INTO THE FORESTS (AND FIELDS AND YARDS): RE-THINKING RURAL
DEVELOPMENT AND LOCAL FOOD SYSTEMS WITH WILD HARVESTERS IN
THE OZARK HIGHLANDS

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INTO THE FORESTS (AND FIELDS AND YARDS): RE-THINKING RURAL
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THE OZARK HIGHLANDS

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Dedicated in memory of my Grandpa Robert and Grandma Noreen Lautzenhiser

*For their encouragement and pride in their grandkids, and
thoughtful planning to support our education for the long-term.*

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ABSTRACT

Local food systems are regularly advocated as a strategy for community economic development focused on market-based practices. Two particular critiques of this strategy have emerged that underlie this study. The first is that research on local food systems for economic development has often focused on strategies for urban areas, but rural areas have unique needs not addressed by urban approaches. Secondly, local food systems research and practice has often overlooked the contributions that informal activity, self-procurement, and non-traditional market exchanges contribute to community food systems.

This narrative inquiry project explored the local food system practice of wild harvesting in the Ozark Highlands. By listening to the stories of wild harvesters in the Ozark Highlands I sought to answer the question: What can be learned from the wild harvesting experience that might help strengthen local food systems as a rural development strategy? This study applied the comprehensive rural wealth framework and developed a set of comprehensive wealth impacts and indicators for a rural, non-market based food access practice that evaluated the opportunities, outcomes and challenges for using local food systems as a rural development strategy. By using narrative methods and valuing local knowledge, this research also addressed the lack of wild harvester participation and voice in research and policy that has been identified in the literature.

CHAPTER 1: INTRODUCTION

Support for and interest in local food systems continues to grow, evidenced by increasing numbers of farmers' markets, community gardens, food hubs and other food system efforts to promote a closer connection to our food. There is also building evidence for the effectiveness of these local food efforts, documenting benefits for farmers and communities, increased access to healthy, affordable food, and other social, environmental and economic benefits (Coalition. 2009; Feenstra 2002; Halweil 2002; Kloppenburg, Hendrickson and Stevenson 1996; Martinez et al. 2010). Local food systems can be an effective strategy for community and economic development, with research suggesting that these efforts can strengthen local economies, create jobs, build community food infrastructure, support local supply chains, and more (Jablonski et al. 2017; Johnson et al. 2014; Rossi, Johnson and Hendrickson 2017; Schmit et al. 2017).

Local food systems are not a perfect solution, however, and the challenges and critiques of alternative food systems have been documented and discussed in the literature as well (Delind 2011; Delind and Howard 2008; Hinrichs 2003; Winter 2003). One particular critique has focused on the priority given to urban areas to implement and evaluate food system initiatives, which several authors argued has left behind low income rural communities and indigenous populations from the benefits of food system development efforts (Elliott et al. 2012; McEntee 2011). Yet rural places are exploring the opportunities for supporting local food systems in their communities, and are facing success and challenges that can be different from urban areas. Research

and knowledge-sharing of lessons learned in these rural places can provide important support for future rural food system efforts.

One key argument in discussions of rural food systems suggests that there are critical differences in how rural and urban residents view “localism,” and according to McEntee (2011) rural areas are more likely to participate in “traditional localism” activities based on reciprocal non-market exchanges and food access through home gardens and hunting, motivated by priorities of price and tradition. In contrast, contemporary localism is motivated by support of community and social benefits in local food systems, and is based on financial transactions for local food system access. My research in graduate school studied rural farmers’ markets and other alternative direct-market strategies, and found that besides the self-procurement strategies, rural residents also have so many more places to get locally grown food, which can decrease the success of individual farmers’ markets (Gasteyer et al. 2008; Hultine and Cooperband 2007). Rural residents do value local food, but their approach for accessing this local food may depend on a variety of motivations (McEntee 2010), available sources (Gasteyer et al. 2008; Hultine and Cooperband 2007) and participation in social networks (Hendrickson et al. 2015). As an Extension specialist working with rural communities, I have observed and assisted with many efforts to start new farmers’ markets and build connections between farmers and local restaurants or businesses. Rural farmers’ markets are often hobby farmers or part-time vendors, so measuring income or number of jobs created will not necessarily show viability or success. The bigger, more diverse farmers can get

higher prices in the city, so they often choose markets in bigger urban areas (as an appropriate business strategy) but then the diversity of products available at rural markets suffers. Should rural communities just settle for the indirect benefits of local food sold to urban areas? Why would we even encourage rural communities to start a farmers' market or other food system initiative, if it doesn't produce the same economic impact as an urban market? Are there alternative options for building local food systems in rural places, and what might those be? How do we build on the qualities of rural places and find new strategies that work well for rural food systems? The first purpose of this research project was to explore opportunities to strengthen local food systems in rural communities.

DeLind (2006, 126) suggested "what are needed are ways of thinking and feeling about local food...that can balance and reframe an economic orientation with more ecological and cultural understanding of people in place." She, along with other authors (Loring and Gerlach 2009; Turner 2011), argued for place-based, embodied experience with food as a way to deepen support and understanding of the broader values (social, economic, environmental, and cultural) of local food systems. There is so much informal activity, self-procurement and variety of market-based options in rural food systems that when we solely focus on economics it is very easy to overlook the values that do accrue in rural places through these practices. The second purpose of this study was to look beyond traditional economic measures to identify potential opportunities to strengthen local food systems as a rural development strategy. Comprehensive rural wealth (Johnson 2014; Pender, Marre and Reeder 2012;

Schmit et al. 2017) provides a framework for rural economic development that takes into account multiple forms of capital including social, financial, human, natural and physical, and provides a process for understanding what influences residents' decision-making as well as outcomes of investments and policy interventions. Rural wealth allows for valuing and evaluating a wider range of costs and benefits of local food systems within a specific context. Schmit and co-authors (2017) were the first to apply this model to a particular local food system practice by studying the rural wealth impacts of an urban farmers' market, and developed a set of indicators and impacts for measuring changes in intellectual capital from participation in the market. This research project builds on that model by evaluating the rural wealth impacts of an investment in the traditional localism practice of wild harvesting in a rural community. The proposed model and indicators provide support for considering non-market based local food systems practices and suggests benefits to natural, social and human capital that can accrue to rural communities because of investments in local food systems. These changes in assets may not have been valued had we only measured financial impacts.

The most fascinating and challenging aspect of community development is that communities are complex, diverse and constantly changing, and developing place-based knowledge is critical. Community development is about "helping communities improve their social and economic situations" (Christenson and Robinson 1989); creating "a sense of collective ownership and efficacy among citizens" (Littrell and Littrell 2006); and Hustedde and Ganowicz (2009) argued

that structure, power and shared meaning are the three most important theoretical considerations in community development. The role of a community development practitioner is to engage with communities and help build their capacity to respond to opportunities and challenges to improve quality of life for all community members. From a practitioner standpoint, authentic engagement is about working with participants on the issues and ideas that are most important to them, equally sharing knowledge and decision-making, and facilitating community efforts with a sincere and open-minded attitude. Local food systems authors continue to argue for more engaged and participatory methods for building and evaluating local food systems initiatives, and local knowledge has been highlighted in both community development and local food systems literature as critical for any successful efforts in communities (Hassanein and Kloppenburg 1995; Kloppenburg 1991). Pine and deSouza (2013, 75) advocated for participatory methods in food systems research and development, arguing that working with community residents allows them to “understand and respond to their local foodscape and...builds the community’s capacity to transform the local food environment.” In work with community members in Appalachia (Landis and Niewolny 2015; Niewolny 2018; Niewolny and D’Adamo-Damery 2016), researchers engaged with the community using narrative methods as an alternative approach that focused on listening to community members’ experiences, and collaboratively explored new stories about their work and food systems with researchers. Niewolny and D’Adamo-Damery (2016, 121) suggested that “narratives [are] spaces for learning – less for best practices,

more for experimentations with possibilities of the new.” Narrative inquiry methodology holds potential for increased engagement and relationship building with community members in a variety of community development contexts; however, it is especially relevant for food systems research. As eaters, how we talk about food and our meals is usually complex: stories about taste, or recipes, or who we shared the meal with, or our favorite family food traditions. In sourcing food, the stories can be just as detailed: the bargains at the store, how much a garden produced, or who found the first morel mushroom of the season.

Narrative inquiry is a methodology that values individual experience, local knowledge, and collaborative work between researcher and participants. It is also an opportunity to “explor[e] the social, cultural and institutional narratives within which individual’s experiences are constituted, shaped, expressed and enacted” (Clandinin 2006, 46). The third focus of this research project was the use of narrative inquiry methodology to work collaboratively with the research participants to learn and share ideas together. This choice of methods supports the call of local food system authors to value local knowledge and use participatory methods for food systems work (Hassanein and Kloppenburg 1995; Kloppenburg 1991; Neff et al. 2017; Pine and de Souza 2013).

Finally, this research highlighted the practice of wild harvesting in the Ozarks Highlands region. The popular impression of the Ozarks is a backwoods region of poverty and decline, and it is true that these communities struggle with a range of challenges. There are high rates of poverty and hunger, lower educational levels, and declining populations like many rural places. It is also a

place with unique culture and history; diverse natural resources; significant public land; and all the types of people and personalities that make communities the contradictory places they can be. There is a history of diverse food production, traditions of wild food and hunting, and a complex past that creates both an appreciation for the public lands and often a dislike of agencies that manage them. The stories people in this region share about food, farming, and family traditions on the land are enthusiastic and engaging, whether featuring favorite spots on the river to fish or the dramatic positive and negative changes they sometimes experienced in their lifestyles because of the growing ownership of public land by state and federal agencies. In addition, the Ozark Highlands region has a variety of new and developing experiences, businesses and other activities related to wild harvesting, such as educational programs for identifying wild edibles, selling wild products for medicinal and beauty markets, and educational resources to cook and eat a wider diversity of wild food products.

Wild harvesting (also known as foraging or gathering) is the harvest of wild edible non-timber products and forest materials for crafts or other uses. Wild harvesting for products like mushrooms, berries, and nuts are probably the most commonly known, but other diverse forest products are also harvested for food, craft, sale, or barter. It is commonly recognized as a self-procurement practice for food, and is described by McEntee's concept of traditional localism, in that often the majority of products harvested are for self or family, bartered, or traded in reciprocal arrangements. In the Ozark Highlands region, this practice has a long history and still seems to be viable and growing, and the significant amount of

public land and natural resources is both a benefit and constraint. DeLind (2002) wrote about urban agriculture projects and argued for commons areas as opportunities to engage citizens in learning more about place and environment. “These commons are the spaces that expand and deepen cultural and ecological vision and mold citizenship. They are the spaces...that will make it possible for a population...to enthusiastically support private farmers and loggers, their livelihoods and their sustainable use of the earth” (DeLind 2002, 222). This project was an opportunity to learn more about the practice of wild harvesting; the harvesters’ interactions with public land; and what this practice adds to local food systems in the rural Ozark Highlands region.

So that is how, at 9:30 p.m. on the night of September 15, 2018, I found myself standing on a boat ramp watching two men clean their hog-nosed suckers they had gigged, fish scales flying around and piling on the ramp under their makeshift cleaning tables. Their kids stood nearby, watching and then confidently talking with me, a random stranger, about when they first started gigging, pleased that this year, the opening night of gigging season landed on a Saturday and that their volleyball tournament had ended early so they could get out on the river that night. Normally they would eat the fish that evening – “it doesn’t keep well” – but their head cook, their mom, was out of town that evening so they would wait a day until she was home to fry up their fish. The men commented that they had been gigging together since they were kids, and they made every effort to get out on the water at least a few times with their kids each gigging season.

I have always been interested in food systems, although I didn't learn that term until graduate school. I grew up on a farm in northern Illinois, and my family grew corn and soybeans, plus we dabbled as kids raising cows and hogs on occasion for meat, helped with a small vegetable garden at home and my grandpa's house, and my mom had a chicken and duck phase, which didn't last long with the raccoons. We had a few apple and pear trees, and picked blackberries from the fencerows. We'd sit by the truck bed at the edge of driveway and sell sweet corn to people that stopped on their way home. My dad and I have a newer tradition of hunting morel mushrooms in the spring on a wooded area of one of the places he farms near my hometown. I don't think we even started going until I was at least in high school, but now I sometimes try to coordinate my visits home in the spring with mushroom season if possible. We've never found more than a handful at a time (except for that one time he found a bag full when I wasn't there with him – and he had to call me right away to let me know!). But we'd always stop by my grandma's house after our hunting trips, just to show her what we found or commiserate that it must not be the right time for them yet.

Then, in 2007, I moved to the Ozark Highlands, and it began to feel like wild harvesting was everywhere. A coworker took his lunch break to walk over to the nature center and came back with a brown lunch sack full of morels. The number of deer donated to food pantries during the Share the Harvest campaigns were significant. I saw Facebook posts asking if people had any wild plum trees on their property that they could harvest. The diversity of products

harvested here, for food and for sale, was amazing. This raised interesting questions, though, because although the people seemed to value it here, why was it not being discussed or evaluated in the broader food systems work? If there were so many natural resources available, and a history of wild harvesting or gardening for self-procurement, why were there still so many hungry people? I began to explore the literature on wild harvesting and non-timber forest products, and that literature is broad, discusses a variety of benefits to individuals and communities, including food security, and reviews implications of policy and land management regulations for access issues. While this literature does cover food system concepts from the specific angle of wild harvesting, this research has generally been published in forestry or sustainable development publications. It seems only recently that research and literature on wild harvesting has been integrated into the broader local food systems research (McLain 2014; Poe et al. 2013; Poe et al. 2015). In addition, a common point in much of the wild harvesting literature suggested that too often harvesters' knowledge and voice were left out of research and policy decisions, and that future efforts should better engage and value the knowledge of wild harvesters. The use of narrative inquiry in this process helps to address that gap in the wild harvesting research.

This research project became an opportunity for me to blend my interests in local food systems, rural development, community development, and engaged, collaborative research. This research listened to the stories of wild harvesters in the Ozark Highlands using narrative inquiry to begin to develop, collaboratively, new strategies for engaging rural communities in local food systems. The main

research question in this study was: What can be learned from the wild harvesting experience that might help strengthen local food systems as a rural development strategy? This project explored the personal, social and place-based experiences of food and wild harvesting, participants' sense of place, ideas about local food systems, and role of public land in wild harvesting in order to answer this question.

This research contributes to the local food systems knowledge by evaluating the concept of traditional and contemporary localism in practice. I applied the comprehensive rural wealth framework to a specific place-based rural food system practice to suggest a set of impacts and indicators for measuring the contributions of this practice to rural wealth. Finally, this research addresses a need identified in both the local food and wild harvesting literature for more engaged, participatory methods for working with local knowledge.

CHAPTER 2: LITERATURE REVIEW

Reviewing Food Systems and Rural Communities

In contrast to our global food system, local (or community-based) food systems focus on local economies by supporting direct markets and institutional purchasing of food produced by local farms, increasing relationships between farmer and consumer, and reducing transportation costs for food products, among other potential benefits. As a strategy for rural economic development, local food systems can increase job and business opportunities for local residents through farming and other food system businesses, increase the amount of healthy food available to residents, and keep the money spent on food circulating within the local economy. There is no one definition of local, with arguments for 100 miles, specific communities or regions, states, or other specified geographic boundaries; market type and structure, and relationships between producers and consumers (Kingsolver 2008; Martinez et al. 2010; Smith and MacKinnon 2007; Trivette 2015). For this research, I did not outline a specific definition of local, but during conversations with participants asked and explored their definitions and boundaries for “local” food.

Local food system researchers and practitioners use a range of terminology for describing ideal food system attributes or goals, such as healthy, green, fair and affordable. The indicators in the Whole Measures for Community Food Systems (2009) guide provide a comprehensive concept of healthy food and healthy people. They suggest indicators such as availability of fresh, nutritious, culturally/spiritually relevant food; awareness of relationships between

food, inequities based on race and class, and health; connections between farmers, consumers and the land; and the skills, knowledge and access to opportunity for growing, sharing, and preparing healthy food. Fresh, nutritious food is important in food deserts that lack access to a variety of options for healthy food. Rural communities are fortunate to often have sharing networks that can provide a source of healthy food from families or neighbors, but Morton et al (2007, 116) argued that despite the importance of home gardens and food sharing, “neither redistribution or reciprocity solve the problem of rural food insecurity.” One example of the benefit of the whole measures is in work to address issues discussed in literature on native/indigenous populations and their rights to traditional food. Several authors discussed the diminished health that comes from a change in the types of food available to native populations, moving from traditional “country foods” to more commercialized, processed options (Gerlach and Loring 2013), to issues of limited access to traditional foods when relocating (Elliott et al. 2012) as well as the value of forest foods for meeting nutritional needs (Vinceti et al. 2013). Culturally appropriate food is also important in any community, particularly in terms of cultural and historical traditions of a region, and ensuring access to those foods. As McEntee (2011, 251) argued, “we have yet to see a ‘buy local’ campaign that supports hunting as an appropriate food procurement mechanism.” The cultural turn discussed in the sociology of agriculture literature (Carolan 2012) pointed to the need for listening to the food stories of community members to better understand motivations (McEntee 2010), historical and cultural traditions (Hinrichs 2003), and

opportunities for the future of food systems in rural places (Delind and Bingen 2008; Hinrichs 1998; Hinrichs 2003).

The literature on transformative food systems also used terms such as sustainability, sustainable agriculture and environmentally friendly in addition to “green” to point to production and consumption practices that protect natural resources and are viable over the long-term (Carolan 2012). The challenge for clarifying “green” is that it often means more than just environmental practices, but also tends to include discussions of antibiotic usage, GMO products, and humane treatment of animals. In our global food system, the process of labeling to project certain environmental or animal health practices is complicated by differing or non-existent standards (as in grass-fed), and lack of knowledge of consumers on the practices behind specific labels. Carolan (2012) also pointed to the challenge of practices such as organic changing from its original values as those practices have been incorporated into the industrial food system.

Local food systems are often promoted as an opportunity to know the farmer and their production practices and make choices based on that first-hand knowledge. The assumption is also often that small-scale farmers make more environmentally sustainable production decisions versus those of large corporate farms. Food miles is another method for estimating the environmental impact of food in terms of transportation and is another argument for using locally produced food, in order to reduce the costs, both environmentally and economically, of shipping food long distances (Halweil 2002). Food safety is also often included in discussions of sustainable food production, distribution and

consumption. DeLind and Howard (2008) discussed the challenges posed for regulation and production strategies in the wake of significant food contamination outbreaks and illness. They argued that while regulation is necessary for industrial agriculture, the more important need is for “much more decentralization and democratic input than exists currently” and suggest local knowledge and scale-based solutions that support smaller farms and food businesses rather than a one-size option based on the problems of industrial agriculture (DeLind and Howard 2008, 314). However, Winter (2003, 30) pointed out “how mistaken it can be to equate localism simplistically with food safety and environmental issues” and used data from case studies to show the contradictions that can occur when local farms scale up production practices.

A fair food system might serve as an umbrella term for other food system talking points such as equity, accessibility, and choice. The food justice and food sovereignty literature points to several important considerations in framing a fair food system. Food justice works to reduce inequalities in our food systems, particularly focused on race, gender and class (Cadieux and Slocum 2015; Slocum and Cadieux 2015), while food sovereignty is about ensuring that producers and consumers have the opportunity and power to make their own food production and consumption choices and decisions and have “the right to adequate food” (Anderson and Bellows 2012; Fairbairn 2012). Often these two terms are used interchangeably, and as Slocum and Cadieux (2015,29) noted, “the issue is not *more* food production but how societies *create* food systems.” Fairbairn (2012) discussed the fact that food sovereignty has most often been

applied to international geographies and peasant farmers, but she found important considerations for United States communities as well in the concept. Supporting small-scale rural farmers (although there is an opportunity for urban food producers as well) and their production decisions outside of a conventional agricultural system have been key for food sovereignty efforts. Supporting small-scale farmers is important for increasing local food production with the idea that then more food is available for local consumers that is fresher, builds relationships between farmer and consumer, and improves the economy with more money circulating within the local community. However, ensuring that all community members have the same access to that locally grown food cannot just be assumed. Keeping food justice in mind, as well as food equity, helps food system practitioners to think about ways to open up access to sources of food. Implementing acceptance of EBT and food stamps at farmers' markets, placing a location of a farmers' market or CSA drop-off where residents with limited mobility or transportation can access, and engaging with producers and consumers on the types of food and production methods that are most important for their families' health and food needs are some examples. Food justice has also pushed food system advocates to consider health, sustainability, community, cultural, and environmental aspects in addition to simply economics of food systems (Alkon and Agyeman 2011; Allen et al. 2003; Dietetics. et al. 2010; Feenstra 2002; Kloppenburg, Hendrickson and Stevenson 1996). Anderson and Bellows (2012) and McEntee (2011) both argued as well for a recognition of opportunities and policies or practices that support local food

production or procurement that is not intended for economic transactions but supports the informal and non-cash based exchanges in rural areas.

This idea of informal market exchanges of food also introduces the concept of an affordable food system. An affordable food system should ensure that healthy food choices are affordable for all residents, and that food options such as local or organic do not become exclusive to only those with higher incomes. One of the biggest challenges in using the local food system idea to transform a rural food system is the impact of food prices. Price, both from a consumer and producer perspective, can hinder direct market sales, with consumers sometimes complaining that local produce is too expensive, while farmers can often seek out higher prices in urban areas with more customers and greater incomes. Recent research by Rossi et al (2017) confirmed that farmers producing food for direct markets in their rural study regions were more likely to sell in urban areas because of better sales opportunities. The authors' earlier research (Hendrickson et al. 2015) pointed out that rural residents use alternative methods for accessing local food based on social networks, local knowledge and social capital. Research in Illinois also pointed to these differences in rural and urban consumers. Gasteyer et al (2008, 69) found that the most effective rural local food efforts required "intentional development of social capital around the production and consumption of food." Interviews with farmers' market customers in Illinois pointed out that rural consumers valued locally produced food, but found that those customers sourced local food in multiple ways (such as farm stands, neighbors, farmers' markets, and u-pick operations), limiting the amount

spent at any specific direct market in rural areas (Gasteyer et al. 2008; Hultine and Cooperband 2007). McEntee (2010) verified this idea of rural residents valuing local food but that motivations related to price strongly influence consumers' decisions about food purchases. Gerlach and Loring (2013) suggested that communities take on a "portfolio approach" to food security that combines production for commercial markets, production for self-provisioning, and flexibility in market and exchange relations that better balance the food needs of residents. Self-provisioning of food in rural areas is common and changes the dynamic for economic exchanges of locally grown food. Home gardens, hunting, wild harvesting, and informal exchanges between family and friends with gardens are food access activities that can span income levels, age and location (Vavra et al. 2016).

The challenge for rural communities is ensuring that residents in these places have access to the same variety, options, and affordability for local food as do urban residents, while ensuring that farmers are able to sustain their farming operations. In our global economy, there are few opportunities to interact solely outside the market system, but research continues to show that rural residents in particular utilize a variety of formal and informal market activities for their family livelihoods and food security (Brown, Xu and Toth Jr 1998; Glass, Muth and Flewelling 1990; Morton et al. 2007). In proposing the differences between contemporary and traditional localism, McEntee argued that while there are aspects of the two that overlap, "these concurrently exist in the same physical but different social space" (McEntee 2010, 786). He suggested

that it would be critical to engage those who were participating in traditional localism activities to better understand their motivations and challenges because these “have been largely ignored by present-day local food movements” (798).

Is it possible for local food systems to serve as a rural development opportunity if the usual economic strategies of local food systems are not as effective in rural communities? If self-provisioning, multiple access points, and exchanges based less on economics and more on social capital are important in rural areas, how might that be leveraged to strengthen local food systems in rural communities? In what other ways can local food systems contribute as a rural development strategy?

More than Economics: Exploring Personal, Place-Based and Social Experiences in Local Food Systems

Acknowledging Individual Experience: The physical experience of growing or sourcing food for self or family can have important contributions to the meaning and motivations for local food systems. DeLind (2006, 127) emphasized the significance of embodied experiences with food, place, and culture with her research and argued that those experiences are necessary “not just as a desired outcome, but as a prerequisite for localization in its own right and for contextualizing as well as sustaining food security.” In her book about noodling (handfishing) in the Ozarks, Grigsby (2012) documented the high value that noodlers placed on the physical experience of touching the fish, being in the water, and the physical and mental exertion to catch fish by hand. The Community Garden Storytelling Project in Canada (Miedema, Desjardins and

Marshall 2013) documented community garden participants' stories about their experiences in the garden project, and found benefits that ranged from physical impacts of improved mental health to more cultural benefits such as increased relationships between neighbors and knowledge sharing between generations. Turner's research on community gardeners in Australia also pointed to the importance of the physical experiences at the garden for connecting gardeners to better understanding and support of sustainable practices, and increased connection to food and the food system (Turner 2011). She also noted, however, that the experience of food production in the garden didn't necessarily translate into increased support for local food systems in the broader context – not all the gardeners who used organic practices also purchased organic food in stores. This may fit with McEntee's argument about overall motivations and the differences between those participating in traditional localism where price and self-provisioning are higher motivations than for those participating in contemporary localism practices who support local for broader economic and ideological reasons. Connecting to residents to understand their motivations and experiences about local food might suggest new strategies for engaging people in wider range of local food system activities.

Identifying the Impact of Place: Multiple authors have argued a need to move away from generalized approaches to transforming food systems, and suggested that embedded and embodied experiences with food *in a specific place* are critical for any real changes (DeLind 2002; Delind 2006; Miedema, Desjardins and Marshall 2013; Turner 2011). Mares and Pena have challenged

those who support local food systems to value foodways and cultural identity:

“...we collectively strive for deep connections – with our food, *with the places we live*, and with each other” (emphasis mine) (Mares and Pena 2011, 217).

Further research by DeLind (2002) argued for common spaces in communities as places to educate and share experiences of a particular place. Her examples of urban agriculture spaces pose somewhat different contexts than rural places; however, her ideas contribute as well to this study, which included the role of public land in the Ozark Highlands region as commons. She was concerned that “civic agriculture” has been seen only as a side benefit of food systems, rather than building a local food system beginning with the connections to place and the cultural experiences of food in a place. DeLind et al (2008) and Hinrichs (2003) both suggested that place-based food system efforts should focus on creating conditions for civic engagement, a sense of place, and recognition of the diversity within a place when working towards transformed food systems.

All of the authors discussed in this section have recognized and clarified that a focus on place and experience does not mean there is only one history or culture for residents in that place, rather that the experiences and cultural values are constantly being shared and recreated as new generations and new residents participate in community. Several authors (DeLind and Bingen 2008; Hinrichs 2003; Winter 2003) have used the term “defensive localism” and argued it can actually do more harm than good in transforming food systems if they create or continue existing inequalities, exclusion or unsustainable practices.

Winter (2003) argued that embeddedness is based on social relationships, and that there is value in strengthening social relationships for economic transactions in a local community, but also cautioned that the challenges of an industrial, global food system are not instantly or necessarily solved by a focus on the local. It is also critical for food system practitioners to help their communities think beyond strict boundaries of local, and form bridging partnerships within a broader region for stronger food systems, which will be discussed in more detail later in this chapter.

Creating Social Capital and Embedded Food Experiences:

Social capital is an important component of sociology and community development. In the community capitals framework often utilized in community development efforts, Flora and co-authors (Flora et al. ND) presented social capital practically as “reciprocity, trust, leadership, and group membership and networks” and suggested methods for building social capital such as engagement and conversation with diverse stakeholders in community efforts, and linking organizations both within and outside a community on projects. Putnam (1993, 35), a prolific author of social capital studies, argued that communities with a high level of social capital are more likely to have successful collaborations for both community and individual benefits. He also suggested that social capital is a resource to leverage for individuals and that individuals benefit the more they build their social networks, but that a challenge is the exclusionary potential of social capital if individuals are not aware of the norms or are purposely excluded by members in a network. Despite this challenge, he also

considered social capital a “public good” (Putnam 1993, 39) and pointed out broader benefits to communities and other individuals whether they directly participate in building social capital or not, such as the work of volunteers implementing community improvements that benefit the entire community regardless of participation. In a study of community leaders in two rural communities, O'Brien and co-authors (1998) found that despite a similar limited resource base between the communities, the community with stronger social networks and a history of leaders working together on projects was more economically viable than the community with limited social capital.

Natcher (2015) discussed social capital as it directly relates to food access in Aboriginal communities in Canada, and suggested that access to a strong social network can increase access to a range of food sources, whereas communities without strong social networks or exclusion from networks are more challenged by food insecurity. One other key point about social capital is the need for both bonding and bridging social capital. Bonding capital describes the close personal relationships and networks within a community or with similar ties, such as family ties, friends and neighbors, and community groups inside a community. Bonding capital can be problematic if it creates conflicts between different groups, whereas bridging capital is the relationships built between groups of different interests, distant communities, or other diverse groups or individuals. The Aboriginal communities discussed above (Natcher 2015) had strong bonding capital with the skills and traditional knowledge and reciprocal relationships for sharing traditional food among their members, but when

harvests were poor they were negatively impacted, as they lacked the bridging capital necessary to make connections to food sources produced and shared by social groups outside their own community.

Connecting Social Capital and Economy with Comprehensive

Wealth: A report on rural wealth by USDA-ERS (Pender, Marre and Reeder 2012) suggested that wealth should be more than simply a measure of an individual's income, composed instead of the diversity of assets and capital individually and as a community. Johnson (2014) argued that wealth should include those “non-tangible” assets such as “welfare, well-being, utility, happiness...” in addition to traditional economic measures. An important consideration for Johnson was the concept of community and individual wealth, which he described as “place-based” and “people-based” and that impacts on wealth occur based on ownership and mobility of the wealth and assets (Johnson 2014, 207). The concept of comprehensive wealth provides a context for evaluating not only the economy of a place, but also the related policy, environmental, institutional and other factors that play a role in improving or decreasing overall wealth of a community and its residents. The Pender et al report (2012) outlined potential measures for valuing rural wealth, including indicators for changes in all of the capitals, including social capital, and argued that it is better to measure changes in all potential assets rather than trying to find a single consolidated estimate of rural wealth. Both Pender et al and Johnson also argued that any comprehensive wealth development efforts or

measures should be place-based and informed by local context (Johnson 2014; Pender, Marre and Reeder 2012).

Putnam (1993) also argued that social capital is a foundation for economic development and suggested that developing social capital is an important first step for any economic effort. Ostrom (2000) discussed points about social capital that are similar to those discussed in Johnson and Pender, in that it must be used to remain a viable asset, cannot be overused, and that policy can directly impact the value of social capital in a specific place. All of the social capital authors discussed above (Flora et al. ND; Ostrom 2000; Putnam 1993) suggested that social capital is not sufficient alone for improving communities but must be used in cooperation with other capitals such as physical, human or political. As Johnson (2014) suggested, utilizing a comprehensive wealth concept along with social capital better blends these ideas in evaluating other assets and capitals in a community to help in explaining stocks and flows and changes to comprehensive wealth because of investments in social capital.

Applying Comprehensive Wealth in Rural Food System

Development: The Pender, Marre and Reeder report (2012) suggested that it is not just an increase in wealth that is important but also how that increase is distributed among residents (as well as any potential costs). Rural farmers' markets are a good example of the need to consider comprehensive wealth rather than simple economic measures of successful markets. For example, often a goal of implementing a farmers' market is to increase income and customer base for rural farm businesses, and provide additional sources of fresh

food for local residents. That project may succeed in those two goals, but using the comprehensive wealth concept allows a deeper analysis of the effort. For example, it might highlight that despite the traditional economic success, the market might exclude those without transportation or higher incomes (cost/benefit distribution), or perhaps on a positive focus, also increase social capital by increasing networks between the farmers and organizers who started the market as well as between farmers and consumers. The original goal of the market is still a worthy entry point into rural development, but using the comprehensive wealth framework helps to plan and evaluate efforts to see a wider range of costs and benefits in measuring the impact.

Several authors have worked to expand the traditional economic approach to rural development using sustainable development or eco-economy models of development. These approaches do expand the valuation of benefits and opportunities for rural communities of a development intervention, however the two examples below demonstrate how using the comprehensive wealth framework would have strengthened their analysis by clarifying elements in their proposals, better documenting the local context, and highlighting both positive and negative impacts of their proposals. Lewis (2004) discussed the Missouri Ozarks and the potential for forest sustainability by arguing for “social and economic sustainability.” He outlined concepts for improving the local economy and protecting forests that included “sustaining cultural identity, sustaining social solidarity, growing a sustainable economy, and governing sustainability.” Although he did not use the comprehensive wealth concept in his analysis, we

can see how the framework could be applied to elements in his work, as I point out in parentheses in the next line. For example, he discussed in and out-flows of natural resources (changes in natural capital stock), the value of political capital (a community asset), local decision-making to build businesses that highlighted and protected resources valued by the community (local actor decision-making), and policies that supported investment in long-term use of natural resources (local context). Using the comprehensive wealth theory to evaluate the implications of proposed policy on not just natural capital, but also other categories of capital in his research may have demonstrated additional positive or negative impacts of the proposals.

Another example of an approach for rural development that could be expanded using the comprehensive wealth concept is the idea of the “eco-economy,” a method that applies ecological economics, services and modernization to a wider frame of social and economic issues in rural places. The authors of a key article on the eco-economy (Kitchen and Marsden 2009) argued that for sustainable rural development, what is necessary is “deepening, broadening, and re-grounding to revalue rural resources.” Their focus was still mostly on economic and ecological impacts, but they did highlight local knowledge and decision-making, as well as social and cultural resources as necessary for any sustainable rural development effort. The limitation of their study was that while they discussed the benefits to financial and natural capital, they did not discuss any implications of their proposed interventions on social capital. Applying the comprehensive wealth concept may have opened up

analysis of potential impacts on all the capitals in the community. These two examples entered rural development with an economic and environmental focus, but the value of applying comprehensive wealth is to consider a broader set of assets and outcomes in implementation and evaluation in future rural development efforts.

Comprehensive wealth has applications for local food systems and rural communities, and the following two additional examples point to how researchers are already indirectly using and arguing for this concept, and how the comprehensive wealth framework would fit their recommendations. Campbell et al (1993) studied adaptive skills in the Missouri Ozarks in order to better understand opportunities for rural development. They argued that the barter of skills and the resulting physical infrastructure (such as trading labor to build barns) is not effectively measured in traditional economic indicators, yet the value that those buildings represented in terms of overall wealth is significant to the community and the individuals involved. In describing the cash and informal economy in the Ozarks, they wrote “the level of the threshold [of cash available versus needed] will depend on desires (ambition), stage of life cycle, current resources, health, etc.” (Campbell and Spencer 1993, 46). If we apply the rural wealth framework to this example, we notice that the investment in social capital (through bartering and exchange) results in increased physical capital, but he also argued that those investments and impacts are dependent on local context to influence decisions about those activities. The rural wealth framework would allow for a more comprehensive analysis of other potential investments by more

clearly articulating the broad community circumstances that created the results from his example.

A second example comes from research on subsistence fishing (Poe et al. 2015) where researchers found that despite economic costs and loss of potential income, fishermen in the states of Washington and California often shared a significant portion of their harvest with family, friends and community. Similar to the case of trading labor in the Ozarks, these fishermen found benefits beyond pure income of sharing parts of their harvest. Poe argued that this demonstrated the need for “an expanded set of behavioral and economic logics that might allow for the possibility that investments in culturally significant food customs, generosity ...and maximizing the yields of community social structures might be completely rational” (Poe et al. 2015, 249). Applying comprehensive wealth and social capital to local food systems in rural communities, and rethinking how we frame an application of local food systems as a strategy for rural development using comprehensive wealth accounting may provide new ideas for investing in food systems as well as alternative measures for evaluating the success of local food system efforts. The rural wealth framework is very place-based, and as we argue for and promote localized food systems, we need to ensure that we are thoroughly evaluating the local context influencing residents’ decisions, recognizing the local assets, and fully accounting for potential benefits and negative impacts of proposed interventions that account for more than only financial transactions.

Wild Harvest as Food System Practice

Wild harvesting, which is also referred to as foraging or gathering, is the harvesting of non-timber forest products (forest foods) and other non-cultivated products. Alexander and McLain (2001, 60) define categories of non-timber forest products (NTFP), including “floral greens, Christmas greens, ornamentals and craft materials, wild edibles, medicinals, ceremonials/culturals, and native plant transplants.” Common wild edible NTFPs include wild mushrooms, tree fruit and berries, syrups, and nuts. More recently, wild edibles have expanded to include products found in urban areas such as edible “weeds” and other plant materials (McLain 2014). While hunting is not specifically addressed in classification of non-timber forest products, research has pointed to cultural keystone wild harvest groupings (Carroll, Blatner and Cohn 2003; Wilsey and Nelson 2008) that suggest that hunters also wild harvest non-timber products and vice versa.

Wild harvesting has been researched for its role in community forestry management (2018a; Ballard and Huntsinger 2006; Berkes and Davidson-Hunt 2006; Charnley and Poe 2007; Parlee and Berkes 2006), family livelihoods and community informal economies (Campbell 2012; Glass, Muth and Flewelling 1990), health (Emery and Pierce 2005; Hinrichs 1998; McEntee 2011; McLain 2014; Vinceti et al. 2013), cultural foodways (Glass, Muth and Flewelling 1990; Jacobsen 2010), and food security (Gerlach and Loring 2013; Poe et al. 2013; Vinceti et al. 2013). While the research base on wild harvesting is large, there has not yet been an analysis of wild harvesting using the lens of comprehensive

rural wealth. In particular, the diversity of capitals that wild harvesting contributes to and pulls from a community, from financial, natural, social, and human, points to a need for a broader analysis of the practice in rural development.

There are three main types of harvesters outlined in non-timber forest product literature: commercial, recreational, and subsistence (Bennett 2002; Carroll, Blatner and Cohn 2003; Emery and O'Halek 2001; Emery and Pierce 2005; Wilsey and Nelson 2008). In general, commercial harvesters are those who sell their NTFP products within the market system, recreational harvesters are those who harvest for the enjoyment of being outdoors or heritage/traditions, and subsistence/informal harvesters are those who harvest NTFP as part of their livelihood strategy for food security or cash exchanges through the underground or informal economy. Although the literature estimated how much wild harvests contributed to household subsistence whether as food or income (Glass, Muth and Flewelling 1990; McLain, Jones and Alexander 2008; Vinceti et al. 2013), Glass et al (1990) suggested that a majority of subsistence harvesting today may be more of a supplement than necessity to family food security. However, a majority of the research remarked on the interconnectedness of these harvesting motivations and that the motivations often depend on community and household economic conditions to determine the purpose of harvesting (Carroll, Blatner and Cohn 2003; Glass, Muth and Flewelling 1990; Hinrichs 1998; Wilsey and Nelson 2008). Carroll et al (2003) used grounded theory to develop categories of huckleberry harvesters on National Forest land in Washington State. Their research suggested four categories: native harvesters, (non-native) household

harvesters, income supplementers and full timers. These categories “are neither entirely mutually exclusive nor absolute...[and] in some cases harvesters reported having drifted from one category to another as household economics and life stage changed (324).” This section highlighted the need to understand the local context that influences actors’ decisions, depending on their needs and economic situations, and that perhaps the levels of wealth related to the practice are relied on differently at different times.

Social embeddedness and the intersection of wild harvesting motivations with social values and institutional practices are also significant in understanding decisions made by wild harvesters. Hinrichs (1998, 512) argued that “rural work and resource enterprises are undertaken and experienced by people for reasons that diverge from what a narrower, more conventional, economic accounting would discern.” This points to the value of understanding the local context and evaluating what potential impacts might occur, not just to financial resources, but also social capital, based on policy or other changes to wild harvesting practices. Her work with maple sugar producers pointed out that there were very limited opportunities to scale up sugar production as a larger response to rural economic challenges, but that production as a livelihood supplement, cultural identity and social networking process was valuable.

Wild harvesting and non-timber forest products also offer a chance to view an activity that spans the spectrum of traditional and contemporary localism. While much of wild harvesting activity occurs in a traditional localism, non-market economy, there are local, direct market sales of wild edibles as well as larger

commercial harvesting operations. Several NTFP research articles presented critiques of existing policy or management strategies that benefitted one group of harvesters while harming another – promoting the need to recognize this interconnectedness and variety of harvester motivations in designing research methods and proposing policy or management initiatives (Bennett 2002; Carroll, Blatner and Cohn 2003; Love and Jones 2001; McLain and Jones 2001; Watson et al. 2018). Without an analysis of the comprehensive nature of this practice, and the interdependency of harvesters and motivations, simply implementing a rural development strategy that only focuses on market-based activities of wild harvesting could cause significant social or other impacts to non-market activities and harvesters. Instead, a broad analysis might better highlight the need for an intervention that balances both the need for market sales and self-procurement, to minimize losses to other areas of wealth. A new report by the USDA Forest Service (2018a) reviewed the literature of non-timber forest products in the United States, including economic and social impacts. The report suggested (146), “a better understanding of NTFP contributions above and beyond simple measures of monetary income to household and community well-being will help in determining interventions such as assistance, development, and educational programs.”

As discussed in the previous section, Campbell promoted the need to understand adaptive skills in the Ozarks as a rural development strategy. This research builds on the broader wild harvesting research by conducting a place-based analysis of the adaptive skill of wild harvesting in the Missouri Ozarks. By

applying a comprehensive wealth analysis to consider interventions available, local needs and opportunities, and the potential impacts to multiple categories of wealth, this project reviewed the opportunities for supporting this practice for both strengthening local food systems and supporting broader rural development goals in this region. This research also used wild harvesting, as local food system practice, to explore participants' embodied and embedded experiences with local food, sense of place, and ideas about local food systems, to consider what role local food systems can play in rural development.

The Ozark Highlands Study Region

This research project focused on four Missouri counties in the Ozark Highlands region as described by the Environmental Protection Agency's Level III Ecoregions and the Missouri Department of Conservation Atlas of Missouri Ecoregions (Agency 2013; Nigh and Schroeder 2002). The Ozark Highland ecoregion (see Appendix 1) is an area in southern Missouri and northern Arkansas that consists of similar natural resources, land use, and geography, and is noted for its extensive biodiversity (Nigh and Schroeder 2002, 87). Using USDA – Economic Research Service data (accessed 7/16/2017), these four

	4-County Region		County A		County B		County C		County D		Missouri	
		%		%		%		%		%		%
Population												
2016 Estimate	57,002		6,269		15,914		8,319		26,500		6,137,347	
2010 Census	56,371		6,265		15,657		8,441		26,008		5,988,927	
2000 Census	52,195		5,941		14,927		8,324		23,003		5,595,210	
1990 Census	48,306		5,515		13,703		7,612		21,476		5,112,329	
Growth 2016-2010	1.12%		0.06%		1.64%		-1.45%		1.89%		2.48%	
Growth 2010-2000	8.00%		5.45%		4.89%		1.41%		13.06%		7.04%	
2016 Median Age	42.4		41.8		42.9		44.0		41.9		38.5	
High School Graduate (or GED)	16,077	41%	1,239	29%	4,110	37%	2,287	40%	8,441	46%	1,286,946	31%
College Graduate (associate degree or higher)	7,488	19%	973	23%	2,195	20%	1,174	20%	3,146	17%	1,388,870	34%
2016 Estimated Per Capita Income	\$ 19,697		\$ 20,517		\$ 20,280		\$ 19,007		\$ 19,369		\$ 26,367	
2016 Estimated Median Household Income	\$ 36,285		\$ 34,813		\$ 37,589		\$ 34,328		\$ 36,373		\$ 48,477	
2016 Estimated Average Household Income	\$ 48,445		\$ 50,034		\$ 49,471		\$ 46,170		\$ 48,158		\$ 65,226	
Unemployment Rate	6.2%		7.2%		5.9%		7.0%		5.9%		4.3%	
In Labor Force	23,906	51%	2,795	55%	6,849	53%	3,714	55%	10,548	49%	3,136,970	64%

Table 1. Demographics of the study counties, as a region and individual counties. Data from PopStats, Synergos Technologies Inc. <http://www.synergos-tech.com>.

counties are considered rural, non-metro, three of the four counties are persistent poverty, and all four are Frontier and Remote Access. Table 1 highlights demographic data for this region, including low educational attainment, an aging population and lower household incomes compared to the state.

Table 2 documents food security and health indicators with data from the 2016 Missouri Hunger Atlas that demonstrate significant health and food access issues, such as high rates of food assistance program eligibility and high obesity prevalence.

	County A	County B	County C	County D	Missouri
Individuals Food Uncertain %	17.4	16.5	17.9	16.7	16.4
% Total Population Income Eligible for Supplemental Nutrition Assistance Program	40.3	39.8	41.7	36.8	29
National School Lunch Program % Students Eligible	70.2	67.2	75.8	61.4	50.3
Obesity Prevalence %	48.7	34	27	33.8	30.2
Food Affordability % of median income	21.9	20.6	15	21.6	14.8

Table 2. Health and Food Access in the 4-County region. Data from 2016 Missouri Hunger Atlas.

Agriculture, forestry, fishing, mining and construction combined is within the top three industries by employment for the region. Education, healthcare and social services is the top industry by employment in all four counties, with manufacturing and wholesale trade also top industries. Cow/calf operations are significant in this region, with very little crop production. The number of farms

raising products for direct market has grown in the past few years. There is an increasing focus on local food systems and agri-tourism in this region, with growth in local farmers' markets, farm stands, and marketing cooperatives, along with many county-based efforts to promote healthy, affordable local food through farmers' markets, community gardens, farm to school efforts and training programs for beginning farmers.

Public Lands – Beauty and Controversy: The Ozark Highlands region is home to significant acres of public land managed by the National Park Service, U.S. Forest Service, and state agencies, as well as local-government owned parks and recreational areas. There are also privately owned lands that do allow some public recreation. The public lands are both embraced and controversial, with a long and continuing history of contentious debates over land acquisition, management and use (Brady 2015; Price, ND; Rikoon and Albee 1998; Sarvis 2002; Stevens 2002). Yet this land is also promoted for its beauty, unique geography, heritage, and diversity of natural resources (Campbell 2012; Company 2010).

In general, wild harvesting is allowed on public lands, within defined limits. A document review of the state and federal regulations for wild harvesting in the Ozark Highland region identifies that mostly wild harvesting on public properties is limited to specified quantities for personal consumption only (2014; 2018b; Service). Missouri Department of Natural Resources is most specific in their harvesting guidelines, with limited harvest of small fruits and berries for consumption only within park boundaries, and the harvesting of plants or flowers

is not allowed. There are very limited opportunities for commercial harvesting permits in this region and none includes wild harvested edibles or medicinal products.

Informal discussion with several land management agency representatives highlighted the perceptions of wild harvesting from an agency perspective, as well as management and enforcement strategies and challenges. Tradition and recreation were suggested as the most common motivators for wild harvesting, and berries and mushrooms were the most common edible products harvested, besides deer and turkey hunting. Ginseng and witch hazel were mentioned as harvested products that are problematic because of the commercial market for those products, which makes poaching a significant problem on both agencies' lands, notably for ginseng. The number of visitors to public parks and public land was also mentioned as a concern for wild harvesting in terms of quantities and sustainability of harvests. While these representatives seemed generally supportive of wild harvesting, these conversations highlighted the challenges of public land agencies to balance open access recreation while protecting the natural resources and value of their properties. Limited staff time, funding, and management priorities make it difficult for these agencies to address wild harvesting activities on their lands.

Culture and Skills of Past, Present and Future Ozark Highlands

Residents: In a report exploring the feasibility of a national heritage region for the Ozarks (Company 2010), the authors wrote “the area maintains traditions of self-reliance and connection to the land from the time when it was a frontier. Why

such activities as hunting, fishing and canning endure here more than in other places is a question that should be explored.” Other regional authors have reiterated the historical skill base of Ozarkers and opportunities into the future (Campbell 2012; Campbell and Spencer 1993; Lewis 2004). Campbell (2012, 6) argued that “the culinary distinction [of Ozarks cookery] can be restored and maintained to the extent that people are willing to experiment, to propagate both new and old varieties of edible plants in fields, gardens, orchards and berry beds, and even more definitely to take food materials directly from the open fields, ranges, woods and creeks or rivers.” This heritage and experience in this region provided a unique study area to better explore and understand opportunities to strengthen local food systems through wild harvesting and ideas of local food generated through these experiences and knowledge.

This region also continues to participate in a range of informal and formal economic opportunities – with many examples of activities falling in both the traditional and contemporary localism categories discussed earlier. Author Brian Campbell (2012, 5) argued that “contemporary Old Stock Ozarkers have no such illusions of making a living through farming, rather they tend to heavily supplement another occupation with foraging, farming, gardening, and hunting. Old Stock Ozark families invariably refuse to sell their garden surplus, preferring to give it away to family and neighbors.” This suggests at least a history of strong traditional localism activity in the region. Campbell recommended current farmers and gardeners in the region grow field peas, a traditional regional crop,

as an opportunity to connect local food production with the heritage and historic foodways of the region (Campbell 2014).

In Missouri, two recent books have advocated for cooking with wild products using wild berries, nuts, plants, and wild game in local cuisines. Author Bernadette Dryden argued, “why not give your children a lifelong gift? Teach them to hunt, fish and forage – and of course, to cook” (Dryden 2011, 2; Marrone 2010). Nationally, Michael Pollan’s *Omnivore’s Dilemma* (2006) showcased the skills and variety of food needed to prepare a meal fully sourced from the wild. Although conversations with older residents in the region suggest these activities may not as common now as in the past, there are still those who regularly harvest edible wild products, at least recreationally, with wild berries being the most commonly reported anecdotally. In addition to recreational harvesting for home/family use, vendors at regional farmers’ markets are selling wild harvested products (common ones are wild berries and mushrooms) and value-added products using wild edibles such as elderberry syrup, gooseberry pies, and wild plum jam. There are also businesses using forest farming techniques to sell wild foods to local and urban markets.

The Campbell et al research (Campbell, Spencer and Amonker 1993) featured the skills of Missouri Ozarkers and argued that having these skills within the informal social economy of the Ozarks is critical for survival. They wrote “there is a need for reconstruction of regional economics...starting with research on local knowledge...concerning these adaptive tactics” (46). With the growing interest in local food systems as a rural development strategy, the continued

presence of wild harvesting practice in this region in both the formal and informal economic sectors and the extent of natural resources and public land make this Ozark Highlands region a critical place for additional study of these practices. Additionally, developing new strategies for rural development in this region is critical to help address the challenges in this rural region, including low incomes and high unemployment, poor health status, low educational achievement and other factors that influence individual and community wealth and security in this rural place.

Applying Community Development Principles to Engage Wild Harvester Knowledge

There is a role for community development in local food systems. DeLind (2011, 279) argued that “local food, as part of a regenerative agrifood systems, is also about...emancipatory work...sharing public responsibility, and empowering community residents and sets of interconnected communities [which] all belongs to the work of creating local food systems and vice versa.” Many of the goals of local or transformed food systems are similar to those of community development efforts: that they are participatory, accessible, sustainable, equitable, and culturally appropriate (Coalition. 2009; Feenstra 2002; Kloppenburg, Hendrickson and Stevenson 1996). Food plays a critical role in a range of functions of communities, so efforts to increase food access and reduce hunger, encourage entrepreneurship and support small businesses, and improve many other functions of the food system have direct impacts on community processes and quality of life for residents.

Two community development principles are critical for engaging in local food systems work with communities:

1. “Promote active and representative participation toward enabling all community members to meaningfully influence the decisions that affect their lives”
2. “Engage community members in learning about and understanding community issues, and the economic, social, environmental, political, psychological, and other impacts associated with alternative courses of action” (Community Development Society ND)

The focus on participant diversity and representation, and education and skill building, are important for ensuring that the discussions and decisions are based on community input rather than outsider influence. Local knowledge has been highlighted in both community development and local food systems literature as key for any successful efforts in communities (Hassanein and Kloppenburg 1995; Kloppenburg 1991). There are variety of methodologies that have been developed to work within communities for food systems change that highlight an understanding of the community and flexibility in approach. Community conversations with a meal, storytelling, food journaling, and photo commentary are four approaches that have addressed needs and opportunities for working with diverse community members (Elliott et al. 2012; Extension 2013; Thornberry 2014; Wills 2012).

Pine and de Souza (2013, 75) advocated for participatory methods to “explore how [residents] understand and respond to their local foodscape and

that builds the community's capacity to transform the local food environment.”

Wild harvesting requires a deep connection to and knowledge of land, hinges on a skill set learned most often by shared social networks or generational knowledge, and commonly operates outside of a contemporary market economy. Wild harvesting thus provides a unique opportunity to understand how local harvesters interact with their local foodshed and what strategies they might suggest for improved local food systems. Much of the research reviewed on wild harvesting and non-timber forest products highlighted at some level the need to better integrate local harvester knowledge and input into policy, management and research. In general, the literature highlighted the limited engagement of researchers and decision-makers with local harvesters and suggested that the information and knowledge of harvesters would be critical, yet there are a variety of barriers that limit harvester participation (Alexander and McLain 2001; Alexander, McLain and Blatner 2001; Bennett 2002; Emery 2001; Love and Jones 2001; McLain and Jones 2001). One barrier discussed highlighted the increasing diversity of wild harvesters (Hansis, Jones and McLain 2001), that creates new issues and challenges for incorporating local knowledge. The diversity of harvesters – in terms of age, ethnicity, class, native/migrant, and gender- also creates a diversity of local knowledge and harvesting practices that need to be considered rather than assuming a shared local knowledge (Ballard and Huntsinger 2006; Emery 2001; Hansis et al 2001). In order to increase participation in knowledge generation and policy/management decisions, several authors supported implementing procedures such as participatory research

design, public stakeholder meetings, and partnerships with harvester organizations (Alexander, McLain and Blatner 2001; Love and Jones 2001; Vance 2001; Wilsey and Nelson 2008). McLain and Alexander (2001) proposed collaborative, multi-stakeholder research teams and networks with international researchers since interdisciplinary models of collaboration are more prevalent in international NTFP research.

“Our challenge, then, as activists and advocates of local food is to tune into and give voice to the local languages, to write the layered ethnographies, and to privilege, for ourselves and others, the spirit that resides in the way we come to know our places” (Delind 2006). The role of a community development professional is to engage with communities, and this research addressed the need for more engaged and participatory research with wild harvesters to understand and address their identified needs. Narrative inquiry provided the participatory methodology to share stories and build new narratives about wild harvesting in this region.

In summary, as the focus on local food systems practice continues to promote its potential as an economic development strategy, the research on local food systems recommends increased effort to understand, document and value place-based experiences of food, participant motivations, and the broader range of benefits that accrue from local food systems participation. This is where comprehensive rural wealth can be integrated into the discussion, to evaluate the role of place in local decision-making, measure changes in stocks of all the capitals, not just financial, and better clarify the potential impacts and outcomes

of proposed interventions in community food systems. There is a concern that rural areas are not receiving the same level of attention in food systems research, and that academics overlook the important contribution that traditional localism practices contribute to local food systems. This research addressed both by engaging with the practice of wild harvesting in a very rural region of the Ozark Highlands. Finally, this project used a research methodology that addressed the criticism of poor engagement of wild harvesters in past research and policy actions, and promotes participatory community engagement principles in rural development work.

The overarching question for this research project was to ask what can be learned from the wild harvesting experience that might strengthen local food systems as a rural development strategy. Within that broad research question were the following exploratory issues:

- What can we learn about personal, social and place-based experiences of food from the stories participants share about wild harvesting?
- Does the wild harvesting experience contribute to ideas about local food systems, and in what ways?
- Does wild harvesting contribute to participants' sense of place?
- What is the role of public land in their wild harvesting experiences?
- What ideas do wild harvesters propose for using local food systems as a rural development strategy?

CHAPTER 3: METHODOLOGY

In my early conversations with wild harvesters in this region, long before I was even a doctoral student, I remember hearing comments like “wouldn’t this be a neat idea?” and “what if...?” In my role as a community development specialist with University of Missouri Extension, I help communities use their own strengths and ideas to improve their quality of life or make desired changes. In that role, and as a researcher, I utilize social constructivist and transformative interpretive frameworks (Creswell 2013), which focus on welcoming multiple views and experiences, and encouraging dialogue and collaboration. At the Agriculture, Food and Human Values Conference in 2015, I listened from the edge of my seat to a presentation by Rebecca Landis (Landis and Niewolny 2015) on her narrative inquiry research and knew I had found the right method for this research project. Clandinin and Huber (2010,14) wrote that the knowledge gained from a narrative research project is focused on “wondering about and imagining alternative possibilities.” What better approach to try that would meld individual and community stories with collaboration for exploring new ideas together?

The Narrative Inquiry Process

Narrative analysis, also referred to as narrative inquiry, is a qualitative methodology that provides both a process for analyzing life experience through stories and text, as well as a format for presenting the results of the narrative research project (Clandinin 2006; Creswell 2013; Menon et al. 2015; Richmond 2002). The process of narrative inquiry is more complex than only writing up

results of a research project in story form. Clandinin and other authors argued that individuals live through stories and share their experiences narratively, and that “we create meaning in our lives” by sharing and discussing stories of our lives with others (Clandinin 2006; Clandinin, Pushor and Murray Orr 2007; Connelly and Clandinin 1990; Menon et al. 2015). Thus narrative inquiry is a process for sharing and re-creating those stories together as researcher and participant to better understand meanings and possible actions for the future. Narrative inquiry is also promoted as a collaborative research methodology that allows for research participants to be engaged throughout the research process, whether in designing the process and research questions (Elliott et al. 2012) or in reviewing and co-analyzing interpretations of the data collected (Landis and Niewolny 2015; Richmond 2002).

Three factors are key for narrative inquiry and can serve as the outline for a narrative research project as well as the framework to organize data collection, analysis and interpretation. The three factors that should be considered in any narrative inquiry project include the dimensions of continuity, situation, and interaction (Creswell 2013). Clandinin and several co-authors reference these as the “commonplaces” of narrative inquiry and use the terms temporality (in place of continuity, to reference the influence of time), sociality (the interaction of community and personal), and place (situation) (Clandinin 2006; Clandinin and Huber 2010; Clandinin, Pushor and Murray Orr 2007; Connelly and Clandinin 1990). These commonplaces are an additional point in the choice of this method for this research project. As interest for local food systems grows to

include the cultural connections and traditions (temporality), embodied and embedded experiences (sociality) and focus on place-making and the role of the commons in food systems (place), returning to each of these three throughout this research and engagement with participants was important. There are other methods for analyzing and framing a narrative inquiry based on life history, or using a literary analysis to study the narrative components of the story such as plot, characters, tension, and conclusion (Creswell 2013; Richmond 2002) but the analysis using the commonplaces was most applicable to this research.

Data collection in narrative inquiry can range from semi-structured interviews to open ended storytelling framed by a concept or event of interest to the researcher, as well as participant observation, analysis of texts (such as letters or journals), or other objects of the experience (such as photographs) (Connelly and Clandinin 1990; Creswell 2013). Schegloff (1997) discussed the value of “talk-in-interaction” that allows stories to be shared in the natural context and place of participants, rather than in a more generic research environment away from the context and events that spur more natural storytelling. Jovchelovitch and Bauer (2000) provided a comprehensive description of the development of an effective narrative interview, while Richmond’s article on the study of adult learners used a story map framework to analyze themes from the stories she collected (Richmond 2002).

Multiple authors argue that the process of narrative inquiry is ongoing, without clear start and end points (Clandinin, Pushor and Murray Orr 2007; Connelly and Clandinin 1990) and that ethical considerations are of significant

importance throughout the research process and in the writing and publication phases. Because research participants are willing to share their own stories of personal experience, anonymity and strategies to limit the recognition of places or events that might point out specific people are critical. Engaging long-term with participants to ensure that their stories and meanings are being adequately portrayed, and allowing discussions and clarifications (Clandinin, Pushor and Murray Orr 2007) provides a member checking review of the interpretations developed, a method also supported in Creswell (2013).

The goal of narrative research is to provide a methodology for engaging participants in sharing the stories of their lived experiences, allowing for multiple viewpoints, and collaboratively analyzing and designing new stories for the future. Narrative analysis is more than just sharing the stories, but the process of helping to “see the social, cultural, and institutional stories [participants] work within and that shape them” and a way to “work together to change those...” (Clandinin 2006, 52).

Narrative analysis differs from other qualitative research methods with its focus on the stories of a small number of research participants, and the design upfront as a collaborative research process that allows the researcher and participants an opportunity to listen to stories and create new narratives “to live by” (Clandinin 2006). Narrative is intended more to understand meanings of lived experiences from participants themselves rather than a picture of a cultural group as observed from the researcher’s perspective as in ethnography (Cerwonka and Malkki 2007; van Maanen 2011).

Narrative inquiry authors promote recording of interviews and stories so that the data is verbatim transcriptions of the interviews using the words of the participants, which they suggest is a critical step in ensuring quality of the narrative inquiry research (Jovchelovitch and Bauer 2000). This methodology allows for a more open research process that frames the interviews but allows for a flow around the needs and interests of the research participants, rather than constraining the interviews with set questions framed according to the researcher's perspective or language. Wills (2012) pointed out the importance of allowing participants to respond with their own language and common terminology rather than trying to fit their stories within terms they might not commonly use. Clandinin and Huber (2010, 17) suggested that within a narrative inquiry, both the researcher and participants can "change identities and practices" and "much possibility exists for social change...for the creation of shifted social, cultural, institutional and linguistic narratives."

Validity and reliability are still relevant for narrative analysis; however, they take different forms than other qualitative or quantitative research. In narrative research, the researcher is responsible for recognizing their part in the process, including their influence and bias, and sharing the personal and practical justification for the research is part of the validity process. Richmond (2002) highlighted a challenge to validity of stories if the participants share a story based on what they think the researcher wants to hear, rather than their full experience. He suggested techniques such as re-listening to the audio of an interview with the participants or member checking interpretations as opportunities to increase

validity of the research. Developing strong, trusting relationships with research participants is also a critical component to increase validity and reliability of the stories told. Creswell (2013) discussed two validation strategies that resonated with my methods: peer review and member checking. A peer review serves to “ask hard questions” about the research project and provide feedback and objectivity during the research process (Creswell 2013, 251). The member checking strategy Creswell discussed included using focus groups to analyze and comment on the researcher interpretations rather than raw data, to understand gaps and reflect on the stories and opportunities going forward with the research.

Resonance is a critical component for an effective narrative research project (Clandinin, Pushor and Murray Orr 2007; Connelly and Clandinin 1990) to allow readers to find a place in the story and recognize the events, meanings or experiences as something that they have or could experience, as well as something that they can apply to their thinking or experience. As argued in Connelly et al (1990, 8), “stories mediate the generic demands of science with the personal, practical, concrete demands of living.” Using stories in this project served as a bridge for discussing academic concepts of food systems, community wealth, and rural development in more realistic, “in the field” terms with wild harvesters.

The main reason for choosing narrative inquiry for this project was that while I am interested in studying people who have experiences in the same activity (wild harvesting), it is not likely that the research participants would be

considered a cultural group or necessarily have a shared culture. Literature on wild harvesters demonstrates a range of people who participate in the activity and highlights challenges brought up by the diversity of harvesters. Harvesters range from local natives, tourists, new residents, recreational harvesters and commercial harvesters, and many more categories (Bennett 2002; Carroll, Blatner and Cohn 2003; Wilsey and Nelson 2008). While the experience of wild harvesting may contribute to an aspect of culture in this region (in terms of a connection to land, and living off the land, for example) or perhaps some shared views or meanings of food, the act of wild harvesting itself may not necessarily bind those who forage into a similar culture group. Grigsby (2012) documented a shared identity among the participants in noodling (another practice for sourcing wild food through handfishing). However, that practice requires a group effort to be most effective and safe, and because noodling is illegal in Missouri, it is often practiced in small, secretive groups. Many other wild harvesting practices, while they can be practiced in a group, are often conducted individually. This research is more focused on understanding the individual experiences and social interactions of wild harvesting, and how that contributes to sense of place, ideas and meanings of food, and engagement in local food systems. Rural communities are no longer homogenous places, but rather diverse communities with a range of experiences and ideas. The benefit of narrative inquiry for this research allows for an appreciation and recognition of multiple views of the experience.

Throughout the research process, the telling and re-telling of stories allowed a shared experience in constructing new stories, and Clandinin and Connelly argued “through the study, seek ways of enriching and transforming that experience for themselves and others” (Connelly and Clandinin 1990). Community developers continually seek for better engagement with community residents to ensure that efforts are to help residents create their desired future. Using narrative inquiry allowed for the ideas and stories of the participants in this project to contribute in the design of potential strategies and programs identified through the data.

To clarify my role as researcher in this project, I repeat the quotation from the introduction, where Delind (2006) challenged food system advocates to “*tune into and give voice to the local languages, to write the layered ethnographies, and to privilege, for ourselves and others, the spirit that resides in the way we come to know our places.*” My experience and mindset as a community developer, where my role is to help facilitate and support communities to achieve their objectives, influences my research perspective as well. When I work in communities, I’m not an expert, but rather someone contributing my skills alongside other community members. While this specific research project was based on my personal interest in the subject, I approached the research itself as an opportunity to learn from and with the community of wild harvesters and to bring forward their voices with mine to develop new strategies for local food systems together. It was an opportunity for me to come to know this place that I now call home, while “tuning into” the voices of the local harvesters. In future

research projects, I see my role as an opportunity to facilitate research for communities— I have the training, knowledge and institutional capacity to conduct and guide a research project, and I can apply that to help facilitate research for communities, based on their interests and questions and needs.

This research project was not intended to address whether or not local food systems should be used in rural development. Instead, I conducted this research project starting from the assumption that there are benefits to local food systems and that, while not perfect, local food systems can and do often provide part of a solution to broader food system challenges and to community economic development goals. With that in mind, this project and the data collected was viewed through the lens of providing additional learning into how community food systems operate, in order to address challenges and problems and improve the potential of local food systems for rural communities.

Narrative Inquiry in Other Food Systems Research

Stories are an important component for understanding the intersection of food, culture and identity in the literature about culture of food (Carolan 2012; Wills 2012), embeddedness (Hinrichs 1998; Hinrichs 2003; Winter 2003), and sense of place (Delind and Bingen 2008). A study of community gardeners in Canada (Miedema, Desjardins and Marshall 2013) used a storytelling technique to understand the value of community gardening and allow participants' words to "propose ways to move...forward." The story/dialogue method used in Eliot et al (2012) is another example of using stories and narrative techniques for understanding food meanings and activities. Their research method matched the

storytelling traditions of the Aboriginals participating in their Canadian study and allowed participants to share their stories and then explore more deeply with facilitators the “what, why, so what, and now what” questions that allowed participants to help analyze and create solutions to the problems and challenges identified in their stories. Wills (2012) discussed a variety of spoken and written methods for understanding the habits and food practices of youth and used questions such as telling a story of the participant’s best childhood birthday or keeping a daily food diary to guide the participants’ entrance into the storytelling experience. More recently, researchers with the Appalachian Foodshed Project used narrative inquiry techniques to talk about food systems efforts with community food system practitioners (Landis and Niewolny 2015; Niewolny and D-Adamo-Damery 2016).

The Ozark Highlands Case Study

The intent of this research was to listen to the stories of wild harvesters and collaboratively develop new narratives for engaging rural communities in local food systems. The overarching question for this project was to ask what could be learned from the wild harvesting experience that might help strengthen local food systems as a rural development strategy. Within that broad research question were the following exploratory issues:

- What can we learn about personal, social and place-based experiences of food from the stories participants share about wild harvesting?
- Does the wild harvesting experience contribute to ideas about local food systems, and in what ways?

- Does wild harvesting contribute to participants' sense of place?
- What is the role of public land in their wild harvesting experiences?
- What ideas do wild harvesters propose for using local food systems as a rural development strategy?

This project used a qualitative, single case study of four counties in the Ozark Highlands region (Agency 2013; Nigh and Schroeder 2002). I received approval from the University of Missouri Institutional Review Board for this project (Project # 2008447). The research protocol included confidential treatment of research participants, verbal consent, and all names used to report comments and discussions are pseudonyms (see IRB approved consent document, Appendix B). Place names were also given pseudonyms using a list of common trees of Missouri. Quotations from the interviews used in this paper have been edited only slightly to improve readability, occasionally removing filler words such as “you know” or “um” when they detracted from the content of the quotation (Corden and Sainsbury 2006). This narrative analysis project was more focused on the content of participants' stories and not an analysis of the language or the telling of the story, so this editing should not detract from the findings presented. This research also focused only on legal wild harvesting activities. I conducted twelve interviews with fourteen research participants from August 2017 through April 2018. The interviews ranged from 18 minutes to 1 hour and 18 minutes. They were conducted at locations suggested by participants, including four at participants' homes, two at community center meeting rooms in their community, three in the participants' offices, and two in a local store and restaurant. One

interview was conducted by phone. The interview protocol is included in Appendix C.

The original concept, in recognition of the range of activities and experiences in wild harvesting and types of forest products harvested, was to use a snowball sample and maximum variation sampling (Creswell 2013; Merriam 2009) with up to 20 individuals who wild harvest edible food, while seeking to engage harvesters with a range of motivations and experiences. This research did not specifically seek out hunters, but the interrelatedness of the activities for providing alternate food access options was acknowledged and many participants also shared experiences of animal hunting. As discussed in Chapter 2, wild harvesters can harvest for subsistence, recreational or commercial purposes, and often interchange between those motivations. My intent was to engage participants within each of the categories of subsistence, recreational and commercial. However, during my interviews and requests for interview contacts, there became a clear “qualification” given by the participants for who was suggested as potential research participants. Often when asked for potential contacts, my research participants said that while they knew a lot of people who did some small amount of wild harvesting, they wouldn’t give me contacts unless they thought they had more experience or were more active harvesters. Several people who were suggested as potential participants declined to participate for reasons such as they felt they had little information to contribute because they “only” harvested a certain item, or during a short time frame, or suggested they weren’t “as knowledgeable” or “I only do a little bit, and

‘someone else’ is more into it than I am.” During a call I made to a county courthouse to ask for potential contacts, the county clerk commented “oh everyone does that” but then only gave me two contacts who she thought were the most qualified or most experienced. So while the participants in my study are harvesting for a variety of reasons – professional work, commercial, recreational – they are all very actively engaged in harvesting and harvest regularly (or had in the past). While several of the older participants in my study no longer harvest often, I did not interview anyone who only categorized their harvesting as limited recreational, occasional/seasonal, or subsistence. There was also a tendency for the people who agreed to be interviewed to be retired or have an occupation that allowed them more time for harvesting, which the participants themselves also discussed. There were no interview participants younger than age 34. I will discuss this in more detail in the limitations section of this chapter, and in the conclusion as part of the future research opportunities section. See Table 3 for characteristics of my research study participants.

Table 3. Research Participant Demographics.
Age: 34-88, average age 64, median 63.
Gender: 5 female, 9 male
County of residence: County A-4, County B-3, County C-4, County D-3
Time in region: 6 had been born in the region or moved when they were young and had spent most of their life in the region or returned in retirement; 8 were “new” residents with between 3-19 years in the region.
Occupations: retired -7, teacher, homemaker, herbalist, writer, agency personnel-2, farmer
Products harvested: 91 specific names mentioned, plus some people said “25-30” or “more than 75 kinds”. Most common were deer, native fish, blackberry, sassafrass, chanterelles, morels, chicken of the woods, black walnuts

I began each interview by asking the participants to talk about their best or favorite harvesting experiences. In research conducted by Wills (2012), youth participants shared stories of their best birthday or their daily food habits as entrance into the storytelling experience. I utilized a similar opening question because many residents in this region are hesitant to share information with outsiders, but I anticipated that the more conversational and storytelling approach of narrative inquiry, as well as the opening question about favorite harvesting experience might provide a more relaxed atmosphere for wild harvesters to interact and share their knowledge during our interviews.

I used the narrative inquiry commonplaces to frame my semi-structured interview questions. The questions considered: place (in terms of where their most important/favorite harvesting experiences took place, where they regularly harvest, and questions about the role of harvesting in their region); sociality (understanding the personal or social interactions involved in wild harvesting, food access, teaching and sharing knowledge, and meanings of local food for participants); and temporality (shared stories and experiences over time, challenges, and future opportunities).

After the first interview, I adjusted the interview questions to include a food mapping activity (Hendrickson n.d.) to assist the participants in describing their food access activities. The semi-structured interview questions allowed participants to include additional information and discussion about topics of interest to them. A more structured demographic survey at the conclusion of the interviews gathered information about the types and amount of products collected/hunted annually, and participant demographics, including their length of time living in the study region.

The interviews were recorded and transcribed verbatim. The categorical aggregation method for coding data as discussed in Creswell (2013, 199) utilizes “a collection of instances from the data, hoping that issue-relevant meanings will emerge.” I utilized this coding approach because the wild harvesters are not necessarily organized into a common group, but rather individuals with similar hobbies/skills/traditions. I manually coded the interviews and utilized Microsoft Excel for organizing the data and codes (Bree and Gallagher 2016; Ose 2016).

For coding, I started with four broad themes based on the narrative inquiry commonplaces, including time, personal, social, and place experience of wild harvesting. This thematic approach is also detailed in Creswell (2013, 192) as documenting “‘what’ is spoken or written during the data collection.” A priori codes under these themes included social networks, time periods, place mentions, and experience. During the analysis and coding, emergent codes were added including knowledge, education, sharing, financial, opportunities, natural resources, emotions/experience, time constraints, trust, tradition, generations, regulations/legalities, fear/safety, flavor, variety, independence, health, note-taking, qualifications, and opportunities. Table 4 describes the codes and themes derived from my analysis.

Additionally, I followed several regional newspapers that regularly printed columns related to wild harvesting. These articles covered topics such as when and how to harvest specific products, uses, and medicinal and food properties of specific plants, plus recipes. Some also highlighted local traditions or history. Three of these articles were also coded and included in the database.

Table 4. Themes, Codes and Keywords		
Theme	Codes	Keyword examples
Time	Time	Shared history, generations
	Time constraints	
Place	Place	Harvesting locations, sense of place,
	Natural resources	Availability, diversity, resources, issues, management, sustainability, overharvest
	Regulations/legalities	Rules, norms, requirements
Personal	Emotions/experience, independence, fear/safety	Passion, fun, secretive, exciting, self-reliance, survival
	Flavor/taste, variety	
	Health	Organic, physical health, nutrition, mental health
	Knowledge/skills	
	Note-taking	Notes, pictures, maps, lists
	Financial	Barter, markets, Free, costs, money, business, price
Social	Social networks	Relationships, family, friends, church, interactions, customers, readers, Master Gardeners
	Trust	
	Sharing	Sharing of food, knowledge
	Tradition	Holiday, events, way of life
	Education	Books, workshops, associations
Opportunities	Growth of interest, future	Awareness, influence, trends, future potential
Qualifications		
Uses	Herbal/medicinal, food	

After initial analysis of the data, I presented initial findings at the Agriculture, Food and Human Values Conference in Madison, Wisconsin, in June 2018, where I received constructive feedback from colleagues working in scholarship and practice around food systems (an initial limited peer review). I then conducted two reflection sessions with research participants in County B and County C to review my interpretations and have further discussion with interested participants. This strategy of participant engagement in the review of the analysis and interpretation of the data supports the participatory methods and engagement of local knowledge in food justice efforts mentioned earlier. Clarifying the challenges or opportunities facing wild harvesters and asking them

to reflect on their ideas provided a chance to develop shared meaning and proposals to address problems that reflect local knowledge. I was inspired by the critical reflection sessions that were used by the Appalachian Food System Project narrative research (Landis and Niewolny 2015) but modified the approach to be more of a mix of focus group methods and critical reflection. Based on the stories and vision shared by the research participants, I utilized the Rural Wealth Creation framework published by the Economic Research Service (Pender, Marre and Reeder 2012) to frame the analysis and as a strategy for discussion during the reflection sessions. Richmond (2002), in his research with narrative analysis, recommended the benefits of group critical reflection as a learning process. In her examples of case study research, Creswell (2013) also suggested the importance of group interviews for discussing the interpretation of data with research participants. I chose these reflection sessions to be consistent with community development theory and engaging different voices in policy and strategy development.

The first reflection session was held July 10, 2018, at a local community center meeting room, with two female participants, and lasted fifty minutes. A light lunch was provided and we talked while we ate. I invited two other participants who did not respond to the invitation. The second session was held July 26, 2018, at a state park restaurant, and was an hour and twenty-nine minutes. Three of my original research participants engaged in this session as well as a co-worker of one of the participants who was not part of my original interview sessions. I reviewed the project and provided him with a consent

document prior to his participation in the session. We again ate lunch during our conversation. One invited participant for this session did not respond to the invitation. The process for both reflection sessions was a description of my initial analysis framework, then we used an activity to sort several quotations from the interviews into wealth categories and spur discussion about additional wealth assets of wild harvesting and the value to communities of wild harvesting activities. Potential opportunities generated from the interviews were shared and critiqued as well as ideas about how agencies such as University of Missouri Extension could contribute to supporting wild harvesting. These sessions were also recorded, transcribed, and coded. I took notes during each of these sessions. This reflection protocol is included in Appendix D.

In mid-September, I was invited to visit County A for the opening night of fish gigging season, to watch the activities of people participating the opening night “national holiday.” The interviewee who issued the invitation gave me a specific boat ramp location to meet him at on September 15, 2018, and from 7:00 -10:00 p.m. I watched and photographed from several different boat ramp locations in the area. I also chatted randomly with several different families participating at those locations, asking questions about their years of gigging experience, favorite experiences, and how often they participate in the practice.

Benefits and Limitations of this Methodology

The benefits of using this narrative inquiry method were multiple and the potential for continued use of this method in this region is significant. People in this particular study region have a heritage of storytelling and oral history and is

hesitant to engage with outsiders, so this method was an opportunity to build connections between the researcher and participants through shared storytelling. Often, during the interviews, the participants turned the questions back on me, wanting to know more about my experiences and interest in harvesting. Narrative inquiry also allows for more engagement with research participants by participating in a review of the analysis and interpretation. The semi-structured interviews allowed more free-flowing conversations to occur, and the conversational nature of the reflection sessions allowed for increased interaction and discussion.

There are several limitations with this methodology in this project. First, there is a challenge of building the trust for participants to share their experiences in a face-to-face conversation versus a more anonymous survey format, even with confidentiality. I had also hoped to do more of the interviews during a wild harvesting activity or outdoor setting, to address the challenge of “artificial” settings (Schegloff 1997), however timing and convenience for participants did not allow for scheduling those types of situations, which may have contributed additional information about the harvesting practices as they were happening. I did meet with the participants at settings of their choosing including their homes or businesses, which hopefully contributed to making participants more at ease. As discussed above, using the snowball sampling method did not allow for the diversity of harvesters in my interview group that I had anticipated.

The self-reporting of legal versus illegal harvesting activities is another facet of wild harvesting not included in this research but with significant implications on community assets. As most of the participants did talk about their understanding of the regulations for harvesting, sale and use of these products, I suspect that they are harvesting legally (at least for the most part) but that is only an assumption based on my impressions. I did mention that this research was only focused on legal wild harvesting activities, but the participants may not have been willing regardless to share illegal activities, so I may not have learned about the full range of harvesting activities that my participants undertake. One product mentioned often related to poaching and illegal activity was ginseng. Several participants were very adamant that they had never even seen ginseng during their hunts and would not know what it looked like anyway. I do not have a way to verify if their claim is true or not.

Narrative inquiry requires significantly more time to allow for full conversations, which can be challenging as a researcher and for participants. This research project was conducted on a short time frame, and as these interviews were sometimes long conversations, the challenge of having time to arrange and conduct these interviews, as well as transcribe and code long texts. The length of the interviews also made it difficult and limited the research perhaps to those who had the time to participate. Other methods such as a structured mail or phone survey may have gathered a larger variety of information about basic questions such as products harvested, time in region, and ideas for the future. For this particular project, these longer, more in-depth

conversations built a foundation for continued research into this topic, and initiated good relationships between the participants and researcher for future engagement. A future research opportunity is to engage with harvesters of a wider diversity of ages, recreational motivations, and race and class diversity, perhaps using other method of engagement that allow for ideas and feedback with shorter time commitment than interviews.

CHAPTER 4: SHARING THE STORIES

After I had conducted several interviews in the other three counties, I finally worked up the nerve to find some research contacts in County A – the one I deemed most challenging for me to access as an “outsider,” although that was only based on the stereotypes and generalizations I had heard, not from any actual experience there. I asked a few colleagues who knew people in County A, without much luck, until one of them suggested I just call the county courthouse and ask for referrals. A quick Google search and I was dialing the number for the circuit clerk’s office. When the clerk’s secretary answered the call, I explained that I was a student looking to talk with people who wild harvested as part of my research study. *“Oh, everybody does that,”* she responded. Feeling encouraged, I waited as she thought, thinking I would get a nice list of potential contacts. She then said, *“You definitely need to talk with Patrick, he’s an expert.”* She then gave me a rural postal box address, wished me good luck and hung up. I suspect this was not an intentional gatekeeping effort on her part, perhaps someone local would have known how to find the address, but in some of these rural counties without a rural addressing system, these rural postal numbers can be like giving the X on a treasure map but the rest of the map is blank. However, as it was pointed out to me later, at least I had gotten a name, where most urban courthouse employees likely would not have even shared that much information.

After no luck internet searching the name for a matching phone number, I decided to just make a drive down to County A one day and make some stops to ask around about Patrick or any other potential contacts. Luckily, on my first

stop, the manager said, *“Go stop down at Robert’s store. You might not want to believe everything he says but he’ll talk with you or tell you who you should talk with!”* A little guarded, I walk into Robert’s store and after introductions, Robert sat me down in one his chairs for visitors at the front of the store and we talked and chatted while he made phone calls to people asking *“if they’d come talk to this gal who wants to learn about living off the land.”* An hour later, at lunchtime, we headed over to the little convenience store restaurant for a cup of coffee and lunch, and Robert consented to an interview which turned into a community conversation. In the tight quarters of the lunchroom at the peak lunch hour, Robert would respond to a question by calling out to the group sitting next to us or behind us- *“what do you all think?”* then analyze their responses with his own story and follow up. He issued this invitation as well too: *“I don’t know if you could ever come down on the 15th of September. That’s the opening night of gigging season here. I mean, it’s a national holiday here.”* The invitation included the opportunity to experience gigging but also to meet and talk with a large number of other people who do wild harvesting.

After lunch, Robert led me over to Patrick’s house (of course, he knew Patrick and suggested him as someone to talk to even before I had mentioned his name). He knocked on the door and Patrick and his wife welcomed us inside where Robert did another small introduction of me as *“the gal who wants to talk about hunting and mushrooms and all that!”* Then he headed out the door- leaving me a little stunned to just be dropped off and welcomed by a random stranger into their house for over a half hour conversation at his kitchen table.

His wife spent the time packing some bags in preparation of potential flooding – their house had been completely flooded the previous year and they remembered how quickly the waters had risen and didn't want to be surprised again. My welcoming day in County A continued, evidenced in a small segment of my interview with Patrick shared below:

Patrick: *Well, I made some, uh—you know what sassafras is? I made some sassafras wine. And, course sassafras, all sassafras is, is a flavoring and a blood thinner, see. It's got to have something in it to make it work like a starch of some kind. You beat them roots up, your sassafras root and your sawbriar root and you put in a big kettle and you bring them to a boil. And you boil it for about 15, 20 minutes, maybe a half an hour if you want to and then just let it cool down, and then strain it, see. Well, that sawbriar root in there, it's like a starch in a potato or whatever. Well, that gives it and the sugar you put in there and the yeast, that starts it to work, see. Would like a taste of it?*

Sarah: *Sure. [Laughing, pause]*

Patrick: *Mom and I, we have a little drink of wine practically every night before go to bed.*

Sarah: *Just a little bit, I have to drive back to Boxelder town!*

Patrick: *[Laughing, pouring drink] You taste that and see what you think.*

Sarah: *So this is sassafras and sawbriar?*

Patrick: *That's sassafras and sawbriar root.*

Sarah: *That's really good.*

Patrick: *Tasty, isn't it?*

Sarah: *Yeah. Wow. Ok. [Laughter] So what's in that one? [As Patrick reaches for the glass] I got to finish this, hold on.*

Patrick: *You won't want very much of this. [Pause]*

Sarah: *So what's in this one? Oh, my. *Laughs**

Patrick: *That's moonshine.*

Sarah: *Ok. Wow. That's a good taste.*

Patrick: *Tasty, isn't it?*

Sarah: *It does taste good. Thank you.*

Patrick: *Yeah. When that flood hit here, I had three hundred and fifty-some bottles of wine in this basement.*

Sarah: *Oh, no. You lost them all?*

Patrick: *Well, I saved some. [Long Pause] Mom said this, this right here probably the best wine that I've made.*

Sarah: *And so, what's in this one?*

Patrick: *That's that pomegranate juice. It's tasty wine, ol' Robert liked it.*

After finishing the conversation with Patrick, I headed out in a heavy rainstorm and headed for home, figuring I'd call Robert again later to thank him for his time and introductions. I'd barely gotten home though, when my phone rang, and Robert wanted to know how my time with Patrick had gone and what stories I'd heard from him. He offered to arrange additional interviews for me the next time I came down, and he did. When I returned three weeks later, he had two more County A residents ready to visit, sitting us down right in the front of his store, the interview a casual conversation punctuated by customers coming in and out and popping in commentary of their own as they heard the conversation topic.

You'll read in so many of the stories shared by participants in this chapter, that they contain elements of all the themes: time, place, embodied personal

experience, and sociality. The first story below is evidence of the intersection and overlap of all the themes in one story, as Harold shares his favorite personal experience with foraging as a child, with friends, with references to favorite harvesting places, and his comparison to his childhood and adult experiences. This intersection of all the themes posed a challenge in coding and categorizing these stories, but this chapter is the beginning of the re-telling in the narrative inquiry process. Chapter 5 will begin the collaborative re-storying process through discussion and reframing the stories.

A note on terminology: I have heard several residents in this region refer to the practice of collecting wild edibles such as plants, berries, mushrooms or other non-meat foods as “wild harvesting,” and I at first assumed that in this particular region it might reference a more specific practice, something different from hunting for meat or fishing. As mentioned in Chapter 3, I anticipated using the terms that my participants used most often in their stories. So during my introduction to my research I was specific in saying “wild harvest of plants, mushrooms, berries or nuts” to make sure that my interviewees knew I was interested in focusing on the harvest of specific wild edibles, and not only meat hunting. However, what I found was very little consistency in how the participants referenced the overall practice. For most of them, wild harvesting encompassed all the aspects of wild food, including fishing, hunting for meat, and other forest foods, as well as for some, forest products for crafts and other woodworking projects (which was called wildcrafting in one interview). Many of them participated in all or several of these various practices within the broader topic of

wild harvesting, similar to harvesters discussed in the literature review section that move between products depending on motivations, seasonality, etc. The interviewees used the words gathering, collecting, picking, hunting, harvest, foraging, and then also more specific activities such as gigging, a specific type of skill for spearing fish or frogs. Here is an excerpt of a conversation with Donald that demonstrates some of the variety of terminology used and related to in the practice:

Sarah: *Do you call it wild harvesting or is there another term that you use?*

Donald: *I usually ... Sometimes I'll speak of when I'm speaking of deer hunting, the harvest, but usually I just call it hunting, fishing, and mushroom hunting. Let's go pick persimmons, but I don't usually use the term wild harvesting.*

Sarah: *I've asked everyone because I've heard different things. Foraging and gathering, all of that too. It's interesting to hear how people refer to it. We always, my family, we would go hunt mushrooms.*

Donald: *Yeah, right. Yeah, I seldom use the word foraging either.*

Sarah: *I think that's a newer one from what I'm hearing.*

Donald: *Yeah. I belong to some of the groups. I like the [group]. Yeah. I belong to that group, and they talk about their forages.*

When Teresa was asked about terminology, she answered wild harvesting, *“that’s the best one. Yeah.”* So for consistency and clarity, any time the practice is referenced to in general in my commentary, I will use the term wild harvesting, which should be broadly interpreted to include the harvest of wild edibles of all kinds, including hunting and fishing. The words used in the quotations by the harvesters remain as they were spoken.

Exploring Time

Reflecting on the Past:

Harold, 88: *"I can enlighten you on a little bit of...but back in the late 30s, when I was like eight or nine years old, we would camp out; I mean just as little kids. This is kind of difficult for someone to believe today for such a young person like you, but we would go out just as kids. It would be a bunch of us, like eight or ten of us, and we would camp out on the river. We'd walk down to our favorite place on the river where we could catch fish anytime we wanted to catch them. Actually, we lived and ate better in doing this than we did at home. Really. At home, my mother in those days, you ate just what your mother could afford or my father could afford to put on the table. That's what it was. But we'd go down there and just as little kids and camp out for as long as we wanted to. My father, at that time, was a boat guide and he'd come by and he's guiding his boat, and he would maybe see us and say 'hey, you boys need to go home for a while. Your mother is wondering where you're at.' This is a true story. I'm not inventing anything here. [Chuckling] We lived that way and we had everything hid out down there that we needed. We had fish, and when we were just kids no older than what I'm speaking about. We had 22 rifles. We would shoot frogs, kill frogs, and catch fish. There was a road about half-a-mile over there. Now, there was farmers over there. One had an orchard. We'd go over there and get all the fruit we wanted. We knew where all the cornfields were, and knew where all the big gardens was, and every garden then had potatoes. We'd get our potatoes out of that garden. We could get fruit out of there. We just had anything we wanted. We had fish. Now that I think about, only God just guided us and brought us to there. If I had to tell someone a favorite story about me roughing it or being in the wild, it was when I was just, it was more for me when I was a kid than it was when I grew up."*

Many of the participants, particularly those over age 70, shared stories similar to Harold that reflected on the past and the changes they have seen in the region, particularly with diversity of resources, or how wild harvesting was practiced then and now.

John, 73, noted, *"If you had seen this place back in the '50s, I've told people what was here in the river is not there today. A lot of stuff is not in that river that was in there in... and now if you look at it then and look at it now on a Saturday here, it's a whole new world."*

Robert, 64, also shared, *“And people that used to float and tube this river have now bought jet boats, and now they are jetboating instead of tubing. When I lived down the river at American Basswood City which is down the river here about 25 miles, when I first moved here in the ‘70s, I could tell you who was coming down by the sound of the motor, and if it was [name] or [name]. I don’t know 80% of the people out there running boats now. It’s a different environment out there. Now you can’t go out there, you just can’t go out there. It’s a party river. I grew up on the river like I said, I remember going and I’d get excited if I saw someone.”*

Donald, 79, had prepared a list of all the wild harvested food items he and his family had eaten during his youth, compared to their current food choices. His list discussed a wide variety of products including meat, fungi, berries, and a variety of plant materials that his mother had harvested. The changes in diversity and availability are also noted in his list and description.

Donald: *“We used to, and this is something that you might be interested in is the generational change in use of wild foods. Pretty drastic when I think about what that I would eat at home, what my family ate when I was a kid at home as compared to what my wife and I fix now. We’ve gone downhill a bit. I wrote down the huge variety of stuff that we ate in my childhood household, and it was right here in River Birch Town. We lived in town, but spent more time in the woods than we did in town certainly. I just made a list... We ate quite a few turtles, the river turtles. Snappers and soft shells, an occasional groundhog, tons of squirrels that I swear that probably 90% of my protein came from squirrels and quail. This was in the day when squirrels and quail were abundant. Squirrels are now more abundant, but my wife and I just seldom eat one. We do eat coons and we eat beaver and all, but we haven’t eaten a squirrel in ages... We’re more into deer, turkey and fish, and not nearly the variety that my mom would cook up.”*

Several participants referenced “the last time” they had done a particular wild harvest or self-procurement practice, such as Ellen, 76, commenting:

“my husband had a heart attack in ‘07. He did, I told him to wait and that [neighbor] come rake a garden, till the garden, but he got out there and got the tiller, and started in. It got away from him somehow, he kept trying

to catch up to it. Finally, it stopped and he was in the momentum of running and he about fell over. That's the last garden we made."

John, 73, also noted,

"Just fishing mostly, yeah. I don't get out much anymore in the woods. Or I do, but just to get out and look. But towards going out there like I used to I don't do it anymore. It ain't the same and I don't know, the older you get you just kind of drop things. The fishing, river, that's the main thing right here. I haven't deer hunted in 30 years, 40 years I guess."

Participants young and old referenced the physical abilities needed to wild harvest, and that age often limits ability to harvest in the same way that they used to. Harold noted,

"There's probably mushrooms out, this is probably the right time of year right about now. I used to do it all the time, I'd pick up the mushrooms, I've had to quit going out by myself, I can't go anywhere by myself, my wife doesn't want me to do it, know if something happened to me. And you get so old you just can't get out there and get around much as you like to."

Although most of the participants were optimistic about the future of wild harvesting, there were several who had negative impressions about interest in the practice. Ellen commented, *"it's a thing of the past,"* while Robert lamented the loss of knowledge of the older generation who had been active wild harvesters: *"you know a lot of your old timers that are really good at this are gone. They passed away and died."* When I asked participants for referrals to other harvesters, often they commented that the most knowledgeable were the older generation, many of whom had passed away.

Current Reflections on Time:

Participants referenced their time living in the region as an important part of their story. Those who grew up in the region shared the specific amount of

time they left (for school or work or other obligations) before returning in retirement or for new jobs. Participants' length of time in the region was also significant in their stories related to their harvesting experience. Joe reported, *"Well, I tell you what, here's the scoop here. I've found two—this January 1st, we'll have been here ten years. In those ten years, I've found two hen-of-the-woods."*

Time of year and product seasons were other dimensions of time regularly discussed by participants. Teresa described her favorite products to harvest in reference to time, *"Depending on the time of year...I love the fall. That's when we're harvesting all the roots."* Barb shared her experience as a relative newcomer related to seasonality: *"I'm kind of new to the idea [of wild harvesting] and I'm new to only having watched the seasons for one and a half or maybe two cycles."*

Ages and Stages of Life:

Many of the participants discussed the differences in generations and stages of life for interest and participation in wild harvesting, although there was not necessarily agreement on whether age groups were increasing or losing interest in the practice. Joe argued,

"Myself, I've found there isn't near a great an interest in the younger folks. There just doesn't seem to be. You can go to Walmart and get it, down at the dollar store and get it, and uh, there are a few out there, there's a few of 'em of course. Like she was saying a minute ago, there's that couple that we ran down at the river, and they had their kids with 'em, ok? Mom and dad are showing the kids how to do it, you know what I mean? But uh, you just don't see kids going out and, so to speak, hunting the woods or whatever it might be, you know?"

The changes in opportunities for youth were also mentioned often, noting that with technology and increases in other activities available, youth might not be as engaged in wild harvesting as they used to be.

Our faster-paced lifestyle focusing on work and careers and other interests was believed to have an impact on the number of people harvesting, particularly because of the significant amount of time needed to harvest and prepare wild foods. Nearly every participant mentioned the amount of time they spend on harvesting as significant or also suggested the time commitment could be a significant barrier to practice wild harvesting. Barb, a mother of two middle-school aged children, noted that with all her responsibilities with her family, home and other obligations, it wasn't practical for her to try to source an entire meal from the garden or wild harvesting. She understood why people might not have interest in wild foods: *"the time it takes to do your own food, even if you're harvesting it from your garden, is probably a big barrier. It's easier to work some hours at a job and then convert that cash into grocery store food. So there's that."*

Despite, or maybe because of, this career-focused environment, several participants discussed how they see people gain interest throughout their lives.

Donald, a biology teacher, noted,

"I do see a change in as I have followed some of my kids, I'm on the third generation now, so some of the students I had back in the '70s now are grandparents. I've seen a change in them where they were not at all interested in anything but maybe deer hunting and turkey hunting. Every Ozarkian kid likes to deer hunt... but into some of this other stuff. They've become more interested as they aged."

Edward echoed this sentiment on time and ages:

“People are more getting into it. For the simple fact, there’s a lot of people my age, I’m 48 years old, that’s worked a career and they’re just wanting to get out and farm or try to make something of the land. They’re tired of the rat race and wanting to get away from the things that are going on in the world today.”

Michael, who works for a public land agency, noted a changing demographic of hunters and wild harvesters in recent years:

“I see a lot of people that don’t understand, you know if you look at our community we have a lot of hunters and anglers but we represent a very small portion of society, of the United States population, around 5%. So it’s, here it’s not that, it’s quite a bit greater, but I think... I hear trends that say ‘oh we’re losing some of our hunters’ but I do not see that here. Of course I’m in a field where it’s gonna be in front of me and I’m gonna see it and I’m going to see the people that are participating, but I think, I’m not sure that’s completely true. I see a lot of women, a lot of shooting sports that get introduced into hunting, and at [park name], when I started back in 1999, 2000 the amount of ladies fishing, and it has greatly increased. In the last 20 years.”

Teresa argued that wild harvesting interest is not limited to a certain age but rather finds aspects of wild harvesting that appeal to a variety of ages:

“It goes across the board. The homeschooling groups, I’ve been surprised at how interested, even the younger teenagers, the 13, 14 year olds are, if they’re interested in all in the outdoors, they’re very interested in what they can eat. Or if I’m out there, and I get a cut, what do I do? Then you’ve got my age group that grew up going to the doctor all the time, so they’re kind of like, “Wow, this is ...” They have that kind of viewpoint and then you’ve got the older crowd who still remember their moms going out and picking salads out in the front yard. Really, there’s not an age group limit. It seems to be pretty broad.”

The Role of Place

The research participants have significant knowledge and appreciation of the land and natural resources in their region. Whether newer to the region or those born here, these harvesters engage in significant place-based learning,

appreciation and sharing. They shared names of specific spots on the rivers where they fish, names of towns no longer in existence and distances between homes and harvesting spots, like this story from Ellen.

Ellen: *"We'd go out and we'd go, we lived down in the holler like, of course, I wasn't very big because I was seven when we moved, but I can remember going up that ridge row, you know, and all those berries, the blueberries and stuff. Mom knew where every patch of wild blueberries was at. Then we moved over on the Highway, right down from the hill from our house was a big patch of blackberries, real sweet."*

They talked about why they valued this region, such as when Laura shared why they chose to move here: *"Cost of living. The woods. Our own place to hunt and fish and gather off of. We had fished in Green Ash Lake since we got married, part of our little honeymoon was go to the lake. And we kind of just fell in love with the Ozarks."* Donald noted the prevalence of hunting, fishing and outdoor activities, *"we're in a land of guns and hunting and so on."* Others who had lived other places compared the diversity of plants, number of people harvesting, awareness of harvesting and other differences between their hometowns and their homes in the Ozark Highlands region during their interviews.

The participants harvest on their own properties, and the property of neighbors, family and friends. Public land is also important in this region, providing access to and protection of diverse natural resources, while also constraining their harvests with rules and regulations. Robert noted one benefit of public land for allowing everyone an opportunity to participate in outdoors activities (although he also bemoaned the increase in number of people there as well).

“They don’t do the hunting and fishing hardly anywhere as what they do right here. I mean, I guess we’re selfish, we don’t want to share the land, but we have so much government land, you don’t need permission to hunt official, so people don’t have to have a place to go deer hunting, ask permission from the farmer, because there’s thousands, tens of thousands of acres around here from [public land agencies]...”

Harvesters mentioned several specific products that had a valued status in this region or were unusual products found here. Robert commented, *“I told you earlier that the sucker is not real desirable fish anywhere but here and it’s as good a eating fish as there is.”* He noted that a cooking technique that residents use here is what changes the taste. Janet shared a favorite plant that she harvests and its uniqueness in the study region:

“Well let’s see, probably my favorite would be Dittany the wild oregano. Of course, Dittany makes a frost flower that’s so beautiful. And of course, here in the Ozarks you find the frost flowers, they’re not common everywhere. You’ve seen them. Like last year every ditch ... If you looked over it just looked like white scraps of paper or something along the highway. And if you got out and looked they’re everywhere. But yeah, those are, you don’t find those everywhere in the United States, just certain pockets.”

Many of the participants talked about their note taking as a key part of their harvesting practices. From lists, to maps, to detailed notebooks with dates, locations, quantities, rainfall, and other important characteristics, these notes demonstrate valuable and valued place based knowledge. Joe commented with a laugh: *“I’ve got a little spiral notebook that’s in there [points to his shirt pocket], you know, and I’ve got all these places marked. Of course the joke around here is, ‘when he’s not looking, steal his book from him’ you know.”* When asked about products he harvests, Donald pulled out his notebook:

"I will show you something here that might help answer that somewhere...I keep a record of some of the things that interest me most, and I have a grove. This is just jotted down on a makeshift desk pad, see that that's circled there that says White Ash Grove? That's one of my favorite persimmon groves, and they're really big...I'm addicted to record keeping, and I have fishing records here too that here are some river trips I made and recorded."

Recognizing Place in Natural Resources: Availability and Diversity:

As expected, the research participants have knowledge of and experience with the natural resources in their places. Michael recognized the diversity of natural resources in this region, *"Here we have so much, we have just also what would seem an unlimited—I mean there's just no way you could—if you're looking for mushrooms or if you're hunting or whatever, you just touch a small portion of it. Which is truly a blessing I mean, I think it's underappreciated by folks."* Joe also commented on the availability of wild foods in this region, *"But if you're stranded in the woods, someplace, in all seriousness, and it does happen, there is food out there for a person to eat. There's a lot of food out there."*

All the participants listed a significant number of products they had harvested in the past, currently, or knew were available to harvest in the region, and discussed the benefits of this diversity. Luke commented that *"it's kind of like those rabbits I've got [wild in my yard], I may not ever need to eat them, but they're always out there, you know? If I ever want to though."* In a collected list of all the products the interviewees harvested, ninety-one specific product names were mentioned (overlapping products were combined when possible, such as sassafrass leaves, roots, and bark, or when participants used both scientific or common names). Some harvesters gave generic numbers that they harvest

“over 75 different products” or “between 25-30 I can identify.” The most commonly mentioned harvests were deer, native fish, blackberry, sassafrass, chanterelles, morels, chicken of the woods, and black walnuts. A full list of products harvested by the interviewees is included in Appendix E.

Despite this diversity, many of the harvesters talked about the challenges of sustainability, poaching and overharvest, and management of natural resources that affects availability of wild products. Luke had critiques of the public land agencies’ focus on timber management that limited the diversity of other wild plants and habitat for animals, but also noted that because of public land agencies in general there was probably more diversity of natural resources compared to private lands. Farming techniques and spraying of highways and fields were viewed as a negative practice, decreasing wildlife and plant habitat and diversity. When asked about challenges for wild harvesting, poaching, overharvest and overuse were mentioned as critical, and many of the participants also cautioned about being aware of limits, leaving some plants behind, or sowing wild seed from the plants harvested. Some of the older participants shared stories about changes in plant or animal populations from their childhoods to now, such as an increase in deer populations now, but loss of fish species diversity after the introduction of jet boats on the rivers. Competition from animals, such as feral hogs, diseases like Chronic Wasting Disease in deer, and interference from too many people and an increase in tourism were additional challenges that the participants noted as a threat to the region’s natural resources.

Importance of Place Knowledge for Harvesting:

The harvesters shared specific details about why they choose harvesting locations, even mentioning microclimates (places where a hill or a little more water or other slight change speeds up or slows down the ripening time of products compared to nearby spots) which can help them extend their harvesting season. Place is also important in knowing the quality of a product to be harvested, particularly for those prioritizing organics, or those concerned about chemical spraying and oil from roadways. One interviewee, who is pursuing an advanced degree, commented that she never harvests along highways anymore because of the hydrocarbons that boiled out of the product when she processed it. Others talked about using state parks because they knew spraying was limited, and they valued a chemical free product. The same was true about harvesting on their own or neighbors' properties – they only harvested where they could be certain about the “purity” or cleanliness of a product.

Regulations on Wild Harvesting in the Ozark Highlands:

Generally, the participants recognized the value of regulations, hunting seasons, permits and other limitations for managing hunting and wild harvesting in order to maintain diversity and sustainability of populations, as well as safety. However, they did sometimes chafe at the rules- or at least how they are currently being enforced. Teresa commented on the challenges of regulations for selling products that are both food and medicinal. She noted a need for regulations of specific products, or perhaps based on use, but not an overall limitation. She said,

"I think that is going to have to be addressed really soon. I think they're a little too strict just because it's a coverall. It's kind of a blanket right now, but I think as more people start doing it, they're going to get more specific situations that arise and so, "Okay, we can do this, but we can't do that." Yeah, I think eventually it's going to be an issue legally as more people get into this. But I think the biggest thing is it's going to take people understanding that just because it's growing in your yard doesn't mean it's bad, and we don't need to regulate everything we do. I think that's kind of what they're going to have to figure out is just loosen up a little bit. We're not trying to kill anybody, we're just trying to make a salad."

Michael also shared his frustration with regulations based on misinformation or hypocritical understandings of food procurement, noting:

"Certain species have been taken away from public harvest and I think that can be a threat, I think it's a misunderstanding with people, they don't realize where their food comes from and the process that got it to their table or to the shoes on their feet or even the clothing they are wearing. You know you'll see someone bashing hunting but eating a cheeseburger and you're like [chuckles] where did the meat come from that, or they see someone smiling because they just harvested their first deer and it causes affront with them but they are excited about their new leather pair of shoes that they got so. So there's a lot of ignorance out there when it comes to, especially hunting and trapping you know we still have several trappers here and they, for me they provide, they are very important. One of the most prevalent calls that I have already received this year is that distempered sick raccoons, skunks, and you now when they can harvest some of those surplus animals it's very beneficial to the healthy population of those species."

But he also shared the challenge that this region tends to be critical of any governmental regulation in general, noting a need for a better balance of both rules and willingness to support the regulations.

"I think it is somewhat of a myth that people need to go out and kill a deer [outside of deer season for food to survive]. I think that people like that thought a lot, that it's there for the taking. But there has to be regulations on it. Somewhat—and our regulations are very liberal, you can harvest almost an unlimited amount of deer if you participate in archery season, firearm season. Because you can get unlimited tags with archery

equipment. And there's no limit on well—the limit on squirrels is 10 a day, 6 a day on rabbits. 10 squirrels, that's quite a few squirrels."

Learning through Personal Experience

The experiences shared by participants covered a range of topics related to the embodied aspects of the wild harvesting including emotions, taste, and personal health. The harvesters also referenced their knowledge and skills gained through wild harvesting, and some of the financial motivations and incentives they have discovered through their harvests. In addition, the overlap of the themes of time, place, personal and social is clear in this interview segment. This section from the interview with Joe and Laura, a retired couple who have lived in the region for ten years, illustrates part of their story of their personal experiences.

Sarah: *So you've mentioned a few products, but what other things do you harvest besides the blackberries and mushrooms?*

Laura: *The wild raspberries. Um, blueberries are here, they're really low growing, and the animals get to 'em, but when we find them, usually we find them when we're blackberry picking. Not too many of those make it home because they're so good. *Laughs*. Joe harvests sassafras root, and makes the tea in the spring. Usually he'll put roots in the freezer and then we'll drink all summer long.*

Joe: *The only down side of sassafras, of course it smells like root beer, but it's just a pleasure to drink, you know. But a downside, it is a blood thinner and you drink too much of it... just like anything else, you probably have to drink 50000 gallons of it for it to really affect you. Making tea so to speak, uh, it's a natural product. Keeps me out of the beer just a little bit *laughs*.*

Laura: *And that's kind of why we do the wild harvest, is just to know that our food is pure. Not all of our food is pure, we go to the store. But um, the more we can pull out of our freezer, it's like, "remember that day we picked these?" We just think it's better for us, hopefully it'll help us live*

longer, keep our systems cleaner. Most of our meat is wild, I don't know if that's part of your study or not? We both harvest deer. We cut it up and package it ourselves.

Sarah: *Ok.*

Laura: *It's 75 percent of our diet and we catch native fish, and turtle doves, lots of squirrels. It's a big part of our diet. We just had rabbit last week, which are not real abundant around here because we have a terrible coyote problem. But, any wild game, we just eat a lot of wild game.*

Sarah: *Yeah, ok.*

Laura: *We compare with other hunters, how they fix it, and store it, and dry it. Part of the wild harvest is what you do with it once you get home. And it's always good to talk to other people. There's not a whole lot of other people that do it, but when you network, you find them.*

Sarah: *Where do you usually harvest? Is it your own property? I mean, you mentioned a little bit here [at Flowering Dogwood Nature Center].*

Laura: *Yeah, we'll stay on our own. Ohio Buckeye Conservation Area is a big area for chanterelle hunting. And we've squirrel hunted there. Since it's just the two of us, basically our own property, and our neighbor is an absentee owner, you know, he just has a bunch of timber, and we've got permission to be on his ground. We catch fish at Green Ash Lake and Lake American Elm. So those are the—we don't fish the rivers too much because we've never learned how, but we need to do that.*

Joe: *Our time is very much consumed, believe me.*

Sarah: *Uh huh, sure. With wild harvesting or with...?*

Joe: *Well, half is the food product and the other half is wood working.*

Sarah: *Oh, ok. You do wood working.*

Laura: *Yeah, is that part of the study because we use native woods.*

Sarah: *Ok, yeah.*

Laura: *Yeah, I make baskets from native materials and harvest white oak, and honey suckle, and buckbrush root, and make baskets and I sell my*

*baskets, and that helps for my income. I make wooden bowls out of native trees. I strip hickory trees in the spring time and make the seats on the old ladderback chairs. So we do a lot of heritage interpretation too with Flowering Dogwood Nature Center and [public land agency]. And then Joe makes wooden spoons, sassafras paddles, and wooden buckets. That's been a nice addition to our income. The sales of that. So when we're in the woods, which we're in the woods almost every day, it's like going to the mall for us, there's a big tree for next year or you know, years in the future. That'll be a great hickory tree, and that's always fun to be out looking for the guys with the mills down the road. They'll call us and say, "I have a walnut tree and I'm not using walnut in my pallets, do you want it?" So we'll cut lumber for him and use it for things. So wood working is a big part of our natural harvesting, too. I'm trying to think if there are other edibles. Elderberries. Paw paws. Persimmons. Persimmons are really hard to get because the critters get to 'em before we do *laughs*. We have a few persimmons trees in the next door pasture, but the cattle love them too, so they'll hear me shaking the tree and they come running *laughs*. But we do harvest persimmons, make a lot of persimmon muffins, and that type of stuff. Joe makes wines; blackberries and elderberries. We tried harvesting some of the wild peaches, but they're just never prolific enough to get enough to do anything with.*

Joe and Laura's interview referenced the fun of harvesting, multiple motivations, and knowing where their food came from. Other harvesters referenced a range of emotions, including love of specific types of wild harvested food, to passion for the activity, and other descriptives such as exciting, wonderful, awesome, and rewarding. Pride, confidence and a sense of independence were also mentioned often, such as in Michael's story about his favorite wild harvesting experience.

Michael: *"My most memorable experience is harvesting a deer with my bow. I started hunting with archery equipment back in, back when I got my first bow when I was 12. Started hunting immediately. Really taught myself, mostly, and finally after a lot of hours sitting in a street stand attempting it, shot a deer when I was 17. In fact it was so... uncommon, or—there's a lot of deer harvested now with bows, you know with archer equipment but back in, that would have been in 1987, so even—I was still in school you know, senior in high school so it was pretty rare for someone*

to do that and especially in that age, so it was quite an accomplishment, it was a lot of practice and a lot of time dedicated to it. I was by myself, I finally, I think I was 16 or 17, but I was old enough to drive and to take actually, instead of having mom or dad take me to a spot I was taking myself so there was some independence, which means you know, to me means a lot especially it meant a lot then to have your independence and you know, doing something on your own, something that you taught yourself. And it was difficult. You know I liked the challenge, and obviously the method that I used states that. [Chuckles] A stick and a string so. But then I came home and I should've been in school, I was going before school started, it was like the first part of November. And my mom and dad were just, dad was just leaving for work and mom was like 'Why aren't you in school?' And 'I shot a deer.' She said 'no you didn't, you didn't shoot a deer.' Like it's in the truck, I shot a deer! [Laughter]. So it was that thing that I had been going for forever, to finally get one. A pretty big accomplishment. Yeah, you know the most memorable part of that was I actually had it processed. Now I do own, we do our own processing. But I took it to a processor and had some jerky made and was able to share it with buddies at school and family members and it was, that part was really, it still is an important part to me and means a lot."

In addition to the positive emotional experiences that can be part of wild harvesting, the participants did mention some of the negative experiences that they or others have while out harvesting. Fear of getting sick from wild edibles was a common factor shared in the stories - whether from misidentifying plants, especially mushrooms, not knowing how to prepare products correctly or eating too much of a wild edible - and this is a reason many of them gave for why more people don't wild harvest other products beyond the very common wild edibles. The medicinal aspects of plants was also a component that the harvesters warned people to learn about, such as sassafras being a blood thinner, for example. Ellen shared several stories of her family and herself getting sick after eating too much of particular products, and this anecdote:

“My sister, somebody brought her a big bunch of pole greens. Not cooked. And Martha cooked them and these people had bought that store over there and they were from California, and they'd never eaten pole greens before. She cooked them up and this lady came over and Martha gave her a taste of them. And, ‘Boy them was good. Those are really good.’ So, she cooked a big bunch and took them over a big bowl, and she didn't take them no bread or anything, you know, so they just sat down, got them a fork, and ate those pole greens. They got laxative in them, you know. I think they had to sit on the stool all night. They come over and told Martha, “Don't you give us no more of those pole greens.” Momma and I always did, when we cooked them, we'd run them through about three different batches of water, and that water would start turning green. The books always said that pole greens were poison. I think what they were talking about was the poison part because they had so much laxative in it somewhat or another. God put, he made his own laxative to give to his kids.”

Safety was considered part of the wild harvesting practice as well, with not only plant identification and knowledge of the wild edibles, but also in being in the woods. Being prepared for heat, ticks, snakes, bears, the heavy physical activity of hiking, bending, and carrying products out of the woods were all potential challenges that the participants discussed as factors to consider when planning to wild harvest.

Knowledge:

Knowledge was one of the most common topics throughout the interviews. Most of the participants talked about the knowledge shared with them from family or friends, but they are also studying, volunteering, researching, attending training, and joining specific organizations to further their knowledge. Harvesters referenced knowledge of wild edibles and correct identification, knowledge of taste, what to eat, how to prepare. Environmental “clues” were another level of knowledge, including how to find specific products and their seasonality, how to

outwit the competition from animals, knowing what signs to watch for to know when products would be ready and where. Medicinal remedies from plants, how to consider the old wives' tales and find scientific research to support or contradict those tales, lost knowledge of older generations and other cultures, survival skills and of course place knowledge as discussed earlier were other types of knowledge discussed. The participants talked about the value they find in sharing and learning with others, seeking out traditional and native knowledge of wild plants and edibles, experiencing new harvest techniques, and finding new resources in books and other training. The life-long learning aspect of wild harvesting was noted several times, such as John's comment that *"it's always a learning deal, if anybody tells you that they know it all, don't believe that."* Nearly every participant taught others about wild harvesting and were willing to share their knowledge, although often with qualifications. As Laura discussed, *"if there's a genuine interest and you can see that they really want to get out there and harvest it, we share more than if it's just a casual, 'Yeah, I'd like to find some of those.' It's like, if you're not serious, I'm not taking my time to get in-depth with you."* The social aspects of knowledge sharing will be discussed in more detail later in this chapter.

The participants shared information on the variety of skills needed for successful wild harvest: plant identification; how to hunt (gun or archery); fishing; foraging; how to use the equipment for each practice; and how to "run the river." Personal skills of patience, self-discipline, and self-confidence were also suggested as key to the wild harvesting experience. The effort of wild harvesting

was noted as a challenge for wild harvesting, again noting the level of physical activity involved, time to build skills and harvest, and the understanding that not every hunt will be successful. Edward alluded to these challenges when he talked about the growing interest and requests for information he receives.

"People get in love with the idea, the romance of it, and it's a lot of work. It's not an easy job, but you work your own hours and make as much as you can pull out."

Costs, Cost Savings and Valuing Priorities:

The participants shared information on aspects of cost, prices, bartering and markets that I categorized as financial impacts. One comment mentioned briefly above was the cost of equipment for wild harvesting, whether gloves, fishing gear, guns, permits, field guides or other resources. They did also mention the cost could be overcome at least at first by sharing equipment between harvesters.

Prices for food was a topic that ran the spectrum of opinions. A few participants viewed low prices as the most important priority for their food choices, but several were willing to pay more to get the variety or quality that they wanted. Janet shared comments about her willingness to pay, noting, *"Price isn't as important as the purity of the food* [no high fructose corn syrup, non-GMO, as natural as possible were priorities she discussed earlier in her interview.]" Luke laughed about his wife arguing with him over the cost of the chickens he keeps:

"They eat very little food, they graze on worms and the insects. So, the eggs are heavier, we compared it to the store. The yolks are brighter orange, I know it's better for you because they're eating mainly insects, which you know, is protein, which makes for better egg, you know, so then my wife fusses at me because when I do feed them I feed them organic chicken food, which is not cheap. And I said, 'I'm not doing this to save

money. I'm doing this for us to eat better.' You know, your breakfast is one third of your meals, and I said, egg is a big part of it, and so she's getting to be a little bit more tolerant of all this stuff I've been doing."

Janet also discussed a cost savings that comes from wild harvesting, *"I discovered my yard was full of Dittany wild oregano, which grows all over here. And so, I've saved a lot of money. Instead of you know, paying \$20 for a little vial of it [oregano] I can just go out and pick it."* Luke talked about changing his management practices on his own property to reduce costs and support the growth of native plants. *"I got rid of my domestic grapes, they had to be sprayed and everything, so now I do things to encourage wild grapes, and blackberries, and blueberries, and raspberries, and you know, all this stuff is free, and it's everywhere, and it's good eating, it's good for you, you know?"* The value of the participants' harvested products for trading and bartering was just as important, with many participants talking about exchanges and giving away products for free or in exchange for other items of value, whether food, lessons or skillsets of a neighbor.

Another aspect of financial impacts is seen in this section from Donald's interview, which covers both current food access strategies and how his skills might provide value in future scenarios.

Sarah: *Do you have a garden at home?*

Donald: *No. We used to, but since farmer's markets have filled the bill so nicely, we're able to get what we want with just a little bit of money and a whole lot less work at the farmer's markets.*

Sarah: *You started to say the grocery stores and Walmart were for all of the non-produce things, is that-*

Donald: *Mm-hmm (affirmative).*

Sarah: *Do you buy any other meat or is it all things that you hunt?*

Donald: *No. We will buy some meat, but we prefer the non-processed meat as much as possible. We have our own chickens. They're not wild.*

Sarah: *Sure.*

Donald: *At least, and they run loose, so they do the wild harvest in a way.*

Sarah: *You get eggs from those too, eggs and meat?*

Donald: *Yes. We have nine chickens and at the moment, they're young, so we get nine eggs a day usually.*

Sarah: *Great. If you didn't have any money or couldn't buy food, where would you get it?*

Donald: *Well, of course, if I didn't have any money, my ammunition supply would run low, but I do have traps, and I would probably seriously trap coons. We eat coon occasionally, and there seem to be plenty of them, so I would hunt as long as my ammunition was there, but when I ran out of ammunition and had no money to buy more ammunition, then I'd trap. Water, we have a spring on our property that I wouldn't be afraid to drink out of till I died of it. My target for trapping would probably be squirrels and coons.*

Some of the participants shared stories of using money from sales of wild products occasionally for specific purchases, such as additional harvesting equipment. Black walnuts were a common item sold, since in the region there are businesses that purchases any quantities from anyone willing to collect them. Several of the participants are using wild products as a business. Laura's income from wildcrafting was noted earlier, and Teresa makes herbal products and sells locally and through an Etsy shop. Edward, in response to my comment about eating fiddlehead ferns on a restaurant salad, commented,

“Oh, I bet it was expensive wasn't it? Well, see, and that's the thing if you market your business right, you can deal with sous chefs. I've got sous chefs that I work with down in Branson that buy my products. So it's not just farmers' markets. There is a market for these things for high-end restaurants.”

Health and the Taste of Wild Food:

The harvesters placed critical significance on the perceived benefits of eating wild for health. While I had anticipated learning about some values placed on the health aspects of wild harvesting, I was overwhelmed by the variety of health benefits discussed and the passion with which so many of the participants shared these stories of health impacts. While every participant talked about eating better with wild foods in some way, nine of the participants specifically referenced health aspects such as physical fitness, mental health and relaxation, nutrient content of wild foods, medicinal aspects, and other specialized health issues. Natural and organic as a health value was also specifically mentioned as a priority by seven of the interviewees. Below, the stories of the participants show the range of values and importance of health for these wild harvesters.

Edward: *“Your health is your wealth. You want to eat healthy, you eat wild things and not things that are mass produced.”*

Barb: *“I'd want [people] to know that, food that you harvest where it's growing wild is growing naturally in an environment where it is finding the exact combination of what it needs from nutrients in the soil and amount of sunlight and amount of water and other companion plants growing around it, that wild harvested food is the most nutritionally dense food that you can get. If you have the time and the ability to harvest food you find growing wild in your environment and you know that it is not being sprayed with chemicals or being messed with, then that's going to be the highest bang for your buck, nutritionally. And if you think about food as medicine also then it's going to have all of the things that you need from being in your environment that's going to help you stay healthy too.”*

Laura: *"And that's kind of why we do the wild harvest, is just to know that our food is pure. Not all of our food is pure, we go to the store. But the more we can pull out of our freezer, it's like, "remember that day we picked these?" We just think it's better for us, hopefully it'll help us live longer, keep our systems cleaner."*

Michael: *"Do we have to have it [deer meat]? No, we don't have to have it, we choose to have it and we take the opportunity to get it, and we really appreciate it, very appreciative. But do we have to have it, no. It does save us money and it's a, we choose it as a healthier alternative to buying store bought meat. We do buy some store bought meat, lunch meats and whatnot but we do prefer, when it comes down to choosing whether we would have a beef roast or a venison roast we would all choose the venison."*

Luke: *"So, people are kind of embracing this idea about wanting to grow native, you know? And then also they see the benefits of it, not just for wildlife, but this stuff's good to eat, too, you know? You're eating better when you have this..."*

Donald: *"I'd want them [others who don't harvest] to know that this is a good piece of good health. Maybe I've worded it awkwardly there, but there's a lot to be said for wild harvesting in terms of getting out there, being in the outdoors, walking, getting the exercise, then eating fat, non-fat or lowfat meat, the really good unprocessed healthy lean meat of deer and turkey. The health benefits, both in terms of exercise, being outdoors in outdoor air, and then the quality of the meat itself is the meat part. Then a lot of this stuff is really high in antioxidants. Some mushrooms, of course, mushrooms will absorb just about everything they're growing in, so some of them are loaded with good nutrients, micronutrients, which would be your irons and magnesiums and so on. And I'll probably have eaten 200 persimmons [this year], just to sit down and eat them. The food value there, the flavor, but just the good health. Antioxidants, micronutrients... We look at all those things, but we don't look at calories."*

Organic or "natural" products were important to many of the participants.

Participants referenced concerns about pesticides on natural resources and human health, their own or friends' negative health experiences with chemicals and non-organic food, and perceptions of higher quality when things were

organic or natural. Barb's story about where she sources food illustrates her priorities:

"We get most of our food from Walmart because it is convenient and the prices are reasonable and because between the Walmart in Boxelder town and the Walmart in Slippery Elm City, I can get 100% of the produce that we consume, organic. And organic is the most important thing to me, non-GMO is the second most important thing to me and if there is a local person selling something that's non-GMO and organic then local is the next thing that's important to me. But Walmart in Slippery Elm City, Walmart in Boxelder Town, and besides that? Online, if I get tired of not being able to have something that we use all of the time, being available in organic or non-GMO, then I'll order it online. Amazon. Frontier co-op is a particular brand. They have an online store but I can also get their products through Amazon, because it's a trusted vendor. Other than that, my garden and my friends' gardens, I know people that make really good bread and they will buy whole grains from Frontier co-op, process the grains into flour, and immediately bake that into bread, which is the best way to get grains into your diet because it's as nutritionally intact as possible. It hasn't been bleached or anything like that. But those friends live all the way in Riverbirch Town and I don't see them all the time, so as much as I would love to have their bread on my table all the times... So Walmart, friends, my own garden. That's about it."

For the participants who prioritized organic products, they used words such as clean, pure, without hormones, less additives, unpolluted, no spray or chemicals, and natural alternatives to describe their priorities in selecting food products. Barb continued her story above, sharing that while she wants to support and buy local, the challenge is finding the quality of product she desired:

"I have not been going to the farmer's market very often and honestly, the reason for that is I can't get the diversity of food, and I know that I could do better eating, making in-season available choices, but I don't get the consistency, I don't get the diversity, and I can't always trust that what I'm getting is non-GMO or organic. People kind of scratch their heads if I ask them about it. It seems almost socially unacceptable to ask someone who has spent their hard... spent their time working hard to produce all of these lovely, beautiful local-produced vegetables if they're using seeds that are not organic, non-GMO seeds, then even if they haven't put

anything on it, then it's not from a source that I could trust. It's awkward and it's inconsistent."

Luke shared a similar story about the challenge of buying locally produced food:

"So when somebody says grown local, I think that's a good thing, but I think you know, you need to try to do a better quality of it, and do a better job of it if you can. What I just described to you [spraying] goes on everywhere. I mean, you know, it's hard to find something that's not sprayed, you know? But it's out there, it takes a little bit more work, though. But the benefit is better health, and we got enough stuff to worry about as it is, and I think someday they'll probably look back at our society and they'll say, "They put poison on the food, and then they ate the food."

Although the value of organic or natural was highest priority to several, it did not necessarily preclude others from shopping at local markets, often because of strong relationships between the participant and the farmer/vendor selling the food. *"We try to buy fresh at the markets: eggs, cheese, things like that,"* noted Edward. Local food was discussed as being anything from as nearby as the neighbor to throughout the entire state, and most seemed to have relatively positive ideas about buying or sourcing locally food *when* it met their other priorities. Only Patrick commented with a negative response:

"Local food? Well, local food to me is hamburgers and that crap stuff like that. We don't eat much red meat. We eat chicken and fish. We eat lots of fish. Red meat, we don't eat much red meat. Red meat has got a lot of cholesterol in it, you stay away from that. Now, deer meat is different. Deer meat don't have the cholesterol to it that beef has got. Beef and pork, you know."

His comment might relate to Robert's about the availability of grocery stores in County A where both Patrick and Robert live.

"Around here? Well, you know, for people who live in this community, here it's a 100 mile round trip to Walmart. So, I mean, you know, we use our local people here. But, you know, when we do get the chance to go to

the—we'll do the hundred mile round trip. I mean, Walmart is still one of the major places that everybody goes.”

In terms of food access, many participants commented that they do garden, and that if they didn't have money to buy food they would use the forests or their gardens as their first option for getting food. The flavors and taste of wild foods were also discussed often as motivations for wild harvesting, such as Janet's comment about the wild oregano she harvests in her yard: *“It makes a beautiful, wonderful, fragrant, fresh, oregano for anything, spaghetti sauce, pizzas. It's just so much better than anything you can buy.”*

Wild Harvesting as Social Activity

Social Networks:

Social connections were woven through all of the research participants' stories. Family, friends, neighbors, church members, students, organizations, agency representatives, and businesses were just some of the networks that the harvesters discussed. Robert shared about the informal information network in his community particularly related to morel mushrooms,

“Oh yeah, I mean, It's almost a holiday, I mean, everybody's waiting for who finds the first morel mushroom because, you know, the mushroom, when it starts growing, it grows pretty much its maximum height that day. And so, and then they don't last very long because animals will eat them or they dry up, so everybody, you know, when the people start finding them, the mushroom, then everybody's on top of it and they're all just going out into the woods and looking for it.”

Showing off the harvest is also an important social activity. Barb also noted the social activity opportunities of wild harvesting,

“I definitely volunteer that I know how to do those types of things in conversations when the topic comes up. And usually it ends up being a

conversation where someone says, 'Oh, I collected some things this morning. I'm so excited.' And then everybody else starts talking about things that they've collected. And then we start getting stars in our eyes about everybody collecting whatever it is they have and then bringing it next time we hang out so that we can swap. It's definitely a fun social thing."

Luke talked about how he tries to structure his teaching activities, *"And so, you know, I share all this knowledge with everybody, and give them fun little facts and everything. I figure as long as everybody's learning something, laughing, having a good time and getting to taste something we're doing good."* Similar to the sharing of knowledge, many of these harvesters talked about being recognized and sought out as sources of information for other less experienced wild harvesters, with people bringing them items to confirm identification, learn about uses, to gain new skills from the participants, or other information requests. The participants themselves all valued networking and learning from others as well, and viewed this as part of their continued learning. As Laura shared,

"And um, now we run into a lot more mushroom hunters and they'll say, 'Yeah, it was you guys that turned us onto it.' So we have more mushroom hunters in the area now, and that just leads to friendships and you know, it's like, 'Well, how do you do? And what are you harvesting and what do you do with them then?' They do other things, and so we learn from each other and that's been really nice."

Sharing the Harvest through Food, Knowledge and Experience:

The harvesters in the study talked about a variety of ways that they shared with family, friends, neighbors, church members and others in their communities, including sharing of harvests, knowledge about harvest sites, plant identification, or other harvesting knowledge, as well as access to their properties. Laura said

they enjoy sharing information to others to help spread awareness and interest in wild harvesting and wild foods, with a caveat:

*“And part of it is, we—there’s things we don’t talk about with other people because we don’t want to lose our access to it, which I’m sure you understand. So you have to be careful of where—you know, people say, ‘well where did find that?’ and you just laughingly say, ‘in the woods’ *laughs* Unless there’s a huge bounty of it, and then there’s like some of the mushrooms and the blackberries. They’re just so many. So we’re not afraid to say, ‘well go try, you know, Ohio Buckeye Conservation Area’... But not until we’ve gotten what we need. *Laughs*”*

Sharing harvests is extremely common in the stories the harvesters told, whether they were doing the sharing or receiving part of someone else’s harvest. Patrick talked about benefitting from helping someone learn how to identify mushrooms:

“and you know what the hen-of-the-woods is? Robert here, I worked for him for years, he had two come up in his yard one morning. He brought them in to the deli, they were that big around. Oh, oh, they were something. He gave me one, he kept one, and boy, you talk about some good eating.”

Joe discussed his relationship with a friend in another state, noting

*“There’s an overabundance of blackberries here, so we just get extra gallons of ‘em and of course, I make wine, and these people have mushrooms in Illinois, they’re people from Kentucky Coffeetree Town, you know where that is at? South of Eastern Cottonwood City, not too many miles, but they’re big farmers over there. They’re people from over that way, so we just swap mushrooms, fly ‘em back and forth. Sure it is, yeah [a good barter]. *chuckles*. Keeps a good friendship going without having to get any money involved and it’s natural stuff too.”*

The harvesters all shared information with others in a variety of informal and formal settings. A common sharing of knowledge occurred between parents and their children, with many noting the benefits this brought them. Donald noted

"I taught my son and daughter [about wild harvesting and hunting]...I thoroughly, deer hunting I did in my younger day when I could peck a buck out of the woods. Now, I let my son and daughter and son-in-law do all that, and then they share with me. Our deep freeze is constantly up until the legal limit full of venison even though I haven't shot it myself. They did all the work, and we love it. We love venison."

Patrick shared a similar story, with a slightly different outcome:

*"Yeah. I, uh, here a couple years back, a friend of mine, she just moved in down here, and uh, she found out about me. Somebody told her, 'You need to go talk to Patrick. He's quite an outdoorsman, mountain man.' So, anyway, she comes talks to me and she wanted to learn how to make wine, so I got her to making wine and everything, and she had three of her friends to come down from Black Cherry City, up that country some place, come down here and uh, she wanted me to take them on a field trip. So, I said, 'Well, yeah. I wouldn't mind taking you and show you a lot of stuff, some edible and stuff that's not edible.' Anyway, we went on a field trip, took her down to home place, down where I grew up at. That's where I went to school at, Eastern Red Cedar town. But it got blown away with a tornado, the school house did, and then a flood, it ruined everything too. There ain't much left of Eastern Red Cedar Town. But anyway, I took them on that field trip down at the ol' home place, and I showed them all kinds of different stuff to eat, herbs and different things and everything. Well, when we got back home that afternoon, the girls handed me some money rolled up, said here we want to pay you and I said, 'I don't want to take your money, I enjoy it.' 'No, no.' So, anyway, after they left, I uh, reached into my pocket, pulled it out, and there was three 100 dollar bills. I told my wife, I said, 'Boy, I ought to hire out for this.'*Laughter*"*

The cost of equipment to wild harvest was noted as a potential barrier to practicing wild harvest, but the harvesters are sharing their field guides, books, and other reference materials, as well as other types of equipment. Michael told this story about a recent experience:

"I love to share information, in fact just this weekend I loaned two fishing poles and some gear to a guy who his family is coming in from out of state and they didn't have much experience in trout fishing. But I told him how to do it, gave them the equipment to do it and they had a great time and caught fish and were successful. And people are looking to learn."

The harvesters had different motivations for teaching people, whether for interest and awareness as Laura mentioned above, but also self-reliance and survival skills were mentioned in a few interviews. Barb commented that while she usually harvests on her own *“occasionally I try to drag my kids out with me because I tell them, ‘This is important for you to know! When the apocalypse happens, you need to live off the land.’ And they kind of roll their eyes and hang out with me for about 15 minutes.”* Edward made a similar mention about his reasoning for sharing his knowledge: *“I always like to teach people to fend for themselves, because grocery stores may not always be there.”*

The Value of Trust:

Trust was discussed in a variety of contexts during the interviews with participants. The participants referenced trust in their comments about knowing how people treated their properties so they could find “clean” products when harvesting on others’ land. It was implied as well when sharing access to their own personal properties, with the expectation that the harvesting done by those they allow on their properties would be sustainable and not damaging to their land.

Trust was a critical reason for Barb choosing not to shop at area farmers’ markets. Continuing her story about farmers’ markets earlier in this chapter, she said,

“And I hear things about people at the Slippery Elm City [farmers] market doing scandalous things! Like buying things at Aldi’s and not even taking off the stickers off their peaches or plums and then trying to resell it at the farmers’ market. My little girl heart can’t take a whole lot more disillusionment with farmers’ markets for the next little while.”

Edward shared a story about a disappointing experience with an organization he had hoped would provide an important tool needed to certify his business for health department approval.

“Well, here's the thing [about this association]. I went to one of their seminars, and I was certified... Evidently, they're the only ones in the state that can do it. When you tell somebody you're gonna do something you do it, you know? It was just vague on the information that they gave out on how to proceed.... I just feel like they collected my money, and there ya go. They said that they're gonna send a certificate. It's just a piece of paper granted, but it's the fact that you all are not doing what you say you're gonna do. I mean I'm not bashing 'em. They're nice people. It just seems unorganized to me. Well, they're nice people. I just feel like there was no bang to my buck, you know? They give you that piece of paper... Well, I could go print that up. I'm sorry. I drove to Baldcypress City [a 2 hour drive] to go to their meeting at the library, and I wasn't very impressed. That's just me. Everybody's got an opinion, right?”

A Regional Culture?

In many of the participants' stories, they used words or phrases such as tradition, holidays, events, link to the past, way of life, and families handing down experiences and knowledge. Luke shared *“Growing up though, hunting was a real big part of our life, you know, hunting and fishing, and it was just a tradition that was carried on and it brought all of us together. We shared experiences and so I loved that part of it.”* Laura suggested, *“I think families who live here, who were born and raised here, have the knowledge [of wild harvesting].”* Several also talked about Native American heritage of wild harvesting. Patrick shared,

“Well, my granny was a—all my background people are Indians, see. Grandma, she was Cherokee, and grandpa, my dad's mother and dad, he was a Choctaw Indian. And she taught us kids everything when we was growing up, take us green picking and mushroom picking and everything, and all the herbs that, you know, was medicine—medical herbs.”

Luke talked about building friendships with members of the Cherokee nation and learning more about their native traditions of hunting, wild harvesting and medicinal plant uses.

“...All they ask is like, you share these secrets with somebody else, you know? And so, they're doing ... I mean, we met up it was a good match because I love to garden, I love to grow things. I love trees and plants, and so you know, they're not just doing it, they're preserving their culture by doing this [ethnobotany and wild harvesting], too, though.”

Many of the older participants reported seeing a change in the motivations for wild harvesting, in the past for necessity and survival, while now it is more commonly recreational.

John: *“It was, we'd go down and set up tents and we had those big tents. Just oh, 5 or 10 of us and all that you know, back when you was a kid you know and we'd go down and camp out on the river bars and hunt and fish and gig and deer hunt through the day and gig at nighttime. Cook. It was just kind of a way of life and you didn't really think about it.”*

Harold talked about his experiences on the river, “we have a lot of fish fries, we used to have them on the gravel bar, you gig it at night, that's what it used to be- that's where we used to have the fish fry. You didn't go home and then just set up everything conveniently at your hand. You went out gigging, killed as many fish as you wanted, and no matter, even though there were so many more fish in the river, we didn't overkill. There wasn't no overkill. So we got enough for a fish fry, we don't need to kill anymore, and that's the way it went. We'd pull into a gravel bar and clean the fish by the light that we gilled by, clean the fish, gather up the wood, build a big fire, we had an old cast iron skillet and what we called it lard, anyway and we'd have a big fish fry. Remember a few of them? And you don't see that anymore. You miss things like that. But they're like a—gone, it's just gone. So many things that's went away in my life.”

Despite potential changes in the cultural traditions or motivations around wild harvesting in this region, there is still a celebratory culture around wild harvesting and hunting, even if it may not be as active today as in the past.

Robert issued this invitation during our interview:

"I don't know if you could ever come down on the 15th of September. That's the opening night of gigging season here. I mean, it's a national holiday here. It's crazy. Boats be coming up and down—you'll see boats behind trucks, you know. The whole [public land agency] flew the river opening night of gigging season here three years ago, and it looked like a highway out there, with all the lights and the boat, it was just that many. And I don't know how many boats, way, way up there, huge number. But I mean, there's a lot of people, [friend] would be a good one to talk to about gigging. And I mean, they have, at their place, you know, it's just people show up and they go out gigging and you know, everybody brings probably hardly anything, he provides everything. He got a lot of moochers. But uh, then you have a big fish fry there and it's just tradition."

I heard about this feeling of tradition from more than just Robert. During the first reflection session, the two participants discussed Robert's quote and shared this conversation:

I like the 'Cultural Capital' [category for this] because if you've ever been gigging it is almost a religion, it's a ritual and this is how we do it, and—

It's very specific and involves a lot of people and you pass down the tradition to new people or young kids.

Exactly. (Laughs)

I think cultural capital is really important, and I don't think people realize that as much if they don't recognize what their cultural capital is because of moving around a lot, or having values that are different from whatever culture they grew up in, and trying to find a place to belong, I think cultural capital is important. And these things can totally help inform that.

Then, during my visit to County A for opening night of gigging season, I visited with several families as they were returning to the boat ramps after their gigging time, and one woman shared the same sentiment about the opening night being "a national holiday." A regional newspaper column published the week after opening night by a regional writer also used the same national holiday phrase to describe the excitement and tradition of gigging season for participants. I did

lose count of the number of trucks pulling gigging boats on my drive to and from County A, and the parking lots at the boat ramps were nearly full that evening.

In general, a recreational harvesting culture still seems to exist in the region. When I made a phone call to County A's courthouse to ask for contacts of people who do wild harvest, the woman who answered the phone said, "*oh, everybody does that.*" As discussed in the methods section, the participants themselves often noted that they knew many people who harvested something, if not to the same variety, quantities, or regularity that they considered "enough" to qualify someone for a referral for the study. Only one participant suggested that harvesting might still be used for more than just recreational food needs, or as a specific food choice, but rather as a true food security necessity. Laura shared,

"We did run into a fellow last year, we uh, were down at the river...and had a very interesting hour with him. He was a real greens forager... We were picking all those greens. We've learned a few here, and we can add them to our salads. Sassafras leaves and chicory, and stuff like that, but I mean, this guy, he and his kids, his whole family was there, and they were harvesting, and he just kind of said, 'Well, everybody here knows about that.' We're not native, we didn't grow up eating the native greens here. And that was an interesting.... It's not until—you're either out there participating in it and you run into somebody that says, 'what are you doing?' that you find out that they're wild harvesting too. And I don't know it's because they're, maybe they have to do that to make food for their meal or, maybe they're a little embarrassed, but it's not widely spoken about. Unless you have a common bond there and you find about it. Then people are always anxious to share the knowledge."

Educational Resources for All:

Participants reported utilizing a variety of educational resources in their own quest for knowledge, as well as referring others interested to those resources. Examples included books ranging from mushroom and wild plant

identification to cooking and recipes for wild edibles, magazines such as Mother Earth news, and other library resources at the education centers at various state parks and federal lands. Educational programs and workshops were again both accessed for increased personal knowledge as well as a place several participants contribute their knowledge and skills to help train others. These programs referenced were available through Missouri State Parks and Missouri Department of Conservation as well as heritage interpretation programs, rendezvous events, Missouri Mycological Society, Master Gardener programs, and workshops for both homeschool and public school students. Often noted was the importance of hands-on training for identification, effective harvesting and using/preserving wild harvested products, although internet resources and videos exist as resources as well. Several participants also noted that they do literature reviews of existing published research about wild edibles to learn more about safety and uses of particular products, nutritional values, and cultural heritage of specific products. One participant shared with me a research article she thought would be of interest about the use of medicinal plants in rural communities (Nolan and Robbins 1999). In addition to teaching workshops, several participants also contribute educational resources to their communities by contributing to regular columns in several weekly regional newspapers on a variety of topics such as uses of medicinals, edible wild plants, and seasonality of products.

Opportunities

One question I asked the participants led to a discussion of opportunities: What advice they would give to new harvesters? Seeking out knowledge and experience was nearly always the first response. The participants discussed opportunities they had to teach people, and although they usually did it for free, they did suggest they could charge, such as Patrick's story about teaching his friends. In the section on sharing, Michael told a story of lending fishing poles and equipment to a family visiting. He ended his story with this line about the value of hands-on education and training: *"Even though the avenue is out there to learn through media or through the YouTube or whatever, people still like, they prefer I think hands- on teaching instruction. They want someone to show them how to do it and give them advice."* Luke shared an experience of introducing a coworker to a specific wild edible product he had been working with:

"I think knowledge is probably one of the big ones... and the other one is how they taste, you know? And I never will forget, me and [a coworker] we were in his office... He started working with me on saving [the Ozark Chinkapin-a rare native tree] we're sitting in his office and back then the seeds were extremely rare. So, we were picking green seed out of the burs, and I had one that I nicked, which would not be a viable seed and it probably wouldn't make it. And I said, "Have you ever eaten one of these?" He said, "No, I haven't." So I hand it to him and so they have a real sweet almondy kind of flavor, and they have the most awesome aftertaste ever, and you know, so there's no tannic acid in it, and so he started eating that. One, his eyes just sort of grow, he goes, "We need to save this tree."

The mystique of the discovery in learning about wild edibles was mentioned several times along with the growing sense of awareness that comes with learning. The participants suggested this built appreciation for natural resources through wild harvesting experience, as well as changing management

strategies. Janet commented, *“You know, I always say it’s like a magic ride picture. Once you see and learn the plant then all of a sudden you’ll see it everywhere, it’ll kind of pop out at you.”* Luke had a similar story of a neighbor finally seeing the value of keeping some of his wild plants on his property,

“I’ve got friends got a pond, and he’s got all kinds of cat tails, he just wants to get rid of them, I said, ‘You might want to think twice about getting rid of all those. Have you ever eaten one of those?’ He said, ‘No.’ I said, ‘You try one sometime. You may change your mind about getting rid of those.’ I mean, if you think about it, he had, and I drove by his place the other day, and he cut some of them back, he’s still got a lot of them on his pond. And to me, that’s like potatoes in the ground... I think there will be a bigger appreciation of it, and I think more people will come to do kind of what I’ve been doing, which is taking your property that you had maybe in yard, or in maybe something else and change it a little bit, and make it better for not just wild edibles, but it’s like a win-win thing. You can allow native plants and wild flowers to grow, and then when you do that you’re helping a variety of different insects, and animals, and birds, and then also, too, you’re getting the benefit of having not just a good constant visual enchantment with all the flowers, and all the creatures, but also you’re getting to eat something that would’ve been mowed down like, blackberries, or gooseberries, or raspberries, or eat some you know, some poke salad, any number of things.”

Many of the participants feel they are seeing a growth in interest overall in wild harvesting for a variety of reasons such as trends in diets, nutrition, medicinal alternatives, and self-reliance/disaster preparedness. Edward mentioned that “wild grown” could be the new trend once organic has gotten old. They noted increasing resources available to support and encourage this increase in the practice such as new publications, workshops, and dinners.

Janet, *“It’s huge, it’s growing hugely. Even with the passage of the prescription drug monitoring program, where they’re tracking every single prescription. A lot of people don’t like that so they’re just trying to get their own. My book sales have, I mean, probably quadrupled in the last month or so because people want to be more self-reliant.”*

Barb suggested another opportunity both for her personal use but as business strategies as well:

“I know there are a couple of people in town who have stills and make essential oils and hydrosols and all those things, which is more even exciting because I can harvest the pine needles, or the cedar bark, and then they can take it and turn it into the oils or whatever products I need and that’s super local. I love that.”

These opportunities suggested by the interviewees highlight the interconnectedness and significance of the themes of this chapter. Time plays a critical role in the influence of trends and changing motivations for wild harvesting that might both support and challenge traditions while developing new strategies for meeting the needs and interests of new generations of harvesters. While a few were discouraged about the lack of people participating in harvesting, in general there was a positive attitude among interviewees about the growth and continuation of the practice, for a variety of motivations and a changing demographic of harvesters. Place-based responses to natural resource issues and growing recognition for the value of wild harvesting assets in the region were noted throughout the interviews for the opportunities available in this region for food, medicine and crafting resources, to increase natural resources diversity, and landowner engagement with natural resources management as both an environmental and economic option. Finally, both the personal and social realms of wild harvesting are significant for these research participants in a variety of ways and for building opportunities discussed in this section. Understanding individual needs, motivations and experiences with wild harvesting and the taste of wild foods, recognizing and sharing knowledge, and enhancing individual

opportunities through wild harvesting business or networking reflect the personal realm of this practice. However, equally important for the interviewees are the social networks, partnerships and sharing to continue this practice in the region.

Although not initially planned with the intent of moving from the personal to social as part of the research process, the reflection sessions became an opportunity for the research participants to bridge their personal ideas and comments in broader discussions in a larger group. The reflection sessions provided a forum where the interviewees supported and contrasted each other's experiences, shared ideas, and vetted the proposed research findings and conclusions. The conversations in the reflection sessions had significant contribution to this research as well, but the impact of the reflection session data will be shared in the discussion chapter as both validation and expansion of the ideas developed during the initial interviews. As I coded the transcripts of those sessions, I found that the data reinforced the initial coding. I share their conversations from the reflection sessions in the discussion chapter to continue valuing this narrative process of ongoing joint exploration and re-crafting of new stories together between researcher and participants.

CHAPTER 5: DISCUSSION

Moving Beyond Traditional versus Contemporary Localism

The concept of traditional and contemporary localism (McEntee 2010; 2011) was my initial inspiration for this research as an attempt to learn how the traditional localism practice of wild harvesting in the Ozark Highlands might help strengthen rural food systems. I have seen the challenges of encouraging local food systems in rural places when our only measurement of success is increased monetary exchanges and business growth for producers. I have also seen and experienced the range of other food activities that occur in rural places, such as gardening, bartering, hunting, and the extra zucchinis people sneak into your car when no one is looking. The aspects of traditional localism are underappreciated, because traditional localism practices “have been largely ignored by present-day local food movements” (798). The concept of traditional localism is an opportunity to expand our vision of local food systems to include the non-market activities of barter, sharing, and self-procurement, which remain a significant component of food access, especially for rural residents, but also increasingly urban community members (McLain 2014; Poe et al. 2013). McEntee argued that it is just as important to talk about the economic benefits to individuals of self-procurement of local food as is the economics of direct market sales between farmers and consumers.

McEntee's ideas of traditional localism found some support in this research.¹ Much of the conversation with the harvesters in this study, as referenced in Chapter 4 sections on costs and sharing the harvest, centered on ways that the harvesters seek out wild foods as a free resource, and value the networks, sharing and bartering that occur through their wild harvesting experiences. Several mentioned that they look at price and affordability as their priority for food purchases, which is why gardening and wild harvest were important. Many of the older participants shared stories about the necessity of wild foods for their family food security during their childhoods. For those that value price as their key priority, they also seek out discounts, deals, and other price efficiencies by shopping at a store, rather than local farmers' markets, supporting the tension McEntee described between participating in localism and conventional food systems. About half of the participants fit relatively neatly within the traditional localism description, choosing local food when it was something they or others grew, or what they could procure themselves through hunting, fishing or wild harvest. Harvesting to continue family or cultural traditions was also a significant motivator. Then they just as easily shopped at regional

¹ A key focus on McEntee's work is food justice, a critical consideration in any local food systems work. I did not ask specific questions about race or income in this research and because of my snowball sampling technique, the research group was not as diverse as I might have expected based on the diversity of harvesters as suggested in the non-timber forest products literature. On assumption alone, this study group was not diverse in terms of race, and based on comments about occupations or ownership of land, I assume that most of these participants were at least lower middle-class. One senior did mention participating in the senior commodity program, which may signify a lower-income than the other research participants. The discussion and ideas here are based on only these interviews with a small subset of wild harvesters, and should not be assumed to speak for all wild harvesters. Future efforts should build relationships with low-income harvesters, as well as other demographics in the region.

grocery stores or big box stores, noting price and discounts and deals as priorities, highlighting the tensions that develop around consumer motivations.

McEntee argued that people move in between the two categories and that “the primary distinction between the two localisms is motivation, not the activity itself” (McEntee 2010, 798). As this research demonstrates, there are nine of the harvesters interviewed that at first glance fit in the traditional localism category – they wild harvest because it is free and available. But their main priority is to find organic or natural food, free of chemicals, and they make food choices with that priority in mind first – so perhaps they fit more with contemporary localism if their decisions are based on ideological reasons rather than solely price. However, these contemporary localists still make food decisions with the same tensions of traditional localists - they wild harvest to source as much as they can for themselves, but their local food sources are limited as well. They also shop at Walmart where organic labelling provides them with a consistent, quality organic product that they cannot guarantee they can find at local farmers’ markets. If local producers are not focused on organic production, but that is what some consumers value, then options are limited to participate in the local food system, not only for price reasons, as McEntee singularly argues. Barb had commented, *“Organic is the most important thing to me, non-GMO is the second most important thing to me and if there is a local person selling something that’s non-GMO and organic then local is the next thing that’s important to me.”* She noted the differences between the farmers’ market in her current rural community compared to the market in her past urban hometown, where organic production

was a priority for both consumers and producers and she was able to access the organic local produce she wanted there, but cannot find now. Producers at rural farmers' markets are often hobby farmers or small-scale producers that perhaps would not gain the premiums needed to justify the cost of organic certification, and those rural producers who do grow organically are more likely to sell to urban markets where the prices and consumer populations can provide the sales necessary to justify the costs.

As McEntee described the differences between contemporary and traditional localism, he argued that while there are aspects that overlap, "these concurrently exist in the same physical but different social space" (McEntee 2010, 786). We can see this in these contrasts among the wild harvesters and their motivations for their food practices in this region, especially highlighted by Barb's comment about how *"it seems almost socially unacceptable to ask..."* about production practices at farmers' markets in the region. It is interesting to consider that many of the harvesters who prioritized organic and health reasons are newer to the region (although this is not exclusively the case). This would make an interesting follow-up question, as I did not explore specifically the reasons for moving to the region or what role the ability to wild harvest had on their decisions to relocate here. Joe and Laura did comment that part of the reason for their choice of community for their retirement was to have *"our own place to hunt and fish and gather off of."* Interestingly, a common theme among all the harvesters, no matter their main priority, was the ability to source food, medicine or other wild products for themselves, and the sense of independence

in particular that was significant to them. This was talked about in terms of making one's own food choices and the ability to ensure "purity" of a product, in other cases as a response to increasing regulation and oversight on medical care and enabling individuals to make their own responses to their personal health. So while it is true that in some respects there are different "social spaces" for some of the motivations like price or organics, perhaps what is also important is understanding where those social spaces overlap and connect. Perhaps those commonalities will be the places that allow us to leverage the variety of motivations to enhance or support a particular local food practice, in a particular place, and use these multiple motivations as entry points to increase the number of people able to access new sources of local food because of it. Carolan (2017, 212) suggested that despite a variety of reasons that people begin participating in alternative food system practices (such as CSA or community gardens), that these practices often developed additional benefits of "broader social conscience" for participants and could perhaps be places for changing community norms about food systems and food justice issues.

While there are benefits to understanding and promoting the two types of localism in local food system initiatives, there are limitations to this concept. The focus of McEntee's justification for the two types of localism is still based in traditional economics and monetary values or cost savings. McEntee suggested that one outcome of increased research on traditional localism could be "the development of marketing strategies that speak to an audience that is more likely to include low-income people (McEntee 2011, 253)." Again, the continued focus

on monetary and capitalist exchanges, even with the recognition of non-market practices in traditional localism, presents some problems with this assumption. He writes that “emphasizing the economic benefit to the individual not of buying locally...but of growing, producing, or bartering locally in order to save money, would be more effective...(McEntee 2010, 798).” While of course there are financial benefits saved by self-procuring one’s own food, or through barter and sharing, what is not accounted for are the costs involved in traditional localism practices that might initially be exclusionary without a focused effort to reduce or share cost. In his table of motivation and access barriers, McEntee (2011, 250) listed only culture and price (perception of) as barriers to contemporary localism, but as we mention above, availability of desired food products would also be a barrier to participation in contemporary localism. For traditional localism, he listed availability of soil, water, and land resources as the only barriers to participation in those practices. The research participants recognized that they were perhaps more able than others to have the time, flexibility and opportunity to wild harvest more easily through jobs, secure income and funds to purchase equipment, ownership of land, and other factors. Even acknowledging this, they recognized the constraints to wild harvesting within their own personal stories. They discussed that equipment costs, time constraints for harvesting, ability to travel to public or private properties for harvesting, acquiring knowledge, and storing/preparing wild or homegrown foods are other considerable barriers, indicating that perhaps traditional localism may not always be the most economically valuable use of a person’s time. Yes, wild food is free but not

without costs. Barb, the mother of two middle school-aged children, reflected this challenge in her comment that despite her interest in gardening and harvesting wild edibles, *“the time it takes, right now, to harvest enough for a meal takes too much time, based on what my other responsibilities are.”* Teitelbaum and Beckley (2006) found similar outcomes in their study of Canadian households participating in self-procurement food practices. Their data demonstrated that self-procuring food was an important practice regardless of income level, and that while cost savings were an important aspect it was “not the overriding factor in determining whether or not households participate...” (127) They also found that low-income families had the lowest participation rates in self-procurement practices, and suggested that both financial barriers and “social isolation and inability to access information” (128) could limit participation by those households.

In a chapter on food and environmental justice, Mares and Pena (2011, 217) proposed, “that we collectively strive for deep connections – with our food, with the places we live, and with each other.” While the idea of traditional localism opens up the opportunity to value the practices of self-procurement in local food systems, perhaps the need is less about attempting to estimate the monetary value of food self-sourced, traded, or shared. This research demonstrated that while it is important to understand and promote the different motivations in contemporary and traditional localism, what is needed a way for valuing ALL the practices of food access, and find ways to encourage local within the priorities, motivations, constraints, and context that rural (and really rural or

urban) people function within. I argue that the rural wealth framework allows us to better contextualize rural people's food choices through a broader picture that includes place, time, personal and social connections – those “deep connections” that Mares and Pena suggest. In this next section, I will begin to apply the data from the research interviews to demonstrate how a better understanding of food access in a particular place can help us explore the intersection of personal choices, reasoning, outcomes, community impacts, and where interventions in local food systems might be possible and effective.

Applying Rural Wealth to Wild Harvesting in the Ozark Highlands

The focus in community development has increasingly moved to an asset-based approach for recognizing and working from the value of all the community capitals in a place. The idea of community capitals (Emery and Flora 2006; Flora et al. ND) and entrepreneurial social capital (Flora and Flora 1993) have become common language for engaging in broad efforts at the community level, and multiple food system authors have considered the role of community capitals in measuring the effectiveness of food system efforts. The main idea is that a singular focus on traditional economic measures of financial exchanges, business growth, and consumer costs or savings is not sufficient for valuing the impact of local food systems. A recent chapter on the Sustainable Development Goals argued that our current focus on financial incentives in agriculture and food security challenges is problematic, as is the assumption that “we could address these problems by throwing money at them” (Prato et al. 2018, 74). Crowe and

Smith looked at communities' ability to address resident food insecurity and found that "relationships exist between the number of types of food sources in a community and a community's cultural, social, and human capital" and argued that making improvements in these capitals were critical for improving food access (Crowe and Smith 2011, 14).

The idea of comprehensive rural wealth (Rural Policy Research Institute 2017; Johnson 2014; Pender, Marre and Reeder 2012), which utilizes the original community capitals in their discussion of assets and wealth, instead starts with an analysis of individual community member decisions and assets within the community context and how those individual decisions can influence and are influenced by community outcomes. The Pender et al report outlined that "local actors' endowments of different types of wealth determine what opportunities are available and the attendant cost, returns, risks, and constraints" (Pender, Marre and Reeder 2012, 9). Applying the rural wealth framework (see Figure 1) for wild harvesting in this study region allows for understanding of community and individual priorities, liabilities, community context, and outcomes of all the food access practices in a community, and where potential opportunities for engagement with local food systems might be most effective. This concept also allows for evaluating and appreciating the role of place, time/culture, individual experience and community in a comprehensive picture of a food system practice, which then allows for building on the idea that these concepts have value in food systems engagement.

Figure 1: Rural wealth framework (Pender, Marre and Reeder 2012)

I utilized the reflection sessions as an opportunity to begin exploring how the concept of rural wealth fit the data, and what reactions the participants had to the idea. Although the individual interviews had themes of community impacts, these reflection sessions also broadened the conversations to more than just individual wealth, and allowed the participants to consider how their own individual choices also perhaps contributed to more comprehensive community impacts. During my first reflection session, I briefly explained the concept of rural wealth, showed the framework diagram (Figure 1), gave the participants a description of each capital, and shared how I considered applying rural wealth to

what I had learned from them during the interviews. The following discussion underscores the challenge still inherent in the rural wealth framework and I want to bring it forward at the beginning for the reader to keep in mind throughout the rest of this chapter. The following is the discussion between the two female participants at the first reflection session. The challenge of multi-participant sessions is that transcription and following the voices can be difficult, so the participants are not identified by name in these interview segments. Each separated line is a different speaker.

Sarah: [After the overview explanation] “maybe there’s a way we can think about valuing wild harvesting more than just the economic exchanges. Does that seem reasonable?”

I’m an herbalist, so I’m gonna say yes, entirely reasonable.

Yeah, I’m gonna also agree that thinking about wealth and value outside of the context of money is really, really important and also, not something that’s very easy for people in a community to have a common understanding about—. It’s almost like it’s not—these different types of capital seem to not even be a part of a common vocabulary that people can talk about, because when you think about everything ends up, I think, automatically, like the words ‘capital’, ‘value’, and ‘wealth’ seem to symbolize money because it’s a least common denominator that everybody understands and relates to, even though they relate to it differently based on how much of it they may have or how much influence they may have other than money.

Sarah: So is there a word—so thinking about wealth though—so to reframe the way we think about it, is there another word you’d use that sort of gets at the same thing but maybe takes the money side out of it?

I think that’s definitely the right question, and it may be enough to just ask that question and continue to revisit that as a conversation.

I keep wanting to say sustainability.

I like the words 'value', and the other words that you used in discussing this list about the different types of capital.

The challenge identified here is how we continue to evolve the conversation about the ways we value the range of assets in our individual and community lives, or perhaps find new words for those values. The idea of sustainability is interesting and perhaps applicable, especially with the increasing influence of sustainable development. However, after working in this region I have learned that the word “sustainable” can be received very negatively by people here, because of inferences to increased rules and regulations, and limitations to both personal and property rights. While using and talking about sustainability maybe be appropriate and effective in other places, it may have limited effectiveness in this region because of experience and negative connotations with the word. For the remaining discussion, I continue to use wealth, capital and assets since there was not a common agreement on terminology among participants and to stay with the language used in the rural wealth framework. To apply the data from this research, I used the information in the personal/embodied section of the findings chapter as a contribution to the idea of human and financial capital. The stories shared in the social experiences section lend to social, intellectual and cultural capitals and the place theme give us the context for decisions of harvesters. The time theme lends some ideas of liabilities to the discussion.

Exploring the Context of Decisions in Place:

Pender and his co-authors suggested in their framework that it is important to consider the local context for its influence on residents' decisions, outlining the local economy, institutional rules or constraints, and local policies as key aspects of local context. In the Ozark Highlands, the research participants discussed the regional context such as rules and regulations for wild harvesting and hunting, both through seasons, permits, and limitations on public property. These rules both protect the natural resources and sustainability of the harvest, but also constrain what products are available and in what quantities participants can harvest. This influences their harvesting decisions, as well as potential business opportunities for medicinal or other wild edible product sales.

The marketplace for all food, but specifically local food, provides us with some context for understanding the participants' food choices, as they discussed limited grocery store availability in their communities, as well as the limitations of locally grown organic food available at their markets. The culture of hunting, fishing and self-provisioning in the region was suggested as perhaps an institutional context, that the practice is appreciated and accepted generally in the region as a viable food choice.

Johnson (2014) argued while some wealth can be transferable, much of it is connected to place. In the findings about place in this study, the natural resources were a considerable place-based asset for this region, with a wide diversity of plants, animals, mushrooms and other harvestable products available in significant quantities. That the participants harvest nearly 90 different types of

products is evidence of this natural capital, and the participants viewed it this way as well. They noted their appreciation and respect for the variety and quality of natural resources available as well as the potential for food sources they offer, *“it’s kind of like the rabbits I’ve got [wild in my yard], I may not ever need to eat them, but they’re always out there, you know? If I ever want to though.”* In addition, the availability of significant public land is a positive environmental context for the harvesters, although they also noted the challenges this brings in increased tourism and competition for the resources.

Outside ownership of property was a potential problem noted by Johnson (2014) if the local community does not benefit from the asset or investments from it, but in this research, several of the participants mentioned that they had made agreements with outside landowners to utilize their property, which in this case presents an opportunity for value to the community. There are large acreages of private forested property in this region, so if positive relationships and agreements are possible between locals and property owners, this can open additional access to the natural resources the harvesters desire. Yung and Belsky (2007) wrote about landowner agreements in Montana and how community residents developed local definitions of public and private goods related to land use access, and the challenges that arise when new landowners don’t know or ignore those community values. Johnson (2014, 209) noted that “knowledge of a place’s social norms is a form of human capital” and argued that this knowledge can more easily facilitate new social relationships in a community between long-term and new residents. Yung and Belsky (2007, 702) shared an

effort at “matchmaking” ranchers and new landowners in the Montana land access disputes as a way to “speed the integration of these new landowners into the new community, while allowing for their values and priorities to become part of the conversation [about land access rights].” While disagreements with private landowners did not seem to be a significant issue for the participants in this project, this topic could be explored in more depth to understand the context of private land access issues and property rights debates in this region, and how this influences decisions about wild harvesting activities. The historic and current controversies with public land agencies and management practices seemed to be more of a pressing issue for harvesters in this region.

Natural phenomena are also listed by the Pender et al report as contributing to local context, which is significant when the practice in question is so dependent on the availability and health of local natural resources. Several participants mentioned flooding that had affected their harvesting or harvests, and we can also assume climate change will likely have impact on the area’s natural resources in the future. This particular topic was not discussed in detail in this project, but presents another area of future research, to better understand participants’ views and adaptations for food access based on changing environmental conditions.

Place contributed significantly to community members’ experiences, and influenced their lives in ways that create positive benefits and challenging constraints. In a recent New Territory article on foraging (Mainelli 2016, 98), the author explained his experience, “...what I do know, and with some certainty, is

that there is something inherently valuable in this task of foraging – something that can enlighten our experience of the places we live...In light of these pleasures, the actual reward of the crop could only ever be a fringe benefit.” As we begin to think about the assets the participants described, keeping in mind the context of the Ozark Highlands, with its natural resources, regulations, culture of traditional localism and distrust of government, among other place-based ideas, is important for understanding how individuals choose to function within their communities.

Identifying and Valuing Assets:

The participants recognized that many of the stories and quotations I used for examples of the different categories of capitals actually overlapped. One participant noted, *“You could almost star the ones that fit into multiple [categories of capital] and you got a whole bunch in one, not many in the other but it bridges it for your study purposes.”* A point made in the literature of both community capitals and rural wealth is the interaction and interdependency of the various capitals, and that changes in one capital often benefit or potentially harm another capital. Here I will highlight four types of capital that were discussed most often in the interviews.

Human Capital: Although I had reviewed the literature on rural wealth and comprehensive wealth, I did not have a particular idea of how the concept might apply before starting the interviews. However, during one of my first interviews, Edward said, *“your health is your wealth, you want to eat healthy, you eat wild things and not things that are mass produced.”* It was this comment about wealth

that started to draw my attention to recognizing the ways that the participants spoke about valuing their efforts and thinking through how those ideas might be framed through the rural wealth concept.

Human capital is defined as an individual's knowledge, skills, and health assets. I would also add here the value of personal experience in food systems – the benefits of embodied physical experiences in nature and food systems. The participants' focus on the values of a healthy diet and their perceived benefits of wild food for staying healthy was a surprise to me. I did anticipate that price and tradition might have been higher priorities for participating in wild harvesting in this region, but the participants spoke passionately about their health and their reasons for choosing wild food as a health strategy. There is also a growing interest and practice in wild harvesting for medicinal purposes, which several of the participants discussed in their own business growth or as future opportunities. A 1999 research article (Nolan and Robbins 1999) shared highlights of a project to study the diversity and uses of medicinal plants in folk medicine in the Ozarks. Nolan suggested that not only are isolated rural places, with limited medical services, an archive of the cultural heritage of folk medicine, but that in "these locales...botanical knowledge, and its uses, can be seen as dynamic and adaptive, not static or ahistorical" (Nolan and Robbins 1999, 70). The re-engaged interest in wild harvested medicinals in this region, according to participants, is in some aspects due to frustration with the conventional health system and remedies, and an attempt to assert a sense of control of their own health. By participants' own comments, they value their health significantly, and

make conscious food choices to secure what they deem is healthful food. We can see where the overlap of capitals might occur in human and cultural health by re-utilizing the cultural knowledge of a region to improve individual health. Loring and Gerlach (2009, 474) pointed to this interdependency of capital as they shared the negative impacts of changed foodways on Alaskan Natives, noting, “food contributes far more to health than just calories and nutrition” and listed family roles, community responsibilities and social connections as other assets of food systems that contribute to public health. Additionally, the participants themselves referenced the physical demands of harvesting, from walking the woods, bending, carrying harvests, and other exercise that comes from wild harvesting practice. The sense of pride, independence and self-sufficiency built through wild harvesting experiences were highlighted as a contributor to personal health as well. The mental health benefits of outdoor experiences were shared, such as this conversation during the second reflection session:

There’s more to that [health] than just the wild foods in respect to living in rural communities. The, well, the mental health issue of it, I describe it more as walking out on my deck early of a morning, sitting out there a few minutes and listening to the sounds.

Totally a waste of time but it’s...(laughs)

My wife works in the mental health field and we were laying out in our yard one day looking up at the clouds and they were going over, and I said “You know, a lot more of your clients need to do this” (laughter) and she goes, she goes “If my clients did this I wouldn’t have any clients.” (laughter)

Exactly right.

It’s real therapeutic...

So it's kind of the land, the wild foods and all of these other...

While you're out there

Yeah. Exactly.

You're getting all these benefits of, you know,

I've always believed that because it is real therapeutic, but they've actually done research. Have you seen that book "Last Child in the Woods?" And they actually proved where that kids with real bad ADHD are just getting out in the outdoors, they're more sociable. You think, well, they're out in the woods, they're not interacting with people, but there's, and then the human eye, we can distinguish more shades of green than any other color and so we, we need that. And NBC did that study and they had somebody hooked them up on blood pressure and heart rate monitor and all that and they were driving down a, a road through a metropolitan area, city area, you know, where it's kind of crowded. Then they had the same person driving the same speed down a road that had trees on both sides. That's the way I've heard this, and they said their heart rate and blood pressure was lower.

Yeah, rural living, yes, and wild foods just one part of rural

The participants' knowledge and passion for the health benefits of wild harvested products, and their stories of how they see the wild products making them healthier, provide a level of wealth for the individuals. A future question might be to consider what this individual asset might contribute to the broader community, particularly in this region with high incidence of cardiovascular diseases and obesity. Deller, Canto and Brown studied the hypothesis that communities with higher access to local foods also had improved health outcomes (Deller, Canto and Brown 2017). While they did find a relationship, what they suggested is that "it is not clear if access to local foods promoted better health or if healthier people create a stronger market for local foods" (18). Their study only included market transactions and not any gardening, hunting or

wild harvesting activities. Is there an opportunity to build on the health assets of individuals in the region, and the cultural value of traditional localism, to promote wild foods as a food alternative for those interested in improving their health, and then using that ideology of health to build stronger local food systems in the region? Several communities in this region are making institutional efforts to improve health and wellness, and wild harvesting may be another opportunity to promote health with a more localized strategy. Alternatively, an effort could be to create a new rural identity based on health and health promotion through traditional localism practices. During the second reflection session, when health was discussed, one participant noted this:

“Focusing on if you’re wanting to be healthy, there’s always gimmicks, of course, and they’ll sell you anything to make you healthy, but we have recorded proof and examples... just walk out in the woods and pick stuff, but you gotta know what you’re eating, but there’s that. But, you know, it’s thinking, thinking closer to home.”

Skills were a significant contributor to human capital in this study, and participants noted the range of skills that they have and are needed to harvest effectively. Identification of wild products was one of the key skillsets that all the participants discussed as critical for the practice, and something that was learned (and still being learned) over a long time frame, with assistance from books, friends, and family members, along with significant experience. The value they place in gaining knowledge from others, and the importance of sharing their knowledge with others is an asset to the participants and the region. Among the harvesters is also a value of life-long learning, as John commented, *“if someone says they know it all, you don’t believe them.”* Brady (2015) discussed the

benefit of this mindset of life-long learning in her research of Ozark trappers, and shared how her participants placed importance on mentoring relationships with young people to teach them the skills, although only “high quality” youth who demonstrated the qualities needed for being good trappers were selected. Joe and Laura, in this research, made a similar comment about their willingness to share their knowledge and their time for those who seem committed to learning and practicing for the long-term. The significant resource of individual skills and the willingness to share this knowledge is an opportunity for investment in human capital in this region through mentorships, apprenticeships and other one-on-one or group training programs.

Intellectual Capital: The participants utilize and contribute to a wide range of intellectual capital resources (defined as publically available educational resources and knowledge) as discussed in my Chapter 4 section on education. Books written and published by individuals and agencies related to medicinal properties of wild products, cooking and eating wild foods, and field identification guides were also regularly mentioned as resources available to anyone interested to learn about wild harvesting. Two of the participants contribute to weekly newspaper columns on topics related to wild harvesting, and there are other similar resources available in other regional newspapers beyond what the participants are contributing, providing a source of place-based regional intellectual knowledge. The workshops, educational hikes, demonstrations, and other formal and informal training opportunities led by agency employees and individuals are a burgeoning resource to learn and share knowledge. In addition,

programs such as Master Gardener and Master Naturalist were just two of the institutional opportunities to learn and receive certification in specific types of knowledge that the participants valued.

They are also interested in and see a need for more educational resources related to wild harvesting and see this as an opportunity to build intellectual wealth in their region through more books and resource guides, people trained in identification, workshops and how-to programs. Jablonski et al (2016) found that intellectual capital was a significant impact of farmers' market participants in New York City, and cited the exchange of ideas between consumers and farmers and innovation strategies as components of intellectual capital for the project. We will return to Jablonski later in this chapter.

Social Capital: Social networks, sharing, and trust were the codes in this research that suggested social capital through the practice of wild harvesting. Ostrom (2000) defined social capital as “shared knowledge...and mutually reinforcing expectations and trust.” Her concept presented a benefit that accrues from working together, that individuals and communities contribute to, and that can benefit or harm contributors or non-participants depending on the situation where social capital is applied.

For comprehensive wealth, social capital is both mobile and place-based, and can be improved or decreased based on its status as public or private social capital (Johnson 2014). In the social capital literature, bonding and bridging capital is similar to this idea of mobility and place-based capital. Natcher's (2015) discussion of Aborigines who moved to urban locations and maintained

their connections to family in their hometown, thus maintaining access to a source of traditional foods, yet lacking social capital in their new location (at least at first), is an example of the opportunities and challenges of mobility of assets and social capital. Joe and Laura shared a similar example, explaining that while they had harvested in their former hometown in another state, there was not the same level of interest and participation by community members as there is in their new home in the Ozark Highlands. They noted the importance of meeting local people to learn in this region and to build new friendships based on shared experiences of harvesting.

The harvesters talked about the benefits of their family connections, experiences with harvesting and tradition, as well as the friendships and networks that they built by talking about harvesting. Barb shared the example of the mothers in her homeschool group talking about what products they had harvested recently, and noted, *“it’s definitely a fun social thing.”* One important example of the community benefits of social capital was shared in the second reflection session. The conversation turned to the deer and turkey check-in stations during the season and the changes that had occurred when those practices were altered.

When we had the deer check, deer and turkey check stations we lost a sense of community when it ended.

Boy, that was... people looked for, and I guarantee you it changed the way people hunted and everything cause it was, that was, I made a video of one of the last ones I was at and everybody was waiting, here comes somebody else driving up. They just moved from one truck to another, and it was, it was a big thing. It was a real big thing.

And it encouraged, it promoted others to go out, for you to keep going, and maybe you didn't get a deer.

I'm convinced some people wouldn't see or get to talk to them the whole year until then.

I remember before I even started hunting that my uncle, he'd been out and gotten his deer, stuff like that, he'd swing by the house and pick me up and we'd go to the check in and so I'd get to go ride along and see all the other deer and talk to the other hunters and see what they did. You do, you get, I mean, I'm a solo hunter for the most part. I don't do a big deer camp or anything, but me, I walk out in the woods and shoot a deer and I come home now and stick it in the freezer and that's all the interactions I get. There's no learning opportunity of, you know, where were you at, how...20 yards from a deer with a bow, or all the stories are gone, you know. That was my deer camp and it didn't last very long by the time I started hunting but now it's been replaced somewhat by social media.

Yeah, virtual hunt. (laughter)

It's, it's kind of somewhat the same but not the same.

Yeah, not the same, yeah, yeah.

All the excitement's gone. If you get a giant buck, you know, again on Facebook but you don't get to pull into a group of other hunters and go "Ha, ha, look guys."

That, that was something, and you're the first person I've heard mention that, but that is right. I mean, that was a huge, huge thing in Missouri. I mean, our season back then was shorter and everybody marked their calendars and, you know, I mean, it was, this was a huge, huge thing, you know, and it was like bragging rights if you got one cause back years ago, the success rate was a lot lower so, you know.

Actually there was a poacher years ago in County A (laughs) as a kid, he said, "You know, I'm gonna kill a deer legally just so I can go check it in up there." (laughter) Yeah, that's back when I was about, I think the first year I went deer hunting. I was 12.

Just so they could go talk with...

Yeah, just so I can show off a deer that I've shot, cause he was doing it illegally and nobody knew it. (laughs)

Yeah, we cut out a lot of the social interaction, unfortunately.

Despite the conclusion of the official check-in stations, the participants did mention that several social activities still occur in the region related to hunting, such as youth season events with food and awards, and opening day breakfasts at churches or fire stations.

Other Assets: Cultural capital - Although the participants did discuss culture in some of their stories, there did not seem to be much consistency besides the idea that these practices of hunting, fishing and wild harvesting are appreciated and utilized in this rural region. Many of the older participants highlighted differences in their past and how their childhoods were healthier than people eat now. Donald's example of his list of products eaten as a child and now point to a "cultural nostalgia" (Neff et al. 2017) but he also acknowledged the changes in lifestyle now that decrease the need or desire for wild harvesting. A few of the older participants did talk about traditions, holidays and special events related to wild harvesting and hunting, but these were not mentioned by any of the younger or newer residents. As this research project did not work directly with any harvesters that were either informal recreational harvesters, or anyone using the practice for true food survival, there may be other elements of culture not explored in this research. The comments from the participants about recreational harvesting "*oh, everyone does that*" suggest there may be a stronger cultural experience related to recreational wild harvesting that is an opportunity to explore in future research in this region. An important consideration is also the

interaction between long-term residents of a place and newcomers, an issue common in rural places recently as retirees, young professionals, students, and families move into and out of small communities. Delind and Bingen (2008, 132) asked, “What roles do ‘locals’ and ‘newcomers’ respectively play in promoting local development – a local culture of place?” Lockyer (2015, 66) discussed opportunities for building a culture of sustainable food systems in the Ozark-Ouachita bioregion, and suggested that the older generation of farmers could constructively interact with the new generation of young farmers. He pointed out that despite differing farming practices and ideals, these interactions could be valuable because “the persistence of the traditional agrarian lifestyle of the...bioregion represents a largely untapped source of skills and knowledge that may be used by younger farmers while, simultaneously, the new movement for sustainable food and farming systems may provide support for traditional farming ventures...” Perhaps this is an opportunity for wild harvesting as well, as a method for blending the knowledge and experiences of the past with the new interests in wild harvesting that are engaging a new generation of harvesters. The importance that the research participants gave to networks and sharing of information as discussed earlier suggests that there would be willingness to participate in intergenerational networking opportunities related to wild harvesting.

Natural capital was also highlighted by the participants in their references to natural resources diversity in the region, the variety of products that they are able to harvest, and the availability of publically owned land to ensure access to

diverse natural resources. The participants recognized the benefits this brings to them, and discussed how they used the significant resources here to trade for resources in other places. Additionally, a challenge is the potential for overharvest or unsustainable use of this natural capital if there was a sizeable increase in wild harvesting, particularly for market opportunities.

Physical capital was only minimally referenced by the participants. However, the region does have significant physical capital related to the practice of wild harvesting, such as roads and trails that would allow for access to private and public properties, and public land agency buildings such as visitor centers, docks, and picnic shelters that can support the harvester experience.

Finally, the participants did talk about financial capital as discussed in that section in Chapter 4. During the first reflection session, the two participants shared ideas about a quote they felt fit into the financial capital category: *“It’s not an easy job but you work your own hours and make as much as you can pull out.”* Respondent 1 commented:

“I think this one would go in several of them, probably the natural capital as far as pulling out because you do want to be careful not to overharvest...and probably financial also, from my standpoint because that is part of my job...I do get to choose when I’m going to go out, when I’m not going to go out, and then I can convert that into money.”

Respondent 2 then noted, *“or trade for other assets *laughs*. Sometimes it’s more valuable than money.”* The participants did regularly mention the value of trading, bartering and sharing their harvests, both financially and for other benefits. In the deer check in story in the social capital section, the participants also discussed the economic impact of those check-in stations on the local

community, with harvesters also stopping at local restaurants, sporting goods stores or grocery stores for supplies while they were in town for the check-in.

Human, intellectual and social capital were the most widely identified assets discussed during the participant interviews and reflections. While they did reference varying levels of other capitals, it was benefits and impacts to those three capitals that seemed most significant in the participants' stories of their experiences.

Liabilities and Decisions:

Knowledge and convenience were constraints to the practice of wild harvesting that were discussed by the participants. In the original interviews, the participants discussed knowledge as one of the critical barriers – that people needed to know what wild foods to eat, how to safely identify, how to prepare, among other types of knowledge and skills for successful harvesting. This conversation from the second reflection session shares an example of some challenges that influence participation in wild harvesting.

So we were talking, here's another topic on wild edibles about, you know, it's a real narrow window at harvest time and then it's done. So we were talking about like the stinging nettle actually, looking into freezing the plant, to be cooked later or people cook it and save it, you know. Most things if you keep them fresh, they're still real good. And so, [my wife], she's taking like gooseberry and she'll freeze those and, you know, course blackberries you can do it but with modern, it's kind of like, one foot in collection and one foot in the modern world. So if you have a deep freezer, a lot of that stuff you can keep, whereas if you did not have it you couldn't take advantage of do it and eat it later. That's what, you know, looking at some of these capitals and gains that you've got, some of the hurdle's the convenience. It's just, there's a reason to use all those chemicals is because it preserves it for months as opposed to just a few days and, you know, so if we're doing wild collection, wild edibles and

things it's gotta be how does, other than the knowledge seekers, the ones that want to go out and search for this and spend time, how do you get other people involved in that?

During a reflection on gigging and the traditions associated with that practice, the second reflection session participants had this conversation related to financial expenses for harvesting, as discussed in the first part of this chapter:

There's a lot of gear that goes into this –boats, trucks, gas, fuel. Cooker, fish cooker, grease. You know, there's quite a bit of stuff when you think about not everybody goes gigging because you gotta have a gigging boat.

You gotta have gigs. And a boat.

Yeah, all and that's expensive stuff.

So there's a lot of financial that goes into this one (about the gigging experience), too. You don't save money by eating wild foods, and there's the case in point.

It's like with, I know you have chickens, too, I've got them. I don't, I don't do it to save money, I do it to eat better... it's a long-term investment.

Sharing equipment was an opportunity to overcome this financial need for participating, but for any long-term engagement in the practice, some purchases of equipment (like the deep freeze) would likely be necessary. Sharing of equipment also requires social networks with participants engaged in the practices. Missouri Department of Conservation has introduced a new opportunity for providing free access to fishing equipment, by providing fishing rods, tackle boxes and other necessary equipment to regional libraries for community members to check out. Collecting data on number of times equipment is checked out, and more in-depth information on usage and harvests, would be

an interesting evaluation on how this institutional investment in the practice of fishing (or wild harvesting) has impacted levels of capital in the region.

Although it was not directly mentioned by the participants, it is implied that it takes significant time to acquire wild harvesting skills and expertise, which is also a barrier to entry. Time constraints versus convenience were many of the challenges to wild harvesting discussed. The main quote I used to test the idea of potential liabilities of harvesting was this from Barb:

“the time it takes to do your own food, even if you are harvesting it from your garden, is probably a big barrier. It’s easier to work some hours at a job then convert that cash in the grocery store food.”

During the reflection session, the participants suggested, *“that’s probably one of the detractors [to wild harvesting].”* If we are to consider the rationale behind local actor’s decision-making, then although wild harvesting is an opportunity to gather and source a local product that is free, it actually comes with considerable costs in terms of time and ability to participate.

From a community wealth standpoint, the participants in the second reflection session discussed the growth of harvesting among urban residents, which then turned into a discussion about their perceptions of why more people using food assistance do not use wild harvesting, and the value of social networks and sharing in contributing to the region.

I lived in Kansas City for 10 years or so. And, you know, we go back home and stuff, and there’s always the homeless underneath the bridges and it’s like man, if I was homeless I wouldn’t be here, you know. There was...here whereas in the woods I could probably survive and so I always wonder why they didn’t get out. And people in this rural area, it’s sad to see so many people on food stamps and they’re using that to buy food and it’s processed and everything else when it’s right in the back yard.

And if you're in a rural area that's, and that's the kind of focus area, I guess, of mine is that these people that are in those circumstances, they could do it but they don't know about it and choose to do it, don't know anything about how to do it, stuff like that, so.

I'd say there's probably a, a common theme that, among the people that harvest wild edibles or even garden or whatever. They're, pretty much self-starters who are motivated.

They're not particularly lazy. It's a lot of work.

It's the same idea as the soup kitchen and it's...there is a provider who's, you know, shooting the deer, bring it in and, Share the Harvest is the same thing in a lot of ways to, to aid the community and it supports the, let's say the hunters, or the gatherers in the fact that they're doing something better for the community and it supports the community in the fact that there's social interaction, maybe don't get together as much. They can come together and realize that it's provided straight from their back yard. You know, that's an opportunity then to educate how this food's taken, how it's produced and how it's created for their own table.

An additional constraint that influences people's decisions to harvest include the regulations and legal issues related to harvesting and selling wild edible or medicinal food. Teresa commented on the challenges of regulations, particularly for medicinals, noting that some were too restrictive while others were too broad, *"Even now, that has stopped a lot of people, 'I don't know the regulations and I don't want to go to jail for selling this root'."* Teresa's discussion of the need for clearer rules as the practice grows, and for input from people involved in the practice, echoes the call from Delind and Howard (2008, 314) about "more decentralization and democratic input than exists currently." Several of the participants also pointed out the need to make sure that there are regulations and enforcement, though, since they had stories of harvesters that purposely harvested illegal products or mislabeled the uses. Winter's (2003)

warning to not assume that all local food is automatically safe also applies in the case of wild harvesters and wild products.

A valuable aspect of the rural wealth framework over other sustainable development models is this focus on the liabilities and the place-based context that influences the choices that local people make for utilizing (or not) their individual and community assets. We also see in this section the interaction between individual, governmental and local institutional actions that also inform and affect decision-making related to wild harvesting activities.

Outcomes and Opportunities:

Pender et al (2012, iv) highlighted the fact that “different types of capital are often complementary. Investing in one type of capital can increase the returns on investing in another. As such, planning and coordinating across a range of investments is more likely to result in long-term success of rural development efforts.” The participants themselves highlighted several of these types of complementary outcomes, particularly related to the outcomes seen after investments in educational programs or mentoring. Luke noted this with his program efforts, *“used to I’d do a wild edibles program. You might have a dozen, and then I’ve done times when we’ve had like over or above 90 people in wild edibles.”* He talked about people changing their land management practices after learning more about wild edibles, which increases natural resource diversity, an important environmental outcome. Individual economic impacts were noted by several participants, such as increased sales of their products through a variety of markets such as restaurants, farmers’ markets, or online

venues. Social outcomes included improved networks and friendships, shared resources, and engagement in social events related to harvesting.

A reflection on an investment in technology for wild harvesting demonstrates how stocks of capital can be adversely affected as well. The earlier story shared about the deer check-ins in the social capital section, when the participants talked about the loss of social connections and traditions with the change in how deer hunting check-ins were handled, is concluded here. The agency reasoning behind the changes was actually to improve convenience for harvesters, that with technology available, the agencies were able to collect the same kinds and amount of data about hunting seasons with much less time, since harvesters could use their cell phone to purchase deer tags and check in the harvest. It also saved time and money for harvesters by not requiring people to drive to a check in station, which often was a significant drive time in rural areas. So while there were benefits of improved convenience to participate in hunting seasons, this convenience also came with a cost to social capital in the region.

There were ideas for future opportunities that the participants envisioned throughout their stories, to address needs or other ways to support wild harvesting that suggest opportunities for complementary outcomes. This story in the first reflection session suggests benefits of investing in social capital through networks and sharing to increase financial capital through access to increased quantities of various products or cooperative marketing of a more diverse range of products than one individual could harvest.

“I think that it’s important for everybody to be good at something different, because if there is a person, I know that I have mulberries and I have persimmons, but I have so many other things going on that I don’t, I’m not an expert yet on the mulberries or the persimmons, I see when they come out, but I would love to find someone who knew so much about just persimmons – that is equally valuable I think, someone who knows a lot about all the small things too.”

“Well because there is so much diversity in this area, there’s so many different things, if you can find one person who focuses on persimmons and mulberries and somebody else who focuses on burdock and plantain and finding groups of people that are focusing on different things and saying ‘well let’s come together and see how we can throw our stuff in together and kind of grow from there.’ Which I am seeing a lot of, more of here lately.”

This willingness to work together for increased outcomes highlight the importance of social networks and knowledge sharing, and suggests that perhaps this is an asset worth an investment. Reynolds (2018, 2) discovered the value of social connections, local empowerment, and shared resources in her efforts to build a network of local farmers and artisans in the southern Missouri Ozarks. The cooperative group that formed fully through volunteer efforts, created “an economy of neighborliness...a sense of ownership and responsibility to be the support they wanted and needed. They found that in themselves and in each other, in community.” Reynolds’ example showed the complementary outcomes of investing in cultural and physical capital (through a community co-op store front) which led to additional financial and social capital through their collective efforts.

When asked in the reflection session if there were other business opportunities related to wild harvesting, the two participants had the following conversation:

Oh it's a business opportunity. The herb walks that I host had a very good response. I think the biggest problem is probably that there aren't enough because I'm limited, I can only do two or three a year, and so trying to find a date where everybody can get there and do it is an issue where if there was somebody else that was doing it, maybe two or three times a year when I wasn't doing it—but yeah I definitely think that that is a money making opportunity.

I think that I agree, and that there is an opportunity here for people who are maybe not experts in the field or have a lot of experience with wild harvesting but are good at getting communities organized and have experience with different forms of infrastructure and different forms of social and community programs, could definitely find a lot of good work to do and add a lot of value to the people who are doing the wild harvesting and need someone else to help facilitate coordinating the paperwork and manage the calendar and scheduling and facilitating, getting everyone together that way the rest of us that want to go out and be out and do the picking can focus on doing that. It would be easier for us then to engage with doing training and educational things.

The participants in this session recognized the value of working with different people with different skillsets (human capital) to develop more educational programs (intellectual capital) as a money-making opportunity (financial capital). Taken within the place-specific context they discussed, along with the potential liabilities and impacts of specific decisions, we can better evaluate and implement investments in assets based on local knowledge and ideas through the rural wealth framework.

Developing Indicators for Wild Harvesting Impacts on Intellectual, Social and Natural Capital in the Ozark Highlands

Jablonski et al (2016) applied the rural wealth model to a specific regional food system effort in New York City, in order to identify potential indicators for measuring the long-term impacts of food system interventions. They noted, “if researchers can develop more comprehensive ways to measure the broader

impacts of local and regional food systems, policymakers and extension educators can more effectively design and target rural community development support” (Jablonski et al. 2016, 1). They focused on intellectual capital, and worked with Extension educators and a research team to vet potential impacts and indicators for their case study project, then used farmer and consumer surveys to collect data on these indicators. The authors argued, “the exchange of ideas and immediate feedback that occurs [at the market]...impacts the stock of rural intellectual capital” through “knowledge generation, awareness, engagement...entrepreneurial innovation and diversification” (4).

The remainder of this discussion is an attempt to identify an initial set of comprehensive rural wealth impacts and indicators for wild harvesting in the Ozark Highlands region, using the model provided by Jablonski and co-authors. The research participants shared multiple stories of their efforts to educate and build awareness of the benefits (both researched and perceived) of wild harvesting. They do this through free public wild edible workshops, fee-based educational hikes and tastings, and publication of newspaper columns and books. The participants also suggested this is an opportunity for growth, noting the increased demand for these programs and resources, as well as their own limitations of time and resources for offering more programs. With the value that participants placed on lifelong learning and knowledge sharing, these indicators can also have a role in evaluating place-based strategies that support generational sharing, school programs, improved connections between residents

and land management agencies, and interns or youth apprentices- all ideas discussed throughout the research interviews.

The Jablonski model is based on transactions and interactions at an urban farmers' market. This application will focus on the investment in intellectual capital that rural wild harvesters contribute to their communities through educational workshops. Additionally, the Jablonski approach started with a team of Extension educators and "experts" in food systems research and academics to devise the indicators, then collected data from the participants. This project will start first with ideas from the harvesters who are already conducting these activities in their communities, then build the research team as a future step, but valuing first the local knowledge and engagement with people on the ground. This draft set of comprehensive wealth indicators could provide an opportunity to evaluate existing activities to understand what works and what could be strengthened, and also as a way to evaluate the effectiveness of new investments, such as those suggested by the participants in partnership with Extension or other organizations. One example is Missouri Department of Conservation adding new wild harvesting programs to their offerings, such as Field to Fork cooking classes (Archer 2018). This idea of indicators and broader impacts is currently a pressing topic particularly as University of Missouri Extension is considering new goals and measures of effectiveness that are strongly focused on financial growth. Working with a specific demographic of community members in a specific place, valuing the work they are already doing, and finding ways to support and strengthen those efforts can allow us to develop

more effective measures of outcomes that are based on community needs and more comprehensive values, rather than simply a one-size-fits-all evaluation.

Investments in Intellectual Capital in the Ozark Highlands: As described above, the participants are making multiple investments in intellectual capital of the region related to wild harvesting through educational programs, hikes, tasting events, and publications. For the purposes of testing the model, I will only focus on the educational programs and workshops. These are both free and fee-based. One herb walk hosted by a participant charged a \$20 fee for a two-hour program plus tasting of several products. These workshops are held on both public and private property. The general format for these programs involves a short hike into the woods, with a focus on identifying a variety of wild edible or medicinal products, sharing knowledge of how to harvest sustainably, how to prepare, and usually a tasting of some sort.

From this investment, the harvesters shared stories that also suggest impacts. As Pender et al (2012) noted, investments in one capital can lead to multiple outcomes in various capitals. This is true for the participants as well. Table 5 is a draft outline of impacts and indicators using ideas from the interviews, reflection sessions, and my experience and review of the literature. I highlighted definitions of the capitals earlier in this chapter, but I want to clarify three capitals that have varying definitions in the literature. For this project, intellectual capital is the publically available educational resources that anyone can access – books, workshops, training videos, etc. These educational resources are not held by any one individual, so the public can benefit from this

knowledge. This differs from human capital, which is the skills and knowledge that a single individual holds, and that can be shared or taken away from a community depending on the individual's willingness, location, or ability. For example, if a local expert moves or passes away, the knowledge that he or she held is gone from the local community. Human capital can contribute to a community's wealth but is dependent on the particular individual to share or withhold. Human capital also includes an individual's health and wellbeing, which influences their personal abilities and contributions. In contrast is intellectual capital, for example a book that is available at a local library that anyone can use to learn a skill and is not dependent on any particular individual to impart the knowledge. Cultural capital is the values, symbols and rituals that a community holds, such as the value placed on generational knowledge sharing, or the rituals that this region places around the opening night of fish gigging season.

For intellectual capital impacts in this particular project, these educational programs have the potential for increasing awareness and recognition of wild harvesting as a viable food access strategy for rural communities among policy-makers, service providers and other community influencers. From an academic standpoint, this also assists to increase the recognition and valuation of the practices of traditional localism that McEntee has argued are not appropriately considered in food systems scholarship. These programs can increase knowledge and understanding of sustainable harvesting practices, harvesting rules and regulations, social norms related to land access (cultural capital), and knowledge for harvesting, preparing and eating wild foods both individually

(human capital) and as a community knowledge base (intellectual capital). This information could also assist local educators to better plan and address the barriers to harvesting among diverse populations, improving educational strategies and teaching materials.

Related to natural capital impacts, one potential negative impact that is possible is overharvest, or more demand for wild products than availability. One positive impact that was discussed happens when participants in their programs or friends they had shared information with had changed their land management practices to encourage wild edibles, increasing diversity and availability, and increasing the region's natural capital. Planting native species on private property also helps to address this increased demand. This conversation from the second reflection session highlights this opportunity:

I started talking with about wild edibles, the yucca plant, which you can't eat, but the, the stalk on it is used for fire building and the leaves are used with wild cordage, you know, natural cordage and stuff, and so I talked to Luke about that...and he's all of a sudden stopped cutting all his yucca plants out. (laughter)

Luke: I was trying to get rid of them.

Cause there's a use for it, you know, and once we understand that there's a use for something I, you're less likely to cut it out.

And you know, so those things, once you understand it and stop cutting it out, you might cut all the other stuff... you know, I might cut back the fescue but then gotta make sure that I've got a border of these kind of medicinal plants so, so at least, and I think if, you know, if the Extension's kind of focusing on that end. Soil and water [conservation districts] has this, I haven't done it in so many years now, the funding for putting borders around your farm land and stuff like that, CRP and stuff like that. I haven't done it in four years now (laughs) but, you know, putting up a border...you can clear off your land and make it feasible for your corn or

your beans or...but then also having this extra border around to promote soil conservation but if you could make it into some sort of wild edible or just some other resource there you educate people on the fact that you can plant stuff here to get the deer to come up to the edge of the field or, you know, you got other edible sources of food down there in the field. So it wouldn't necessarily have to be...plant your whole 2,000 acres in some sort of wild edibles. The knowledge of that might push farmers to, to think that direction.

Additionally, the participants discussed that when people start managing land for wild edibles, it often reduces invasive species on properties, another positive impact for natural capital.

The reflection sessions had ideas about the social capital impacts through increased social connections gained by meeting and learning with participants in the programs or other informal learning opportunities, and they utilize those new relationships for information, sharing products or knowledge of uses. The health benefits, or human capital, were a significant impact for participants, including physical activity, outdoor enjoyment, relaxation, plus both the real and perceived nutritional and medicinal benefits of the wild edibles. Increases in individual skills and knowledge of wild harvesting practices and the ability to utilize those skills for self and family food procurement is another human capital impact. Although not included here, there is perhaps a cultural impact that could be included as discussed in the culture section above, about creating a new culture around wild harvesting and appreciation of the region's natural resources.

Table 5. Ozark Highland Wild Harvesting Impacts and Indicators

	Potential Impacts from Wild Harvesters	Proposed Indicators
Intellectual Capital (publically available knowledge and educational resources)	Increased support for wild harvesting practices by community leaders and agencies (+)	Perception of wild harvesting as a viable and recognized food access strategy
	Increased knowledge of barriers and constraints to wild harvesting by educators and policy-makers (+)	Educator identifies strategies to address barriers to wild harvesting
	Increased awareness of regional natural resources and benefits of diversity (+)	Participant understanding of the rules and regulations about sustainable wild harvesting in the region
	Increased pressure on educational resources, limiting access (-)	
Natural Capital (natural resource diversity, land, plants, etc.)	Increased overharvest/overuse of regional natural resources (-)	Landowner changes in management practices to allow for native plants and diversity
	Reduction in invasive species (+)	Landowners make agreements with harvesters for allowing harvesting activities on their property
	Increased availability and diversity of wild/native species (+)	
	Increased access to private land for harvesting (+)	
Social Capital (networks, trust, relationships, etc.)	Increased networks of harvesters (+)	Harvesters develop new activities to share knowledge, equipment and harvested products (cooperatives, social groups, etc.)
	Increased sharing of equipment and knowledge (+)	Community recognition of local "experts" in wild harvesting, know where to go for information
	Increased competition for wild edibles (-)	Increased mentorships, apprenticeships or intern programs related to wild harvesting
Human Capital (individual knowledge, skills, health)	Increased skill set of individuals for harvest and use of wild edibles	Participants utilize new skills in their food access strategies
	Increased recognition of the variety of health benefits of wild harvesting	Participant reported changes in health behaviors or outcomes (less stress, increased physical activity...)
	Hands-on experimentation with wild edible identification, preparation, and taste (+)	Change in household utilization of wild products
	Increased knowledge of wild harvesting practices by participants (+)	
	Increased pressure on rural harvesters, expertise, capacity and competition among residents (-)	

Using the similar survey structure as Jablonski et al, we would survey the wild edible program participants using the indicators developed to understand how these workshops affect the intellectual, social, natural, and human capital stocks of the participants. Additionally, we could also measure impacts from the educator standpoint, to clarify and note changes in benefits they receive from providing this investment in intellectual capital in the region, and how it affects their stocks of wealth. Some potential indicators for educators would be increased knowledge and skills, and building a stock of anecdotal evidence for their programs. Luke shared a story of a participant in his program talking about how beneficial stinging nettle tea was during her pregnancy, which provided another use for stinging nettle that he could share with future programs. The harvesters also talked about the importance of growing their social networks of wild harvesters and the friendships they built from those networks. Measuring the potential health impacts to human capital for both participants and educators also can better evaluate health outcomes as well as changes in perception about the sense of control individuals have over their health by participating in wild harvesting activities.

Engaging with Local Knowledge and the Role of Extension: Next Steps

Merriam (2009, 127) argued, “The researcher will prove to be a catalyst for changes that are already taking place.” With this research, I began to learn from and work with harvesters to help identify strategies for supporting their own work, and to apply their input as we consider new opportunities for rural food

systems. This research expands on the Jablonski et al model to develop community capital indicators by starting with local knowledge, and using a traditional localism food practice. The impacts and indicators developed in this project, while based on local knowledge from a particular region, can be utilized on a broader scale in other communities where wild harvesting is a common practice. It will be important, though, to vet these indicators with residents in other communities, to see what applies or what might be different depending on the local culture and practices. For example, increasing social networks of harvesters and building stronger relationships to share equipment and knowledge was important in this particular study area. In Grigsby's (2012) study on the illegal noodling activities in the Ozarks, however, building social networks and social recognition of local experts would be problematic because of the secretive nature of the practice. Instead, a different impact that might be more valued in the noodling community would be increased political capital to influence the legality of the practice in state government and she noted in her book the ways that some in the noodling community were working to strengthen their political capital. As we work to utilize the concept of comprehensive wealth more broadly in economic development, developing tools and indicators that can be vetted across communities will help to expand use of and conversations about valuing community through more than just financial measures.

The wild harvesters in this study gave examples of “changes that are already taking place” in terms of motivations for wild harvesting, multiple food access choices, sharing networks and teaching opportunities, and connecting

wild harvesting to a variety of opportunities that also support health and natural resources management. Community development and extension have a role to play in supporting these changes. The reflection sessions were my initial approach to vet the idea of applying the comprehensive wealth framework for valuing and discussing wild harvest practices. The next steps for this project will be to continue meeting to discuss this concept with the harvesters, edit this initial draft of indicators with a team of the harvesters, fellow Extension colleagues and other researchers, and then design a method and assistance for conducting the surveys at local programs. Extension can provide assistance to measure, document, and analyze the results of these program surveys to help build support for additional investments in the harvesters' work. A program like the North Central Regional SARE partnership grant could provide resources to collaborate and use the evaluation data to develop guide sheets or other printed resources co-written by harvesters and Extension to address specific place-based wild harvesting informational needs.

Another method for engaging residents in exploring their food system was demonstrated by research in Baltimore that used oral history methods to learn about seniors' experiences with the food system (Neff et al. 2017). The researchers noted, "...in efforts to make change, there is no substitute for talking directly with those who may be affected, including seeking out those who are often ignored" (Neff et al. 2017, 57). An additional next step to address one limitation of this study would be to broaden the engagement with diverse populations of wild harvesters in the region, to better document impacts and

indicators that relate to recreational harvesting, incorporate understanding of demographic influences in harvesting experiences, and correct assumptions we may have made during this smaller study. Story Circles is another narrative methodology that is being explored for food systems work (Niewolny 2018). This approach might be an appropriate method for learning from and with a wider variety of harvesters in the Ozark Highlands region, who might be less willing to participate in a traditional research project. Sharing stories for learning may be a less intimidating approach to participate.

During one reflection session, a participant noted a role for Extension or other organizations,

“I know that there is a master naturalist program that is available through the University of Missouri. I think that in addition...I think that it would be helpful for Extension or the university to invest effort in trying to maintain a curated list of people who volunteer as experts in whatever their field is. That way when you go to the university or if you go to the extension office and you’re looking for something, they have a statewide list of people who are the equivalent of masters in their field or have a lot of experience in all of the different specific things. Because it is hard—getting those connections to the people who know what it is that you’re looking for is laborious to do. And it cross applies to other social activities too like homeschooling or different types of even just gardening. You have to be in the community for a long time and you have to be vigilant about asking everyone you know and every social event ‘do you know a master gardener? I’m having trouble with tomatoes.’ Or ‘do you know someone who is good as x, y, z, specific thing?’ And it can take a really long time. But then there are gardening groups like the Spring Creek Gardening Club that for 16 years have been doing monthly activities and they get an expert in every month and if you didn’t know that there was a local gardening group that did more than just maintain the planters downtown, then you wouldn’t know about this valuable resource. So there’s ongoing work that can always be done to help maintain the connections between the groups that have the knowledge and the people that want to learn, because it can be overwhelming and sometimes you can run out of energy in trying to find those connections to those people.”

Support to facilitate social connections and a shared knowledge base is an important investment the University can make for communities, and already does successfully in programs like Master Gardener and Master Naturalist, among others. Barb noted the value of the social and intellectual capital that Extension invests in for those programs, and sees how expansion of those resources could minimize barriers to participation for community members as well as improve the institutional context in the region for supporting traditional localism practices like wild harvesting.

One concern about narrative inquiry is that while it allows for shared stories, there is a challenge of understanding what is or is not shared by participants, or “performing” and altering stories based on ideas of what the researcher wants to hear. The best method for limiting this problem is to develop sincere, engaged relationships with participants, and this research has been the initial step in building long-term partnerships with wild harvesters. The next steps discussed above will continue to build the relationships based on shared knowledge, collaborative programs and research, and ongoing sharing of stories and ideas.

Rural food practitioners’ role should be to help communities recognize the value and necessity of engaging and honoring multiple views and stakeholders, and listen to the stories of its members to understand the role of community, place, and culture in food choices. This can help highlight the value of rural knowledge in decision-making. Using comprehensive wealth and engaged methodology can be a foundation for collaborating with communities to develop

transformed local food systems and rural communities. This method, which allows more contextual analysis of a local place, can help rural communities understand potential benefits and impacts of a proposed intervention and better advocate for their community.

So I haven't been on the river yet to gig for fish. I don't know that I really want to, but it feels like that is part of the story of building relationships, to participate and add that experience to share in future conversations. I have purchased a gooseberry pie and wild chanterelle mushrooms from a regional farmers' market, and drank a medical tea blend that was locally collected and sold at a retail store in the region. I haven't attended a wild edible educational walk or distilled hydrosols with the distilling cooperative yet, but these are opportunities to meet new harvesters and learn with wild harvesters. The wild harvesting activities in this region are active and diverse, and as one participant noted *"so somebody that grew up in this just would kind of take it for granted, you know, cause it would just be kind of the norm."* I admit to being on the "magic carpet ride" that Janet mentioned, as I'm seeing all these practices and people and wild foods pop up in unexpected places in my daily life. It is difficult to not be caught up in the enthusiasm and appreciation that these harvesters share, but perhaps these are the embodied and embedded experiences with local food systems that are needed, not only as individuals, but also as a research community. These experiences can help researchers to advocate for, and constructively critique, the role of that local food systems activities can play in rural communities.

CHAPTER 6: CONCLUSION

This research explored wild harvesting in the Ozark Highlands to more deeply understand the role of this traditional localism practice in rural food systems development, as well as identify some strengths and challenges to the concepts of traditional and contemporary localism in food systems efforts. The application of the theory of comprehensive rural wealth allowed for an analysis of the wealth assets that wild harvesting contributes to these individual wild harvesters and their communities. Building on the Jablonski et al model for using rural wealth in food systems research, this study contributes a set of impacts and indicators for a rural traditional localism, non-market based food access practice through wild harvesting. This project also addressed a challenge identified in the wild harvesting literature about limited engagement with harvesters and initiated the development of indicators using local knowledge as the first step in the process.

This research project became a place for me to explore the intersection of a range of my personal interests in food systems, rural places, community engagement, and my new home place in the Ozark Highlands region. Clandinin and co-authors (2015) wrote that narrative is an ongoing process of learning and practice that is continually co-authoring new stories between the researcher and research participants. I do feel that this document is only the first chapter in a new story for my work in this region and in broader food systems efforts, and I am fortunate for the new relationships with the study participants that I am

confident will continue to strengthen through new opportunities to work and learn together. I am beyond thankful for their stories, time, and encouragement.

Although there are limitations to using a qualitative methodology like narrative inquiry, the value of allowing time and space for truly listening to participants' stories and being open to a more unstructured research framework that grows with the participants is significant. It is still an ongoing learning process for me, but I do feel confident that it was an appropriate and effective approach for this region and participants. An email I received from one of the participants after the second reflection session provided some support for that feeling:

“Thanks Sarah for including me in your ‘reflection session’ and lunch. Looking back, I realize we frequently got off your main objectives with our personal stories, but hopefully, we contributed some useful material (especially, the strong feeling each of us has in the use of wild foods in so many phases of our personal lives.) Any time a possibly useful idea enters my mind I will email it on to you. May your VERY IMPRESSIVE ANALYSIS OF HOW WILD FOODS BROADLY AFFECT OUR LIVES continue to be successful.” [emphasis original]

To address limitations in this study, future research and efforts should focus on engaging with a wider diversity of harvesters in the Ozark Highlands region. These participants contributed incredibly valuable knowledge and ideas, but do only reflect the stories and experiences of fourteen harvesters, while we know many more are out there harvesting for a range of motivations and at varying scales. The narrative methodology and similar approaches such as Story Circles, Photovoice or oral histories may continue to reach and connect to additional harvesters in other participatory ways. There is also value in applying other qualitative and quantitative research methods to answer other research

questions such as quantities of harvesting, financial impacts and cost savings, and amount of food that wild harvesting contributes to family diets in this region. Using mixed methods can help to respond to concerns about “performing” in narrative and add important knowledge about broader community impacts that individual stories may not supply in a scalable and quantifiable manner.

In my research proposal, I concluded with several potential applications of this work and suggested the following questions:

How might people disengaged from their food connect through wild harvesting or other similar experiences? Can that contribute to stronger support for local food? The study participants suggested a wide range of opportunities to build connections to current wild harvesters and those without experience with wild edibles. They noted that people engage with wild harvesting for a variety of reasons and shared ideas for supporting investments in social, intellectual and financial capital that could grow this practice and support an additional food access strategy for their communities. This research began the first steps in evaluating the intellectual investments already in progress by participants, and additional work could consider how to apply and evaluate the wealth impacts of other wild harvesting related social and financial investments. This research is very place-specific, so future research could also test the application of this wild harvesting impacts framework in other rural communities.

What role might forest farming play in bridging the traditional localism/contemporary localism gap by connecting the embodied/embedded experience of wild harvesting with an economic opportunity? Forest farming

is the cultivation of native edibles and is a growing opportunity for both food access and economic strategies. Considering the concerns of the harvesters for sustainability of wild edibles and the potential competition for resources if interest in wild harvesting grows, forest farming and land management for wild edibles is an important strategy to support. How this might work and what specific resources would be needed is still a question to explore in more depth.

What role do public land agencies play in local food systems and building a sense of place? Might this be enhanced to build better relationships

between agencies and local residents through local food systems? The harvesters were appreciative of the diversity of natural resources in this region, and recognized the value of public lands. Some agencies are beginning to provide education on wild harvesting in this region, and the harvesters did see some opportunity to strengthen the utilization of these public lands while also increasing the appreciation of and protection for the region's natural resources. Adding public land managers and agency representatives to efforts to study and build rural food systems could help to collaboratively analyze and develop a stronger role for these agencies, as well as stronger social relationships between residents and agencies.

How might narrative methods for engaging community input provide an opportunity for Extension programming related to local food systems or other community issues? Kloppenburg (1991) promoted the value of local knowledge for encouraging alternative agriculture: "How can we foster the engagement of rural peoples' own knowledge in self-development and self-

empowerment?” As universities, food system academics, and community development practitioners continue to work with communities to support and strengthen rural places and food systems, collaboration and strategies such as narrative inquiry can play a critical role in that work. Hustedde (1998, 158) argued that community development needs to find and use “soul” in community practice and that “storytelling belongs in community development.” He suggested that the role of community development is to facilitate storytelling and help communities use those stories to frame future actions. One of my research participants commented at the end of our hour and a half long reflection session that they could have stayed longer because *“You’re talking our language [about wild harvesting experiences].”* Extension is valued in communities as a resource for knowledge and connection, and strengthening our relationships with residents around food system issues can offer new ideas for how Extension should work with food system research and projects in communities. The value of community wealth and developing indicators using local knowledge and input is a method for better serving our communities. Sandoval and Rongerude (2015, 412) suggest that using indicators is a way to “legitimize community narratives...and translate their stories into the language of planners and policy-makers.”

To close, in his interview John noted, *“it’s always a learning deal, if anybody tells you that they know it all, don’t believe that.”* This project is the beginning of long-term learning for food systems, rural communities, and wild harvesting, and the start of many stories and conversations with the wild

harvesting community in the Ozark Highlands. Robert's guarantee confirms that,
"don't worry, we'll get you on the water one of these days [to gig]!"

APPENDIX A

APPENDIX B

Institutional Review Board
University of Missouri-Columbia

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Columbia, MO 65212
573-882-3181
irb@missouri.edu

August 31, 2017

Principal Investigator: Sarah Ann Hultine Massengale
Department: East Ctrl Region-Comm Dev

Your Amendment Form to project entitled Wild Harvesting in the Missouri Ozarks:
Exploring Experience to Strengthen Local Food Systems as a Rural Development Strategy
was reviewed and approved by the MU Institutional Review Board according to the terms
and conditions described below:

IRB Project Number	2008447
IRB Review Number	229601
Funding Source	MU Extension
Initial Application Approval Date	June 08, 2017
Approval Date	August 31, 2017
IRB Expiration Date	June 08, 2018
Level of Review	Expedited
Project Status	Active - Open to Enrollment
Expedited Categories	45 CFR 46.110.a(f)(6) 45 CFR 46.110.a(f)(7)
Risk Level	Minimal Risk
Type of Consent	Consent with Waiver of Documentation
Internal Funding	Internal Grant (ex. Research council, etc)

The principal investigator (PI) is responsible for all aspects and conduct of this study. The PI must comply with the following conditions of the approval:

1. No subjects may be involved in any study procedure prior to the IRB approval date or after the expiration date.
2. All unanticipated problems and deviations must be reported to the IRB within 5 business days.
3. All changes must be IRB approved prior to implementation unless they are intended to reduce immediate risk.
4. All recruitment materials and methods must be approved by the IRB prior to being used.
5. The Continuing Review Report (CRR) must be submitted to the IRB for review and approval at least 30 days prior to the project expiration date. If the study is complete,

the Completion/Withdrawal Form may be submitted in lieu of the CRR.

6. Maintain all research records for a period of seven years from the project completion date.
7. Utilize the IRB stamped consent documents and other approved research documents located within the document storage section of eCompliance. These documents are highlighted green.

If you are offering subject payments and would like more information about research participant payments, please click here to view the MU Business Policy and Procedure: http://bppm.missouri.edu/chapter2/2_250.html

If you have any questions, please contact the IRB at 573-882-3181 or irb@missouri.edu.

Thank you,
MU Institutional Review Board

APPENDIX C

Narrative Interview Protocol: Wild Harvesting in the Missouri Ozarks: Exploring Experience to Strengthen Local Food Systems as a Rural Development Strategy

Sarah Hultine Massengale, Department of Rural Sociology

Time of interview:

Date:

Place:

Interviewee code:

Description of project:

This research will listen to the stories of wild harvesters to develop new ways of engaging rural communities in local food systems as a rural development strategy. This project will explore the personal, social and place-based experiences of food and wild harvesting, participants' sense of place, ideas about local food systems, and role of public land in wild harvesting.

General Questions: (Prompts to follow-up or elicit more detail on any questions if participant is unsure or gives a limited answer: Can you give some examples? Can you tell me more about that? I'd like to understand more about that. It sounds like you are saying... am I understanding you correctly?)

1. Tell me about your most memorable experiences with gathering, preparing and eating wild/forest foods. Why are they important? Who was involved? What happened?
 2. What products do you harvest and why?
 3. Where do you usually harvest? Your own property, neighbors/family/friends' property, public property?
 4. Do you think that wild harvesting is common in this region? Why or why not?
 5. What are the biggest challenges for wild harvesting in this region?
 6. If you could share your experiences with people who have never wild harvested or eaten wild foods, what would be the most important things you would want them to know about the experience? What advice would you give to people who have never wild harvested before?
 7. Are you teaching others to wild harvest? Are others asking you about your wild harvesting and wanting to learn?
 8. What do you see as the future of wild harvesting in 5 and 10 years?
- Drawing Your Food Map Activity
 - Start from the center of your paper.
 - Start drawing the places where you get food.
 - Include all the places where you purchase, grow, procure, or eat food.
 - Where would you get food if you had no money or couldn't buy it?
 - Discussion of the Food Map:
 - What is your main source of food? **(Circle this)**
 - What are your top priorities when choosing food products?
 - What are the sources of healthy and unhealthy food? **(Label these "H" and "U")**
 - What does the term "local food" mean to you, and what are the sources of local food? **(Label these "L")**

9. To whom should I talk to find out more about wild harvesting in this region?

Demographics:

Male/female

Age

Family in household

Occupation

Length of residence in region

Types and amounts of products harvested

10. Thank you for participating. Reminder about follow-up focus group and review of data analysis opportunity.

APPENDIX D

Semi-structured Reflection Session Protocol: Wild Harvesting in the Missouri Ozarks: Exploring Experience to Strengthen Local Food Systems as a Rural Development Strategy

Sarah Hultine Massengale, Department of Rural Sociology

Date and Time of session:

Place:

Participant(s) codes:

Description of project:

This research will listen to the stories of wild harvesters to develop new ways of engaging rural communities in local food systems as a rural development strategy. This project will explore the personal, social and place-based experiences of food and wild harvesting, participants' sense of place, ideas about local food systems, and role of public land in wild harvesting.

This follow-up reflection session is designed to gain your feedback on my initial analysis of interview responses and your ideas of future opportunities for rural communities and wild harvesting. We will share a light meal and have a small group discussion about unidentified responses from the interviews and your comments and ideas. We appreciate your continued support and participation in this project. We ask that you keep all comments and discussion shared during this session confidential and not share specifics about the session outside of this small group.

General Questions: (Prompts to follow-up or elicit more detail on any questions if participant is unsure or gives a limited answer: Can you give some examples? Can you tell me more about that? I'd like to understand more about that. It sounds like you are saying... am I understanding you correctly?)

1. During our interviews, each of you discussed a memorable experience with wild harvesting. Based on your stories and comments, I believe that wild harvesting can make a person "wealthy" in a very broad sense of the word – thinking about not just financial but also health, quality of life, traditions, social connections, for example. Please take a few minutes to read some responses from the interviews that I think support this idea. What do you think? Does wild harvesting make you as an individual "wealthy" and how? Why might it not? Using the storyboard, please place the quotes in the categories of wealth that you think are most appropriate.
 - a. These are some responses that might argue against wild harvesting contributing to wealth. What do you think? What would be challenges to individuals wanting to build wealth through wild harvesting?
2. How might the practice of wild harvesting contribute to or detract from the wealth of your community? How might communities benefit from considering the value of wild harvesting?
3. Many of you said that you think interest in wild harvesting is increasing for a variety of reasons and will grow in the future. Here are some examples of comments made in the interviews that I think might suggest opportunities for rural development. What might

be opportunities to use wild harvesting or other local foods to continue to grow and strengthen rural communities?

4. Do you have any other ideas or feedback to share about your experiences with wild harvesting?
5. Thank you for participating. I will be happy to share a copy of my dissertation with you when it's completed.

APPENDIX E

Current Edible Harvest List		Edible Products Harvested in Past	Wood Products Harvested
burdock leaves and roots	fall viards	quail	white oak
pine needles	sumac	geese	honeysuckle
cedar bark	cattails	snap turtle	buckbrush root
wild plum	red bud	soft shell turtle	hickory tree bark
persimmons	spicebush berry	groundhog	yucca stalks
pawpaw	hazelnut	black snakes	
chinkapin	mussels	cicadas	
black walnuts	ginseng	pokeberry	
turkey	deer horn mushroom	carpenter's square	
deer	greens	wood sorrel	
goggle eye rock bass	medicinal herbs	sassafras	
bass	wild potato	"mouse ear"	
morels	gotu kola garlic mustard	dandelion	
coral/buckhorn mushroom	wood ear mushroom	"square stem"	
hen/chicken of the woods	turkey tail mushroom	"cow parsley"	
chanterelles	reishi mushroom	wild lettuce	
black trumpets	yellow oyster mushroom	wild onion	
raccoon	saw briar root	morels	
beaver	chickweed	deer antler mushroom	
squirrel	water cress	deer	
gooseberry	wild garlic	frogs,	
blackberry	wild onion	squirrel	
raspberry	wild allspice	fish	
frog legs/frogs	cleavers	raccoon	
crayfish	cattails	blackberries	
Dittany wild oregano	golden rod	ndian turnip	
sassafrass (leaves, roots, bark)	oyster mushroom	snake root	
pine branch	marshmallow root	blood root	
purslane	Christmas ferns (ornamental)		
hickory nuts	blueberries (native)		
dandelion root	native fish		
red clover	turtle doves		
comfrey (non-native)	rabbit		
may apple root	elderberries		
milk thistle	wild peach		
mint	muscadine grapes		
barcalberry	chickory		
mockernut	fall mushrooms		
chestnut	poke		
beechnut	wild honey		
butternut	strawberry		

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VITA

Sarah Hultine Massengale is a native of Princeton, Illinois. She graduated in 2002 from Knox College in Galesburg, Illinois, with a Bachelor of Arts degree in Biology and Environmental Studies. After work experiences with the Aldo Leopold Foundation in Wisconsin, and the Illinois Natural History Survey, Sarah returned to graduate school at University of Illinois at Urbana-Champaign, and received a Master of Urban Planning degree in 2007. She then spent the summer in Toulouse, France, as part of a research team documenting consumer values and priorities at farmers' markets in southwestern France.

In September 2007, Sarah started her position as Community Development Specialist with University of Missouri Extension, serving counties in south central Missouri. She began her doctoral degree work in 2011.

Sarah is married to David Massengale and has two children, Orion and Zane.