceptual framework connecting extant literature and concepts to our project's premise.

# 2.1. Foraging in Premise and Practice

Gathering of 'non-timber forest products' (NTFPs), hunter-gathering, and wildcrafting are all terms used interchangeably with foraging to describe the collection of wild edibles and/or medicinals [6,12]. Practitioners acquire wild foods in different ways, following a range of approaches [13–15]. 'Hunter-gathering' refers to those who complement gathering with hunting and/or other meat procurement strategies requiring the continued pursuit of an animal [16]. Not all foragers, gatherers, or wildcrafters hunt.

Codding and Kramer [6] highlight groups who have historically relied on foraging and continue to do so despite increasing globalization and shifts in economic and government structures. Groups like the Canadian Inuit [17] or Ju/'hoansi of Tsumkwe, in South-West Africa [18], maintain gathering practices and strategically adapt while retaining sacred lifeways connected to people and place. As "modern-day foragers" these groups successfully incorporate an array of dietary options [6] (p. 8).

Focusing on "modern day foragers" [6], Robbins, Emery, and Rice surveyed 1650 respondents in the U.S. New England region, finding 17.9% of respondents gather wild materials regularly [14]. Those who foraged had higher levels of education, identified as white, and earned higher incomes. These findings diverge from assumptions that foragers gather wild NTFPs due to financial constraints or out of necessity and suggest that foraging may be a choice-based alternative to food access and a form of political engagement. Arrington et al. [3] analyze user-generated data from the Falling Fruit application, a collaborative online urban harvest mapping program which allows foragers to location-track foraged items to assess plant species availability, urban foraging behavior, and diversity among users. Falling Fruit users primarily reside in the U.S., with increasing international engagement. Focusing on U.S. urban spaces, scholars document plant species variety using the Falling Fruit data and note "significant levels of diversity among gathering communities" that align with previous studies of urban foragers [19,20] (p. 4). Grivins offers a four-part typology of foragers guided by in-depth interviews with foragers in Latvia. Rooted foragers adapt "traditional foraging knowledge" transmitted during childhood and emphasize the significance of gathering processes. Lifestyle foragers are process-driven, modifying their approach according to "newly emerging contextual knowledge frames". Lifestyle foragers are drawn to the practice by considering wild edibles to represent a "greener or a more unique life. For this group, the discovery of foraging comes hand in hand with the popularity of healthier, more sustainable diets and responsible engagement with nature" [10] (p. 530). The third group, subsistence foragers, are motivated by gathered items while adapting traditional foraging knowledge. Grivins' final grouping includes commercial foragers, motivated to gather items for the purpose of profit [10] (p. 536). This typology illustrates a lineage of foraging that exists concurrently with contemporary foraging traditions [10] (pp. 520–521).

Foraging may be considered a type of foodway [4]. Applied to regional and/or cultural food practices to emphasize that they are bounded in some way, Lamalice et al. [7] note that foodways encompass "the extended, dynamic network of activities surrounding the procurement, preservation, preparation, presentation, performance and consumption of food" [21,22] (p. 335). Relying on Anderson's [11] concept of 'imagined communities', Lamalice et al. [7] examine contemporary foodways of the Nunavimmiut in the northern villages of Kuujjuaq and Kangiqsujuaq through mental mapping. Researchers found an existing gap between the real diet of participants versus their imagined foodways. While participants commonly consume commercial foods, their imagined foodways rely more heavily on traditional food and subsistence practices, including hunting for caribou and foraging for berries. Traditional foods are regarded as culturally significant and are instilled with important social and spatial contexts that relate to traditional and alternative foodways.

#### 2.2. Alternative Pathways to Sustainability and Sovereignty

Scholars document cases in which individuals and/or groups respond to fill gaps and address inequities in the food system through alternative food networks (AFNs) and practices [23–25]. Alternative food practices are described as ways to obtain and consume food different from mainstream or dominant cultural methods.

Mainstream methods normalize efficiency and a reliance on chain grocery stores where consumers rarely know their food's origins. Instead of relying on global-scale systems, alternative food practitioners "seek to localize food systems and to encourage contact between food producers and consumers, seeking to re-spatialize food systems perceived to have become 'placeless'" [26,27] (p. 206). Alternative food practices are incorporated at different stages of the food chain and may enhance food quality, strengthen locales by supporting local food producers, and reduce environmental harm. Often, alternative practices are met with conflict or criminalization as strategies break mainstream norms and laws. Linnekin [16,28] notes how existing laws may limit participation in alternative pathways of food production and access—whether through foraging, converting lawns to edible gardens, raising chickens in city limits, or other agentic food access methods. Unconventional food production and/or consumption practices are often motivated by the shared goal of addressing food system challenges [29,30].

Alternative food practices, AFNs, and alternative foodways allow practitioners to connect to a food's origins and serve as pathways to achieve sustainability and food sovereignty. Ulug, Trell, and Horlings note that sustainable food systems "prioritize environmental, social, and economic health, through connecting producers and consumers, reducing harmful external inputs, and promoting affordability and accessibility throughout the food chain" [31] (p. 1042).

More than securing sustainability and food security, food sovereignty considers food injustices compounded by the current agrifood model and broader societal inequalities [32,33]. Emerging in the 1990s with the work of La Vía Campesina, a transnational movement of small-scale food producers and peasants, food sovereignty promotes culturally appropriate

and ecologically thoughtful ways of procuring and growing food [34,35]. Specifically, food sovereignty is based on an acknowledgement that agency in one's food growth and consumption practices is a right [36]. Supporters of food sovereignty "call for localised food systems where consumers and producers play a leading role in determining the type of food they eat and its production modes" [33] (p. 15).

# 2.3. Conceptual Framework

Further examination is needed to understand why individuals forage, particularly in a wealthy nation like the U.S., where the practice seems both unnecessary and inconvenient. The current U.S. food system promotes large-scale agricultural production by relying on expropriation and cheap labor, increasing instability of local markets and supply-chains, a lack of knowledge about food origins, increasing hunger, and escalating tension within foodscapes [36,37]. Food scholars note that strategies for feeding a growing population are complex, often with negative outcomes for both nature and people.

As both food and environmental degradation concerns increase, localized and sustainable food production and access efforts have gained importance [38]. Food scholars document the ways individuals and collectives engage with alternative foodways to address broader foodscape challenges, guided by a desire to enhance local control, know one's food origins, and maintain environmentally thoughtful and local foodways [7,23,24,29,39].

We document the presence of 'modern-day foraging' within Oklahoma's foodscape [6]. With roughly 34 million people identifying as food-insecure across the U.S., Oklahoma is one of the top five food-insecure states in the nation despite its contributions to both the agricultural and food sectors [40]. Oklahoma's landscape is characterized by extensive ecological diversity, with one of the most variable terrains in the nation [41,42]. Distinct socio-historical dimensions, including displacement of tribal nations, discovery of oil and gas resources, implications of the Dust Bowl and Great Depression, and intensification of agricultural production processes prompted shifting land use practices [43,44] to shape past and present foodways in the state.

Foraging is a key element among several alternative, sustainable, and place-based practices that lifestyle forager participants [10] employ to manage foodways and foodscapes, address food access gaps, and achieve greater food sovereignty. Their efforts challenge and disrupt conventional systems through the use of alternative food access approaches. We contribute to the literature on alternative foodways and expand existing scholarship by employing the notion of 'imagined foodways' to illustrate how participants exercise agency in their foodway practices to both shape and achieve what they see as their ideal food future [7]. We identify how individuals envision and strive towards implementing relationships with food, and align with priorities of sustainability, self-reliance, and sovereignty. We extend the notion of imagined foodways to consider the creation of what we refer to as 'imagined foodscapes' to incorporate place-based and relational dimensions important to our forager participants.

# 3. Research Design

Data collection occurred from May 2022 to February 2023. Participants identify as foragers or wildcrafters, are age eighteen or older, and had at least one season of Oklahoma gathering experience. The first author conducted 28 semi-structured qualitative interviews, 24 h of participant observation, and 11 site visits with individuals across Oklahoma. Wild food practices noted as 'other' include food forester, naturalist, plant enthusiast, gardener, community herbalist, native plant nerd, and farmer (Table 1).

Socio-Demographic Characteristics	Total
Age Range	
18–29	3
30–39	12
40-49	7
50+	6
Gender	
Male	7
Female	20
Nonbinary	1
Race/Ethnicity	
White	20
White and Indigenous	7
South Asian (Sri Lankan)	1
Class	
Lower class/working class	9
Middle class	18
Upper class	1
Food Access	
No current/past barriers	17
Past barriers	9
Barriers are currently present	2
Political Affiliation	
Independent	11
Democrat	6
Leftist/Communist/Socialist	4
Conservative/Republican	2
Libertarian	1
Other	4
Location Type	
Urban	13
Rural	10
In-between	5
Chosen Gathering Descriptor	
Forager	10
Wildcrafter	8
Other	10
Total	28

Table 1. Respondents' socio-demographic characteristics.

Most study participants identify as female, white, and middle class. A majority note no current or past barriers to accessing food. While the final sample lacks diversity in gender and race, there is variability in political affiliation and physical location type (e.g., rural versus urban space). A sampling gap exists in regional variation, with less representation of foragers in western and southern Oklahoma. Among study participants, eight were socialized to identify plants and gather wild edibles throughout their upbringing, six had inconsistent experiences with foraging in their upbringing, and fourteen pursued their interest in plants and gathering wild edibles as adults by relying on field guides and other forms of literature, online plant identification apps, and individual experts transmitting plant and ecological knowledge in various spaces.

Study flyers with participation information and requests were distributed for recruitment purposes throughout Oklahoma metropolitan areas, at foraging events, shared with personal and university contacts, and posted online through private Facebook groups dedicated to foraging/wildcrafting in the state. Referring to the latter, we received permission prior to posting and establishing virtual contact with group members. Virtual and snowball sampling were the most successful recruitment strategies. When employing snowball sampling [45], consenting participants were asked to share the names of others willing to participate.

Forager participants engaged in in-depth semi-structured qualitative interviews prior to observation of foraging walks, foraging gatherings, and site visits to participants' property and wildcrafter collections. Observations and site visits provided an opportunity to expand on gathering approaches, identify plants and/or valuable places, and share additional practices. The first author provided project context and requested consent verbally or in writing. All participants were offered anonymity [46], but only one chose to remain anonymous. A pseudonym is used to reflect their voice in our analysis.

The semi-structured interview guide focused on the following: relationships with foraging, reasons for foraging, communal aspects of foraging, and the future of food gathering and access. Questions were informed through use of the existing literature, researcher foraging and food knowledge, and an interview guide and transcript designed for another Oklahoma food-focused project [29]. The semi-structed interview guide allowed for follow-up questions, resulting in nuanced and detailed interviews [47]. On average, interviews lasted 1 h and 47 min, with interview durations ranging from 1 h to 3 h and 38 min. Interviews were completed in person, via iPhone Facetime, and the online communication platform Zoom. We varied the interview location based on respondent access to ensure participant safety and comfort, and methodologically ascribe to "good practice" [48]. All interviews were recorded and transcribed clean verbatim.

We engaged in interpretive analysis via the qualitative software tool NVivo 14, employing literature- and concept-driven coding to create a framework for further focused coding. Initial main codes include the following: nature, foodscapes, foodways, and future of food/nature. Seventeen main codes and additional sub-codes were identified through deeper data examination [49]. The themes noted here are not exhaustive. We see our participants as active contributors and strive to avoid depicting them as 'researched' beings—they are experts on the topic [50]. Upon completion of data collection, transcription, and analysis, initial findings were shared with participants.

# 4. Findings

We begin with insights into Oklahoma foragers' approaches to wild food gathering and discuss a distinct 'ethics of foraging'. We then address foragers' experiences with tangible and non-tangible benefits of foraging. Participants note that they layer and combine foraging with other alternative food practices, and that foraging allows them a deeper connection with place and plant varieties. Foraging is one pathway to achieve imagined foodways and foodscapes by promoting sustainability and sovereignty via control over food choice.

## 4.1. "You've Got All These Resources at Your Fingertips": The Why of Foraging

In a culture of convenience, and where wild food acquisition is often stigmatized, why do individuals in Oklahoma forage and/or wildcraft? Participants are guided by expected foraging norms that reinforce safety and care, and gain much from their efforts. We discuss the tangible and non-tangible benefits of foraging which incentivize participants to continue wild edible gathering.

Participants explicitly or implicitly refer to ideal approaches to gathering wild materials as an 'ethics of foraging'. Dawn shares,

...make sure that you know the local rules. You are not supposed to forage any endangered plant. Do not forage in any federal preserves, it's illegal and there's a lot of state preserves as well where it's illegal. Be wary of foraging on private land. Always ask permission. Do not forage next to highways, freeways, or roads that are well traveled. Vehicle exhaust contains heavy metals that the plants are covered with, and they also take it in through their roots. Do not forage near fields that are sprayed with chemicals. Do not forage within one mile of oil operations. Only pick what you need ... The general rule is to take only 10% of what is there, if the plants are sparse, only take 5%. ... if it's an invasive plant, the rule is basically you can take up to 50%, right? Because you want to try to get rid of the invasive plants but leave enough that other people can also harvest.

Dawn outlines guidelines meant for forager safety, as do all participants to varying degrees, due to the risk of misidentification in consuming wild edibles. Dawn also shares guidelines intended to avoid damage to wild edibles for others navigating the shared foodscape. Deborah, a forager and biologist, shares that she does not like to "trample up" an area. Instead, she consciously strives "to not damage it". Similarly, wildcrafter Jess, taught by well-known Oklahoma wildcrafter Jackie Dill [29], reinforces a non-selfish approach, "making sure you leave enough for everybody else—all the other species—not just all the people". Almost all interviewees suggest nature includes humans, but several note that not everyone has similar worldviews and relationships with non-human species or plants [51,52].

Wildcrafter Jenny suggests that the Earth is not a living entity to everyone. All people do not consider the harm of overharvesting or trampling an area. Alyssa, a white-passing Indigenous forager, shares, "nature used to just be a space that I would go and enjoy myself and just was able to find peace. Then I started to feel a call to protect it. I feel like a lot of people don't care. I'm looking at things and see a different picture than what other people are seeing." She/they are not alone in feeling a sense of protectiveness towards nature. All participants refer to a sense of responsibility to, as wildcrafter Willy states, "preserve it", and demonstrate efforts to foster reciprocity.

#### 4.1.1. Tangible Benefits

Participants describe the tangible gains of foraging as being able to freely gather and consume any wild edible. Foraged items are used in teas (purple dead-nettle, goldenrod), preserves (Chickasaw plums, pawpaws), flours (acorns), and fried foods (oyster mushrooms), among others. Beyond the unique flavors wild foods provide, items also contain medicinal properties. Mushroom experts and educators Jacob and Doug explain the medicinal "beneficial compounds" available in reishi, chaga, and lion's mane varieties. Foragers believe access to wild medicinal plants including, but not limited to yarrow (cold and flu cure), echinacea (toothache, cold and flu cure), horsemint (upset stomach), mullein (antibacterial), and plantain (bite, stings, wounds) will become more important with time. Specifically, Kelcie and her family rely on foraging and gardening to become more self-sufficient,

I worry about the economy, gas prices being almost \$5 a gallon. I worry about all the different shortages that we've experienced; I worry about them crossing over into medications. I have a small child. He has seasonal asthma. He's had pneumonia a few different times. Rather than go to the stores and stockpile tons of things, it's just nice to know that there's lots of edible plants. The morels, sand plums, mulberries, there's tons of fruit that you can harvest that you can use to feed your family if you needed to. I personally think that there may come a time that we're gonna have to be more self-sustainable.

For Kelcie and others who gather wild greens, berries, mushrooms, and other edibles, foraging is an alternative to normative practices of obtaining food and nutrient-rich medicinal items. She applies her plant knowledge and experience gained over time to sustain her child's health, suggesting her knowledge may become increasingly necessary given rising costs and challenges to supply chains. While Kelcie and other participants cannot individually solve ruptures in the food system or economy broadly, they can rely on what may be found in nature. Similar tangible benefits are noted across the literature [3,14].

## 4.1.2. Non-Tangible Benefits

Participants also describe non-tangible benefits to wild food foraging. Being alone in nature is a significant part of the foraging experience, positively impacting physical and mental health. While foraging, practitioners hike, exercise/move, connect with nature, experience excitement through discovery, and gain peace. Forager Arden sees foraging as a "pragmatic" approach to consumption to "stay with the seasons", but cannot deny the peace he and his fiancé find while collecting wild foods,

... the more I learn about it, and touch it, and feel it ... the difference between a dry area and a wet area and acidic soil and neutral soil. You just start to see the patterns ... it's where we both find peace and answers ... It's just fun. ... And it enriches my understanding and interaction with the world and how I feel.

Beyond finding peace outdoors, Arden experiences enrichment by seeking out and applying plant knowledge while actively interacting with nature. Foragers Deborah and Chip share how they gain a sense of peace by connecting with nature and leaving obligations at home. They refer to the excitement they experience while foraging as "treasure seeking".

Other foragers also discuss their enthusiasm about wild foods and the ability to see plant opportunities/possibilities others may not. Participants refer to so-called "weeds" and how non-foragers eradicate wild plants from their yards. Eighteen participants (64%) note they are hyper-critical of mainstream methods of maintaining lawns and landscapes, seeing them as unproductive greenspace management [53]. Plant enthusiast Doris notes,

... We were in the desert, Santa Fe, NM. I don't know what any of this stuff is. It's exciting ... you've got all these resources at your fingertips just right outside your door. ... If there were to be some sort of survival type scenario or something like that, I would have that knowledge with me. ... There is a whole world of useful resources out there, right outside your doorstep, that a lot of people don't even know exists.

For Doris, knowing that she has the skills to identify unknown plants in new spaces provides comfort. Identifying plants is a survival skill, offering an opportunity to view landscapes as spaces filled with food and medicinal possibilities.

Participants reference concerns related to future food availability, connecting fears to food system challenges and the impacts of climate change [2,54]. Foraging becomes one of several practices to foster self-reliance and preparedness [30]. As lifestyle foragers, participants align their approaches with environmentally friendly and health-conscious practices encouraging place connection [10]. Important to foragers are both the acquisition of wild foods and the non-tangible benefits motivating them to return to nature. Foraging incorporates cultural, social, emotional, spiritual, and practical functions connected to identity and place [4,21,22].

# 4.2. "We All Wish That We Had Our Own Localized Systems": Pathways to Creating Imagined Foodways and Foodscapes

Participants employ alternative, sustainable methods of procuring food in their households and broader communities. We consider a variety of participant practices and detail how they allow for a sense of control and agency. How do foraging practices provide a pathway to support the creation of imagined foodways and foodscapes? Foragers layer normative and alternative strategies to cultivate self-reliance and promote sustainability and food sovereignty. In this process, foragers have an opportunity to create imagined foodways and foodscapes.

# 4.2.1. Enhancing Control through Sustainable Practices

Roughly 25 (~89%) of participant foragers grow their own food and/or are involved with community gardens. Approximately 13 (~46%) regularly use produce stands and farmer's markets. Ashley C. is unique among study foragers. Both wildcrafter and home-

steader, she and her family are almost entirely self-sufficient. They buy limited bulk products through a co-op and maximize the infrastructure of their homestead by collaborating with an active network of homesteaders across Oklahoma.

Along with foraging, participants employ other alternative practices to control the foods they produce and promote sustainability and health-conscious consumption. Participants lend their time and expertise to local community gardens; transmit plant knowledge and wildcrafting ethics; forage for, grow, and/or share mushrooms; collect, preserve, and distribute native plant species; grow city or personal food forests; hike to explore Oklahoma's landscapes; and hunt on and preserve familial land and foodways. Individuals deploy tactics at various scales to achieve shared goals of promoting sustainability across the state, and foster self-reliance among those in their shared foodscape. Communicating about sustainable pathways for procuring food, Sheila shares,

I try to be environmentally conscious, and I understand that the more local you eat, the less of a negative impact you have on the environment. So, I already want my food close to me. . . . My vegetables and produce come from the local farm . . . I do a lot of composting. I try to minimize my waste, so everything that I can put back and then get new . . . it's just kind of a closed circle.

Mushroom forager/expert Doug plans to continue "more mushroom farming, and more gardening and growing of nutritious plants ...." Forager Chip shares that he and his family have increasingly implemented gardening, canning, and raising beef. Chip expresses he and his family are,

... trying to be more health conscious and getting back to the roots of finding our own food. Knowing...nothing was sprayed on that. ... I know exactly where that came from...and trying to be that support for more local—support smaller people or people like us in the community.

Participants frame their practices as place-based and relational [31]. It is common for foragers to connect individual or household habits not only to plants growing around them, but to the humans with whom they share their environments. Wildcrafter Margee illustrates how she and her husband implement sustainable practices and whole foods into their everyday routines. She speaks to how the broader foodscape includes other people who also make intentional choices,

In my own garden ... lambsquarters grows naturally. ... I can pick leaves from the spring all the way into the fall. ... I'm also a member of a permaculture group. We haven't tilled our soil for 30 years. My son, who lives down the street, bought a lot next to him and he has a huge permaculture garden. We also got the school ... and they have a farm. They created a permaculture front yard, so the whole yard of the school ... they've got a huge garden and you can buy into the garden and they'll bring you your vegetables once a week. They are teaching the children there. My neighbors are hopeful. They're thinkers that think outside the box. Maybe I might be a little bit more hopeful than some, just because I live in this little niche.

Margee chooses to resist pesticide use, instead allowing plants to grow naturally. Her method contradicts typical U.S. lawn management [16]. During a walk with Margee, her yard was filled with an array of plants. On her yard's outskirts and in the center of a metropolitan OK city, is an alley. She also takes advantage of plants growing naturally there. Margee's yard, neighbors, and broader foodscape operates on a "flow of activities" reinforcing closeness with food, place, and people [31] (p. 1043). Ashley B., a gardener who forages, frames foraging and related practices as a "layered and intentional approach. ... [in which] we're building relationships with people." She mentions the privileges shaping one's ability to implement certain practices, noting that community gardens provide a critical service to the surrounding community,

You can't have access to food without having access to land. Just being able to have access to land, whether they want to grow flowers, or they want to grow fruits or vegetables—that has given them freedom and a right that they didn't have previously. I think it is absolutely imperative that people see that it's not until they actually have that right, that they can start even thinking about—What do I want to know? What do I like to eat? Why am I going to do this?

Yet, wildcrafter Willy clarifies that foraging alone cannot sustain a person in Oklahoma due to structural factors and land use patterns. "I don't think this is something that anybody in Oklahoma can do for sustainable food source... over 96% of Oklahoma is private property," he shares. Others refer to land as a privilege, with even more noting the privilege of time to both learn and forage. Foragers must dedicate extensive time to learning about wild food varieties, consider the implications and risk of misidentification, and travel to and actively seek out wild foods according to the appropriate season. Not all are afforded this time nor convenient access to plant knowledge, especially if they have strict working hours, do not live near available and legal foraging spaces, or were not socialized to identify plants, their properties, and usage.

#### 4.2.2. Seeking Self-Reliance and Sovereignty

Self-reliance is difficult to obtain but remains a goal for participants. By layering approaches to acquiring foods, participants reference a potential future in which they do not need to depend on grocery stores and other mainstream methods of food procurement, thus better matching their imagined foodways and foodscapes. A majority of respondents state that they currently rely on grocery stores and/or typical pathways of obtaining certain items out of necessity and/or convenience. All express concerns to varying degrees about a future that requires households to be self-sustaining due to persistent ruptures in food supply chains and ongoing environmental degradation threatening food futures. Jacob, a mushroom expert states,

All my friends grow their own food. ... We all wish that we had our own localized systems, whether it's for mushrooms, for microgreens, we're getting into algae cultivation. I have friends that I aspire to be like. By having people around you that are always just challenging traditional food systems and figuring out how to be more sustainable and not spend money but spend time on your own stuff is, I think, what we're all working towards. ... The biggest thing that I've learned from my friends is independence. Be as independent as possible—it's just better that way. ... It's not that traditional food systems are the enemy—we shouldn't rely on them as heavily as we do and we should know more about plants and we should know more about bees and we should know more about fungi and about how all three of those things are *all* incorporated—when one is not there the other systems can fail. So, without bees both systems fail. ... Ultimately, getting people more in tune to nature because there's just not a lot of people in tune.

Jacob emphasizes the extensive potential of alternative approaches while also noting relational and independence aspects of alternative practices fostered in one's network [31]. On a smaller scale, forager Nimalka and their partner Alyssa express pride for the small steps they have taken. Alyssa declares, "... this year we've got bell peppers, tomatoes. ... [My] passion lately has been pollinating gardens."

Wildcrafter Willy and several others discuss ideal futures in which they have complete agency to sustain themselves,

I am not a wildcat, someone who sustains themselves off of wild plants. I have to shop. I would like to have a maybe five to ten-acre plot of land where I could grow all the food I need and forage some and hunt some. I wish I could do that. I'm working towards that. We need much more dependence on local farms than we do big, multistate market farms. But I do think everybody should try to use a little bit more wild food in their diet. While most note goals of self-reliance and sovereignty as works in progress, others use their current situation as an example of how to begin building a life without food fears. Working at a nonprofit organization, gardener Malory shares her experiences talking with community members about growing food,

They didn't realize how scarce [food] was. I've talked with a lot of people that were like, 'well, I mean, I grew up going to the grocery store. I always had food, but I didn't realize how little food I actually had, or how much of a choice I didn't have, or how much diversity I didn't have'. ... But food sovereignty is a big issue that needs to be addressed. And people need that freedom to be able to be like, 'Oh, I can grow my own food, and I can care for myself'.

Choctaw and Cherokee naturalist Charlotte also emphasizes,

You should not be afraid of not being able to feed your family. ... That's a fear that can be taken away and totally replaced with excitement. ... Instead of being fearful that the grocery store is not going to be there, it can turn into a situation where I'm going to learn how to not be dependent on the grocery store. Right? ... having the knowledge and the ability to know that if something happens—that makes all the difference. It's to eliminate that fear ...

Practicing foraging as a foodway and layering alternative approaches to obtaining food and medicines allows participants to be intentional and work towards their ideal food future. Building on Lamalice et al.'s [7] concept of imagined foodways, we find that our participants strive to become closer to their food through sustainable efforts. They gain agency and choice, achieving imagined foodways as a result. Foragers endeavor towards food sovereignty to ensure they and others can control the food they produce, procure, consume, and distribute [35]. Participants counter increasingly corporatized and globalized food systems shaping food access opportunities in local Oklahoma communities [34]. The alternative foodways participants employ offer a pathway towards the creation of imagined foodscapes.

#### 5. Discussion and Conclusions

We characterize foraging as an alternative foodway, where gathered materials become a source of food and medicine. A sense of security is fostered for foragers despite growing large-scale global food and environmental concerns. Study participants share the value and benefits of gathering wild foods and emphasize a connection with nature and a sense of peace and security. Complementary alternative practices promote sustainability, allow for greater ease and control of food attainment and consumption, and enhance self-reliance. For our participants, foraging is choice-based and intentional—participants are not entirely reliant on the practice to sustain their diet or income.

Participants layer and combine alternative foodways, including intensive efforts to gather, preserve, or grow their own food resources. They resist corporatized control of agriculture, expressing concern for the current state of the global food system. Study participants emphasize how foraging and other alternative strategies offer enhanced agency in shaping their household or community food access and consumption practices. Imagined or ideal foodways [7] motivate individuals to carry out practices guided by sustainability and food sovereignty. Participants' imagined foodways are informed by a desire to thoughtfully connect with food and nature. While some target their households or personal property as sites for control and change, others interact with local food producers or gatherers, creating networks of individuals embracing place-based approaches to gathering food. Some foragers teach sustainability and sovereignty and encourage others to implement change as well. Study participants are unable to be fully reliant on wild foods and must also employ mainstream food access methods. They strive to get "closer to their food" by participating in sustainable strategies, emphasizing self-reliance via imagined foodways, and building networks and communities where they can create spaces for imagined foodscapes.

Foragers do not expect all people to have the privilege of time and resources necessary to forage consistently, nor do they expect them to accept related risks. They talk about their pathways and practices and suggest how others may begin to safely take steps to learn about foraging, promote more sustainable living, and eventually experience self-reliance and sovereignty. Adding to the literature on alternative foodways and foodscapes, we illustrate how foragers not only creatively address gaps in the food system at the micro level, but also implement alternatives to go beyond the existing norms of place and culture at the meso and macro levels. Ultimately, disruption relies on an ideal future in which consumers do not experience fears for food access and availability. Study participants craft imagined foodscapes to envision possibilities rooted in relations and place.

Future studies may continue to document reasons individuals forage and/or employ alternative practices despite the perceived inconvenience of doing so. Exploring new frameworks for wild foods and foraging within the U.S. as well as in a variety of global contexts and cultural spaces would prove fruitful. Further consideration of foraging risks, the social and cultural learning required to engage in the practice, as well as exploration of traditional and/or Indigenous ecological knowledge transmission to enhance understandings of foraging in application are important directions for scholarship. Building on prior work [7], food studies would benefit from further exploration of the concept of imagined foodways as well as further articulation of imagined foodscapes to enhance conversations concerning the future of food at various scales.

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## References

- Faruk, A.; Nersesyan, A.; Papikyan, A.; Galstyan, S.; Hakobyan, E.; Barblishvili, T.; Mikatadze-Pantsulaia, T.; Darchidze, T.; Kuchukhidze, M.; Kereselidze, N.; et al. Multigenerational Differences in Harvesting and Use of Wild Edible Fruits and Nuts in the South Caucasus. *Plants People Planet* 2024, *6*, 238–248. [CrossRef]
- Wells, V.; Carrigan, M.; Athwal, N. Pandemic-Driven Consumer Behaviour: A Foraging Exploration. *Mark. Theory* 2023, 23, 631–659. [CrossRef]
- Arrington, A.B.; Diemont, S.A.W.; Phillips, C.T.; Welty, E.Z. Demographic and Landscape-Level Urban Foraging Trends in the USA Derived from Web and Mobile App Usage. J. Urban Ecol. 2017, 3, jux006. [CrossRef]
- 4. Camp, C. Foodways in Everyday Life. Am. Q. 1982, 34, 278. [CrossRef] [PubMed]
- Ancient Foodways: Integrative Approaches to Understanding Subsistence and Society, 1st ed.; Scarry, C.M.; Hutchinson, D.L.; Arbuckle, B.S. (Eds.) University Press of Florida: Gainesville, FL, USA, 2022. [CrossRef]
- 6. Kramer, K.L.; Codding, B.F. *Why Forage? Hunters and Gatherers in the Twenty-First Century*; School for Advanced Research Advanced Seminar Series; University of New Mexico Press: Albuquerque, NM, USA, 2016.
- Lamalice, A.; Herrmann, T.M.; Rioux, S.; Granger, A.; Blangy, S.; Macé, M.; Coxam, V. Imagined Foodways: Social and Spatial Representations of an Inuit Food System in Transition. *Polar Geogr.* 2020, 43, 333–350. [CrossRef]
- Vonthron, S.; Perrin, C.; Soulard, C.-T. Foodscape: A Scoping Review and a Research Agenda for Food Security-Related Studies. PLoS ONE 2020, 15, e0233218. [CrossRef] [PubMed]
- 9. MacKendrick, N. Foodscape. *Contexts* **2014**, *13*, 16–18. [CrossRef]
- 10. Grivins, M. Are All Foragers the Same? Towards a Classification of Foragers. Sociol. Rural. 2021, 61, 518–539. [CrossRef]

- 11. Anderson, B.R.O. Imagined Communities: Reflections on the Origin and Spread of Nationalism; Verso: New York, NY, USA, 1991.
- 12. Malhotra, A.; Nandigama, S.; Bhattacharya, K.S. Food, Fields and Forage: A Socio-Ecological Account of Cultural Transitions among the Gaddis of Himachal Pradesh in India. *Heliyon* **2021**, *7*, e07569. [CrossRef]
- 13. Kapteyn, J.; Goldsbrough, P.; Simon, J. Genetic Relationships and Diversity of Commercially Relevant Echinacea Species. *Theor. Appl. Genet.* **2002**, *105*, 369–376. [CrossRef]
- 14. Robbins, P.; Emery, M.; Rice, J.L. Gathering in Thoreau's Backyard: Nontimber Forest Product Harvesting as Practice. *Area* 2008, 40, 265–277. [CrossRef]
- Schafhauser, T.; Jahn, L.; Kirchner, N.; Kulik, A.; Flor, L.; Lang, A.; Caradec, T.; Fewer, D.P.; Sivonen, K.; Van Berkel, W.J.H.; et al. Antitumor Astins Originate from the Fungal Endophyte *Cyanodermella asteris* Living within the Medicinal Plant *Aster Tataricus*. *Proc. Natl. Acad. Sci. USA* 2019, 116, 26909–26917. [CrossRef]
- 16. Linnekin, B.J. Food Law Gone Wild: The Law of Foraging. *Fordham Urb. L.J.* **2018**, *45*, 1–57. Available online: https://ir.lawnet. fordham.edu/ulj/vol45/iss4/3 (accessed on 15 May 2024).
- Wenzel, G.W. Inuit Culture: To Have and Have Not; or, Has Subsistence Become and Anachronism? In Why Forage? Hunters and Gatherers in the Twenty-First Century; Codding, B.F., Kramer, K.L., Eds.; University of New Mexico Press: Albuquerque, NM, USA, 2016; pp. 43–60.
- Lee, R. In the Bush the Food Is Free': The Ju/'hoansi of Tsumke in the Twenty-First Century. In Why Forage? Hunters and Gatherers in the Twenty-First Century; Codding, B.F., Kramer, K.L., Eds.; University of New Mexico Press: Albuquerque, NM, USA, 2016; pp. 61–88.
- 19. McLain, R.J.; Hurley, P.T.; Emery, M.R.; Poe, M.R. Gathering "Wild" Food in the City: Rethinking the Role of Foraging in Urban Ecosystem Planning and Management. *Local Environ.* **2014**, *19*, 220–240. [CrossRef]
- 20. Poe, M.R.; LeCompte, J.; McLain, R.; Hurley, P. Urban Foraging and the Relational Ecologies of Belonging. *Soc. Cult. Geogr.* 2014, 15, 901–919. [CrossRef]
- 21. Long, L.M. Nourishing the Academic Imagination: The Use of Food in Teaching Concepts of Culture. *Food Foodways* **2001**, *9*, 235–262. [CrossRef]
- 22. Yoder, D. Folk Cookery. In The Food and Folklore Reader; Dorson, R.M., Ed.; Bloomsbury: London, UK, 2015; pp. 325–350.
- 23. Hinrichs, C.C. The Practice and Politics of Food System Localization. J. Rural Stud. 2003, 19, 33–45. [CrossRef]
- 24. Alkon, A.H.; Norgaard, K.M. Breaking the Food Chains: An Investigation of Food Justice Activism\*. *Sociol. Inq.* 2009, 79, 289–305. [CrossRef]
- 25. Moragues-Faus, A.; Marsden, T. The Political Ecology of Food: Carving 'Spaces of Possibility' in a New Research Agenda. *J. Rural Stud.* **2017**, *55*, 275–288. [CrossRef]
- Wald, N.; Hill, D.P. 'Rescaling' Alternative Food Systems: From Food Security to Food Sovereignty. *Agric. Hum. Values* 2016, 33, 203–213. [CrossRef]
- 27. Harris, E.M. Eat Local? Constructions of Place in Alternative Food Politics. Geogr. Compass 2010, 4, 355–369. [CrossRef]
- 28. Linnekin, B. Biting the Hands That Feed Us: How Fewer, Smarter Laws Would Make Our Food System More Sustainable; Island Press: Washington, DC, USA, 2016.
- 29. Norwood, F.B.; Mix, T.L. Meet the Food Radicals; Oxford University Press: New York, NY, USA, 2019.
- 30. Spijker, S.N.; Mathijs, E.; Parra, C. Grasping Practices of Self-Reliance within Alternative Foodscapes in Flanders. *Agric. Hum. Values* **2020**, *37*, 819–832. [CrossRef]
- Ulug, C.; Trell, E.-M.; Horlings, L. Ecovillage Foodscapes: Zooming in and out of Sustainable Food Practices. *Agric. Hum. Values* 2021, 38, 1041–1059. [CrossRef]
- Alkon, A.H.; Mares, T.M. Food Sovereignty in US Food Movements: Radical Visions and Neoliberal Constraints. *Agric. Hum. Values* 2012, 29, 347–359. [CrossRef]
- 33. Byaruhanga, R.; Isgren, E. Rethinking the Alternatives: Food Sovereignty as a Prerequisite for Sustainable Food Security. *Food Ethics* **2023**, *8*, 16. [CrossRef]
- 34. Wittman, H. Food Sovereignty: A New Rights Framework for Food and Nature? Environ. Soc. 2011, 2, 87–105. [CrossRef]
- 35. Jarosz, L. Comparing Food Security and Food Sovereignty Discourses. Dialogues Hum. Geogr. 2014, 4, 168–181. [CrossRef]
- Friedmann, H.; McMichael, P. Agriculture and the State System: The Rise and Decline of National Agricultures, 1870 to the Present. Sociol. Rural. 1989, 29, 93–117. [CrossRef]
- 37. McMichael, P. A Food Regime Genealogy. J. Peasant Stud. 2009, 36, 139–169. [CrossRef]
- 38. Friedmann, H. From Colonialism to Green Capitalism: Social Movements and Emergence of Food Regimes. In *Research in Rural Sociology and Development;* Emerald (MCB UP): Bingley, UK, 2006; Volume 11, pp. 227–264. [CrossRef]
- 39. Harris, E. Neoliberal Subjectivities or a Politics of the Possible? Reading for Difference in Alternative Food Networks. *Area* 2009, 41, 55–63. [CrossRef]
- 40. Feeding America. Hunger in America. Available online: https://www.feedingamerica.org/hunger-in-america (accessed on 24 June 2023).
- Environmental Protection Agency (EPA). Southern Plains Ecoregion—National Rivers and Streams Assessment 2013–2014. Available online: https://www.epa.gov/national-aquatic-resource-surveys/southern-plains-ecoregion-national-rivers-and-streams-assessment (accessed on 24 February 2022).

- 42. Omernik, J.M.; Griffith, G.E. Ecoregions of the Conterminous United States: Evolution of a Hierarchical Spatial Framework. *Environ. Manag.* **2014**, *54*, 1249–1266. [CrossRef] [PubMed]
- 43. Boyd, D.T. Oklahoma Oil: Past, Present, and Future. *Okla. Geol. Notes* **2002**, *62*, 97–106. Available online: http://www.ogs.ou.edu/fossilfuels/pdf/OKOilNotesPDF.pdf (accessed on 15 May 2024).
- 44. Gutmann, M.P.; Brown, D.; Cunningham, A.R.; Dykes, J.; Leonard, S.H.; Little, J.; Mikecz, J.; Rhode, P.W.; Spielman, S.; Sylvester, K.M. Migration in the 1930s: Beyond the Dust Bowl. *Soc. Sci. Hist.* **2016**, *40*, 707–740. [CrossRef] [PubMed]
- 45. Baltar, F.; Brunet, I. Social Research 2.0: Virtual Snowball Sampling Method Using Facebook. *Internet Res.* 2012, 22, 57–74. [CrossRef]
- 46. Plankey-Videla, N. Informed Consent as Process: Problematizing Informed Consent in Organizational Ethnographies. *Qual. Sociol.* **2012**, *35*, 1–21. [CrossRef]
- 47. Weiss, R.S. Learning from Strangers: The Art and Method of Qualitative Interview Studies; Free Press: New York, NY, USA, 1995.
- Tracy, S.J. Qualitative Quality: Eight "Big-Tent" Criteria for Excellent Qualitative Research. *Qual. Inq.* 2010, *16*, 837–851. [CrossRef]
  Babbie, E.R. *The Basics of Social Research*, 7th ed.; Cengage Learning: Boston, MA, USA, 2017.
- 50. Potts, K.; Brown, L. Becoming an Anti-Oppressive Researcher. In *Research as Resistance: Critical, Indigenous, & Anti-Oppressive Approaches*; Brown, L., Strega, S., Eds.; Canadian Scholars' Press: Toronto, QC, Canada, 2005; pp. 255–286.
- 51. Eder, K. *The Social Construction of Nature: A Sociology of Ecological Enlightenment*; Theory, Culture & Society; Sage Publications: Thousand Oaks, CA, USA, 1996.
- 52. Norgaard, K.M. Salmon and Acorns Feed Our People: Colonialism, Nature, and Social Action; Rutgers University Press: New Brunswick, NJ, USA, 2019. [CrossRef]
- 53. Robbins, P.; Sharp, J. The Lawn-Chemical Economy and Its Discontents. Antipode 2003, 35, 955–979. [CrossRef]
- 54. McGreevy, S.R.; Rupprecht, C.D.D.; Niles, D.; Wiek, A.; Carolan, M.; Kallis, G.; Kantamaturapoj, K.; Mangnus, A.; Jehlička, P.; Taherzadeh, O.; et al. Sustainable Agrifood Systems for a Post-Growth World. *Nat. Sustain.* **2022**, *5*, 1011–1017. [CrossRef]

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