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ROOTS AND REMEDIES OF GINSENG POACHING

IN CENTRAL APPALACHIA

By

Randi J. Pokladnik

A dissertation submitted in partial fulfillment of

the requirements for the degree of

Doctor of Philosophy

Environmental Studies

at

Antioch University New England

(2008)
For Emma Rose and Isabel Skye
ACKNOWLEDGEMENTS

I would like to thank my dissertation committee for their assistance in this project. I would especially thank Dr. Thomas Webler for all his advice and direction for how to do Q Methodology and Dr. Alesia Maltz for her guidance and support through this long process and her thoughtful comments and invaluable critiques of my work.

In addition, I would like to recognize the participation and help of all those people in the ginseng community who gave of their time and knowledge. This includes the members of Rural Action, Appalachian Science in the Public Interest, Roots of Appalachia Growers Association, and West Virginia Ginseng Growers. Additionally, I would also like to thank Dr. Mario Morales and Dean Myles of Mountain State University and Dr. Patricia DeAngelis and Pat Ford of the U.S. Fish and Wildlife Service. I am especially appreciative for the participation of Syl Yunker, David Carman, Tom Johnson, Chip Carroll, and Eric Burkhart. Their expertise and advice greatly advanced this project.

Finally, I can’t give enough thanks to my great family, Joel, Adam, Vivian, Emma and Isabel. You kept me sane though this long six-year project. I am especially grateful to my husband. Thanks Joel for your editing, your driving, and your support during the hard times, and for your belief in me.
Abstract

Roots and Remedies of Ginseng Poaching in Central Appalachia

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Ginseng, *Panax quinquefolius*, is a perennial plant found in the understory growth of mesophytic forests of Appalachia. Illegal harvesting of the plant from both wild and cultivated populations has become very problematic for public land managers and private landowners engaged in cultivation of the species. Techniques aimed at curtailing the incidents of poaching have only been moderately successful. Given the economic value of the plant, its cultural significance, and the dramatic decrease of wild plant populations, it has become increasingly important to address this problem.

Several studies have linked illegal wildlife harvesting to economic problems, inadequate policies or laws, and social issues. In addition, some research has been conducted that investigates the prevalence of animal poaching by using various theories, such as the neutralization theory, differential association theory, focal concern theory, and folk crime theory. However, no single study has specifically examined plant poaching using these theories as a framework or enlisted the insights of all stakeholders experiencing this problem.

Using previous studies of wildlife poaching typologies as a template, this project will examine the problem of ginseng poaching in central Appalachia to produce an understanding that is inclusive of the many stakeholder perspectives.

The main goal of this research is to use historical methods, interviews, and Q methodology to study how individuals (stakeholders affected by the poaching) understand the causes or motivations behind poaching and how they perceive the effectiveness of current poaching interventions. The two main questions under investigation are: What are stakeholders’ beliefs about the causes of ginseng poaching? How do stakeholders perceive the effectiveness of current methods of intervention used to decrease poaching incidents? It is hoped that the results of this study will help inform policy makers, law officials, and public land managers, as well as the ginseng gatherers and growers of Appalachia involved in sustaining the ecological, economic, and cultural integrity of this species.
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CHAPTER 1
INTRODUCTION

Ginseng is a long-lived angiosperm and member of the *Araliaceae* family. This understory plant, native to China and the North American continent, is estimated to have appeared on the planet some seventy million years ago (Taylor, 2006). At that time, only one species existed. However, when the mega continent Laurasia split into the two separate landmasses, North America and Asia (Redfern, 2001), two species of ginseng evolved. The Asian species, *Panax ginseng*, is classified medicinally as a stimulant, while the American species, *Panax quinquefolius*, is known as a cooling agent and found primarily throughout Appalachia (Taylor, 2006).

For thousands of years, the Chinese used ginseng roots in medicinal preparations, but over-harvesting and habitat destruction caused Asian populations to become scarce by the 1700s. Soon after, a similar species, American ginseng, was discovered in North America. As a result, the Appalachian area rapidly became Asia’s major supplier of ginseng roots (Foster, 1995).

Ginseng is harvested from all the states that make up the Appalachian region, with Virginia, Kentucky, North Carolina, and West Virginia accounting for over half of the forest-harvested ginseng exported from the United States (Chamberlain, Predney, Kauffman, & Griffiths, 2005). This study focuses on the ginseng economy of Central Appalachia, a region that includes Southeastern Ohio, Eastern Kentucky, and all of West Virginia. American settlers and Native Americans first began trading Appalachian ginseng in the 1700s. Ginseng was harvested in the New England area by 1750 and in the unsettled eastern
United States by 1790. Native Americans as well as settlers often gathered and sold the roots to fur traders. These traders frequently determined the prices paid for the roots (Carlson, 1986).

Over 750,000 pounds of wild ginseng were exported in 1822 and 600,000 pounds were exported in the years of 1824, 1841, and 1862. From 1821-1899, the average annual harvest of green ginseng from America was about 381,000 pounds. Ginseng exports started to decrease by the late 1890s signaling a decline in wild populations (Carlson, 1986). Data from the decade of 1990 to 1999 illustrates the marked decline of exports from Appalachia (see Table 1).

Table 1. Decline of Central Appalachian Ginseng Exports from 1990 to 1999

<table>
<thead>
<tr>
<th>State</th>
<th>1990-1999 Average Annual Harvest (lbs)</th>
<th>1998 Harvest (lbs)</th>
<th>1999 Harvest (lbs)</th>
<th>% Decrease Between Average Annual Harvest and 1999 Harvest</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kentucky</td>
<td>24,934</td>
<td>16,679</td>
<td>16,078</td>
<td>-35.5%</td>
</tr>
<tr>
<td>West Virginia</td>
<td>15,536</td>
<td>7,671</td>
<td>6,631</td>
<td>-57.3%</td>
</tr>
<tr>
<td>Ohio</td>
<td>8,831</td>
<td>4,616</td>
<td>3,800</td>
<td>-57.0%</td>
</tr>
</tbody>
</table>

*Note. Source: U.S. Fish and Wildlife Service 2000 Ginseng Findings*

The plant is economically important to rural communities in the study region of Central Appalachia. Kentucky leads the nation in annual ginseng harvests where it is a $5 to $8 million industry and accounts for 16 percent of the national harvest each year (U.S. Fish and Wildlife Service Office of Scientific Authority, 2006). West Virginia exported approximately $2 million of wild roots in 2002 (West Virginia Division of Forestry, 2006).
Harvest records reveal that ginseng from an area in Wayne National Forest in Ohio netted $700,000 in 1990, while timber from the same area brought in only $61,000 (Bailey, 1999).

More than 95% of the nearly 21,000 metric tons of ginseng shipped during the period of 1821 to 1983 was exported to the Far East (Carlson, 1986). Today, Asia’s demand for ginseng remains high as the global market for medicinal plants continues to increase. This demand may be due to a growing interest in alternative medicines and homeopathy (Hammett & Chamberlain, 1998). According to a 1996 study by Appalachia Science in the Public Interest (ASPI), a non-profit organization in Kentucky, the Chinese market would buy in excess of $12 billion worth of wild ginseng a year if it was available. Because of the high demand, trade in ginseng has continued to be strong and residents can always count on selling some amount of ginseng roots each fall to help supplement otherwise low incomes (Bailey, 1999). When economic times are tough, ginseng has become “an emergency bank account” stored away in the forests. Given the long-term stability of the Asian ginseng market (Foster, 1995) and buyers’ continued demand for more roots (Persons, 1997), it appears ginseng trade will remain solid as long as the species is sustained.

For almost two centuries, ginseng trade in the United States was virtually un-regulated. However, increasing popularity of the plant, rising prices for ginseng roots, and declining wild populations, all contributed to the species’ listing on Appendix II of the Convention on International Trade in Endangered Species in 1975 (Foster, 1995; CITES, 2006). As a result, CITES requires the monitoring of commercial activities involving the species to insure its survival. If populations drop, the United States Fish and Wildlife Service, the agency responsible for monitoring ginseng in the United States, can increase the minimum required age of harvested plants. Currently, the minimum required age of
harvested plants is five years (U.S. Fish and Wildlife Service Office of Scientific Authority, 2006). Increasing the minimum required age of harvested plants from five to ten years would clearly impact commercial trade and the incomes of thousands of rural Appalachian residents as there are fewer mature, ten years or older, plants left to harvest.

The literature shows that three major issues adversely affect the continued expansion of ginseng trade. These issues are habitat destruction, deer predation, and poaching. Logging and mountaintop coal mining (Reece, 2006; Myles, 2007) threaten ginseng habitat. The seven highest ginseng producing counties in West Virginia are also the seven top coal producing counties in the state and contain most of the mountaintop removal coal operations (Myles, 2007). Seven percent of the Appalachian Mountains, the ridge from Tennessee through Virginia, Kentucky, and West Virginia, have been lost. This is equivalent to almost 320,000 acres of forested slopes, areas where ginseng grows (Reece, 2006).

Deer predation (McGraw & Furedi, 2005) also causes declines in both wild and cultivated ginseng populations. A four-year study of 800 wild ginseng plants located at seven sites in West Virginia suggested that continued deer predation of ginseng plants might cause the plant to become extinct within the next 100 years. Deer populations have become especially problematic due to a lack of natural predators. The authors recommended re-introduction of wolves and mountain lions and an increase in deer kills by hunters as a way to address this problem.

Finally, poaching threatens both wild and cultivated ginseng (U.S. Fish and Wildlife Service Department of Scientific Authority, 2000; Eilperin, 2005). Great Smokey Mountain Park officials in North Carolina estimated $5,320,000 worth of wild ginseng roots was
poached from 1991 to 2000 and ginseng growers in Kentucky identified poaching as a major problem.

Several studies have focused on theories pertaining to justifications, motivations, or behaviors that lead to poaching. One of these theories, the neutralization theory (Eliason & Dodder, 2000; Eliason, 2003), states that poachers often try to neutralize or downplay poaching by attempting to justify the act. Differential learning theory views poaching as part of a traditional activity that is learned and passed down from generation to generation (Brymer, 1991). Another theory, referred to as folk crime, critiques poaching by exploring changes in society’s norms and laws. Because of these changes, a once legal act such as burning the woods to clear land is characterized as a crime (Ross, 1961). Miller (1958) introduced focal concern theory in his study of the criminal activities of street gangs. This theory provides a framework to examine poaching and claims lower-class individuals use deviancy as a technique to achieve status within their culture.

There have been multiple empirical studies of animal, fish, timber, and waterfowl poaching (Hampshire, Bell, Wallace, & Stepukonis, 2004; Pendleton, 1998; Hall, Bonnaffons, & Jackson, 1989). Some studies have examined the relationship between poaching and culture (Forsyth, Gramling, & Wooddell, 1998; Forsyth & Marckese, 1993) while other researchers have explored the connection between poaching and poverty (Machan, 2000; Glover & Baskett, 1984). Additional studies link social conflicts among different cultural groups co-existing in the same region to incidents of poaching (Fox, Yonzon, & Podger, 1995; Ogutu, 1997).

Plant poaching has become an increasingly important issue on national parks and national forests. Timber theft exists on all of the 156 national forests and forest service
personnel estimate anywhere from $10 million to $100 million worth of lumber has been taken from these lands (McLean, 1994). The poaching of cacti is on the increase in Western states and Mexico (Daerr, 2001), as well as Big Bend National Park in Texas (Talley, 2003). However, no detailed studies of plant poaching or specifically ginseng poaching within the Appalachian region have been conducted.

Muth and Bowe (1998) defined poaching as an act “that intentionally contravenes the laws and regulations established to protect wild, renewable resources, such as plants, mammals, birds, insects, reptiles, amphibians, fish, and shellfish” (p. 9). This research expands that definition of poaching by including the ginseng community’s beliefs about what constitutes poaching. The research reveals differences and similarities in perceptions about the causes/motives of poaching in Central Appalachia while considering the connection of these perceptions to the region’s unique history. This history includes the development of game laws, changes in land use, and the evolution and importance of ginseng trade in Appalachia.

The research also explores attitudes towards current methods of interventions used against poachers specifically examining the ginseng community’s opinions of the efficacy of these techniques and policy implications for future management of ginseng poaching.

There are two main questions that were asked of stakeholders. What do they believe causes or influences people to engage in ginseng poaching? How do stakeholders perceive the effectiveness of current methods of interventions used against poaching? The literature suggests that certain interventions may help curtail poaching. These include: creating uniform legislation and regulations among states (Hall, Bonnaffons, & Jackson, 1989; Musgrave, Parker & Wolok, 1993), educating the public as well as prosecutors and judges
about the seriousness of the crime (Hall, 1992; Hall, Bonnaffons, & Jackson, 1989; Musgrave, Parker, & Wolok, 1993; Kelley, 1952), and examining local and extra-local perceptions of social and cultural issues that may contribute to poaching (Glover & Baskett, 1984; Sawhill & Winkell, 1974; Warren, 1992).

The stakeholders affected by poaching include a broad spectrum of individuals. Some are closely associated with Appalachian communities, while others are often far removed from the historical and cultural setting of this valuable export. These stakeholders include: ginseng growers and gatherers, ginseng dealers, public land managers, law enforcement officers, lawyers and judges, researchers, and non-profit groups involved in rural education and economic growth.

Some non-profit organizations encourage and support the technique of cultivating wild simulated ginseng as a tool for economic development. Because of the escalation of poaching, these agencies are experiencing difficulties trying to convince local residents to begin growing the woodland plant. In addition, many landowners who already cultivate ginseng are being poached before they can harvest their crops.

Poaching affects researchers engaged in investigating the biology and ecology of the species. Valuable data is lost when entire research plots are poached.

Ginseng dealers, both small and large scale, are a vital component of this international commerce system. They are responsible for navigating complicated federal and state laws and regulations as they travel throughout Appalachia purchasing ginseng roots. Public land managers, such as state and federal park and forest officials, are entrusted with the protection of wild ginseng populations on public land. With limited resources and manpower, these managers have observed the negative impact of poaching on wild
populations. Finally, the legal community composed of various law enforcement personnel and lawyers and judges, must implement ginseng laws, as well as apprehend, prosecute, and sentence violators.

Stakeholders’ perceptions of the causes of ginseng poaching affect their selection of methods of intervention. For instance, their perceptions may have an impact on the development of new laws and regulations pertaining to ginseng harvesting. The perceived effectiveness of current techniques used to curtail poaching influences local residents’ decisions to commit to cultivating ginseng. Opinions about whether interventions are working sufficiently may also influence the U.S. Fish and Wildlife Service’s determination of the sustainability of future harvesting and exporting of ginseng roots. Ultimately, the long-term survival of this culturally significant and economically important Appalachian species, and the future of ginseng trade is dependent on uncovering the roots of illegal harvesting and working to remedy this situation.
CHAPTER 2
RESEARCH METHODS

This research studied the roots and remedies of ginseng poaching in Central Appalachia, the region that includes Southeastern Ohio, Eastern Kentucky, and West Virginia. The research project accomplished this goal through examinations of perceptions of the ginseng community. The two main research questions are: What do stakeholders believe causes or influences people to engage in poaching? How do stakeholders perceive the effectiveness of current poaching interventions? Stakeholder perceptions of ginseng poaching and the methods used to thwart poaching have never been ascertained. Stakeholders’ stories and opinions were elicited during interviews and Q methodology. Their viewpoints are beneficial in illuminating contextual issues and problems, including inadequate laws, poverty, and a lack of resource ownership in the region. These issues may all influence or encourage poachers in the region.

Previous game studies illustrate the inadequacies of methods of interventions used against game poachers. Ginseng poaching interventions are also insufficient at curtailing illegal harvesting. Poaching has plagued ginseng growers since the first ginseng gardens were established in the United States. Growers often choose different techniques to stop poaching than those enlisted by public land managers. This research also explores the perceptions of the effectiveness of the interventions selected to curtail poaching.

The results of this research will help inform both the growers engaged in promoting economically beneficial ginseng cultivation programs and public land managers trying to sustain wild ginseng populations in Appalachia. Hopefully, this research will also serve to
inform policy makers and law officials by revealing some of the flaws in unsuccessful
methods used to deter poaching by painting a broader picture of the complex issues
surrounding poaching. If stakeholders’ concerns are better understood, it may lead to more
effective intervention programs, result in lower incidents of poaching, and help preserve
ginseng populations in the region’s forests.

The methodology for this research relied on the following techniques: historical
analysis, in-depth interviews, and Q sort analysis. The first phase of the methodology
involved the use of historical analysis to present the historical context surrounding ginseng
poaching. The second phase used a series of in-depth interviews to provide clarity and
background information, as well as supply the discourse from which Q sort statements were
later selected. Next, a Q sort analysis was conducted to expose specific stakeholder
perceptions related to the causes or motivations for poaching. The final phase of the research
asked participants to rank specific categories of reasons to poach and categories of reasons
not to poach. Additionally, they were asked to discuss the efficacy of current interventions
used to address poaching and the relationship between motivating factors and the
interventions chosen.

Historical Analysis

Historical documents were utilized to provide a framework for examining the
influence of past events on ginseng trade and poaching in the region. These documents
illustrate the ecological effects over-harvesting had on both China’s and Canada’s ginseng
populations. They detail how America became the major supplier of wild ginseng for the
Oriental markets (Carlson, 1986). The economic importance of this plant throughout the
The history of the region is communicated through stories from early settlers and accounts of businesses that thrived as a result of ginseng commerce. Historical data also helps establish the use of the plant as a medicinal agent both in Asia and in North America (Court, 1967; Higby, 2002). The region’s history is filled with anecdotal stories of the plant’s notoriety as a medicinal herb but recent data asserts the efficacy of root extracts as compelling medicinal agents.

Historical data illustrated the development of game laws (Jacoby, 2001) in the United States and the effectiveness of these laws to restrain poachers (Stockdale, 1993; Warren, 1992). Ginseng documents published during the early 1900s revealed that state ginseng associations and a national ginseng group, that encouraged and supported the establishment of sophisticated ginseng cultivation operations, were established early on (Carlson, 1986; Hardacre, 1968; Harding, 1936). Studies of the use and ownership of land also illustrated the transfer of land from local ownership to corporate ownership (Fisher, 1979; Appalachian Land Ownership Task Force, 1983) and the change in land uses from primarily forest farming and agricultural practices to extractive land uses such as timbering and coal mining (Lewis, 1998; Davis, 2000).

The historical documents provided a foundation and context in which ginseng poaching occurs today. Perspectives about poaching are in some cases tied to historical beliefs about the commons, harvesting practices, and laws. Understanding the complex history of this plant’s connection to the region as well as the ecological, social, and economic changes that have occurred during the past two hundred years is essential to comprehending why people engage in illegal harvesting practices.
While history helps inform the historical development of issues contributing to poaching, the ginseng community today has perceptions of poaching that can only be revealed by using methodologies such as Q methodology and interviews. The data from Q methodology helped create a current narrative surrounding ginseng poaching and enforced the idea that cultural connections, laws, and poverty play a role in ginseng poaching today. These narratives also helped merge historical data and some of the theories of poaching by illuminating how theories and perceptions are rooted in events from specific time periods.

Interviews

Interviews were conducted with twenty-six people according to interview protocols (Patton, 1987; Patton 1990; Rudestam & Newton, 1992; Creswell, 2003). The snowball sampling technique was used to identify respondents (Babbie, 1995). Although an interview guide was used (see Appendix A), the interviews were open ended and sought to draw out additional or underlying perceptions or opinions about poaching motivations and interventions. Each interviewee was also encouraged to express ideas, opinions, and stories relevant to the topic under investigation and suggest further avenues of investigation.

The purpose of the interviews was threefold. They provided the concourse from which the Q sort statements and lists of interventions were selected. They allowed members of the ginseng community to discuss the effects poaching had on their lives. Finally, these in-depth interviews ultimately helped with the interpretation of the Q sort data. Narrative data from the interviews illuminated the multiple meanings (Hufford, 2003) attached to words such as poaching, ginseng, and commons.
People who reside in Appalachia and those involved in ginseng trade have lived with ginseng for centuries and have acquired their own “way of knowing” ginseng (Hufford, 2004). Their perceptions about the plant, the place it inhabits, and how it affects their lives, are unique. Often policy makers are far removed from the region and unaware of the cultural connection between the plant and the region or the socio-economic conditions existing in Appalachia today. Some law enforcement officers responsible for apprehended poachers may not be native to Appalachia and are unaware of the historical connection local people have with ginseng and how this connection influences ginseng harvesting practices.

*Interview Questions and Focus Groups*

Prior to the actual interviewing process, preliminary meetings were held with a committee of ginseng growers, gatherers, and buyers from Rural Action, Roots of Appalachia Growers Association, and other individuals. These meetings were conducted to discuss the effectiveness of questions developed for the interview guide (see Appendix A). After a roundtable discussion with members of these groups, interview questions were evaluated and then adapted for use within the interview process.

*Selection of Participants*

Interviews were conducted between August 2006 and December 2006. Interviewees were selected based on their knowledge of the ginseng poaching problem in Appalachia and their involvement in the following activities: monitoring or researching wild ginseng populations, enforcement of federal or state ginseng laws, and participation or support of ginseng cultivation programs. All participants were assured of their anonymity and were
provided with a copy and detailed explanation of the consent form required by Antioch University’s Internal Review Board (see Appendix B). Respondents were assigned fictitious names; these can be found along with other respondent information in Appendix C.

The ginseng community was represented by the following categories of stakeholders: ginseng growers and gatherers, ginseng dealers, public land managers, law enforcement officers, lawyers and judges, researchers, and non-profit groups involved in rural education and economic growth.

The respondents were from an area that includes parts of Southeastern Ohio, West Virginia, and Eastern Kentucky (see Appendix D). This region is mountainous and heavily forested. Several national parks and three national forests are located within its geographic boundaries. Ginseng harvest records reveal that many ginseng growers and gatherers live in this region. The region also encompasses counties that, according to the U.S. Fish and Wildlife Office of Scientific Authority (United States Fish and Wildlife Service Office of Scientific Authority, 2002), export the largest volume of ginseng roots from their respective states. The ginseng exports include both wild and wild simulated roots.

People were chosen for the study using various selection procedures. Some respondents lived outside the Central Appalachian region but were chosen because they are connected to ginseng through research or commerce involving the plant. Other respondents were selected based on recommendations from members of two groups engaged in promoting ginseng cultivation programs: Rural Action of Ohio and Appalachian Science in the Public Interest Ginseng Foundation in Kentucky. These organizations work with ginseng growers and try to nurture ginseng cultivation programs. Some interviewees were selected based on recommendations of Dr. Patricia DeAngelis, a botanist with the U. S. Fish and Wildlife
Service, who also serves as the moderator of the Medicinal Plant Working Group and frequently speaks at events concerning medicinal plants. Initial contact with some interviewees was made through the attendance of medicinal plant conferences and meetings hosted by Mountain State University in West Virginia, Roots of Appalachia Growers Association in Ohio, Rural Action in Ohio, and West Virginia Ginseng Growers Association. Finally, law officers from West Virginia were located on West Virginia’s Department of Natural Resources web page; Ohio’s law officers were found on Ohio’s Department of Natural Resources web page and a Kentucky law officer was found by referral.

**Interview Process and Analysis**

Interviews were semi-structured and an interview guide (see Appendix A) was used for most interviews. Twenty-six interviews were performed. Most of the interviews were audio taped and some observations/notes/questions were manually recorded during the process. Interviews typically lasted from an hour to two hours with the longest being 7 hours. After the interviews were manually transcribed, they were coded. Sections of dialogue that dealt with reasons to poach and interventions were marked. Analysis of the codes was performed to determine if there were connections or patterns within the dialogue. Through a process of repeated examination of the transcripts, several themes presented themselves. Particularly useful quotes or rich stories arising from the interviews were placed in chapters seven and eight. Some of these quotes and stories helped elucidate the opinions and attitudes of the various stakeholders, as well as provide support for the Q sort interpretations. They offered concrete examples from people’s lives about the effects of poaching and the usefulness of methods of interventions.
The coding focused on identifying categories of reason to poach and produced a list of the main categories. Q sort statements representative of these categories were selected from the interview material. A final list of 34 Q sort statements (see Chapter 7) was chosen from the interview transcripts. In addition, a list of 13 categories of reasons to poach was selected from the interviews (see Table 2) and seventeen methods of intervention were chosen as well (see Table 3).

Table 2.

*Major Categories of Reasons to Poach*

- Commercial Gain
- Traditional Right of Use of Land
- Access to Land
- Accidental
- Way of Life
- Need Money for Family
- Rebellion
- Trophy
- Sport
- Easy to do
- No Legal Repercussions
- Lack of Respect for Private Property
- Ignorance
Table 3. **Interventions Used Against Poaching**

<table>
<thead>
<tr>
<th>Programs Like Rural Action's &quot;Grow it don't Poach it&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fines</td>
</tr>
<tr>
<td>Fences</td>
</tr>
<tr>
<td>Motion Detectors and Cameras</td>
</tr>
<tr>
<td>Post Land</td>
</tr>
<tr>
<td>Patrol Land</td>
</tr>
<tr>
<td>Offer other Jobs</td>
</tr>
<tr>
<td>Cut Leaves from Plants to Disguise Ginseng</td>
</tr>
<tr>
<td>Dogs</td>
</tr>
<tr>
<td>Dyes</td>
</tr>
<tr>
<td>Encourage Public Involvement with Ginseng Regulations</td>
</tr>
<tr>
<td>Educate Public About Regulations and Laws</td>
</tr>
<tr>
<td>Hot Lines (1-800-POACHER)</td>
</tr>
<tr>
<td>Get More Money for State Ginseng Programs and Enforcement</td>
</tr>
<tr>
<td>Offer Incentives and Support to Allow People to Grow Their own Ginseng</td>
</tr>
<tr>
<td>Licenses</td>
</tr>
<tr>
<td>Educate Judges and Lawyers about the Seriousness of Ginseng Poaching</td>
</tr>
</tbody>
</table>

**Q Methodology**

The third method of the investigation used Q methodology as a mode of inquiry to determine how individuals, who make up the informal and formal ginseng trade community, understand and perceive the activity of illegal harvesting of ginseng roots. Q methodology, invented in 1935 by British physicist-psychologist William Stephenson, provides researchers with a systematic and quantitative means for examining human subjectivity (McKeown & Thomas, 1988). It encompasses factor analysis techniques and aims at preserving self-reference. In Q methodology, a person performs a Q sort, that is, he/she is supplied with a group of statements pertaining to a topic and subsequently ranks these statements from ones
that are most like the way he feels to ones that are less like the way he feels. The statements are ranked entirely based on the sorter’s point of view (Brown, 2004).

Barry and Proops (2000) used Q methodology in a study of citizens’ attitudes about using a form of local currency when participating in a Local Exchange Trading System (LETS). This methodology was also used in Social Discourse and Environmental Policy (Addams & Proops, 2000). This book examined eight different studies of environmental issues ranging from the expansion of an airport in Amsterdam to perceptions of Monongahela National Forest Management employees about public involvement in forest management. Webler, Tuler, Shockey, Stern, and Beattie (2003) used the technique to consider perspectives of local government officials who participated in a watershed planning process. Webler, Tuler, and Krueger (2001) wanted to learn what the public considered to be essential characteristics of a “good public participation process” and used Q methodology for their research. Addams and Proops (2000) believe that Q methodology is especially suitable to obtain opinions about issues.

Q methodology lends itself well to the research project as it makes no predictions but rather uncovers opinions and feelings by asking an individual the importance of one statement in reference to another. Additionally, Q methodology is especially useful for this study because it helps reveal the major narratives regarding the causes of poaching within the ginseng community. It also aids in comparing relationships between these perceptions, as well as illuminating points of agreement and disagreement.

This methodology is a four-step process. First, Q sort statements were selected from the interview data. Next, participants were chosen to perform the Q sort exercise. The Q
sorts were administered to participants throughout the Appalachian region. Finally, the Q sorts were analyzed using a computer software program.

Selection of Q Statements

The Q sort statements can be taken from the concourse surrounding the topic of interest. This consists of any type of communication such as pictures, music, diagrams, or written materials (Brown, 1993). The Q sort statements for this study were naturalistic (obtained from the participants oral or written communication) rather than ready-made (statements obtained from sources other than the participants own communication) (see Appendix E). For this study, the Q sort statements originated during the first portion of the data collection stage from the in-depth interviews performed with participants (ginseng growers, gatherers, ginseng buyers, public land managers, law enforcement agents, policy makers, and researchers) from parts of Ohio, West Virginia, and Kentucky (see Appendix C). Statements that dealt with possible reasons to poach were selected using the typologies of poaching developed by Muth and Bowe (see Appendix F) as a guide. An initial list of 44 statements pertaining to some aspect of illegal harvesting was created from the interview data. These statements were evaluated to ensure that they were easy to understand and did not overlap in content. This initial list was further narrowed down to a final list of 34 statements (see Appendix E). These statements were placed into broad categories of reasons to poach. An attempt was made to have equal numbers of statements in each category; however, several categories contained larger numbers of statements (see Table 22).

The selection of the final statements was done in ways to ensure diversity and clarity. Care was taken to make certain Q sorters would be able to understand the meaning of each
statement (T. Webler, personal communication, May 1, 2007). The statements were typed on small, cardstock paper cards and randomly numbered so that the categories and cards were not in sequential order. These cards made up the Q sort material (McKeown & Thomas, 1988).

A chart that approximated a normal distribution curve was developed and allowed the statements to be sorted into nine columns (see Appendix G). The chart is designed to have a bell shape with the largest amount of statements being located directly in the middle of the chart. A small number of statements are placed in positions on opposite sides of the chart and represent statements that the sorter “least feels like” and “most feels like”.

Selection of Q Sort Participants

A total of twenty-three participants were selected to perform Q sorts (see Appendix C). Some of the respondents had taken part in the initial interview process that was used to generate the statements, while other participants had not taken part in the previous interviews. Some participants took part in both stages of the research. All of the Q sort participants were knowledgeable about or affected by issues associated with poaching and most resided in the Central Appalachian region. Five of the twenty-three sorters were women. Sorters were chosen to try and ensure all the stakeholder groups were represented by at least two or more respondents. It should be noted that attempts to locate lawyers that had prosecuted ginseng poaching cases in Kentucky and West Virginia proved unsuccessful; therefore, only two lawyers from Ohio performed Q sorts.
Table 4.

Number of Participants by State

<table>
<thead>
<tr>
<th>State</th>
<th>KY</th>
<th>NC</th>
<th>NY</th>
<th>OH</th>
<th>PA</th>
<th>VA</th>
<th>WV</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4</td>
<td>2</td>
<td>1</td>
<td>9</td>
<td>1</td>
<td>2</td>
<td>4</td>
</tr>
</tbody>
</table>

Five sorters were public land managers, five were grower/gatherers, two were lawyers, four were ginseng buyers, three were law enforcement officers, and four were listed as others. There were other members of the ginseng community that did not fall under these stakeholder categories. This group was identified as others and included researchers, employees of non-profit ginseng cultivation groups, and extension agents. Participants were not asked about their ages but sorters’ ages ranged from approximately late twenties to late seventies. All the Q sorts were performed from 18 May 2007 to 12 June 2007. Once again, participants were informed of the objectives of the study and their rights to privacy and were asked (if they were new to the study) to sign a consent form (see Appendix B).

Q Sort Process

Respondents were first given these conditions of instruction: Think about illegal ginseng harvesting/collecting/gathering in Central Appalachia and what you think contributes to, influences, or may cause it. Then read through this pack of cards, first placing the cards into two piles, statements that you “don’t agree with” or “feel like” and statements that you “do agree with” or “feel like”. Then, re-read the statements from the pile of statements that you believe represent what you feel like and sort them into this pyramidal distribution on the Q sort board, placing the two statements that best represent your feelings in the far right two spaces. Continue placing statements into the pyramidal distribution until you have a position...
for each card. Next, read the second stack of cards that you don’t feel like or agree with and sort these into the pyramid with the two statements that you least agree with in the far left two places (Addams & Proops, 2000). There were nine columns and these were labeled with a number from +4 to –4, with (+4) under the statements most agree with to the least agreed with labeled as (–4) (see Appendix G).

Results of each sort were recorded on the worksheet chart. Instructions for the Q sort exercise directed the participants to sort the cards based on their opinions of what they believed causes, has some effect on, or influences people to engage in illegal harvesting of ginseng. Care was taken not to use the term “poach” because the term “poach” was thought to convey a negative meaning and the study sought perspectives that both supported poachers as well as those that condemned them. For example, several stakeholders expressed their belief that “poaching” did not exist, and so the term was avoided during the conditions of instruction and instead illegal harvesting or collecting was used to describe the act.

Respondents were asked to verbally express their thoughts about the statements as they sorted through them. Some Q sorters preferred to be left alone as they placed statements, while others made comments and asked questions as they sorted the cards. Some sorts were tape-recorded (if permission was granted) and some were not, but all sorters were asked to provide an exchange of ideas as to why they sorted cards in their specific way. All sorters gave some explanation about their sorts, even if they did not think out-loud or verbally explain their sorts during the sort procedure itself. The comments made during and after the sort helped further elucidate the overall sorts and clarify opinions or responses that may have had multiple meanings.
At the end of the sort process, respondents were directed to make any final changes to their card placements. They were then asked to identify a place within the columns of the sort where they disagreed with all statements to the left, and agreed with all the statements to the right.

Q Sort Analysis

The Q sorts were analyzed using the software PQMETHOD 2.11 (Schmolck, 2002). The computer program performs three procedures: correlation, factor analysis, and calculation of factor scores (McKeown & Thomas, 1988). The significance of the sort is determined by the equation \( \frac{1}{N^{0.5}} \), where \( N \) is the number of statements (34 in this case) and \( \frac{1}{5.83} \cdot 0.171 \). This gives the standard error (SE). To achieve (\( p<.01 \)) the result would have to be \( 2.5 \times (SE) \) or \( 2.5 \times 0.171 \) or 0.43, the significance for this study. Correlations that are between 2 and 2.5 times the standard error are considered to be statistically significant (Brown, 1993). Under these limitations, for this study correlations would need to be above 0.43 to be considered statistically significant. Twenty-three people completed the sort and a correlation matrix was generated to show how individuals compared as far as the similarities or divergence of Q sorts (McKeown & Thomas, 1988).

Factor analysis shows the relationship between individual perspectives about the statements and relationships between individual responders. This procedure allows factors to emerge, which represent various points of view among the 23 sorters. The final procedure produces factor loadings and factor scores. Factor loadings show how each Q sort is related to each factor. The factor score helps illuminate each group by showing scores for each Q
statement and for every factor (Brown, 1993). Each factor, as well as the characteristics associated with each factor, is discussed in chapter seven.

Most and Least Significant Reasons to Poach

After performing the Q sort exercise, respondents were queried about the most and least significant reasons to poach and interventions used against poaching. Because of personal time constraints of some of the sorters, only 19 sorters took part in this final exercise. Two surveys were performed with the respondents. One exercise was done to gain insights into reasons why or why not people might engage in poaching. The second survey was performed to gain insights into the various methods of interventions used today to stop poaching.

The first exercise used the broad categories of reasons to poach collected from the initial interview data. These categories were the same categories used to organize the Q sort statements and are similar to categories of reasons to poach found in Muth’s and Bowe’s typology (see Appendix F). The thirteen categories of reasons to poach are contained in Table 2.

Categories were printed on small 3-inch cards and participants were asked to select the top three reasons they believed caused people to poach and then the least three reasons that caused poaching. Once they had selected their most and least significant three reasons, these were recorded and can be found in Appendix H.
Discussion of Interventions

The second survey dealt with methods of interventions. Participants were asked to read through a final packet of 17, 3-inch cards containing descriptions of various types of interventions used against poaching. These methods of interventions, taken from the interviews conducted in the first phase of the research, are listed in Table 3. Respondents were asked to discuss what they considered to be beneficial methods of poaching intervention and explain why they believed some methods work while other methods do not work. They were not asked to rank the interventions. The results of this exercise were recorded and are discussed in the chapter eight.

Member Checking and Triangulation

Member checking, a method used to check the validity of the final results of a study by going back to some of the original participants with final results (Lincoln & Guba, 1985), was conducted. Participants were chosen from the original Q sort group and asked if the final results of the study were representative of their own experiences. The various factors emerging from the data was taken back to the initial interviewees and some of the Q sort participants, especially those who loaded high on various factors. These people were queried as to their impressions of the narratives written from the factor loadings and Q statements, and asked to make comments on the findings or add additional information to help provide depth to the Q sort interpretation. Triangulation of data, by using observations, new events, and new documents pertinent to the issues, was also used to verify final results (Patton, 1990). Finally, two public presentations, one in Ohio and one in Pennsylvania, were
conducted to gather any additional comments from the ginseng community about the research results.

Significance of Study

This study contributes to an understanding of what motivates one to poach in general, and specifically, what special conditions exist in Appalachia that may cause a person to poach ginseng. In addition, it shows that there are differences in attitudes about the causes of poaching and intervention techniques between various stakeholder groups. The study reveals if people believe a relationship exists between poverty and poaching or the belief in commons and poaching. The study also uncovers if people believe poaching is a culturally accepted act, taught and passed down from one generation to another, or a random event of deviance. It is hoped that the study will help illuminate stakeholders’ opinions about the differences in effectiveness of restrictive methods of law enforcement versus using incentive programs.

Given the growing importance of medicinal plants in non-timber forest products programs, the rising demand for ginseng roots, and the susceptibility of wild populations, solving the problem of poaching may become even more urgent for public land managers and private growers. A deeper understanding of the causes of poaching and perceived effectiveness of certain techniques may allow policy makers to modify laws to increase effectiveness.

One of the plans for this study is to use it as a vehicle to conduct focus groups and meetings to discuss the results of the research and help stakeholders better address this problem. Upon completion of the study, results were disseminated during two public
meetings. Comments concerning the research and further recommendations from these meetings are found in the discussion.

Limitations of the Study

The primary limitation of this study is that it did not seek to gather opinions of poaching from poachers themselves. In some cases, interviewees did admit to being involved in harvesting activities that today would indeed be considered poaching. There were not enough participants in the study to conclusively state that one group (growers, law enforcement, buyers) within the ginseng community agreed with only one perspective. Participants groups (growers, dealers, law enforcement) were mixed across all four perspectives. Other perspectives may have emerged if additional participants had taken part in the Q methodology portion of the study.

The study had limited participation of the legal community. There were difficulties in locating lawyers and judges who had been involved in prosecuting a ginseng poaching case and additional difficulties in gaining access to those people.

The study did not account for differences in perception based on educational or socioeconomic variances. There was no attempt to correlate perceptions with the geographic location of participants or with the monetary value of ginseng. This may be important give that the prices for ginseng roots was at an all time high ($1250 a pound) just after the study was completed. Additional research may be able to answer these questions.
Summary

The study methodology was designed to gain an understanding of both the historical factors and current issues that contribute to poaching. It used a mixed methods approach enlisting open-ended in-depth interviews of members from the ginseng community. These interviews provided the concourse from which a Q Methodology study was conducted. The Q study analysis supplied various narratives present in the ginseng community that reflect beliefs about the causes of ginseng poaching. Primary and secondary historical sources were used to investigate the socio-economic conditions of the region and the evolution of ginseng trade. Respondents were also asked to perform two additional exercises created from the interview data. They ranked 13 categories of reasons to poach and discussed opinions of 17 different techniques of poaching interventions. Member checking and a series of two public presentations enforced the validity of the data.
Poaching is often described as a “deviant criminal behavior” placed in the same category as the sale of illegal drugs. Like other deviant behaviors, the motives (Colemen, 1985) and extent (Farnsworth, 1980) of the criminal act are often ignored, especially within the realm of social science research of the behavior (Muth & Bowe, 1998). In order to understand how stakeholders in the Appalachian community perceive the underlying causes of poaching in the region, theories pertaining to poaching were critiqued and an examination of empirical studies of various kinds of poaching was conducted.

Several researchers (Sellenthin & Skogh, 2004; Eliason & Dodder, 2000; Ogutu, 1997; Forsyth & Marckese, 1993; Warren, 1992) support the belief that poaching is a complex issue affected by social and economic factors, policies, and culture. Some researchers assert that this illegal activity can be viewed primarily as a result of poverty (Glover & Baskett, 1984). Other studies cite power struggles as a reason for poaching (Manning, 1993). These struggles exist among groups with vastly different social and cultural values. In some cases, poaching is framed as a form of rebellion against powerful extra-local institutions (Jacoby, 2001). Illegal harvesting of natural resources may also be initiated because of non-uniform, inefficient laws and regulations, or weak methods of intervention (Kelley, 1952; Musgrave, Parker, & Wolok, 1993; Nelson & Verbyla, 1984).

The literature review investigated theoretical explanations of poaching, evaluated some empirical studies of various types of poaching, and examined some studies of methods of interventions.
Theories of Deviant Behavior

Much literature exists on theories of deviant behavior and can be used as a framework to examine poaching motivations. The neutralization theory seeks to explain poaching by exploring techniques that criminals, such as poachers, use to justify their illegal activities (Sykes & Matza, 1957). This theory does not attempt to explain why poachers commit the act, but rather it proposes that criminals try to minimize their crimes by using various justifications for violating the law. For example, poachers may admit to committing a criminal act, but they condone their actions through a process of neutralization. Some claim the illegal activity was necessary to address another larger issue, such as a lack of food or jobs.

The differential association theory approaches poaching as a learned behavior and seeks to explore how or why a person becomes a criminal or is initially introduced into the world of criminal acts. Sutherland and Cressey (1960) used this theory in their work with deviants. According to this theory, individuals learn the criminal behavior and the techniques necessary to poach. Family and friends help socialize the individual into the practice of poaching.

Focal concern theory, proposed by Miller (1958), has been used to examine other criminal behaviors as well as poaching. He used this theory in his study of street gang deviancy. In these gangs, lower-class individuals engage in activities viewed as deviant by mainstream culture as a way to achieve status or fit in with their sub-culture. By defying middle-class standards through deviant acts, these lower-class individuals conform to what they perceive as valuable behavior within their world. This theory gives six values or “focal
concerns” which are passed down from one generation to the next as acceptable behavior (Verpoten, 1997).

A final theory that is useful in examining poaching is known as the theory of folk crime (Ross, 1961; Wilson, 1990). Unlike the previous three theories, which deal with an admitted crime and the motivating factors behind the crime, this theory addresses the perception of the act by both the individual committing the act and the community in which it is committed. A degree of innocence may be assigned to poaching and therefore, it may not be considered a strict crime. A folk crime refers to behavior that was once considered non-criminal, but is now classified as criminal. As a result of modernization, society becomes more complex and simple acts once accepted as legal, such as the practice of burning wooded land to clear it for farming, are now deemed illegal practices by society (Bertrand & Baird, 1975).

Neutralization Theory

Neutralization is a process “by which an individual attempts to minimize the culpability of his/her actions through a distorted application of one or more excuses or justifications” (Collins, 1994, p. 2). Normally law-abiding people make excuses to evade the rules and decide to engage in a deviant action. Sykes and Matza (1957) specified five distinct types of neutralization that individuals use: denial of responsibility, denial of injury, denial of victim, condemnation of condemners, and appeal to higher loyalties. “Denial of responsibility” says that the act was an accident and was committed by mistake. The “denial of injury” states that if no one was hurt by the act it was not that bad to commit the act. The act may be illegal but not immoral. “Denial of the victim” basically says the victim had it
coming to him. Animosity was directed at the King and not Robin Hood, when Robin Hood stole from the King. For the neutralization technique called “condemnation of the condemnner,” a person believes law enforcement officers are hypocrites and/or spiteful. This may occur when drug dealers claim the police are involved in drug deals too. The technique of “appeal to higher authorities” is an altruistic claim and is used when a person feels the act will help his family more than it will hurt the larger community. So, he ignores the laws. For example, this may be used when someone steals game to feed a family. His family’s needs take precedence over laws.

In 1974, Klockars added a sixth practice, the “metaphor of the ledger.” The violator will profess that he has committed more good deeds than bad deeds (poaching), as if society were keeping track of our good deeds and bad deeds in a large book or ledger (much like Santa Claus). Seven years later, Minor (1981) added to the list with his “claim of necessity” technique. In this case, even if the act is morally wrong, a person feels the results of the act are necessary, and perceives the commission of the act is necessary too. An example of this might be a battered wife taking the life of the batterer.

In 1985, Coleman introduced three more strategies of neutralization: denial of the necessity of the law; the claim that everybody else is doing it; and claim of entitlement. The “denial of the necessity of the law” occurs when an individual believes that the law is unfair or unjust and thus breaking the law is justified. The justification of “claiming that everybody else is doing it” occurs when an individual feels that since others are committing an illegal act and going unpunished, such as speeding, he should be allowed to commit this act as well. In the “claim of entitlement” the offender feels that he/she is entitled to the gains of a crime.
For example, a caregiver may justify taking belongings of a sick individual as his/her rewards for providing the care.

While some of these modes of neutralization help illuminate motivations behind ginseng poaching, other neutralization techniques are not applicable to ginseng poaching. The “denial of responsibility,” or saying it was an accident, could apply when individuals claim they were not aware they were taking ginseng illegally because they were on public lands (state parks and forests). “Appeal to higher authorities” may be used when ginseng poaching is done to help supplement poor family incomes (Bailey, 1999). The “denial of necessity of the law” can apply in cases such as the changing of the 5-year age limit on ginseng to 10 years. Ginseng growers and gatherers attending the USFWS meeting in Pittsburgh in January 31, 2006 were adamant about the change from a 5-year harvest age to a 10-year age being unfair. Finally, the use of “claim of entitlement” could be cited in instances where local folks claim they have stewarded ginseng patches on coal and timber land and therefore are entitled to dig it (Beyfuss, 2007).

Neutralization theory is limited in that it can only be used to examine openly admitted illegal activities. Many incidents of poaching are committed out of ignorance of the laws or by accident so the offender does not view himself as a criminal and may never be apprehended by a law enforcement officer. There is no acknowledgement of criminal intent on the part of the offender and therefore no need to neutralize the activity.

When poachers do confess to committing an illegal act and do choose various excuses to justify their poaching, these excuses cannot be assumed to be motivations as well. Some of the techniques or justifications used by poachers who are apprehended may possibly be the reason they poached, such as “I had to poach to get food.” However, using
this excuse may only be an attempt to neutralize the action and may not be the real reason that person has poached.

Finally, neutralization theory only considers the perception of the act from the viewpoint of the poacher. The poacher may see himself as poor and use the excuse that he poached because of the poverty. However, the perceptions or opinions of law enforcement officers, public land managers, or others in the community about why that person may have poached are not considered. Additionally, the effects of other factors in the community, such as social or economic factors, which may have contributed to the individual poaching, are not taken under consideration.

**Differential Association Theory**

*Differential association theory* (Sutherland & Cressey, 1960) states that individuals learn criminal behavior through association and interactions with intimate personal groups who engage in criminal behaviors. The theory describes what might occur when there is a cultural conflict between two different fractions in a society. One fraction has the ability to determine what is or is not considered deviance and develops rules and regulations for the other fraction to follow. The theory asserts that the ways to commit the crime as well as the “motives, drives, and rationalizations” are learned from the intimate inner circle (Sutherland, 1973) or deviant sub-culture. An “association to criminal behavior patterns” (Matsueda, 1988, p.281) will enhance the probability that the crime will be committed and the learning of the deviance will be complete. The individual will choose the criminal path when the balance between explanations or meanings for law-breaking exceeds those for law-abiding (Sutherland, 1973). “Meanings or explanations presented more frequently, for a longer
period of time, earlier in life, and from an intense relationship, receive more weight in the differential association process” (Matseuda, 1988, p.281). The necessary elements include a close contact with the deviant culture and a desire to imitate the behavior of superiors or significant role models in that culture. An example might be someone who has learned how to shoplift from a family member.

Rural cultures may be viewed as subcultures operating within a dominant (mainstream) culture. Muth and Bowe (1998) stated that, “Poaching often is embedded in sub-cultural webs of meaning that involve tradition, ethnic heritage, individual and social identities, and other socio-cultural factors” (p. 10). The dominant culture provides “opportunities for members of the subcultures to create new ways of being deviant” (Brymer, 1991. p. 178). The hunting/poaching sub-culture can be seen among local rural hunters who find ways to police themselves and have “traditions and requirements” that have been in their families for generations. For instance, some of the poached game is offered to the elderly and other families who are unable to hunt.

*Differential association theory* may characterize a possible explanation for ginseng poaching, especially for poaching in West Virginia and Kentucky where rural populations are still strongly involved in hunting and wild-crafting (Huford, 2002; Bailey, 1999). However, ginseng diggers may be engaging in what they view as root harvesting or root collecting not perceive the activity as a learned “illegal” behavior. They consider ginseng gathering to be a legal action, one passed down through the generations. They and others may see themselves basically as law-abiding citizens, not a deviant sub-culture.
**Focal Concern Theory**

*Focal concern theory* was proposed by Walter Miller in 1958 and is the result of a 3-year study of street gangs. The theory states that lower-class deviance is performed as a way to fit into the sub-culture. For example, people may poach (commit a crime) to become a part of or be accepted into this lower-class culture. Miller relied on tape recordings of gang activities, observations, and reports from anthropologists to formulate what he called major values or focal concerns of lower-class cultures. These focal concerns are: trouble, toughness, smartness, excitement, fate, and autonomy. Often, trouble or getting into trouble is a pre-requisite for entry into the subculture. Toughness represents the trait of physical strength associated with being a strong male in the group. Smartness means the individual is able to out-smart another person, such as a poacher being able to out-smart a law officer. Excitement is defined as a thrill period where the individual experiences a time of exhilaration during and after committing the crime. This may apply to poachers described in Muth and Bowe’s typology (1998) as thrill seekers. Fate is defined as the belief in the inability of one to change the future. When a person believes they cannot change the future, they fail to try and instead commit crimes. The final focal concern is autonomy. Individuals express independence from authority figures through autonomy.

*Focal concern theory* may or may not be useful when examining poaching in Appalachia. The theory states that lower-class deviance is performed as a way to fit into a sub-culture. However, in Appalachia, people who gather and collect ginseng are part of a homogeneous group with similar values and cultural backgrounds and not necessarily a group apart from mainstream Appalachian culture. The initial use of the theory was to examine street gangs, a group with very different attributes than those who collect ginseng
roots in Appalachia. Without directly interviewing poachers, it may not be possible to
determine if poaching is done as a way to fit into a sub-culture group in the region.

**Folk Crimes**

Another theory useful to examine poachers and poaching is referred to as the *folk crime theory*. This theory purposes that the context in which an act takes place determines if it is perceived as a crime. Folk crime is a expression used by sociologists to describe many types of unstigmatized criminal behavior. Folk crimes, according to Wilson (1990), are “crimes that do not impair the public identity of offenders as respectable” (p. 591). Wilson asserts that “it is not the nature of the offense but its subjective interpretation” and the reactions of people to the offenses that make it different from other types of crime. Folk crime is characterized by the nature of the offenders, community, enforcers, the enforcement process, and the relationships among these.

In order to understand folk crime, one must also understand “the social context that creates and sustains” these relationships (p.591). Ross (1961) describes crimes such as traffic law violations and white-collar crimes as “sub-species” of folk crime. “Violations related to gambling, traffic, hunting and game laws, and woods burning are all examples of folk crimes” (Forsyth, Gramling & Wooddell, 1998, p. 98). These crimes are widespread, socially costly, and criminal, according to legal criteria. However, criminologists and the general public often overlook these crimes. Poaching when conferred the status of folk crime is often overlooked as well (Elaison, 1999).

In her five-year study of commercial shell fisherman known to consistently violate conservation laws in maritime New England, Wilson (1990) identified some basic
characteristics of violators and the community in which the violations took place. Violator characteristics included: they were otherwise law-abiding citizens, they generally believe in law enforcement, and they have respect for legal authorities. They are aware that they are breaking the law but believe they have a right to do so. They believe their behavior does not violate the intent of the law and that their special skills and knowledge enable them to break the law without harm to others.

Sub-communities that support those who commit folk crimes have similar characteristics. Often they are isolated communities sharing a relatively homogeneous culture and a tradition of prohibited behavior. In addition, while the illegal behavior is frequent and widespread, the sub-community is conscious of the crimes and instead views them as trivial and not dangerous.

Those members of the community who are responsible for enforcing the laws also have similar traits. Many times they respect the violator’s way of life, their skills, and their general law-abidingness. Often these enforcers recognize the traditional nature of offenses and do not perceive folk violators or violations as a threat to major job-related goals or to the public. Enforcers do not define folk crime as a violation of the intent of the law but rather believe folk crimes are inconsequential (Wilson, 1990).

*Folk crime theory* is especially useful as a framework for examining stakeholders’ perceptions of ginseng poaching in Appalachia. Often stakeholders have close connections to the community in which the violation takes place and may perceive the act as non-criminal. Folk crimes result because activities that were once legal are re-classified as illegal. New laws and regulations have made certain actions of ginseng harvesting illegal. Until 1975, when ginseng was placed on the Appendices of CITES (CITES, 2006), ginseng harvesting
was basically unregulated by the Federal Government. People often dug ginseng plants of any age, at any time, and in any quantity on public land and their own land.

Empirical Studies of Wildlife Poaching

Several empirical studies of wildlife poaching serve as examples of neutralization theory, differential association theory, focal concern, and folk crime theory. These studies were conducted using methods such as surveys, interviews, ethnographies, and case studies to examine poaching and poachers. With the help of a typology of poaching, generated by Muth’s and Bowe’s (1998) review of many popular, scientific and professional literature, including television programs, computerized databases, and dissertations published since 1965, this section will explore empirical research that deals with the deviant act of poaching.

Neutralization Theory

Muth and Bowe (1998) performed a content analysis of poaching literature and produced a typology of ten categories of motivations or reasons to poach (see Appendix F). One of reasons to poach listed on their typology was “poaching for food.” In some of the empirical studies, poachers said they did poach in order to obtain food. This reason was also used as a justification for the criminal act stated in the neutralization theory. Specifically, research reveals that “defense of necessity” is often used as a justification to poach. People poach to obtain meat or to get money.

In a study to ascertain the effects of poaching on big-horn sheep populations in the Upper Yellowstone River Valley (Irby, Swenson, & Stewart, 1989), data showed black markets paid from $1000 to $2000 for mounts of big-horn sheep. The meat from the animals
was considered to be good as well. Of the 29 sheep violations for which data was available, 10 poachers said the act was accidental, while 19 claimed they had poached to obtain money for food. Both of these reasons were on Muth and Bowe’s typology and both are used as neutralization techniques.

Glover and Baskett (1984) investigated deer poaching in Missouri in a two-year study to determine social and economical characteristics of convicted deer poachers. In this study, conservation officers interviewed poachers and recorded responses on a standardized data sheet. In addition, state records were used to obtain data concerning sex, age, education, occupation, and income. The data revealed most poachers were blue-collar workers and 10% had previously been arrested for wildlife violations. They had an unemployment rate thirty times that of legal hunters. Poachers gave two principal reasons for committing the illegal act: meat and recreation. Approximately 51% said they poached to acquire meat and 34% poached for recreation and vandalism. Younger poachers committed the crime more frequently for fun, whereas older poachers engaged in the crime to obtain meat. A greater percentage of those arrested for poaching had families to support. For these poachers, the defense of necessity was used when justifying their poaching.

In a study of illegal deer hunting in Colorado (Eliason & Dodder, 2000), surveys were mailed out to convicted deer poachers. These poachers were asked to indicate which of the ten neutralization modes they used to neutralize (justify) their poaching. Of the 4.8% of surveys that were returned, 59% agreed with “denial of responsibility,” 57% of responses indicated they used the “metaphor of the ledger,” 57% of the responses pointed towards the neutralization tool that “everyone else is doing it,” 42% claimed “defense of necessity,” and 26% used “condemnation of the condemner.”
In another study by Eliason (2003), poachers and wildlife officers were first surveyed and then interviewed. The poachers had committed offenses ranging from fishing without a license to spotlighting deer. Many of those arrested for violations claimed their actions were the result of a mistake or accident (using a neutralization technique of “denial of responsibility.” Some also used the technique of “claim of entitlement” stating, “a person should be able to fish and hunt whenever” (p. 235). Others believed the law was an infringement of their rights and cited “denial of necessity of the law” stating, “the law was passed unfairly” (p. 236). Finally, several poachers used the “claim of defense of necessity,” a more socially acceptable excuse since they believe poaching for food for the family is a legitimate reason.

“Defense of necessity” was also used to justify poaching to acquire items that are then sold in order to bring in money and boost incomes. In their study, Musgrave, Parker, and Wolok, (1993) examined poaching in the United States by interviewing wildlife officers, broadly critiquing differences in state wildlife laws, and suggesting potential solutions. Preliminary investigations provided data proposing a strong link between economic pressures and increased incidents of poaching. “One United States Fish and Wildlife Service agent remarked that poaching is more severe now than at any other time in his 27 year career” (p. 979). The United States Fish and Wildlife Service estimates that $200 million is illegally earned each year in the U.S. from the illegal taking of wildlife and wildlife parts. “Between 1985 and 1990, an estimated $80,000 worth of bear gallbladders were exported from China to Japan, and that amount included gallbladders from the American Black Bear. A wildlife investigator in New York reported that he had seen 2000 gallbladders at one time in New York City’s Chinatown” (Musgrave, Parker, & Wolok, 1993, p. 980).
Musgrave, Parker, and Wolok, (1993) found that poachers fell into two categories: commercial poachers and non-commercial poachers. While commercial poachers are clearly motivated by economic gains, the non-commercial poacher may be influenced by culture, by a misconception of wildlife and the effects of relentless hunting, and by the drive to provide meat for the family. “Residents of rural areas of the country with poor economies are particularly susceptible to subsistence poaching” (Musgrave, Parker, & Wolok, 1993, p. 985).

Other studies show that poaching increases when jobs become scarce (Barrett & Arcese, 1998). Bailey (1999) interviewed 62 ginseng diggers, ginseng buyers, and resource managers over a three-year period in West Virginia. His interviews focused on understanding motivations, patterns, and practices associated with ginseng harvesting. He found that price per pound of the roots affected the intensity of harvest. Fluctuation in employment rates affected harvesting as well. During times when workers are employed, both lack of time and lack of economic necessity can cause harvest rates to drop. The sale of ginseng may not be “a mainstay in the livelihoods of most diggers, but it does often represent a tax-free, seasonal supplement to limited incomes” (Bailey, 1999, p. 15). Ginseng incomes are only taxed if the digger voluntarily supplies the information about his roots to the government. Most diggers use the money for items such as fishing and hunting supplies, Christmas gifts, gas, and hardware (Bailey, 1999).

*Differential Association Theory*

Poaching often becomes a component of the socialization into the sub-culture. Poaching takes on a role, a learned behavior, and one that is viewed as acceptable within that
culture (Akers, 1985). Family, culture, and community have an influence on both the tendency to poach and the perception of the act. An ethnographic study of tree theft in the Pacific Northwest showed that there were various perceptions of the degree of wrongdoing in tree theft (Pendleton, 1998). “Tree poaching is an acquired skill that is taught through family and community relationships. Fathers teach sons and other community ‘folk heroes’ take younger [timber] thieves under their wings” (Pendleton, 1998, p. 45). One person in the study was able to identify a man who had taught three generations of tree poachers the various techniques used to poach lumber.

_Focal Concern Theory_  

In his 1997 thesis, Verpoten tested focal concern theory and folk crime theory when he used a questionnaire to examine poachers and non-poachers in six New York counties. Questions focused on attitudes, perceptions, and motivations for poaching. The study found that while violations tended to fall within the folk crime theory (traditional activities committed by normally law abiding citizens), autonomy (independence from authority figures), a focal concern listed by Miller (1958), was also given as a reason to poach.

Forsyth and Marckese (1993) and Forsyth, Gramling and Wooddell (1998) conducted ethnographic studies of French Acadian poachers in the Louisiana swamps by interviewing poachers and game wardens. Poachers were questioned as to the reasons they engaged in poaching, what types of game they hunted, and how they got started poaching. The poachers represented a lower-class culture while the game wardens were representative of the middle-class culture present in society. Many of Miller’s focal concerns were illustrated in the two studies. Poachers were repeatedly in trouble with the law and many expressed a feeling of
excitement at trying to outwit law enforcement officers. “It’s a real rush knowing that the
game wardens are out there trying to hunt you. They never have caught me yet and I kill a
deer whenever I want some meat” (Forsyth, Gramling & Wooddell, 1998, p. 32).

Using the *focal concern theory* and the studies in Southwest Louisiana may be
helpful in understanding some of the motivations to poach ginseng in rural Appalachia.
Many parallels exist between this region and Appalachia: both have been isolated from the
mainstream culture, both saw an emergence of extractive economies (Caudill, 1963), and
both have cultures centered on the harvest of seasonal plant and animal species (Bailey,
1999). In addition, many of the local people in both regions express resentment towards
regulations promulgated by the middle-class culture. Bailey’s study (1999) of ginseng
harvesters revealed this resentment, “That ain’t right. The plants stay stationary. The
government has gone too far already. That’s nature’s plant [not the government’s]” (p. 21).

*Folk Crime Theory*

What causes once acceptable behavior to be classified as a folk crime and once law-
abiding people to be labeled criminals? Many reasons have been proposed including
complex interactions between laws, culture, and modernization. Bertrand and Baird (1975)
discuss how woods-burning, a previously acceptable way to clear land for farming, became
illegal as available timber decreased. In a similar fashion, unrestrained hunting and fishing
have given way to strict licensing and daily limits as once ample resources became depleted
(Bankston & Jenkins, 1982).

Indigenous community members, like the Blackfeet Indians who hunted game on
land that was part of Glacier National Park (Regan, 1983), or the Crows, Shoshone,
Bannocks, and Lemhi, who sent hunting parties into land designated as part of Yellowstone National Park, “claim rights of access to local game on the grounds of particular historical and customary precedent” (Warren, 1992, p. 711). The land managers viewed these hunts as illegal raids while the Native Americans saw them as part of “a seasonal cycle that predated the park’s existence” (Jacoby, 2001, p. 88).

In their study of poachers in Louisiana, Forsyth and Marckese (1993) conducted several interviews and used ethnographic data. They interviewed 36 poachers and 31 Louisiana game wardens. Poachers were primarily hunting alligator, deer, and waterfowl, and gave their main reasons for poaching as need or greed. Researchers discovered that while poachers can be motivated by either need or greed, they were almost always viewed within their society as “folk outlaws” rather than hardcore criminals. The perception of the crime was that it was not really a crime at all.

The Sami, an indigenous population of northern Scandinavia, repeatedly kill endangered wolverines that prey on their reindeer herds (Sellenthin & Skogh, 2004). Although legislation has protected the species since 1969, and the Sami have been financially compensated for reindeer taken by this predator, they continued to hunt wolverines. The Swedish government needed to develop an alternative plan to help increase the wolverine herds. This plan basically was to address wolverine poaching committed by the Sami.

The plan made the Sami, not the Swedish Government, exclusive owners of the wolverines. Therefore, it became their responsibility to protect them. The Swedish Government continues to pay each Sami herder an amount of money for the wolverines protected and allows some hunting of the animals. The government also continues to
compensate herders for predated reindeer. Until economic incentives and an innovative plan were put in place to protect the species, the Sami perceived the laws in violation of their property rights and continued to indiscriminately kill wolverines preying on the villagers’ reindeer herds.

American ranchers felt it was justifiable to kill species that predated fish or other game wildlife or livestock (Scialfa, 1993). Outsiders view the act as a criminal action, yet, in the mind of the poacher and within the context of his culture, a crime does not exist and the individual is not perceived as a criminal.

Plant Poaching

While there is abundant literature dealing with empirical studies of game poaching, there is a lack of any significant literature that addresses research into plant poaching. Public land managers and private land owners have experienced significant problems with plant poaching, especially plants such as ginseng, moss, orchids, and carnivorous plants (Eilperin, 2005). There have been increased reports of bark poaching from slippery elm trees in and around national parks and forested lands in Appalachia (Jafari, 2006). Wild garlic, a delicacy in parts of Canada, is now listed as vulnerable and is protected. One person was recently apprehended carrying a bag of 7,829 bulbs. He was fined $10,000, but bulbs can bring a dollar each so the poaching continues (Peritz, 2007).

Moss poaching is increasing in many national parks. Two years ago, a deputy arrested over 100 people for poaching moss on national forests and private lands in the Pacific Northwest. Moss sells for 45 cents a pound and is used in floral arrangements
Cactus poaching is on the rise in Mexico and Southwestern States as xeriscaping (low water landscaping) is becoming popular in the drought stricken states of Texas, Arizona, and California (“Cactus poachers,” 2008).

The Nature Conservancy had thousands of Venus flytraps poached from their Green Swamp Reserve. After that incident, managers at the reserve decided to use a new technique developed by ginseng researchers to help thwart ginseng poaching. They applied orange dye to the flytraps. The dye helps deter poaching and makes it easier to prosecute poachers if they are caught with dyed plants (“Botanist try pilot,” 2006). The use of a systemic dye is one method that seems to deter plant poaching but there is little research on the effectiveness of other methods of interventions used against plant poaching.

Poaching Interventions

How do stakeholders perceive the effectiveness of current methods of interventions used against ginseng poaching? Since few formal studies of plant poaching interventions have been conducted, the literature on other types of poaching, such as game and fish poaching, will serve to examine effectiveness of poaching interventions.

Two strategies are used to maintain compliance with wildlife laws: restrictive and incentive (Hall, 1992). Restrictive approaches include methods like: the use of legislation, law enforcement, and the judicial system. History shows that restrictive methods need to involve more than apprehension and prosecution of violators but also require a component of social and behavior modification (Hall, 1992). Additionally, restrictive methods often fail if the sentencing portion of the process if it is not taken as seriously as the conviction segment (Musgrave, Parker, & Wolok, 1993). For example, “in 1949 Missouri had a conviction rate
of 98.2%” but the “2,856 sentences handed out that year averaged a fine of exactly $7.95” (Hall, 1992, p.533).

States are primarily responsible for enacting restrictive methods. Many gaps in consistency of laws exist state to state. While most have laws that address illegal taking, selling, and transporting of wildlife, the effectiveness varies because of the inconsistency in power given to wildlife officers (Musgrave, Parker, & Wolok, 1993). Effectiveness also varies depending on penalties and the willingness of the legal system to impose those penalties (Musgrave, Parker and Wolok, 1993; Kelley, 1952). These penalties include fines and jail time, suspension of licenses, forfeiture of equipment, and civil penalties.

Enforcement, a key facet of restrictive methods, can be broken down into three major categories: field enforcement, prosecutorial enforcement, and judicial enforcement (Hall, 1992; Musgrave, Parker & Wolok, 1993). Field enforcement is often difficult given the low numbers of wildlife officers. These officers must choose between enforcing some laws and not others. In some cases large-scale commercial violators go undetected while officers spend time on technical violations or small-scale violators. Often local hunters, who have proven to be powerful allies in the fight against poaching, become alienated and hostile towards game officers who pursue small-scale violators rather than address large-scale commercial poachers (Musgrave, Parker and Wolok, 1993).

Prosecutorial enforcement is sometimes problematic. Prosecutors seldom assign importance to wildlife laws and resent taking cases to court that result in insignificant fines or jail time (Musgrave, Parker, & Wolok, 1993). History shows that low fines and jail times have been the rule rather than the exception. Kelley (1952) found that fish dynamiting netted
a $25 fine and 10 out of every 100 game law convictions carried suspended sentences even when they involved major violations.

Still when cases do make it into the courtroom, they meet with another obstacle: inadequate judicial enforcement. State judges are most often elected officials and subject to public pressure. State poaching laws are rarely stiff enough and result in little if any deterrence, but when coupled with inadequate judicial enforcement, they fail significantly (Musgrave, Parker & Wolok, 1993).

Restrictive methods are time-consuming and expensive (Nelson & Verbyla, 1984; Milner-Gulland & Leader-Williams, 1992), but considering wildlife officers are outnumbered 9,000 to 1 (Hall, 1992), Evans (2003) suggests a need to increase the number of wildlife officers and change the perception that poachers will never get caught. Since wildlife budgets are being cut instead of increased (Hall, 1992), and the extent and economic loss incurred from wildlife poaching is on the rise, Musgrave, Parker, and Wolok (1993) recommend other techniques of interventions, such as incentive methods.

The literature shows that incentive methods require involvement from the hunter and rely on creating a feeling of vested interest within the hunting community of wildlife officers, game wardens, and hunters (Hall, 1992). How do you transform compliance techniques from restrictive to incentive? Hall believes hunter education programs that enlist the help of former poachers is an approach. Questions like why do people poach, when do they start poaching, with whom do they poach, and what penalties would be most effective to stop the behavior, need to be answered and addressed (Hall, 1992). He points out the success of a program called “Poachers to Preachers”. Being a Federal game warden, he employed a well-known poacher turned wildlife guide, Ron Hayes, as a spokesperson for
trophy hunting the right way. The two of them made a video about why compliance with wildlife laws is necessary.

Hall (1992) also recommends other techniques to deter poaching. These include making laws simple and understandable. In some cases, poachers use complexity of laws as a justification for the poaching, saying they couldn’t comprehend the law (Musgrave, Parker, & Wolok, 1993). Kelley (1952) believes that laws change too frequently noting one law changed four times before the hunting season had even started. He feels that wildlife officers should “concentrate on poachers who have the greatest negative impact on wildlife and fisheries resources” (Hall, 1992, p.537). This sentiment is echoed in a study of fish poaching by Bell, Hampshire & Topadilou (2007). Local fishermen poached fish using traditional fishing skills; whereas, commercial fisherman used electro-fishing and night harpooning. Local people perceive the later practices as being more destructive and ones that should be stopped since they killed more fish than traditional techniques.

Another incentive technique recommended by Hall (1992) is to foster respect among legislatures, prosecutors, judges and probation officers for wildlife laws. Musgrave, Parker, and Wolok (1993) also suggest education for judicial officers. Their misperceptions about the seriousness of the crime are often reflected in their lackadaisical attitudes towards offenders. Additionally, Musgrave, Parker and Wolok (1993) believe that hunters and the general public need to be educated about the benefits of legal hunting. This education can be effectively distributed through the use of the media such as brochures, fact sheets, and presentations.

Innovative sentencing is another technique now being used to stop wildlife poaching. These sentences include the mandatory viewing of wildlife poaching films, revoking
licenses, community service, confiscating equipment, and requiring jail time to be served on holidays and week-ends, rather then during the work week, therefore allowing offenders to keep their jobs (Hall, 1992).

Nelson and Verbyla (1984) suggested the use of citizen participation in anti-poaching programs. Michigan’s Report All Poachers (RAP) is such a program and consists of four parts: increased manpower, monetary rewards, peer group pressure with a 1-800 hotline, and educational programs about the effects of poaching.

Summary

Certain studies of animal poaching show that increasing fines and jail time to curtail poaching are ineffective (Milner-Gulland & Leader-Williams, 1992). These studies fail to explain why fines and jail time do not work and offer few other suggestions that might be used. Although a few studies show that judges and wildlife officers sometimes disregard animal poaching as a serious crime, there are no studies that examine how and if the attitudes of the judicial officials (judges, lawyers, resource officers) involved in apprehending, prosecuting, and sentencing ginseng poachers affect the poaching problem. The literature also fails to address how the lack of uniform ginseng laws, or less complex laws, and hunter education and incentive programs may be more effective than fines or imprisonment.

The literature on animal poaching shows that there is not a universally accepted definition of poaching. One person might consider an activity illegal whereas others in the same community might view it as totally benign. Theories like neutralization, differential association theory, focal concern, and folk crime are useful for they help researchers to juxtaposition poaching in the sociological literature as well as the criminological research
realm of illegal activities. However, the application of these theories to the phenomenon of ginseng poaching is lacking.

Land managers and policy makers in Appalachia have often neglected the motivations, other than economic value, that lead to ginseng poaching in Appalachia. One might assume, given the high costs paid for ginseng roots, that poaching is done primarily for economic purposes. However, there may be other reasons, such as ginseng gatherers’ lack of understanding of what is legally classified as poaching, or a lack of knowledge of ginseng rules and regulations that may lead to unintentional events of poaching. Therefore, the current efforts taken to control poaching such as fines or imprisonment (“Mammoth Cave Park,” 2003), marking roots with microchips and dyes (Brown, 2002), and elaborate “sting operations” (Sampson, 2004) have fallen short of their goals to stop poaching.
CHAPTER 4
A BRIEF HISTORY OF GINSENG

Often referred to as green gold, ginseng remains as fascinating today as it was several centuries ago, when the early American colonists and Asian countries established a commodities trade around it. This chapter is more than a history of ginseng; it is a history of land ownership, land uses, and the historical ginseng trade network between North America and Asia. All of these aspects affect today’s ginseng community.

Ginseng’s Medicinal Use

Somewhere in Hong Kong, resting below a glass countertop in a medicinal plant shop, is a mound of musky smelling ginseng roots; roots that will be purchased by Asian customers preparing medicinal concoctions. These ginseng roots belong to a plant species known as Panax quinquefolius (see Figure 1). Six months prior, they were attached to mature ginseng plants located on a forested hillside somewhere in Appalachia. Now the plant roots are destined to become part of popular medicinal products used by millions of Asian consumers. This species has linked Asia and America for the past 300 years, affecting both their cultures and economies and it the reason why Appalachia has become Asia’s major ginseng root supplier (Taylor, 2006).

Ginseng has long been synonymous with the Appalachian region, people, and culture. A long-lived perennial, ginseng is indigenous to the dark, mature forest ecosystems located in Appalachia. As early as the late Archaic Period (3000-1000 B.C.), native people in the region relied on plants. Active gardening began during the Middle Woodland Period (300
B.C. to A.D. 600) as plant husbandry spread throughout the Appalachian region. The Hopewell Culture (A.D. 1 to A. D. 200), located in southern Ohio, relied on plants for food, medicines, furnishings, and building materials. Studies of their artifacts show plant processing was common in the culture (Yarnell, 1998).

Many North American Indian tribes such as the Cherokee and Iroquois (Vogel, 1970) used the plants for medicine long before the arrival of the Europeans (Foster, 1991). Some historians believe that Native American use of ginseng was brought from Asia during the last ice age. It is likely the plant may have initially been used for food, as the root is exceptionally meaty (Young-Sik, 2003).

Native Americans utilized plants for all types of ailments. Many were guided by a belief similar to what is called the “Doctrine of Signatures,” an idea popular in Medieval times (Buchanan, 1991) and also prevalent among North American inhabitants. Simply stated it means a plant’s shape reflects the body part it cures (Griggs, 1981). Red plants were thought to help cure blood ailments; yellow plants, jaundice; and ginseng roots, shaped like the headless body of a man, were thought to be useful as an overall curative agent (Vogel, 1970).

Several tribes employed herbal remedies, which were used along with elaborate ceremonies thought to help impart power to the herb.

It was one of the ordinary remedies of the Mohawks, but on the strength of Lafitau’s account of the regard the Chinese had for it, a Mohawk woman cured herself next day of an intermittent fever which had been plaguing her several months. The Penobschts used it to increase fertility of women, steeping a piece of the root, called man-root from its shape, in water and drinking the liquid from time to time. The Cherokees gathered the root for traders, but also used a decoction of it for headaches, cramps, and female troubles; the chewed root was blown on the side for pains in that locality. Swanton found ginseng to be a highly esteemed remedy among the Creeks, who drank an infusion of the roots for shortness of breath, croup in children, hoarse
coughing, and fevers. For the last ailment, it was mixed with ginger and alcohol to produce sweat. Ginseng was also used to stem the flow of blood from cuts. The Alabama Indians broke the roots from the plants and rubbed the milky juice on sores. The Houmas boiled the roots for a drink to stop vomiting and used the same infusion with whiskey added to abate rheumatism. Among the Menominees, Smith reported, ginseng was the special medicine of his informant’s wife, but they were vague about its use; he supposed it to be a tonic and strengthener of mental powers. The Meskwakis gathered ginseng for a universal remedy, as well as for sale to traders. They used it a seasoner to add power to other medicines and mixed it with other substances for a love potion. The Ojibwas made no use of ginseng, but gathered it for traders, always planting new seeds for what they pulled up. The Potawatomis pounded the root for a poultice to cure earache and soaked the pounded root to obtain a wash for sore eyes. It was also mixed with powered medicines and used a seasoner to mask unpleasant flavors (Vogel, 1970, pp. 296-297).

Early settlers, as well as colonial physicians and apothecaries, were isolated from European physicians and came to depend on Native American remedies. These remedies were incorporated into local physicians’ treatments. The Native American’s knowledge of ginseng’s healing properties and medicinal plant preparations were passed on to the white settlers. One of the earliest accounts of white men undertaking Native American plant remedies was of a doctor living in the Jamestown settlement who had investigated the medicinal properties of sassafras roots in 1610. In 1710, William Bryd used ginseng drops to treat his daughter’s fever. Upon finding the roots in 1732 he wrote, “the root of this is of wonderful Vertue, in many cases particularly to raise the spirits and promote perspiration which makes it a Specifick in colds and coughs. I carry’d home this treasure, with as joy as if every root had been the Graft of the tree of Life and washt and dry’d it carefully” (Vogel, 1970, p.295). A Louisiana man, Jean Bernard Bossu, reported that the plant’s roots could be used to make a cough syrup. In the early 19th century, the Delaware Indian tribe used ginseng to cure wounds. In 1808, Fortescue Cuming, an English physician, employed ginseng and other woodland herbs to cure malaria (Vogel, 1970).
By 1772, the first published document referring to the use of medicinal plants appeared in America (Griggs, 1981). An immigrant botanist, Constantine Samuel Refinesque (1883-1840), recognized the importance of the Native Americans’ botanical medicines and included them in his *Medica Flora*. In this text he selected 105 woodland plants and described both their Native American preparation and use (Vogel, 1970). Many of these plants were later listed in the United States Pharmacopoeia, a medicinal reference published by the medical community. Ginseng was in this publication from 1842-1882 (Vogel, 1970) and remains one of the most widely used and best known of all American medicinal plants today.

The Chinese had utilized the plant many centuries prior to its applications in America. The Shanghan Lun, one of the first Chinese books that describe medical applications of herbs, was written in A. D. 220 during the Han Dynasty. Of the 107 herbal formulas described in this text, 21 contained ginseng. A Chinese physician, Zhang Zhongjing, collected the formulas. These formulas often contained a variety of herbs such as ginseng, ginger, and licorice roots. They were prepared as pills by mixing the ground roots with honey. Since the pills were large in size, about 9 grams, they were either chewed or dissolved in hot water like a tea (Dharmananda, 2002).

The Chinese employed ginseng for all weaknesses including problems with the lungs and heart. Both Manchurian and Korean ginseng are used as “an alternative tonic, stimulant, and carminative nature,” while American and Japanese ginsengs are used as “a demulcent and refrigerant agents” (Nash, 1898, p.11).

It was said that the root was “a tonic to the five viscera, quieting the spirits, establishing the soul, allaying fear, expelling evil effluvia, brightening the eye, opening up
the heart, benefiting the understanding, and if taken for some time it will invigorate the body and prolong life” (Higby, 2002, p.2).

The ginseng that was used during this time and for centuries into the Ming Dynasty (A. D. 1644) was all wild ginseng located in the northern regions of China. Ginseng gatherers would collect the plants, dry the roots, and sell them to herbalists in the southern regions of the country. As wild populations declined, these ginseng gatherers had to enter more northern areas and pursue the plant in precarious places along the mountainous terrain. The scarcity of the plants soon increased the costs of medicines prepared using ginseng. Some herbalists substituted other plants they called ginseng. Most Chinese could not argue about the authenticity of the roots since few had ever seen an actual root by that time. Only the rich could afford the remedies containing ginseng (Dharmananda, 2002).

It was reported that European explorers, including Marco Polo in the 13th century, related tales of this “wondrous drug,” however, most Europeans were skeptical as to the actual value of the plant. When samples were brought back from China, physicians took little interest in the roots (Higby, 2002). It was believed that a combination of the high prices for the plant, the remoteness of the Far East, and the dramatic differences between Eastern and Western medical philosophies, resulted in an apathetic attitude towards ginseng effectiveness in Europe (Court, 1967). However, the plant remained a major ingredient in Chinese medicinal preparations. One formula made during the Song Dynasty (A. D. 960 to A. D. 1279) was very popular for digestive problems. It was called Si Junzi Tang, or the Four Gentlemen Concoction. This preparation is still used today and is made according to the ancient recipe (Dharmananda, 2002).
Ginseng was so highly valued that in the Quan-tong province of China, a wooden fence and Imperial guards protected the Emperor’s supply of the root. In 1709, his monopoly on the supply was secured as he ordered 10,000 Tartars to gather all the roots they could find. Each was commanded to give him 2 ounces of the most prized root and the rest was purchased with the Emperor’s silver (Nash, 1898). By 1821, the Dao Guan Emperor realized that the species was on the verge of extinction and outlawed any collection by Imperial Decree (Dharmananda, 2002).

**Ginseng Trade Begins**

The discovery of ginseng in America was accidental. A Jesuit priest and mathematician, Father Pierre Jartoux, was on a mapping expedition near Korea in 1709. He saw locals harvesting a plant, Chinese ginseng (*Panax ginseng*), for medicinal uses (Taylor, 2006). He described the plant in a manuscript called *The Philosophical Transactions of the Royal Society of London* in 1714 and wrote he was confident the plant, located in lush forests in China, might also be found in the verdant forests of North America (Foster, 1995). Another Jesuit priest living in Canada, Farther Joseph Francois Lafitau, saw the article written by Jartoux (Taylor, 2006) and read of the plant’s many properties. He set out to find ginseng in the forests of Canada. With the help of Mohawk Indians, he located a similar species used by the Indians called, Garantoquen. The name means “man thighs” a label similar to the literal Chinese translation “man-root.” Father Lafitau officially recorded the plant’s existence in North America in 1716 (Haller, 2000).

The widespread popularity of the plant, especially throughout Asian countries, has made it a major export of Appalachia’s mountainous communities since the early 1700s
(Foster, 1991). However, China’s high demand for ginseng roots was first satiated with Korean ginseng. In the third century, ginseng was one of the main exports of Korea. Although the plant grew in Manchuria and Siberia, Korean ginseng was especially prized for its medicinal properties. Soon, over-harvesting had all but wiped out the Korean wild populations. The Koreans cultured the plant and flooded Asian markets with cultivated ginseng. Until the discovery of ginseng in North America, The Korean government had a monopoly on ginseng plants (Young-Sik, 2003).

Shortly after ginseng was discovered in Canada, the French began to realize its value to Chinese herbalists. China’s populations of ginseng (*Panax ginseng*) were becoming scarce as a result of centuries of over-harvesting (Foster, 1995). The French, eager to cash in on the Asian market for American ginseng, hired local Native American Indian tribes to dig all the roots they could find in the Canadian region. They paid Native Americans 25 cents a pound for dried roots and then sold these roots to Oriental agents for $5 a pound. Fur trappers also dug ginseng as they roamed the forests in search of fur-bearing animals (Persons, 1986).

A ginseng trade war between Korea and North America began in the 1730s when roots from Canada and the American colonies began to inundate the Chinese markets. This quickly put an end to the centuries old Korean monopoly. Prior to the arrival of North American roots, Korean ginseng exports provided the country with as much as 3 tons of silver a year (Young-Sik, 2003).

Canadian trade with the Orient continued until 1752 when prices hit an all time high. Huge quantities of roots were harvested, regardless of their size or quality. The Chinese were very particular about the quality of the roots and rejected the poorer quality roots harvested during that time. After that season, the Asian demand for Canadian ginseng plummeted and
exports declined from $100,000 in 1752 to only $6500 in 1754. It should be noted at that point in time one U.S. dollar was worth about 25 U.S. dollars today (Young-Sik, 2003). During that time period, over-harvesting of plants in Canada affected wild populations, literally decimating them (Persons, 1986).

Although Canadian ginseng trade dramatically declined by the mid 1700s, the forests in Eastern America were still blanketed in understory plants, including ginseng. Colonialists in America soon realized the plants’ value and were ready to supply Asian markets. They either traded with local Native Americans for roots they had harvested from the Appalachian forests or dug the plants themselves (Pritts 1995). As early as 1757, ships loaded with ginseng traveled down the Hudson River in route for Amsterdam and London to their final destination, China. Demand for the roots increased and settlers ventured farther into the forests, eventually digging ginseng in the Ohio Valley. In 1787, John Mathews, a surveyor for the Ohio Land Company, described a “glut” of ginseng harvesting along the Muskingum River. Mathews wrote stories in his diary of men digging 40 to 60 pounds of the plant in one day (Pritts, 1995).

Left our camp at sunrise and moved about five miles to the west and encamped about a half mile to the east of the dividing ridge between the waters of Muskingum and Short Creek. Here we dug ginseng until Thursday, 27\textsuperscript{th}. It grew here in great abundance. Men accustomed to the work could dig forty to sixty pounds a day. The roots were generally very large. The biggest grow where the land is very rich and open to the sun. Many roots of ginseng of a medium size appear to be twenty to thirty years old, which is ascertained by the number of points, or scars, on the top of the root, every year producing one; but I found roots of a good size not more than three or four years old. From the fact of its being found the largest in open lands, I am led to think that cultivation would be friendly to it, and that a few years, with proper attention would bring it to maturity (Hardacre, 1968, p. 42).
As soon as the colonies began trading ginseng, the value of this plant was communicated rapidly through the region. This was especially so during the years of 1766 to 1774. It was during this time period that ginseng hunters roamed into the rich, unspoiled forests of Appalachia in search of the plants. Jellis Fonda carried out wide-ranging trade with the Iroquois at Forts Stanwix and Schuyler. He exchanged kettles, pots, guns, and rum for potash, pelts, and ginseng (Hardacre, 1968).

The ship, *The Empress of China*, left New York harbor on February 22, 1784 loaded with 30 tons of Appalachian ginseng, fifty tons of cordage, and thirty tons of lead. The ginseng was worth $240,000 at that time (Young-Sik, 2003). It was traded for fur, black and green tea, silk and porcelain (Ledes, 2005). Daniel Boone also harvested and exported this medicinal plant. In 1788, he gathered roots in an area now part of West Virginia and Kentucky. Just as he was about to ship out a barge load (12 tons) of ginseng, it sank in the Ohio River near the city of Point Pleasant, Ohio. Boone wasted no time recouping his loses and within the year had harvested enough roots to load another barge (Young-Sik, 2003; Taylor, 2006). John Aster of the American Fur Company similarly speculated in the ginseng market. A shipload of roots he sent to China netted him $55,000 [$1,375,000 dollars today] in silver coins and tea (Pritts, 1995; Young-Sik, 2003).

Historians disagree on the amounts of ginseng shipped to China between 1750 and 1900. Some say nearly 20 million pounds of dried Appalachian ginseng was shipped to Asian markets (Pritts, 1995), and from 1821 to 1899, 381,000 pounds was exported annually (US FW, 2002). However, an 1898 document reported that 417,500 pounds a year was shipped from 1860 to 1883 and from 1858 to 1896 China received a total of 13,324,009 pounds of ginseng from America (Nash, 1898).
Wheeling, West Virginia was one of several towns in Appalachia where ginseng was purchased and exported (Ginseng Trade: The Ginseng Root, 1886). There were two firms in the town, Horkheimer Brothers and S. Horkheimer and Son, both of which bought large amounts of ginseng. S. Horkheimer and Son was established in 1848 and claimed to be one of only two firms west of the Alleghenies with direct contacts to the Hong Kong markets. Most of West Virginia’s annual harvest, $65,000 worth of roots, was sold through these two companies. The annual amount of roots exported from the Appalachian region (West Virginia, Ohio, Western North Carolina, Eastern Tennessee, parts of Western Pennsylvania and Maryland) averaged 600,000 to 750,000 pounds. The average price paid to ginseng diggers at that time was $1.75 a pound, but there are accounts of large three-pound roots selling for $1500 in China. By that time, everyone in China, from the highest Mandarin to the lowest coolie, used the plant. Some dealers believed the best roots came from the West Virginia panhandle and counties in Ohio across the Ohio River (Ginseng Trade: The Ginseng Root, 1886) (See Figure 1).

During the late 1800s, the Oriental traders classified American ginseng as being fourth grade ginseng [of a lesser quality]. The prime ginseng roots were those grown under the protection of the Emperor. This ginseng was referred to as “Imperial ginseng” and sold for $40 to $200 a pound. Ginseng cultivated in Korea sold for $15 to $35 a pound and was considered to be second grade ginseng. Third grade ginseng, often called native ginseng, was grown in China near the Korean border and was often used to adulterate quantities of the more valuable ginseng, and sold for $1 to $10 a pound. American ginseng could fetch anywhere from $1 to $8 a pound depending on the amount of processing (cleaning) of the
roots. The least desirable ginseng came from Japan and was classified as fifth grade. It sold for $1 to $10 a pound (Nash, 1898).

A letter from Samuel Well of Cincinnati, Ohio disclosed ginseng prices from 1889 to 1896. These prices ranged from a low of $3.06 to a high of $3.40 a pound. At that time, New York, Vermont, and Canadian ginseng roots were commanding the highest prices ($4.75/lb.) and Georgia and Alabama roots the lowest ($3.25/lb.) (Nash, 1898).

The U.S. Commerce issued a report containing the prices and amounts of ginseng sold during some of the years between 1822 and 1965. No ginseng was exported during 1942 to 1945 because of the war. Information for some of the years has been omitted but enough information is contained in the following charts to reveal that wild ginseng prices steadily increased while quantities exported varied somewhat during that time period (see Table 5 and Table 6).
Table 5.

*U.S. Exports of Domestic Ginseng, 1821 to 1899*

<table>
<thead>
<tr>
<th></th>
<th>1821</th>
<th>1830</th>
<th>1840</th>
<th>1850</th>
<th>1860</th>
<th>1870</th>
<th>1880</th>
<th>1890</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pounds</td>
<td>3,871,765</td>
<td>3,192,375</td>
<td>3,915,129</td>
<td>1,999,999</td>
<td>4,149,445</td>
<td>4,041,727</td>
<td>6,771,830</td>
<td>2,163,302</td>
<td>30,105,572</td>
</tr>
<tr>
<td>Metric Tons</td>
<td>1,756</td>
<td>1,448</td>
<td>1,776</td>
<td>907</td>
<td>1,882</td>
<td>1,833</td>
<td>3,071</td>
<td>981</td>
<td>13,654</td>
</tr>
<tr>
<td>Average Value per Pound</td>
<td>$0.37</td>
<td>$0.35</td>
<td>$0.42</td>
<td>$0.49</td>
<td>$0.94</td>
<td>$1.12</td>
<td>$0.51</td>
<td>$3.53</td>
<td>$0.97 (Ave.)</td>
</tr>
<tr>
<td>Value</td>
<td>$1,432,524</td>
<td>$1,108,010</td>
<td>$1,637,340</td>
<td>$978,462</td>
<td>$3,902,218</td>
<td>$4,537,008</td>
<td>$3,457,294</td>
<td>$7,639,859</td>
<td>$24,692,715</td>
</tr>
</tbody>
</table>

*Note.* Raw data from US Treasury Department, Statistics Bureau, Foreign Commerce and Navigation, Annual Reports 1821 to 1899.

*Note.* Quantities include primarily wild ginseng, cultivation of ginseng had not begun until the late 1880s.

Table 6.

*U.S. Exports of Domestic Ginseng (Wild and Cultivated), 1900 to 1983*

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Pounds</td>
<td>1,513,558</td>
<td>2,073,442</td>
<td>1,765,722</td>
<td>2,020,558</td>
<td>902,234</td>
<td>1,075,620</td>
<td>1,443,074</td>
<td>2,710,106</td>
<td>2,638,882</td>
<td>16,143,196</td>
</tr>
<tr>
<td>Metric Tons</td>
<td>686</td>
<td>940</td>
<td>801</td>
<td>916</td>
<td>409</td>
<td>488</td>
<td>654</td>
<td>1,229</td>
<td>1,197</td>
<td>7,322</td>
</tr>
<tr>
<td>Average Value per Pound</td>
<td>$6.33</td>
<td>$7.77</td>
<td>$12.61</td>
<td>$5.44</td>
<td>$9.83</td>
<td>$16.88</td>
<td>$24.47</td>
<td>$53.85</td>
<td>$62.47</td>
<td>$22.18 (Ave.)</td>
</tr>
<tr>
<td>Value</td>
<td>$9,580,614</td>
<td>$16,105,075</td>
<td>$22,261,180</td>
<td>$10,990,818</td>
<td>$8,866,943</td>
<td>$18,159,989</td>
<td>$35,306,663</td>
<td>$145,945,068</td>
<td>$164,844,879</td>
<td>$267,216,350</td>
</tr>
</tbody>
</table>

*Note.* Raw data from US Treasury Department, Statistics Bureau, Foreign Commerce and Navigation, Annual Reports 1900 to 1983.

*Note.* Quantities include wild ginseng and cultivated ginseng.
Those close to the ginseng community were beginning to become worried about the quantity of wild harvested ginseng as early as mid 1800s. This was due to the widespread deforestation by unfettered lumbering as well as unsustainable collection of ginseng roots.

A.R. Harding depicted it by writing,

It has been supposed that different localities gave a better quality of ginseng than others. The fur dealers, in their price list usually quote, especially the wild root, a higher price from the northern states than they do from the southern states. The cause of this difference in price is not the real quality of the root but the manner of gathering and handling. In the south it has been the practice of ginseng hunters to dig and dry everything. In the north only the larger roots have been dug. This makes all the difference there is. In the south, most of the wild root is gathered by poor ignorant people and their methods are not the best (Harding, 1936, p. 40).

This paragraph demonstrates that poor people in the southern Appalachian region had already become reliant on the plant and poverty played a major role in their haphazard and often destructive collection practices. In some cases they did not dry the herb properly and this resulted in a decrease in the prices received for the roots.

He goes on to write,

The plant is well known to all mountain lasses and lads and few are the mountain cabins that have no ginseng in them waiting or in preparation for market. The fall is the proper time to gather this root and in the north that is about the only time it is gathered but in the south, it is dug whenever found, as the hunting of seng is a business there, if the finder does not gather it as soon as found, some other digger is sure to save him the trouble (Harding, 1936, p.43).

This quote is evidence that even as early as the 1930s, ginseng was harvested primarily for commercial gain. The roots were valuable enough for gatherers to dig them regardless of the season or location. Val Hardacre described the destruction of the forests and the prime habitat for ginseng in this way,

The period following the Civil War was the age of the despoilers. Never was there so much wanton destruction of wildlife and natural resources. It was the era of the
lumber barons, of the buffalo hide hunters, and the wildfowl market hunter. The western fringe of the once omnipotent forestland had been reached. Beyond lay the vast windswept plains; and the last of the natural spreads of wild ginseng were being dug out. The Cornells, Sages, and Ryersons accumulated great holdings in timberlands, mostly by buying homestead script from Union soldiers. In one year, lumbermen dragged 93 million feet of lumber from our hardwood forests, not counting that used for fuel, fenceposts, railroad crossties, etc. This headlong rush of destruction went on unabated. It seemed that there was no end to the wealth and resources that provident nature had lavished upon this fair land. In their mad scramble for profits, these lumbermen left an immense, wretched, cutover forested area surrounded by many ghost towns. Since the last decade of the nineteenth century, the amount of wild ginseng for export had been dropped alarmingly, and the price has risen to a high level. The forests have been gutted to the point at which they could no longer supply the demand for wild ginseng in China (Hardacre, 1968, p. 45).

Figure 1. Pile of ginseng roots.

Ginseng harvesting continued through the 1800s, with records suggesting that up to twenty million pounds of dried wild ginseng roots were exported from the United States from the end of the Revolutionary War to 1900. This is equivalent to more than sixty million
pounds of green ginseng being dug from the Appalachian forest in 120 years. The heavy harvesting of ginseng eventually caused the plant to become scarce in many places within its natural range (Pritts, 1995). After it was observed that the Chinese would accept the entire quantity of ginseng that North America could export, conservation of wild populations became an issue. The ginseng community decided to protect wild populations by enlisting two practices: cultivation and legislation (Nash, 1898).

Cultivated Ginseng in Appalachia

Given the decline of wild ginseng populations caused by over-harvesting and deforestation in mid 1800s, farmers in Appalachia decided to try their hand at cultivating this woodland plant. Several people attempted to cultivate the root but most failed to provide enough shade for the plant to grow and diseases eventually killed the roots. Heavy logging had nearly destroyed all the old growth forests in West Virginia (Lewis, 1998) and shade was difficult to locate. Wooden lattice covers were built to replace the natural shade provided by mature forests. Abraham Whisman of Boones Path, Virginia first attempted this ginseng cultivation technique in the United States in the 1870s (Foster, 1991).

Around 1885, George Stanton, a tinsmith by trade and owner of several patents, started the George Stanton Chinese Ginseng Farm (Pritts, 1995). In 1890, Stanton propagated ginseng in Onondaga County, New York and was the first known American to successfully export cultivated ginseng. His revelations as to the value of a few “square rods of ground” planted in ginseng so amazed locals that ginseng’s reputation as “green gold” spread throughout the region. He also adopted the use of artificial shade and enlisted lathe arbors to
shade his plants. Using this open-field cultivation technique, ginseng could be grown even in towns and villages (Hardacre, 1968). Ginseng became his life’s work and he succeeded in cultivating the plant into a profitable enterprise. By the time of his death in 1908, Stanton was given the title of “Father of the Ginseng Industry” (Pritts, 1995).

Ginseng associations had begun to appear in many states in the early 1900s. By 1913, Michigan, Wisconsin, and Ohio had the most active and largest memberships. An outbreak of plant diseases caused many of the New York growers to quit the business. Minnesota had an organization that drew members from Iowa, while Indiana and Illinois growers were divided between Michigan and Wisconsin’s organization. Ohio had so many growers that it held two meetings, its winter meeting at the Wooster Agricultural Station and its summer meeting at Chardon, Ohio (Hardacre, 1968).

Ginseng exports stalled during WWI because of port blockades, German submarine raids on ships, and tight financial conditions. Ginseng trade remained low although the National Ginseng Organization was established during 1917. By the spring of 1918, the war took a turn for the better for the U.S. and allies. Shipping restrictions were lifted and prices for the roots began to increase. It is estimated that by 1929, American growers cultivated four hundred and thirty-four acres of ginseng (Hardacre, 1968).

During the Depression period (1929-1934) it was reported that 68 dried tons of ginseng were cultivated annually, but many of the ginseng farms fell into ruin during the 1930s and 1940s (Court, 1967). Ginseng cultivation was not a rags to riches endeavor. Pests or poachers could wipe out an entire crop, often six years of work in a few days. In addition, wars had an effect on ginseng trade. During WWII, most of the ginseng growers east of
Wisconsin (New York, Ohio, and Pennsylvania) went out of business when the Japanese occupied China’s coastline and stopped all ginseng exports to the mainland. A few Wisconsin growers remained in business and became the main producers of cultivated ginseng today. Approximately 99% of all cultivated ginseng exported from the United States originates in Wisconsin (Pritts, 1995).

Cultivated ginseng plants are grown under artificial shade similar to the earlier gardens, but now, these plants are also treated with fertilizers and pesticides. While this technique results in a quick growing root (about 3 years to harvest vs. wild which takes at least 5 years), the roots differ from wild roots. They are fat, fleshy, smooth, white tubers, and are purchased at much lower prices than their slender, twisted, tan colored wild counterparts. It can take five to ten years before wild roots are mature enough to harvest and sell. The older the roots, the more valuable they are on the Asian market. In 1993, wild ginseng was exported at a price of about 350 dollars a pound, whereas field cultivated ginseng sold for about 56 dollars a pound (Persons, 1986). Ginseng sold for 450 dollars a pound in 2006 but the price increased to 1250 dollars a pound by 2007 (C. Carroll, personal communication, April 25, 2008) (see Table 7).

Herbalists and consumers from China believe ginseng grown under the forest canopy is of superior quality and will pay extremely high prices to acquire these roots. The survival of this plant is profoundly dependent on both the people and the mesophytic forests of the region (Ayers, Hager, & Little, 1998). It seems essential that these forests, found in temperate climates located in China, Appalachia, and Korea, be preserved and used to cultivate these plants. For thousands of years, mesophytic forests and ginseng have evolved
together. While the relationship has up to this point been one-sided, with ginseng being
totally dependent on the forest canopy, the relationship may soon become symbiotic with
forest preservation being dependent on ginseng cultivation.

Table 7.
Brief Timeline of Ginseng

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1700</td>
<td>China’s ginseng populations become scarce</td>
</tr>
<tr>
<td>1709</td>
<td>Ginseng discovered in North America</td>
</tr>
<tr>
<td>1757</td>
<td>Ships export ginseng down Hudson River</td>
</tr>
<tr>
<td>1822</td>
<td>Ginseng sold for 42 cents a pound</td>
</tr>
<tr>
<td>1842</td>
<td>Ginseng’s medical uses appear in U.S. Pharmacopoeia</td>
</tr>
<tr>
<td>1872</td>
<td>First attempt at cultivation; first laws to stop poaching in West Virginia</td>
</tr>
<tr>
<td>1975</td>
<td>Placed on Appendix II of CITES</td>
</tr>
<tr>
<td>2006</td>
<td>Ginseng sold for $450-500/pound</td>
</tr>
<tr>
<td>2007</td>
<td>Ginseng sold for $1250/pound</td>
</tr>
</tbody>
</table>

Ginseng into the 21st Century

In the early 20th century, ginseng was used primarily by Chinese communities
scattered around the world and was rarely found in pharmacies or pharmaceutical textbooks
(Court, 1967). Only one company, the Herb Products Company of North Hollywood,
California made ginseng products. Most of these were purchased and used by Asians living
throughout the Western United States. However, President Richard Nixon’s 1972 trip to the
People’s Republic of China and his open door policy changed the perceptions of medicinal
plants in the United States. New interests in Chinese culture including the mysterious plant
called ginseng were generated throughout the country (Higby, 2002).
The development of sophisticated analytical equipment such as chromatography, UV and infrared spectrometry, and gas chromatography mass spectrometry (GCMS), helped reveal the chemical components of the plant (Court, 1967). Unlike many other plants used in medicinal preparations, ginseng does not contain alkaloids. It is primarily composed of carbohydrates, starches, cellulose, and free sugars. It is similar in composition to a carrot root and contains a compound called panaxynol. This chemical is very much like carotatoxin, a chemical found in carrot roots. Ginseng contains saponins, substances that are believed to have some pharmacological effects. These saponins are now referred to as ginsenosides and labeled as Ra, Rb, Rc, and so on. As of 1999, 34 different ginsenosides had been isolated in Panax ginseng. While most scientific research has focused on the ginsenosides, other substances in the plant have been found to have biological activity and are being tested for use in cancer treatments (Dharmananda, 2002).

Clinical research shows that ginseng can strengthen the immune system and is a useful tonic for the elderly and sick. It has been used to improve memory and as an anti-stress agent. Recent studies illustrate its ability to scavenge free radicals, agents known to cause aging and cancer (Court, 1967). Today, at least 30 different manufacturers produce over 75 different ginseng products nationally (Higby, 2002).

Summary

Appalachians have a long history of resilience and connection to the landscape, adapting to the often-harsh conditions of the mountains and embracing the Native American
traditional use of the mountain ecosystem for their livelihood. As early as the 1700s, they learned to use many of the region’s medicinal plants including ginseng.

Ginseng trade has helped shape the region’s culture and economy. In the late 1700s, residents quickly established a significant trade chain with Asia and exported tremendous amounts of ginseng. These exports were often crucial to local economies and families and remain so today. When habitats were negatively affected by severe logging and wild ginseng populations declined, residents experimented with cultivation techniques to meet the Asian demand for the root. The local inhabitants have stewarded this resource, both wild and domesticated ginseng, for well over a century.

Ginseng trade and commerce continues today in much the same venues as it did years ago. Both species of ginseng, *Panax ginseng* and *Panax quinquefolius*, remain threatened by over-harvesting. Although attempts, such as the creation of ginseng laws in the late 1800s, have proved ineffective, policymakers today continue to generate international and federal rules to control ginseng harvests. Given the economic, cultural, and medical value of this plant, ginseng remains an important bridge between two continents.
CHAPTER 5
HISTORY OF LAND OWNERSHIP, LAND USE, AND
THE DEVELOPMENT OF GAME LAWS

Regional economic divisions have occurred in Appalachia because wealth and power are unevenly distributed between local elites and poor residents (Gaventa, 1980). Additionally, land ownership and land use differ dramatically between these two groups resulting in the marginalization of the local residents and the destruction of ecosystems through extractive processes. Absentee landowners such as timber and coal corporations and state and federal governments began to acquire land that was once used for agriculture, traditional game hunting, and ginseng gathering (Appalachian Land Ownership Task Force, 1983). Campaigning for various laws and policies, some of these landowners started to manipulate land ownership and land uses while gaining control over social and political processes as early as the mid 1700s (Gaventa, 1998; Rasmussen, 1994; Eller, 1982).

In his 1991 study of the creation of deviant subcultures, specifically, the hunter/poaching subculture in North America, Brymer says,

All of these groups have been squeezed off the land and now work at the mercy of the industries of the post-industrial state. Nevertheless, they retain identification with the values of a long-gone pre-industrial era that focuses on using land in a communal sense rather than owning it as a commodity. In their traditional hunting practices, rural poachers are doing roughly the same thing that their forefathers did, though some of their activities are now illegal. They have become more or less instant and voluntary deviants (Brymer, 1991, p.184).

Studies of wildlife poaching in other parts of the country show poaching frequently takes place when economic conditions are tough. Subsistence poaching (poaching to obtain
food) also increases during economic downturns (Hampshire, Bell, Wallace, & Stepukonis, 2004; Musgrave, Parker, & Wolok, 1993; Forsyth & Marckese, 1993). Bailey (1999) details the economic dependence that rural communities have on non-timber forest products in his doctoral research of social and economic impacts of wild harvested products in West Virginia. The region’s residents have come to believe the local resources are common property and are there for everyone to use.

Bryant (1990) illustrates that poachers feel a right, an entitlement, to hunt as they choose without any regulations. He explains, “there has been a traditional tendency for many rural dwellers to view natural resources such as water, grass, timber, wild game, and seafood as essentially free for the taking, and to resist attempts to regulate or prohibit the harvesting of such resources” (p.582).

This chapter will explore the effects that land ownership, the transition of land uses, and game laws have had on the Appalachian region. It will also construct a framework that will be used to analyze the influence of these topics on the practice of poaching.

Acquisition of Land

Scotch-Irish settlers were one of the first groups to settle into the mountainous Appalachian region. Their arrival in North American was a turbulent one. As a group of people, they were use to conflict and intolerance on both continents. From 1400-1600, British soldiers tried to control the Scottish lowlanders and repeatedly invaded their farms. These conflicts forged the local farm communities into resistant groups. In 1610, King James I wanted to alleviate the conflicts and gave Scottish lowlanders farmland in Northern Ireland.
However, the Irish were not fond of the Scottish settlers and fighting continued for the next 100 years. After extensive crop failures, these Scotch-Irish farmers, now a blend of Scottish and Irish ancestry, headed to North America and the promise of prosperity (Huntly, 2007).

About a quarter million Scotch-Irish immigrants arrived in ports along the coast of North America. The English, Dutch, and German settlers saw them as rough-edged, conflict-loving hooligans and shunned them. They struck out for the backcountry around 1754 but soon entered into conflicts with Iroquois and Cherokee tribes, who were resentful of the new settlers’ quest for land (Huntly, 2007).

Unlike the first European settlers who came primarily out of a need to escape religious and political turmoil, the second group of immigrants came to claim land to support their simple way of life (Drake, 2001). These sturdy people were often so poor they could not even afford passage across the Atlantic and worked as indentured servants to pay back their fare. In Europe, these groups found themselves living in regions and political states where land fell into the hands of nobility or the rich. These landless poor placed a high value on land ownership, not for the commercial wealth it provided, but for what it afforded in the way of maintaining a strong, self-sufficient family unit (Drake, 2001).

British colonists, both the landless colonists and the ones who had claimed land beyond the mountains, were also trying to obtain as much terrain in Appalachia as possible. As early as the 1700’s, land acquisition rules or policies were determined by individual colonies and were often morally and legally questionable. Lands could be awarded by the British Crown, by colonial governors, in exchange for military service, by agreements to
improve the land, through battles with Native Americans, or secured through the headright system (Drake, 2001; Davis, 2000; Rasmussen, 1994). The latter allowed a modest acreage (about 50 acres) to be acquired free of charge by the head of the family who settled in the region (Drake, 2001).

Ignoring the indigenous inhabitants, Virginia chartered the Loyal Land Company to secure land around Kentucky, and the Ohio Land Company to acquire land around the forks of the Ohio River and the New River Gorge in West Virginia (Williams, 2002). The French and Indians were effectively removed from the region south of the Ohio River after the French and Indian War (1754-1763) (Drake, 2001). The end of the American Revolution saw the colonialists claiming over 60,000 square miles of Cherokee Nation land (Davis, 2000).

In the late 1760s, a group of people formed an organization called the “suffering traders.” These people, mainly from Pennsylvania, had no colonial lands so they bought Iroquois land in the Kanawha Valley and called it the Vandalia Project. The idea was to create a trans-Appalachian colony in the area that is now West Virginia. Powerful people backed up this plan including Thomas Walpole, an influential banker; Lord Dartmouth, the Secretary of State in London; and the Queen herself. The land claim was a tract of land 2,862 square miles located south of the Ohio River between the Kanawha and the Monongahela Rivers. After the Treaty of Fort Stanwix in 1768, all Indian claims to the land were dissolved and the proposed colony was enlarged to include portions of what is now Eastern Kentucky (Drake, 2001).

The outbreak of the Revolutionary War and opposition from rival interest groups prevented the Vandalia colony from ever becoming real, but some settlers had another idea
for a new colony. During the war, they petitioned the American Continental Congress to recognize a new province to be known as Westsylvania. This province had the same approximate borders as Vandalia. Virginia and Pennsylvania, however, claimed the region and blocked recognition of a new state (Abernathy, 1937).

There were other ways to acquire land that were on the periphery of legally recognized methods of land allocation. Squatters often took advantage of lands belonging to absentee landowners and inhabited them at will (Drake, 2001). The name “tenants of the log cabin” was a term used to describe squatters in Kentucky in the late 1700s. Most Kentuckians were landless living in the midst of huge tracts of absentee landowners’ properties. Kentucky passed occupancy laws that helped protect squatters who had lived on improved lands for seven years. Although heavily contested in the court systems, these early laws eventually led to the Homestead Law (Gates, 1962). The original Homestead Act of 1862 allowed each settler access to 160 acres of land to be used and improved (usually through farming) as he saw fit.

Ohio employed a unique technique to distribute land: a lottery structure. Land was awarded using a system similar to a type of state lottery and provided free land to any resident. The same system was not used in West Virginia where even in the pre-industrial era (late 1700s), 93% of residents living in what is now West Virginia were landless (Williams, 2002).

The hillbilly stereotype was used to justify the widespread commandeering of mountain resources during the late 19th and early 20th centuries. Visitors to the region such as tourists and land speculators viewed the mountaineers as “quaint and primitive” and told
tales of a resource rich region unappreciated by the backward people who inhabited the area. Often, this hillbilly culture became the justification for exploiting the people and their resources, including acquisition of mountain land by outsiders (Eller, 1982).

Between 1880 and 1920, representatives of large land companies roamed the hillsides of Pennsylvania, Ohio, West Virginia, Virginia, Tennessee, and Kentucky buying mineral ownership from landowners. At that time, their offers of 25 to 30 cents an acre for minerals under the ground was a lot of money to poor mountain folk. The coal remained intact for decades until a new process of mining, strip mining, afforded mine operators a method (cheaper than deep mining) to access surface coal (Kentuckians for the Commonwealth, 1991).

Kentucky landowners faced another major problem in the guise of Broad Form Deeds. Most state courts interpreted Broad Form Deeds as giving rights to access minerals only, not rights to disturb the surface land. However, Kentucky’s courts differed and interpreted the deeds as allowing the mineral owners the right to extract minerals through any process the owner desired (Kentuckians for the Commonwealth, 1991). Absentee owners have been blamed for using the region much like a mineral colony for the capitalist expansion of the country (Gaventa, 1980; Fisher, 1979).

Along with differences in land acquisition procedures between states, issues arose from incomplete or haphazard surveying. Crudely marked land boundaries were common during surveying and titles were often incorrectly recorded, if recorded at all (Drake, 2001). The Continental Congress passed the Land Ordinance of 1785 to control survey, sale, and settling of new lands and abandoned the utilization of the Metes and Bounds Survey System.
This system was imported from England and used by the original colonies in America as well as the states of West Virginia and Kentucky. It relied on a written description of the major landmarks that often included items such as large trees and boulders. The system used metes, measured distances and directions, to locate property lines and perimeters. Instead, the ordinance designated that a new system, the Rectangular Survey System, also know as the Government Survey System be used. This method employs a series of intersecting lines to designate parcels of land. However, Kentucky and West Virginia did not adopt this system and only some parts of Ohio used it (White, 1983). The inability to obtain correct surveys and clear titles, as well as inconsistencies of land taxation state to state, eventually lead to some residents being forced off their land, while others lost their timber and coal rights during the industrial transition of the late 1800s (Williams, 2002).

Land Ownership in Modern Appalachia

Landlessness among the poorer rural residents continues to be a major issue in the region, especially in Kentucky and West Virginia. A 1975 investigation by a Huntington Herald Dispatch journalist, Tom Miller, revealed that absentee landowners, such as fuel companies, transportation companies, and timber companies, control more than two-thirds of non-public land in West Virginia. He also found that absentee landowners own at least half the land in 50 percent of West Virginia counties. Of the 15 million acres of land that make up the hills and valleys of West Virginia, corporate and private interests own 12 million acres. Of these, two-dozen out-of-state companies all tied directly or indirectly to mineral
industries, own a third of the 12 million acres (Miller, Baisden, Kaplan, Bernard, & Altizer, 1974).

From 1790 to today, little land is available for poorer residents in West Virginia. By 1810, 93% of the land was controlled by absentee owners and managed by local land speculators and lawyers. About 63% of all households were landless in 1810 (Lewis, 1998). Today, West Virginia contains about 11,000,000 acres of forest (about 80% of the land) (Ward, 1996).

A study done in Kentucky in 1969 by Richard Kirby showed that about thirty-one people and corporations owned four-fifths of East Kentucky’s coal (Appalachian Land Ownership Task Force, 1983). In 1630, approximately 90% of the land in Kentucky was forested. By 1907, only 50% of Kentucky was forested and that figure remains constant today with 49.9% of the state being forested (Conners, 2003). Data about the specific size of land tracts owned by corporate and private entities today is not available but the percentage of land ownership is divided as indicated by Figure 3.

About 95% of land in Ohio was forested in the 1600s; today, only 30% of Ohio is forested. Most of those forests, about 7.2 million acres, are owned by private landowners. Land ownership is shown in Figure 4. Table 9 illustrates that there are numerous owners of small tracts of land in Ohio’s forests. Approximately 38,000 landowners control 50% of Ohio’s forested land (4 million acres). The overall average size of a tract of land in Ohio is 22 acres (Ohio State University, 2006).

In Ohio, a study of land use and ownership showed farmland ownership changed dramatically during the years between 1900 and 1970. A decline of almost 57% in local land
ownership (land used for farming) occurred. Land was transferred from local ownership to absentee owners who use it for recreational purposes and as a result pay less tax on that land (OSU, 2006).

Figure 2. Forest ownership by category in West Virginia. From The Forest-Land Owners of West Virginia, T Birch and N. Kingsley, 1978. Forest Service Resource Bulletin NE-58, Forest Service, USDA Northeastern Forest Experiment Station.

Figures 2, 3, and 4 demonstrate how much land corporate interests in West Virginia control, 23%, as compared to Ohio and Kentucky, both 11%. The most recent data available for the number of acres of forest owned by size of tracts and number of owners in West Virginia and Ohio are given in Tables 8 and 9. Recent data for land ownership by size of tracts and owners in Kentucky was unavailable.
Figure 3. Forest ownership by category in Kentucky. From Forest Inventory and Analysis Fact Sheet Kentucky, 2004. U.S. Forest Service, USDA and Kentucky Forest Fact Sheet, University of Kentucky College of Agriculture, Thomas, Stringer, Conners, Hill, and Barnes.

Figure 4. Forest ownership by category in Ohio. From Forests of Ohio: Who Owns the Land. Ohio State University, 2006.
Table 8.
Ownership of West Virginia Forests by Size of Land Tracts and Number of Owners

<table>
<thead>
<tr>
<th>Acres Owned</th>
<th>Number of Owners</th>
<th>Total Acres (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 to 500&lt;sup&gt;a&lt;/sup&gt;</td>
<td>244,800</td>
<td>2750000 (26%)</td>
</tr>
<tr>
<td>500 to 1000&lt;sup&gt;b&lt;/sup&gt;</td>
<td>1,500</td>
<td>3,800,000 (36%)</td>
</tr>
<tr>
<td>1000+&lt;sup&gt;c&lt;/sup&gt;</td>
<td>200</td>
<td>4,300,000 (38%)</td>
</tr>
</tbody>
</table>

<sup>a</sup> These numbers represent primarily individual owners.
<sup>b</sup> These numbers represent individual and corporate owners.
<sup>c</sup> These numbers represent corporate owners.


Table 9.
Ownership of Ohio Forests by Size of Land Tracts and Number of Owners

<table>
<thead>
<tr>
<th>Acres Owned</th>
<th>Number of Owners</th>
<th>Total Acres (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 to 500</td>
<td>328,700</td>
<td>7,450,000 (89%)</td>
</tr>
<tr>
<td>500 to 1,000</td>
<td>300</td>
<td>170,000 (2%)</td>
</tr>
<tr>
<td>1,000 +</td>
<td>200</td>
<td>570,000 (8%)</td>
</tr>
</tbody>
</table>


Land Use Changes

While a local agrarian economy dominated Appalachia through the middle of the 19th century, after the Civil War, absentee landowners transformed land use policies. They gained control over huge tracts of land, directed labor and lifestyles, and degraded the surrounding ecosystems (Salstrom, 1984). Much of the environmental destruction of the past one hundred years has been blamed on absentee landownership (Davis, 2000).

Before the arrival of the Europeans, Native Americans thrived in and dominated Appalachia. They treated the land as a common resource absent of fences or title deeds and available to everyone. Dependent upon the mountain environment for their survival, they
collected spring herbs, berries, acorns, chestnuts, and walnuts from the forest understory. The men found ample game in the forests and used wildlife for food as well as clothing. Women took advantage of the fertile forest soil growing corn, melons, and beans (Davis, 2000).

Native Americans did not live on the land without evoking some alterations. Even though most of southeastern Ohio was forested at the onset of the Euro-American settlement (ca. 1800), written accounts describe areas with level land and large open, often park-like areas. This type of landscape suggests the use of fire as a land management tool. Joseph Barker [1790] described burning near Marietta, Ohio. “The Indians, by burning the woods every year, kept down the undergrowth and made good pasture for the deer and good hunting for himself” (Hutchinson, Rubino, McCarthy, & Sutherland, 2003, p. 19).

Between 1775 and 1835, many settlers in Appalachia took to farming the hilly regions. Described as being part stockman, part farmer, and part hunter, they moved into areas of Ohio, West Virginia, and Kentucky from regions in Virginia and Pennsylvania. During the time period around 1860, 90% of West Virginia residents were engaged in agriculture (Lewis, 1998).

Euro-American settlers arrived in Ohio around 1805. They began clearing the land for farming. By 1850, 20-39% of the forests in Ohio’s southern counties of Vinton and Lawrence had been cleared. Settlers allowed their cattle and pigs to run freely through the woods to graze. They also used fire to encourage the growth of grasses for livestock (Hutchinson, Rubino, McCarthy, & Sutherland, 2003).
Farming declined after the Civil War, but was still the main source of livelihood until after 1880. “Traditional patterns of subsistence farming continued supplemented by the barter and sale of corn, livestock and forest products such as ginseng” (Yarnell, 1998, p.17). Appalachia’s agricultural production was affected when outsiders purchased large quantities of potential farmland from poor farmers. Consequently, in the mid 1800s, many farmers abandoned what was left of dwindling farm acreages seeking work in lumber mills and coal mines (Salstrom, 1994).

These outsiders did not share the connections to the land as did the original inhabitants or the early subsistence farmers. Unlike absentee landowners, the settlers living in the Appalachian Mountains desired to own land and build homes and communities on that land (Eller, 1979). Much like their Native American predecessors, these people became closely tied to the forests for their livelihoods. They learned how to use the native plants for food, medicine, and dyes. Mountain farmers were content with their simple lifestyles (Davis, 2000).

Land owned by absentee owners was often forgotten; it was but a far away, inaccessible hillside parcel. In the mid 1800s, railroad construction allowed access to timber and coal (Lewis, 1998) just as the industrial revolution was creating a market for Central Appalachia’s resources and workers (Eller, 1982). Absentee landowners supplied raw materials to fuel the industrial revolution and extracted timber and coal from their once forgotten mountain parcels. Railroads sustained the boom, allowing access to once isolated forests (Lewis, 1998).
Squatters and others who felt they had a right to farm this forgotten land were now legally or physically removed. Absentee owners mined or logged the property, generating capital for themselves, not for the local economy or communities. Even as land taxes on mine lands and forested lands remained low, local farmers struggled to pay the high taxes on the agricultural land deemed more valuable. Soon, farms folded. Farm workers turned to the railroads and coal mines for jobs (Davis, 2000).

Coal mines and railroads needed workers and wood (Davis, 2000). Timber was used for building thousands of barges, which transported salt down the Kanawha and Ohio Rivers. Wood was also needed for making staves, headings, and railroad ties (Clarkson, 1964).

The paper and pulp industry claimed enormous tracts of forests. No forest policy existed in those days and loggers “cut clean and cleared out” huge tracts of land (Lewis, 1998, p.265). Dried foliage left from old growth logging operations fed fires started by railroad sparks. Approximately one-tenth of the state of West Virginia burned by 1910 (Lewis, 1998). Between 1870 and 1920, 30 billion board feet of lumber had been taken from West Virginia. “this amount of lumber would build a boardwalk 127 feet wide and 2 inches thick around the earth at the equator or would make a walkway 13 feet wide and 2 inches thick the average distance to the moon” (Clarkson, 1964, p.38).

The primary cause for the deforestation of land in Southeastern Ohio and Northeastern Kentucky was the charcoal iron industry (Anderson, 2006). Supplies of limestone, ore, and timber made the use of iron forges possible throughout the region. Seven to ten thousand acres of wood were required for one blast furnace to operate for a single year (Davis, 2000). In 1875, there were 69 iron furnaces in the Hanging Rock Iron District of
Ohio and Kentucky and by 1884, 90% of available timber in the Southern Ohio iron region had been cut. This depletion, along with the discovery of richer iron ore near Lake Superior, signaled the end of the iron industry in Southern Ohio and Northern Kentucky (Hutchinson, Rubino, McCarthy, & Sutherland, 2003).

Both the land and people were devastated as huge acres of forest were clear cut or burned. Harry Caudill’s book, *Night Comes to the Cumberlands*, described it in this way, “the trees that shaded him were no longer his property….. he was little more than a trespasser upon the soil” (p.258 ). Soon a way of life vanished on the railroad log cars or beneath giant coal draglines (Weidensaul, 1994). Between 1890 and 1930, 200 saw-mills operated in West Virginia’s forests. Once the outside logging companies exploited all that could be harvested from the area, they closed. The devastation they created was widespread. Soil erosion depleted the remaining agricultural land and polluted the mountain streams. By 1930, soil erosion affected 90 percent of West Virginia’s land surface (Lewis, 1998).

Within a few decades, the virgin forests of Appalachia were mined, logged, eroded, and burned away (Clarkson, 1964). Gone were forests so vast that at one time it was inconceivable that they could ever be “conquered” (Lewis, 1998). Once the forests had been logged, between 1880 and 1920, absentee landowners of West Virginia abandoned the eroding land at an alarming rate. As the forests fell, the woodland areas, places where farmers previously grazed cattle and pigs on the vast supplies of nut tree masts and nurtured mountain cultures, were gone (Davis, 2000).

After peaking in the 1920s (Davis, 2000), the logging boom ended and mining replaced timbering as the next type of extractive industry to exploit the area. Just as they
opened up the virgin forests to timbering operations, railroads also allowed access to coal deposits. The Chesapeake and Ohio Railroads crossed into Huntington, West Virginia in 1873 and carried coal from the bituminous coal fields of New River and Kanawha. The Norfolk and Western Railroads transported coal from Pocahontas mines (Yarnell, 1998). Coal was and continues to be “king” in many regions of Appalachia. From the 1930’s to the present, outside corporations control most of the coal reserves in Kentucky, West Virginia, Virginia, Ohio, and Tennessee (Fisher, 1979).

Commons

In recent years, property in the United States has been viewed as either being private property or state property. The idea of a commons in America’s property literature is virtually non-existent (Jacobs, 1998). However, Appalachian settlers viewed and used the forest as the commons. These commons provided items such as game, medicinal plants, farmland, and fuel. Cattle were turned loose to graze in the forested areas (Williams, 2002). Ginseng became part of the forest commons’ resources (Hufford, 2002). Today, the belief in a commons remains, although local access to the physical commons has become increasingly difficult. Resources once thought of as ‘common pool’ resources are often off-limits to most local residents.

The idea of the commons, unlike property ownership, is not a term implying legal and social implications. It is not a human construct but rather more of a condition that exists prior to and is superior to land ownership. The word commons in old English laws referred to land used by the commoners and designated land held separately from land used by
nobility. The term is derived from the Latin word communis meaning shared by all (Fritsch, 1997).

Towns and counties held public lands for citizens’ uses. Later on, states preserved land for parades, gatherings, recreation, and fairs. The Boston Commons and other common areas in New England were used during the American Revolution to muster troops and drill soldiers. After the war, more land was reserved for such uses, especially for defense from foreign invaders and conciliation of Native Americans (Fritsch, 1997).

An unknown person gave this response to Sir Charles Pratt, the Attorney General of King George III, in 1764 when Pratt supported the fencing of common lands.

The law doth punish man or woman
Who steals a tree from the common,
But the law doth set the felon free
Who steals the common from the tree

The law does deal both swift and harsh
Poaching duckling from the marsh
So why does the law set felon free
Who steals the marsh from duck and me? (Worth, 1978).

Local communities believe history and customs give them rights to use the commons, whereas, government entities in charge of overseeing the wildlife on the commons are “indifferent” to local rights (Warren, 1992). Studies by McCay and Acheson (1987) show that lack of access to areas thought to be a commons may lead to an increase in the illegal extraction of products from privately owned areas. In Appalachia much of the forested land, which was acquired by absentee land owners and the federal government, has been viewed as a commons (Lewis, 1998; Bolgiano, 1999).
Today, lands within the national commons cover about 700 million acres including National Forest land, areas that epitomize what our forefathers intended a commons to be. They “represent a fragment of free land accessible to the public” (Fritsch, 1997, p. 18). They are also “shelters of biodiversity, havens of rest and quiet, and places where nature can work in its own ways” (Fritsch, 1997, p.19).

These forest commons encompass more than land and include many types of non-timber forest products located on the landscape. Ginseng is treated as part of the original forest commons. Ginseng is also a part of the cultural commons of Appalachia. Generations have exercised “fructuary rights” (i.e., rights to profits, benefits or incomes) by harvesting ginseng from the forests to be used in medicinal preparations (Hufford, 2002). But in many locations absentee landowners, such as coal and timber companies and the Federal government, often prevent admittance to the traditional commons by physical means (fences) or legal means (fines and jail time) (E. Burkhart, personal communication August 5, 2004). Locals are denied access to land where ginseng grows and, as a result, denied access to the cultural connections surrounding the medicinal plant (Hufford, 2002). Without either permission of the property owner or a U.S. National Forest Service permit, one that allows limited ginseng harvesting from designated national forest (issued by national forest employees), those harvests are considered illegal (C. Coon, personal communication, June 2, 2007).
Development of Laws

Today, federal laws concerning wildlife in the United States can trace their origins to old English common law where the King and Parliament owned the wild animals and dictated the manner that citizens could harvest game on all lands, public or private. However, plants were considered to be part of the land and were treated as the owner’s private property. This ownership difference remains obvious in the ways that animals and plants are treated in the United State’s game and wildlife laws (Laws and Regulations to Protect Endangered Plants, n. d.).

The harvesting of ginseng roots is directed through state, federal, and international laws. State laws control times of harvest, permits, and record keeping requirements, while federal laws insure that plant populations are monitored to comply with international laws such as the Convention on International Trade in Endangered Species (CITES, 2006).

Although the original creation of game laws in the United States was done primarily to conserve natural resources, the literature shows these laws were controversial and complex, and met with much local resistance (Warren, 1992; Jacoby, 2001). The controversy surrounding the creation and use of game laws began with their introduction in 14th century England (Kirby, 1933).

The Creation of Game Laws in the United States

Glover and Baskett (1984) investigated the lack of respect local inhabitants had for game laws and game preserves. The locals’ attitudes may be attributed to the ways in which laws and preserves were created. Game laws in the United States can trace their roots back
to the Old World, especially English game laws (Kirby, 1933; Trench, 1967). Poaching was prevalent during the eleventh century when everyone from peasants to the clergy poached the King’s deer. Poaching continued throughout the centuries and so did scorn for the King, his wardens, and the laws (Stockdale, 1993). Poor individuals saw English laws as a tactic used to prohibit them from obtaining game while protecting and preserving game for the sporting rights of the aristocracy.

In contrast, American game laws were never intended to deny certain classes of people the privilege and right to hunt. The landscape was viewed as a wide-open frontier where settlers, including men who had been deported from Britain for poaching, could take game (Lund, 1975). During the early years, game was prevalent throughout the forest and streams of the American colonies. As America’s population increased and Europeans demanded more furs and skins, there was a marked decline in most types of game. This decrease in wild game caused many sportsmen and some state legislatures to call for the enactment of wildlife laws (Stockdale, 1993).

Whether deemed necessary or not, game laws in America were often not welcomed (Warren, 1992; Muth & Bowe, 1998). For some, these laws carried the flavor of the once horribly cruel English game laws (Stockdale, 1993); for others, these laws meant they were excluded from access to local game by the state (Warren, 1992). During the late 19th and early 20th centuries, there was a sudden appearance of conservation laws that authorized legal and illegal uses of natural resources. The creation of new laws led to an upsurge of new crimes as the definition of illegal hunting procedures changed.
Jacoby (2001) found that for many rural communities, “the most notable feature of conservation was the transformation of previously acceptable practices into illegal acts: hunting or fishing was redefined as poaching, foraging as trespassing, the setting of fires as arson, and the cutting of trees as timber theft” (p.3). Outsiders often viewed the creation of conservation lands, such as federal and state parks, forests, and preserves, as a noble objective, while local inhabitants saw the enclosure of their commons much differently. Consequently, locals often ignored the laws and boundaries of state and private lands.

*Early Ginseng Laws*

Laws addressing the legal harvesting times for ginseng in the United States were also enacted during this period of conservation awareness. Legally, ginseng could not be harvested from the time it emerged from the ground in the spring until it set fruit in late summer or early fall. It was also suggested to make harvesting of immature roots illegal as well (Nash, 1898).

Virginia was one of the first states to enact legislation directed at conserving ginseng populations. During the years of 1875 to 1876, acts were passed that stated “If any person shall dig any ginseng from the 15th day of March till the 15th day of September, such person, on conviction of the justice of the peace, shall be fined not less than five and not more than ten dollars for each offense” (Nash, 1898, p.18). The laws also allowed an informant to collect half of the fines.

A more stringent law passed in the legislature of Ontario in 1891. This law said “Except for the purpose of clearing or bringing land into cultivation, no person shall, between
the first day of January and the first day of September in any year, cut, root-up, gather, or destroy, the plant known by the name of ginseng whenever such plant may be found wild or growing in an uncultivated state” (Nash, 1898, p.18). Violation of the law allowed for a fine of not less than five and not more than twenty dollars. The law was amended May 1893 to allow for convictions of persons found knowingly purchasing illegally dug ginseng (Nash, 1898).

West Virginia enacted laws to cover ginseng and other medicinal plant harvesting on private landowners’ property. These laws went into effect in 1872 and declared it was illegal to dig ginseng or any other medicinal plants on the property of another without his consent. This law pertained to the counties of Webster, Greenbrier, and Pocahontas. Other counties in the state could require this law be enforced if they gathered the signatures of 100 county residents. The law allowed for fines of fifty dollars and up to two months in jail. These laws also protected cultivated ginseng (Nash, 1898).

The Ginseng Growers Association passed a ginseng theft law in 1905 that called for stiff penalties and prison time for violators. Ohio passed House Bill 9 in 1915 that levied a penalty for the destruction or theft of golden seal or ginseng. The law said,

Whoever willfully with intent to steal or destroy, and without permission of the owner, enters any garden or enclosure, owned by another, which is devoted to the culture of Ginseng or Golden Seal, and breaks down, digs, destroys, takes, or carries away any Ginseng, ginseng seed, Golden Seal or Golden Seal seed therein growing, drying or stored, shall be guilty of a felony and shall be punished by a fine of not less than fifty dollars nor more than five hundred dollars, or imprisonment in the state penitentiary for a term of not less than one year nor more than three years, or both (Hardacre, 1968, p.138).
While enforcement was haphazard, these were the only states to have legislated for the protection of the plant at that time (Nash, 1898).

An editorial in the *Hunter-Trader*, August 1905, declared that it was easy to grow ginseng in the woods but beware of the thieves (Harding, 1936). Sometimes frustrated growers would take matters into their own hands. During the growing season of 1909, many ginseng growers had their roots and seed crops poached. *Special Crops*, the first periodical for ginseng, carried a story from an angry grower titled “How one ginseng thief got his reward”.

In 1905, I bought a piece of woodland suitable for growing ginseng, about four and one-half miles from my home, and transplanted my plants from my old garden to this new one. I placed a 6 ½-foot rail fence around it, thinking this would protect it from intruders, but in this I was badly and sadly disappointed, for in July, 1906, some clever thief or thieves climbed over the railing and carried away about 500 of my largest roots. This was very mortifying, but I bought more nice roots and reset the ground or beds that had been robbed together with several more beds. During the summer of 1907 they made three more raids on it and carried off about 1,500 more of my nicest roots. By this time my temperature had risen to about 90 and I was more discouraged than ever, but I bought more roots and reset the vacant beds. My people tried to persuade me to give up the idea of growing ginseng, sell out my garden and do something else. But I told them no, I would give the next ten years of my life and every cent I could make, or I would catch the rascal or rascals that persisted in robbing my garden. As necessity is the father of invention, I set about to study out and invent a trap-gun machine that would protect it in my absence. I ordered a lot of fine wire and other necessary implements and early in the spring of 1908 I built some small houses in the garden and in these I planted shotguns and attached to them my machine (which is a very simple one), anyone coming in contact with the wires or cutting them would fire the gun that he was in front of and get shot every time. About July 20, 1908, Millard Collins and his brother Rue left their home about thirty-five miles east of my garden. They climbed over the railing (the gate being locked) and entered the garden, Millard came in contact with one of the fine wires and was instantly killed. Rue, being slightly wounded, ran for his life leaving his dead brother lying in the garden. When I came home I found him lying where he had fallen being badly decomposed, having been there from July 20 to July 27. The county coroner dragged him twelve feet outside the garden and rolled him in a hole and he lies there today. But my sleep is much peaceful now (Hardacre, 1968, p. 117).
Growers continued to be poached and ginseng laws were virtually non-existent and not enforced until the late 1970s. Due to the high demand for wild roots, and concern expressed by ginseng harvesters and biologists, American ginseng was listed on Appendix II of Convention on International Trade in Endangered Species in 1977 (CITES, 2006). This treaty regulates international trade of animals and plants to ensure wild populations remain viable. Populations are monitored to ensure the export will not be detrimental to the survival of the species in the wild (U.S. Fish and Wildlife Service Office of Scientific Authority, 2005).

On August 3, 2005, the U.S. Fish and Wildlife Service (USFWS) announced revisions to the previous harvest age which permitted only wild ginseng plants 5 years or older to be legally harvested for export. The new restrictions required wild plants to be a minimum of ten years of age, and were a result of recent population studies showing a decline in the wild populations on public land (West Virginia Ginseng Growers Association Annual Meeting at Morgantown, WV, September 16, 2005). However, after reviewing comments and scientific results from several public meetings, the U.S. Fish and Wildlife Service rescinded the ten-year limit effective June 2006. The previous five-year limit was restored.

Fines, jail times, record keeping, certification fees, allowable collection sites, and export quantities are determined by state ginseng laws and these laws vary from state to state (Cooke, 2004; Simmons, 2004). The complexity and lack of uniformity between states’ game laws may be problematic in reducing incidents of poaching (Tober, 1981). One of the major differences between the states of Ohio, West Virginia, and Kentucky concerns the state
agency that is responsible for managing the ginseng program. Ohio’s program falls under the Department of Natural Resources, West Virginia’s program is controlled through the Department of Forestry, and Kentucky’s program falls under the Department of Agriculture (Ohio Revised Code, Ohio Department of Natural Resources 1533.87, West Virginia State Code, Department of Forestry Title 22 and Kentucky State Laws, Department of Agriculture 302 KAR 45:010).

Two incidents have occurred recently in Canada that may also affect ginseng commerce in Appalachia. Canada has banned all harvests and exports of wild ginseng even for and on private property (C. Carroll, personal communication, July 22, 2008). The country also has legislation pending, Bill C-51, which may affect natural products, such as ginseng, by greatly restricting their sales. It will allow Health Canada to issue mandatory recalls of therapeutic products, expand the powers of inspectors, allow seizure of materials from suspect companies without notice and raise fines from $5,000 to $5 million (Blackwell, 2008).

National Forests and Ginseng Laws

All the states that comprise the study region in central Appalachia have national forests and some have national parks within their boundaries, both of which contain wild ginseng populations. Ohio’s Wayne National Forest, West Virginia’s Monongahela National Forest, and Kentucky’s Daniel Boone National Forest manage their ginseng populations differently (U.S. Fish and Wildlife Service Office of Scientific Authority, 2005).
Wayne National Forest is located in Southeastern Ohio. It was created as a result of a federal aid program responsible for forming agencies such as the Civilian Conservation Corps. The federal forest service acquired thousands of acres of barren land by purchasing foreclosed farmlands. Owners were allowed to stay on the land as long as they did not farm it but instead allowed forests to return (Anderson, 2006). Established in 1934, it contains about 237,000 acres of land restored through efforts of the Civilian Conservation Corps (United States Forest Service, 2007).

Wayne National Forest policies will allow ginseng gatherers to dig up to one pound of green ginseng a year with a permit. Ginseng can only be removed from designated areas and all permits must be returned to the forest service office to allow for monitoring of sensitive populations. Diggers must also replant seeds at the collection site and are to adhere to the five-year collection age for plants (Morgan, 2007).

Daniel Boone National Forest in Kentucky was created in 1930 and contains 2.1 million acres within its boundaries. However, only about one-third or 706,000 acres are owned and managed by the U.S. Forest Service (USFS, 2007). Like Wayne National Forest, there are hundreds of acres within the forest boundary owned by private owners, schools, and county or state entities. Forest boundaries often shift annually as the forest service tries to buy and consolidate additional landmasses. This creates tension between locals and recreational users who often stray back and forth between forest service land and private land. Local people have strong feelings of local ownership about nearby public land and have used the land for woodlots, hunting, and herb gathering. This is especially true in eastern Kentucky where local inhabitants have adamant beliefs in private property. Boundary
disputes between impoverished local people and the forest service are often unchallenged due to the high legal costs to contest federal ownership (Collins, 1975).

Permits are required to harvest ginseng on land in Daniel Boone National Forest. Ginseng harvesting is permitted for one month from September 15 to October 15. Only one $20 permit is issued per person and authorizes the digger to take up to one pound of green roots. The digger is required to plant half of the seeds found on the mature plants he removes within 50 feet of the harvest site. He is required to return the remaining seeds to the forestry office to be propagated by forest service nursery personnel (USFS, 2007).

Monongahela National Forest in Eastern West Virginia was established in 1920 as a result of the passage of the 1911 Weeks Act. This act allowed for the federal purchase of millions of acres of denuded land to be used for future watershed protection. The initial purchase in 1915 was 7,200 acres, but today the forest contains 919,000 acres. Like Wayne and Daniel Boone National Forests, Monongahela is an enclosure of fragmented land with many owners. Some of the acreage within its boundaries are state parks and forests, as well as privately owned lands (USFS, 2007).

Monongahela National Forest allows ginseng to be harvested with a permit. Only about 20 permits are issued each year according to an official with the Monongahela National Forest (National Forest Office, personal communication, October 10, 2006). Many local people take advantage of the national forest land and harvest a pound of ginseng in late summer. But given the one pound limit, and the fluctuating restrictions placed on wild ginseng by CITES officials, continued ginseng harvesting on national forest lands is tenuous (CITES, 2006).
Summary

Throughout the history of the Appalachian region, certain factors have contributed to the development of economic and political inequities; one of these inequities is the distribution of wealth particularly in the form of land and natural resources. Studies show that land ownership specifically the concentration of land in the hands of a few, often results in conflicts. Those who own large portions of land do not always make land use decisions that will be favorable for society. In the United States, the idea of private property is seen as more than ownership of the soil but rather as the ownership of a “bundle of property rights.” These rights include the ability to control air and water use, access to the land, the rights to harvest natural resources, and the rights to develop, sell or lease parts of the land or land uses (Jacobs, 1998). Many local people continue to rely to some extent on non-timber forest products to supplement livelihoods suggesting that poor economic conditions might exacerbate poaching activities in some areas of Appalachia.

The creation of restricted areas such as national parks and forests and the fencing in of land by corporate entities, land once used as a commons, may contribute to some of the poaching incidents. Land boundaries and land ownership have been notoriously suspect as incomplete or illegal procedures led to incorrect surveys and deeds. Local residents frequently disregard federal and corporate land boundaries while hunting ginseng. Only limited ginseng harvesting is permitted on national forests and all state forests in West Virginia, Ohio, and Kentucky prohibit any ginseng harvesting (see Appendix I).

Without their own land, many economically depressed individuals seek the plant illegally on public land. Some ginseng gatherers today share feelings that many local
residents do not formally recognize land ownership and, using this justification, have dug
ginseng on property not owned by them (E. Burkhart, personal communication, August 5,
2004). A belief in a commons and the lack of acknowledgement for private land ownership
play a role in ginseng poaching.

Finally, documents show a historical dislike of laws regulating game. This includes
recently created laws and regulations controlling ginseng harvesting. Ginseng harvesters
often ignore ginseng laws and harvest outside the season and ignore root age limits. In
addition, they frequently express their discontent with natural resource laws that they
observe to be unfair to harvesters.
The policies and laws governing ginseng harvesting and commerce are complex and numerous. There are federal rules, state regulations and an international treaty. These specify harvest dates and appropriate harvesting practices, as well as stipulate fines and jail times for violations. Laws differ from state to state, and sometimes are amended to reflect current scientific findings. Everyone forming the links of the commodities chain surrounding ginseng, including ginseng diggers, ginseng growers, local buyers, law officers, public land managers, and large volume exporters, is affected in some way by the CITES Treaty, the Lacey Act, the Endangered Species Act (ESA), and state regulations.

International and Federal Laws and Treaties

*CITES Treaty*

Ginseng exports are in many ways part of an underground trade system. Until the mid 1970s, this system was invisible to most people unfamiliar with the plant. Ginseng trade lost its invisibility when ginseng was placed on Appendix II of the Convention on International Trade in Endangered Species of Wild Fauna and Flora in 1975. This was after people involved with ginseng trade expressed concerns about over-harvesting of wild populations in Appalachia (Williams, 2000).

*CITES* is an international agreement between governments who deal in the trade of fauna and flora listed in the agreement. The agreement was put in place in an attempt to
control international trade and ensure the survival of certain species threatened by commercial practices (CITES, 2006). The idea for the agreement was initiated in 1963. In 1966, the Hong Kong government opened an office to monitor trade of endangered species, including American ginseng (Taylor, 2006). As a result of a resolution between members of the World Conservation Union, representatives of eighty countries signed a formal agreement in 1973, and in 1975, CITES was implemented. Currently, there are 172 parties collectively involved in CITES, this includes the United States (CITES, 2006).

Today, global trade involving animals and plants is estimated to be worth billions of dollars. Prior to CITES, some of these species were close to extinction due to habitat loss and over-harvesting. According to CITES requirements, the U.S. Fish and Wildlife Service (USFWS) regulates the international import, export and re-export of ginseng in the United States; it does not regulate the harvesting of ginseng or its commerce between various states in the United States. Instead, the monitoring of harvests and interstate commerce is entrusted to state authorities (Littell, 1992).

Species are listed on one of the three appendices of CITES based on a determination of the degree of protection required. The three Appendices are I, II and III. Appendix I lists endangered species threatened with extinction. Appendix II deals with species that may be threatened if trade is not regulated and Appendix III contains species listed by request of a party to the treaty. Ginseng, *Panax quinquefolius*, is considered to be “at risk,” and has been listed on Appendix II of the convention since 1975. (CITES, 2006; U.S. Fish and Wildlife Department of Scientific Authority, 2002).
Part of the agreement requires that each of the 172 parties involved designate both a management authority to oversee a licensing system and a scientific authority to take charge of evaluating the effects of trade on the status of the species. The U.S. Management Authority issues export permits for wild ginseng only after it has been scientifically determined by the U.S. Fish and Wildlife’s Office of Scientific Authority that such harvesting will not be detrimental to the species in the particular state where it was harvested (Littell, 1992). As an international treaty, CITES cannot impose fines for violations of the treaty. In the United States, enforcement of the CITES treaty and the Endangered Species Act is accomplished through fines and imprisonment set forth by the Lacey Act.

Lacey Act

The Lacey Act was passed in 1900 and became the nation’s first wide-sweeping federal wildlife protection law. The law, first proposed by Iowa Representative John Lacy, was initiated to address interstate trafficking in birds and other wildlife killed illegally in their state of origin. In 1926, the act was “supplemented” to include fish through the addition of the Black Bass Act. It was once again amended in 1981 to further regulate the trade in illegal fish and wildlife. This amendment included combining both acts into one statute and adding plants to the list of protected species. Additional clarification of these amendments occurred in 1988 (Littell, 1992).

The Lacey Act is an instrument to aid states in their enforcement of laws concerning wildlife and states, “It is unlawful for any person to import, export, transport, sell, receive, acquire, or purchase in interstate or foreign commerce [any fish or wildlife or plant] taken,
possessed, transported, or sold in violation of any law or regulation of any State, any foreign entity, any law or treaty or regulation of the United States or Indian tribal law” (Littell, 1992, p. 112). In order to prosecute a case under the Lacey Act, it is necessary to prove that there has been a violation of a state law. Charges can be brought against persons who do not themselves commit the violation of state law but are involved in an illegal act (Littell, 1992). For example, a ginseng buyer who has purchased illegal ginseng roots (dug out of season by a digger) can be prosecuted under the Lacey Act.

Civil as well as criminal penalties can be assessed under the Lacey Act. The largest civil penalty is $10,000 and usually does not apply to violations of false labeling or documentation, but rather in cases where one knowingly takes, possesses, transports or buys articles contrary to laws, treaties, or regulations. Penalties can be adjusted based on “varying degrees of knowledge” of the perpetrators. Minor fines can be levied against violations involving articles worth less than $350 and offenses surrounding transportation of the articles rather than actual commerce (Littell, 1992, p.120).

Criminal penalties are conferred based on the “nature of the activity and the culpability of the perpetrator.” Felony convictions can result in a $20,000 fine, five years in prison, or both. A misdemeanor conviction can result in a $10,000 fine, a one-year prison term, or both. The 1981 amendments placed the burden of compliance on the transporter by also requiring that violators forfeit illegal shipments (Littell, 1992). This means if it can be determined that any ginseng roots have been illegally harvested, are marked with systemic dye, or if the barrel contains underage roots (Jafari, 2006), the entire barrel can be seized from the exporter.
Endangered Species Act

During the late sixties, certain members of the United States Congress and other political figures became increasingly aware of the threat of species loss. Statistics showed that half of the recorded extinctions of mammals occurred during the years 1920-1970. After consideration of ethical, cultural, and scientific information, policy makers took action to halt further extinctions and helped create the most stringent wildlife laws in effect globally at that time (Littell, 1992).

The first version of the act was not a strong pronouncement of protection and basically called for a determination of the degree of threat to a species as well as a publication of all species listed as “threatened with extinction or endangered.” Amendments of 1973 added flora (plants) to the act’s scope. Additional amendments in 1978 provided for the protection for critical habitat and stated that economic assessments had to be performed at the time of the listing. In 1982, Congress eliminated all economic considerations from the act. The 1988 amendments increased protection for plants by instituting a “monitoring system so species which were candidates for listing were less likely to become extinct before listing” and provided for a maximum $25,000 fine for civil penalties and a $50,000 fine for criminal penalties (Littell, 1992, p.16).

Under the authority of the CITES Treaty, implemented by the U.S. Endangered Species Act, the export of American ginseng from the U.S. is only permitted if the U.S. Fish and Wildlife Service Office of Scientific Authority decides that exports will not be “detrimental” to the species, and if the U.S. Fish and Wildlife Office of Scientific
Management believes that specimens to be exported were obtained legally (U.S. EPA, 1999). While ginseng is not listed as endangered and thus not currently under direct protection by the Endangered Species Act, violations of CITES regulations can result in fines determined by the ESA. Ginseng is listed by Nature Serve, a network of natural heritage programs, (Natureserve.org), as vulnerable in both West Virginia and Kentucky (U.S. Fish and Wildlife Service Office of Scientific Authority, 2003-2004).

Legal Requirements for those Involved in Ginseng Trade

Dealers and Exporters Federal Laws

When a dealer purchases a wild ginseng root they must fill out a purchase form that requires the amount, county and name of the person who is selling the roots (see Appendix J). Dealers must also have a CITES Export permit/certificate (see Appendix K); a United States Department of Agriculture’s (USDA) Form 622 Protected Plant Permit; an invoice or packing list; and an inspection certificate from an APHIS employee. Additionally, dealers must export their roots from an approved USDA designated port (Thurmond, 2003).

Barrels intended for export containing roots dug from more than one state must be accompanied with state certificates representing each state where roots were harvested. These certificates are presented to the port inspector who works for the USDA’s Animal and Plant Health Inspection Service (APHIS), Division of Plant Protections and Quarantine. In addition, exporters must also present a federal export permit and report from the U.S. Management Authority (see Appendix L). The inspector will sign and stamp the permit and
form only when all the proper state documents have been presented. Separate forms need to be presented for ginseng harvested in more than one season (Littell, 1992; see Appendix I).

Appropriate documentation must also accompany cultivated ginseng destined for export. Cultivated roots (excluding wild-simulated roots) must be accompanied with a federal “Certificate for Artificially Propagated Plants.” The exporter must also present valid state documents that verify that the ginseng was artificially propagated. Copies of these forms must be presented to the APHIS inspector upon export (Littell, 1992; see Appendix I).

The United States Fish and Wildlife Service (USFWS) define cultivated roots as “ginseng grown as a crop by seeds.” Ginseng seeds have been sold since the early 1900s and the USDA has maintained information about cultivation since 1898 when it first published a guide to ginseng cultivation (Beyfuss, 2007).

There are three types of cultivated ginseng: field-cultivated, woods-cultivated and wild-simulated roots. No differentiation is made between truly wild and wild-simulated ginseng roots. About 6 million pounds of field-cultivated ginseng is exported each year; whereas, about 57,000 pounds of wild or wild simulated ginseng is exported annually (Beyfuss, 2007).
The most agriculturally intensive type of cultivated ginseng is field-cultivated ginseng. This type is grown under artificial canopy shade (usually shade cloth) in prepared beds. It relies heavily on artificial fertilizers and pesticides. Wisconsin’s ginseng farms account for 97% of the entire ginseng crop produced in this manner (U.S. Department of Commerce, 1995).

Woods-cultivated ginseng is sown under tree canopies and may have applications of synthetic fertilizers and pesticides and may use mechanical tillage (Beyfuss, 2007).
Wild-simulated ginseng is also grown under tree canopies but uses natural habitat conditions rather than prepared beds. It requires no artificial fertilizer or pesticides. This type of ginseng is treated as “wild” according to the USFWS and must adhere to the same export and harvest regulations as wild ginseng (Beyfuss, 2007).
When barrels of wild ginseng are brought to an approved USDA port, they are opened for inspection. Inspectors first search for roots that are of appropriate age (5-year old or older). To do this, roots must be separated and bud scars must be counted. This process often requires a certain amount of expertise and even experienced ginseng diggers may not accurately age roots (USFWS Public Meeting, Moon Township, PA., January 31, 2006).
In order to age roots, the roots must have intact rhizomes and necks. Then they can be “aged” by counting the bud scars. Figure 9 shows a plant that is approximately ten years old.
Figure 9. Ginseng neck showing bud scars (arrows) used to determine age. (Dr. Roger Anderson, Illinois State University).

In some cases, a barrel may contain broken roots. When this happens, an inspector may be unable to properly age the roots. Then the entire barrel can be rejected, and the exporter will have to remove those roots and have the barrel re-inspected (Thurmond, 2003).
Finally, roots may be inspected to determine if any are marked with a systemic dye. This dye is used to mark plants located on national park land (Jafari, 2006). If a dye-marked root is found, this root has been illegally dug (probably from a national park). The entire barrel of roots can be rejected for export, seized, and retained by APHIS inspectors.

CITES regulations oversee only the export and import of the ginseng roots. Actual violations by a ginseng dealer/exporter are addressed in the United States through the Lacey Act, which serves to enforce CITES by providing penalties (Endangered Species Act, 1973).
Dealers and Exporters State Requirements

State regulations for ginseng dealers differ somewhat from state to state. All the states in this study, Ohio, Kentucky, and West Virginia, have separate laws (see Appendix I) and require that dealers obtain an annual registration permit with the prospective state agency. Dealers are also required to keep records and have them available for inspections. These records must include the following information:

- Sellers name and address (kept by dealer only)
- Dealer’s permit or registration number
- Number of pounds of dry or green, wild or cultivated ginseng sold (separately)
- Year of harvest
- Date of transaction
- Signature of seller (Kentucky only)
- County of harvest

Dealers present this information when they apply for a certificate to export the ginseng out of the state. All dealers must re-apply for their registration each year. After a USDA official has inspected all roots, the roots, along with their certificates, are finally exported out of the United States via a USDA approved port (see Appendix I).

Each state requires that uncertified ginseng [ginseng that has not been inspected and certified by an approved state official] and ginseng unsold by March 31 [after the harvest season] must be weighed by the appropriate state agency, and a weight receipt be issued. This is kept with that quantity of ginseng until it is sold at a later date. Ohio differs from the other two states because its dealers must pay a fee of one dollar per pound for certifying
ginseng. No fees for certification of ginseng are listed in West Virginia or Kentucky laws. Additionally, laws in Ohio require dealers or buyers to display educational material for the public: materials that explain harvest seasons, digging requirements, and detail the Ohio State Ginseng Management Program (see Appendix I).

West Virginia laws specify the fines and prison terms given to dealers who violate the laws. Kentucky and Ohio laws do not identify any specific jail terms or fines for violations of state laws. West Virginia also publishes a list of certified ginseng dealers on the West Virginia Department of Forestry web page. This page lists approximately 35 dealers approved by the state. However, dealer information for Ohio must be obtained from Ohio’s Division of Wildlife. Presently about 43 dealers are certified to buy and sell ginseng in Ohio (R. Olis, personal communication, October 25, 2007). Information on Kentucky’s dealers must be acquired by contacting Kentucky’s Department of Agriculture. In 2005, approximately 90 dealers were registered in Kentucky (Maimon, 2005).

Dealers have been arrested for violations of state and federal laws. Recently, a 21-month investigation by the USFWS Office of Law Enforcement apprehended a dealer from Kentucky. He was arrested for aiding and abetting the sale of illegally harvested wild ginseng in interstate commerce. He also was cited for failure to obtain a valid ginseng dealer’s license, found in violation of state ginseng laws and the Lacey Act, and was ordered to pay a $5000 fine (USFWS, 2007, February 21). During the same investigation by the USFWS, three other diggers were arrested for “engaging in the interstate commerce of unlawfully purchased wild ginseng.” One received a $10,000 fine for violations of the Lacey Act, while the other two were ordered to pay $1000 each for their roles in violating the act.
This investigation covered 30% of the dealers in Kentucky and revealed 95% had committed violations of state laws. Most of the violations entailed buying ginseng out of season or falsifying documents. In total, 437 pounds of illegally purchased and documented ginseng was seized; its value was estimated to be between $132,000 and $200,000 (MacKenzie, 2007).

Ginseng Diggers and Growers Federal Laws

Ginseng diggers, whether they harvest from the wild or their own wild-simulated ginseng plots, are subject to CITES, federal, and state regulations. Their primary concern involves the legal age requirement for harvesting wild or wild-simulated ginseng. Each year the USFWS Office of Scientific Authority issues a scientific report; the findings of which determine whether or not state harvests will be non-detrimental (Williams, 2000). Individual state harvest requirements (age of plants and dates of harvest) can change based on this annual scientific report published by the Scientific Authority. These changes affect both ginseng gatherers and ginseng growers who must adhere to the proper harvest dates and root age for harvesting (see Appendix I).

Different criteria are used to evaluate the species status before the authority issues its annual review on a state-to-state basis. These criteria are based on biological data and include:

- Whether previous exports have significantly reduced the abundance of the plant
- Whether exports are expected to remain constant, increase, or decrease
• Whether the present and future levels of export will significantly impact the species (U.S. EPA, 1999; USFWS, 2003-2004; Williams, 2000).

Age requirements for exportation were first established in 1999 as a result of the annual report findings for the 1999 harvest. The Office of Scientific Authority found on August 2, 1999, “through communications with biologists from the Great Smokey National Park and national forests throughout the species’ range” (p.2) (including Ohio, West Virginia, and Kentucky), that plants were being over-harvested in some places. They also found some populations were being harvested in a way that did not allow plants to reach the reproductive stage and produce seeds. This, they concluded, would impact the species survival. Therefore, the USFWS Office of Scientific Authority recommended that roots harvested from the wild be 5 years of age or older (U.S. EPA, 1999; USFWS, 2003-2004; Williams, 2000)

This 5-year restriction remained in place until the fall of 2005, when the USFWS issued a more stringent age restriction requirement of a 10-year limit. Based on a new analysis of the sustainability of the nation’s wild ginseng harvest, they concluded that plants dug for exports should be at least 10 years old or have four or more leaf prongs (Steelhammer, 2005; Blumenthal, 2006). This new finding was met with much criticism because representatives of the American ginseng industry were not notified prior to the rule change and had not been consulted during the development of this change. Subsequently, the USFWS held public meetings to gather stakeholder opinions about this change and to share scientific knowledge with the entire ginseng community. These meetings took place in the winter of 2006. After taking public comments as well as scientific evidence under
consideration, the USFWS rescinded the new recommendations (Blumenthal, 2006; U. S. Fish and Wildlife Department of Scientific Authority, 2006).

Although this rule change was rescinded, it sent obvious shock waves through the ginseng community and was especially troubling to ginseng growers. At the public meeting in Moon Township, PA on January 31, 2006, many growers expressed negative feelings about the rule change. Those who are involved in growing wild simulated ginseng are required to follow laws and policies that pertain to wild ginseng. If a moratorium was declared for wild ginseng harvesting or if the age limit were increased, these rules would affect all those involved in growing wild simulated ginseng (Williams, 2000).

Diggers also disagree with USFWS rules about harvesting techniques. Many harvesters remove and replant portions of the root neck at the time of harvest. This technique allows new plants to re-grow from these portions (Beyfuss, 2007). However, the USFWS believes that this technique has yet to be proven through scientific research and also pointed out how removal of the neck prohibits the root from being aged, a process that requires intact necks. Harvesters must count bud scars along the plant’s neck to determine age (U. S. Fish and Wildlife Service Office of Scientific Authority, 2006).

Ginseng Diggers and Growers State Requirements

In addition to CITES and federal regulations, each state involved in international exportation of wild ginseng has its own state regulations for growers and gatherers: some more stringent than others.
West Virginia recently passed an extensive set of regulations for the state’s ginseng growers. House Bill 4444, passed in 2006 in the state legislature and keeps law enforcement and regulations under the West Virginia Department of Forestry. It requires new responsibilities of wild-simulated ginseng growers (Carman, 2007).

The process, designed to protect ginseng as well as the industry, is not mandatory. It was designed to aid growers of wild simulated ginseng. Growers can certify their crops and “by doing so will fall outside the regulations for wild ginseng under the purview of the USFWS and CITES” (Hays, 2007, p.1). Using this certification process, growers can be exempted from the requirements of CITES. Certification rules were developed with the collaboration of the West Virginia Department of Forestry and the West Virginia Ginseng Growers Association. Registered state foresters will design a plat of the anticipated planting area. Growers are also required to use only commercially obtained seeds (Hays, 2007).

In West Virginia, ginseng diggers must adhere to the harvest dates of September 1 to November 30. They need to have written permission on their person if collecting ginseng on another person’s property. Any seeds found on mature plants must be replanted at the site where the plant was taken (see Appendix I).

Except in West Virginia, according to CITES, anyone who grows wild-simulated ginseng is subject to the same rules and regulations that govern wild ginseng. Although Ohio’s growers must abide by state laws governing wild ginseng, no additional rules for growers exist in current Ohio Ginseng Laws (see Appendix I).

Ginseng diggers in Ohio must adhere to the harvest dates of September 1 through December 31 and harvest only mature plants (minimum of 3 prongs) or at least five years of
age. Like West Virginia law, the diggers are also required to replant any ripe seeds if present on the harvested plants. They must also obtain written permission from the landowner if they harvest from private or public property. In addition, they are also required to keep records indicating when, what county, and how many pounds of ginseng were collected. This is then presented to any person who buys the ginseng from the collector (see Appendix I; Ohio State Ginseng Laws; Ginseng Management Program 1501:30).

Similar to growers in Ohio, Kentucky’s wild-simulated growers do not have to comply with any rules or regulations specifically addressing cultivated ginseng, however, they must still comply with rules governing wild ginseng (since wild-simulated is treated as wild). The harvest season lasts from 15 August through 1 December and only plants 5 years or older, or with at least three prongs may be harvested. Like Ohio and West Virginia, all seeds must be planted within 50 feet of the harvested plant (see Appendix I; Kentucky State Ginseng Laws KAR 45:010).

Given the differences in laws across states (especially harvest times) and the fact that some ginseng gatherers are unaware that laws even exist, many ginseng gatherers violate laws each season (Ohio Wildlife Officer, personal communication, September 15, 2006). In 2006, a ginseng digger in Kentucky was arrested for poaching. He was fined $1500 and sentenced to two years probation. He’s now a licensed dealer trusting that the ginseng brought to him by diggers has been harvested legally (Corcoran, 2006).
State Ginseng Programs

With the passage of the Endangered Species Act of 1973, The United States Fish and Wildlife Service was designated as the authority for managing ginseng. Nineteen states have been authorized to export ginseng. While each state may have its own set of laws governing harvest dates, fines, and season lengths, they all are subject uniformly to CITES (U. S. Fish and Wildlife Service Office of Scientific Authority, 2004).

According to CITES requirements, the federal government must ensure states involved in ginseng trade develop and maintain state programs to monitor their ginseng populations. This includes certifying harvests and keeping records of the quantity and location of harvests. The data is sent to the USFWS to be used in their annual report. Currently, wild ginseng occurs naturally in 34 states, and is listed as endangered in one state, threatened in four, rare in one and vulnerable in one. Twenty-four states regulate the harvest and/or sale of ginseng (Robbins, 1998).

Various state agencies are involved with directing state ginseng programs. In Ohio the Department of Natural Resources Division of Wildlife manages ginseng. In West Virginia the Division of Forestry is in charge of issuing permits, and Kentucky’s Department of Agriculture promulgates rules to control harvest of ginseng. Ohio’s state ginseng program was developed as a result of laws established and enacted March 3, 1999. Kentucky’s ginseng laws, established through the Kentucky Agriculture Resource Development Authority, went into effect in 1994, and West Virginia’s ginseng laws were established under Title 22 and went into effect June 12, 1987 (see Appendix I).
In order to assure viability of each state’s wild ginseng population, the status of these populations is analyzed through scientific reports provided by NatureServe’s Encyclopedia of Life found online at natureserve.org. NatureServe is a non-profit consortium of natural heritage programs throughout states and supplies biological and ecological data on species of concern. They determine the condition of populations and the number of plants in each population.

State ginseng populations are ranked as follows:

- Critically imperiled (S1): 5 or fewer occurrences
- Imperiled (S2): 6 to 20 occurrences with 1,000 to 3,000 individuals
- Vulnerable (S3): 21 to 100 occurrences and 3,000 to 10,000 individuals
- Apparently secure (S4): 100 occurrences with more than 10,000 individuals
- SR: insufficient data for a state ranking.

According to the most recent information in 2005, Ohio’s ranking was an SR, which means there isn’t enough data to determine a ranking. West Virginia’s was an S3/S4, which is a range from vulnerable to apparently secure and Kentucky’s was an S3/S4 as well.

Additional data from NatureServe indicates that in Ohio, 100% of the counties had ginseng populations and approximately 1,158,000 plants were harvested in 2001. For West Virginia, 99% of the counties had ginseng populations and 1,304,000 plants were harvested in 2001. Kentucky had populations in all of its counties and had 5,120,000 plants harvested in 2001 (NatureServe Encyclopedia of Life (online), 2001).
Figure 11. Range-wide status of American ginseng. (NatureServe, 2001).

Key
Red: S1 Critically Imperiled
Orange: S2 Imperiled
Yellow: S3 Vulnerable
Green: S4 Apparently Secure
Lavender: SR Insufficient data for ranking
Pink: Under Review
White: Possibly Extirpated
In addition to monitoring and certifying roots (for county/state of origin), states also set the dates for harvest seasons specifying when ginseng plants can be harvested and what age these plants must be at harvest time. Season dates are established primarily to allow the mature plants time to flower, become pollinated, and form seeds on their umbels. Seeds are located in the bright red berries produced in late summer and early fall and contain one to two seeds per berry. The ripening date varies from state to state as well as from microclimate to microclimate. Seeds may ripen in Northern Ohio a few weeks later than seeds in southern
Ohio and seeds in West Virginia may ripen at different rate depending on altitudes and plant locations (McGraw, Furedi, Maiers, Carroll, Kauffman, Lubbers, Wolf, Anderson, Wilcox, Drees, Van der Voort, Albrecht, Nault, MacCulloch, & Gibbs, 2005). Drier summers can affect seed production causing early leaf senescence and poor fruit production. Harvest dates have been changed to adjust for seasonal changes occurring over the past decade. West Virginia recently moved their season starting date from August 15 to September 1 (see Appendix I).

States are required by the USFWS to monitor ginseng harvests to prevent over-harvesting. Recently, Kentucky’s ginseng program was criticized for not adequately policing their harvest and sale of roots (Alford, 2007; MacKenzie, 2007). The USFWS contemplated curtailing the export of roots from that state. This action was considered due to the widespread violations of the U.S. ginseng laws, including exposing 17 ginseng dealers who illegally purchased tiny roots from undercover officers out of season. In addition to the proposed suspension, 10 of the 17 people charged have paid fines totaling $35,000 and forfeited $200,000 worth of roots. None have been sentenced to jail time to date. Mac Stone, the head of Kentucky’s ginseng program, urged state lawmakers to toughen laws against violators to convince the USFWS that Kentucky is serious about protecting this threatened plant (Alford, 2007; MacKenzie, 2007).

The ginseng program in West Virginia is funded through fees from certification and ginseng permits; the money from these is placed in the state’s operating budget. The Department of Natural Resources and their conservation officers are in charge of making
arrests and for prosecuting violators. In 2006, five cases of ginseng violations were prosecuted (R. Black, personal communication, October 15, 2007).

Violations of West Virginia ginseng laws and fines associated with these violations are found in the WVC 19-1A-3a (see Appendix I). Civil penalties are not less than $100 and not more than $500. For each subsequent offense the fine is $500 minimum and $1000 maximum. They may also be confined in jail for six months along with assessment of fines. All ginseng involved is forfeited if the person is found guilty.

The Division of Wildlife manages Ohio’s ginseng program. The funding for the program comes through hunting and fishing licenses and the collection of a $3 per pound fee from ginseng dealers who must pay this certification fee. In 2006, about 2900 pounds of ginseng was certified in Ohio netting about $9000 in collection fees (R. Olis, personal communication, Oct 25, 2007).

There are about 43 dealers in Ohio, however, not all of these dealers directly export ginseng through the USDA. Many small dealers will sell ginseng to larger dealers who then export large quantities of ginseng (hundreds of pounds) internationally. Violations of laws, specifically poaching, are considered as a M1 misdemeanor and the punishment is a $1000 fine or 180 days in jail. Severity of the fines and imprisonment can vary from county to county; in Ohio, Morgan, Knox, and Carroll counties are noted for their tough treatment of offenders. While some counties’ legal officials may view the crime as insignificant much like a “silent crime,” the previously mentioned counties’ legal officials perceive ginseng poaching as theft and do not take the crime lightly. Poaching is worse on private land and the state averages about 17 to 19 cases a year (R. Olis, personal communication, October 25, 2007).
Responsibilities of Public Land Managers

Increasingly, ginseng located on public lands has become the target of illegal harvesting. This may be due in part to the idea of a commons. Generations of Appalachian residents regard these areas as open land available to all. National forest and national parks are no exception (Bolgiano, 2000).

National parks were established to preserve natural features and areas of exceptional beauty or historical interests, while national forests were established to furnish a continuous supply of timber for the use and necessities of citizens of the United States and to improve and protect the forest and provide favorable conditions of water flows (West Virginia Forest Resource Fact Book 2nd Edition, n.d.). In some cases, national forests in Appalachia allow the collection of a limited amount of ginseng.

Ohio, Kentucky, and West Virginia all have national forests, yet ginseng harvests from these national forests vary from year to year. If wild populations appear threatened, harvesting can be suspended. In Ohio’s Wayne National Forest, it is the Forest Supervisor and the Forests Leadership Team who decides if permits will be issued on WNF land. This decision is made based on population monitoring. Recently, they discussed possible suspension of permits but this decision was delayed until further results on populations could be gathered. In 2006, 64 permits were issued for ginseng harvests (two pounds per permit). This number is lower than previous years and may be due to the increase in permit costs from $10 to $20 (C. Coon, personal communication, Oct 12, 2007).

In an informal survey of 10 sites on the Wayne NF, Gary Kauffman found an average of 6.7 ginseng plants per hour of searching in suitable habitat. In another study, a doctoral
student at Ohio University found 47 individuals across forty 1,000 meter squared transects (~10 acres) in suitable habitat. Approximately 85 pounds of roots were harvested from WNF in 1999 (Kaufmann, 2003).

A lack of permit enforcement has resulted in a high degree of poaching on public lands. According to the Ohio Department of Natural Resources, three men were arrested in 2000 for illegally possessing 4,500 ginseng roots valued at $6,000 (ODNR, n.d.). In a recent study of ginseng populations, it was also discovered that areas designated as protected had no more ginseng plants than areas that were not protected. Additionally, poachers are aided by the abundance of fragmented landmasses transected by roads and trails; this makes access to land in Wayne National forests easy (Kaufmann, 2003).

West Virginia contains one entire national forest, the Monongahela, and portions of two others, George Washington and Jefferson. These forests comprise over one million acres of forested land. U.S. Forest Service Law Enforcement Officers accept the responsibility for enforcing permit requirements. West Virginia’s Monongahela National Forest issues permits for only a limited harvest of roots. A total of 21 permits were issued in 2006 and 12 permits were issued for the first half of 2007. A permit cost $20 and entitles a person to take one pound of green ginseng. Based on an average of 95 roots per pound, the 2006 harvest season totaled 1,995 plants. Since diggers are not required to report the quantities they actually harvest, it is unknown if they took this many plants. However, according to the permits issued, they were legally allowed to harvest this amount of plants (K. Karriker, personal communication, October 17, 2007).
A 2006 U.S. Forest Service study noted that most national forests (including the Monongahela) do not have adequate inventory and monitoring procedures to determine sustainable harvest amounts at the local level. However, incidental data collected during surveys of other species indicates that ginseng is still fairly widespread in the forest. Using estimates based on a study by the U.S. Geological Survey, ginseng plant densities on public land range from 913 to 1706 per square km. This means the 3,723 sq. km. Monongahela National Forest might contain 3.35 million plants and the 2006 harvest (2000 plants) netted about 0.2 % of the harvestable plants. This does not take into account any ginseng that is poached from the forest (K. Karriker, personal communication, October 17, 2007).

Kentucky’s public land managers have tried to thwart poaching around Mammoth Cave National Park by using pink dyes, motion detectors, and tracking devices. Poachers have all but eliminated the plant in this region of the state. Since 2000, ten people have been arrested for taking ginseng roots from Mammoth Cave National Park (Maimon, 2005).

Diggers can harvest ginseng on Kentucky’s national and state forests. Daniel Boone National Forest will issue permits based on the Forest Supervisor’s recommendations. He supports his decision with information from the U.S. Forest Service and Kentucky’s Department of Agriculture. Twenty to twenty-five permits are issued annually for ginseng harvests in Daniel Boone National Forest. During 2007, no arrests were made in the forest for ginseng poaching; however, one citation was given for slippery elm poaching and two for black cohosh poaching. Arrests are made usually if the person given the citation fails to appear in court. Forest law enforcement officers issue the citations (D. Taylor, personal communication, October 15, 2007).
Permits for ginseng harvesting in Kentucky are issued after 10 September and are for a one-month period from 15 September to 15 October. Only one permit per person is issued and the cost is $20. With this permit, one pound of green ginseng can be collected and the plants must contain 4 prong plants. Since 2005, people who collect ginseng from the forest are asked to replant half of the berries and bring the other half into the forest office. These seeds are being sent to a forest nursery where they will be propagated. This is done to help keep the ginseng populations on forest land stable (Morgan, 2007).

State Law Enforcement

In Ohio, Wildlife Officers have authority over wildlife laws, which include ginseng poaching. Most cases are tried in Municipal Courts where on many occasions they are settled outside of court via plea bargains (M. Battles, personal communication, September 15, 2006). In 2005, 22 arrests were made for ginseng poaching. Funding for enforcement comes from the sale of hunting and fishing licenses and excise taxes on sporting equipment (T. Donnelly, personal communication, Oct 2, 2006). According to Ohio Laws, any sheriff, marshal, deputy marshal, municipal officer, police officer, township constable, park, preserve or forest officer, conservancy district police officer, or other law enforcement officer, within the limits of the officer’s jurisdiction may enforce sections 1533.86 to 1533.90 of the Ohio Revised Code.

In West Virginia, the Division of Forestry lists specific fines and jail times for dealers found possessing uncertified green ginseng under Title 22. These fines range from less than $400 for the first offense of possession of ginseng worth less than $200, to a felony offense
for a third conviction of possessing more than $200 of ginseng. The felony conviction will force a poacher to pay a maximum $6000 fine and serve a 1-2 year sentence in the state penitentiary. West Virginia also spells out their fines for diggers who are caught digging ginseng from another landowner’s property; it is a treated as a misdemeanor with a $100 fine (see Appendix I).

In West Virginia, during the years 2005 and 2006, a total of fourteen convictions were made for ginseng violations: seven in each year. Four prosecutions were in the northern section of the state, two were in the eastern panhandle, six were in the southern section, and two were in the mid section. Conservation officers have full police powers on both private and public property. In addition, the Division of Forestry has Special Conservation Officers that are able to issue citations in areas such as state forests or Wildlife Management Areas (P. Adkins, personal communication, October 17, 2007).

Forest Service law enforcement officers have primary responsibility for enforcing permit requirements on the national forest land. Forest Protection Officers can also assist law enforcement officers. These are basically Forest Service employees and State Division of Natural Resources employees who have not been trained to assist law enforcement officers, but who have become the “extra eyes and ears for the law enforcement officers while they are going about their normal duties” (K. Karriker, personal communication, October 20, 2007).

In Kentucky, park rangers arrest ginseng poachers on national park land and county sheriffs make arrests of ginseng poachers on private land (Maimon, 2005). Forest law enforcement officers can make citations in reference to ginseng poaching (D. Taylor,
Park officials, as well as private citizens, have stated that more law enforcement is needed for poaching on both private and public lands. Francis Williams lives close to Mammoth Caves and remarks that poachers trespass on her 230 acres to poach ginseng. She doubts that many plants are left on her land. Officials at Daniel Boone National Forest are doubtful they can ever adequately police the 700,000-acre area around the park (Maimon, 2005).

Lawyers and Judges

Laws and regulations on both the state and federal level do not specify any duties or recommendations for legal officials such as lawyers or judges to follow in respect to poaching violations. Some lawyers in certain counties take the offense seriously and will prosecute offenders according to the laws, while others see the offense as a minor transgression (R. Olis, personal communication, October 25, 2007). Many of the cases are plead out and never reach the court system, while others are simply dropped on technicalities (T. Johnson, personal communication, August 28, 2006). For some lawyers, ginseng poaching cases are unheard of “in 20 years I can remember half a dozen ginseng poaching cases, I didn’t know it [ginseng poaching] existed until I became the county prosecutor” remarked R. Urban, a lawyer in Tuscarawas County, Ohio (R. Urban, personal communication, June 8, 2007). According to a grower in West Virginia, to his knowledge there’s never been a court case made against a poacher (D. Carman, personal communication, June 5, 2007).
Policies and laws surrounding ginseng harvesting and trade are numerous and complex. Many people involved in the trade of this plant cite the complexities and variations of laws, especially state to state, as problematic when it comes to dealing with ginseng poaching. States differ dramatically in both the severity of fines and imprisonment associated with poaching as well as the funding provided to enforce these laws and regulations. Dealers must comply with extensive paperwork, as do growers in some states.

In addition, regulators, such as local law enforcement officers and public land managers point out the lack of sufficient funds and manpower to police often enormous tracts of public land containing ginseng populations. Many in the ginseng community view the lack of funding of state programs as a major loophole allowing poachers to roam freely across public and private lands in search of ginseng to poach. Although the top tier level of policies and laws dictates severe fines (CITES and ESA), insufficient funding and inadequate local prosecution, along with financially unenforceable federal mandates, do little to protect threatened populations.

Finally, an overall lack of understanding of the scope of the problem and value of the plant has led many to believe the problem is viewed as insignificant by many judges and lawyers on the local and state levels. While many scientific studies have been conducted to ascertain the viability and quantity of wild populations, as well as sustainable harvesting practices, many in the ginseng community, including diggers, fail to abide by or are unaware of the current harvesting regulations and overall status of the plant.
CHAPTER 7

RESULTS

This chapter begins with a discussion of the analysis of the data obtained from the Q methodology study. It discusses the four major perspectives held by the ginseng community about why people poach ginseng. It includes excerpts from the interviews that help support these perspectives. Respondents from the ginseng community have different ways of perceiving poaching and the motivations that drive someone to poach or influence someone to poach.

Q methodology is a multi-step process used to reveal opinions or ideas about issues. The first stage is the generation and selection of Q statements. The statements for this study were generated though the interviews conducted with members of the ginseng community and can be found in Table 10.

Participants were asked to rank these statements from most agree with to least agree with and the data was entered into a computer program. The second stage of the process produced a correlation matrix (see Appendix M) which shows individual agreement from one respondent to another. A factor extraction and rotation were then performed with the data and this process allowed individuals to be grouped together with other individuals with similar viewpoints. This creates the perspectives or factors (see Table 11). The data for this study revealed four separate factors or viewpoints on what causes poaching. The four perspectives with their factor rankings by category are listed in Tables 12 through 15 and are as follows: Factor A is the Historical/Traditional Perspective; Factor B is the Poachers are Criminal
Perspective; Factor C is the Failure of Legal Repercussions and Factor D is the Poverty Perspective.

After performing the Q sort, participants supplied additional information by selecting their top three most and least significant reasons to poach from the categories of reasons to poach that were used to organize the Q sort statements (see Table 22). This data can be found in Tables 16 and 17. The data supported the four perspectives generated from the Q study. A discussion by members of the ginseng community as to the effectiveness of the methods of interventions used to thwart poachers can be found in Chapter 8.

The factor analysis also produced a Z score in addition to the ranking (+4 through -4) supplied by the respondents. This Z score is a positive or negative value given to each statement that shows how people who believed in this viewpoint or perspective ranked this statement overall among all the other 34 statements. The statement that people in this perspective most agreed with will have the highest positive value while the Q statement that people in this perspective least agreed with will have the highest negative value. Distinguishing statements for the four factors with Z scores and ranking values are located in Table 21.

These Z scores were also used to evaluate the categories of reasons to poach for each of the four perspectives (A, B, C, and D). All the statements in each of the top five categories of reasons to poach were compared by adding the absolute values of their Z scores (making all values positive). This data can be found in Table 18. Finally, the data revealed that there were several Q statements that most respondents agreed with and these are referred to as consensus statements (see Table 19).
Q Methodology

Correlation Matrix

Q methodology endeavors to reveal and explain main attitudes that are preferred by the group of participants. There are several steps in the process that produce the factors or perspectives. First, using the computer software program, PG Method 2.11, a correlation matrix is created (see Appendix M). In order to do this, all the Q sort statements (see Table 21) are entered into the program along with all the data from the individual Q sort forms (see Appendix G). Once this data is entered, the software correlates each individual sort with all the other sorts (23 in this case). A +1 value indicates total correlation, a –1 indicates total negative correlation and a 0 indicates no correlation. The correlation matrix only indicates which individuals have similar or dissimilar views about the issues, and does not reveal any grouping around a particular perspective. In order to reveal particular perspective, a factor extraction must be performed.

Factor Extraction

A factor extraction allows similar sorts from the correlation matrix to be grouped into what are called factors or families. Q sorts that do not resemble each other are not a part of a family or factor. One technique that is used to create these groupings is called the principal component analysis, or PCA. The PCA technique extracts multiple factors (usually eight) and lets the researcher decide how many factors will be retained for analysis. What this means is that up to eight different perspectives might be found within the data. However, when eight factors are kept for analysis, there may only be one person whose beliefs are representative of
each factor. Given that the number of respondents for this study was 23, it was decided that using eight factors would make it too impractical to differentiate different viewpoints. Instead, four factors were retained for analysis (Brown, 1993).

*Factor Rotation*

A computer software program was used to conduct a Varimax rotation that generated the factors. The data was initially rotated for 3, 4, and 5 factors (perspectives). Ultimately, the four-factor solution was chosen because it supplied an additional and salient narrative; it had the lowest number of confounders; and the lowest correlation between factors. The software automatically flagged the factor solution for the maximum statistical significant representation of ($p<.01$) for each Q sorter. Then, three additional Q sorts were added by manually flagging them (RobNY, Donald, and George). Respondents loading in excess of plus or minus 0.442, the standard error for this study, were flagged as significant.

Significance is defined as being 2 to 2.5 times the standard error. Individuals, who load significantly on a factor, are assumed to have an exemplary perspective about the issue under investigation (see Table 11) (Brown, 1993).

These factors are distinguished through their scores of various statements. Factor scores, numerical values that helped delineate four perspectives about ginseng poaching, create each factor. Two participants that load on the same factor have selected similar configurations through their Q sorts and thus have similar viewpoints about the issue under investigation. These scores provide the opportunity to compare one factor to another relative to specific statements. Normalized factor scores are used to make these comparisons and can
be found in Table 21, Distinguishing Statements for Four factors. These scores were analyzed using a software program that determines significant scores (Schmolck, 2002).

The computer analysis revealed four factors, which were retained for further analysis. Data for the final (fourth) factor showed only three respondents had loaded or were in agreement with that perspective. Only one person was a high loader (very representative of that viewpoint) and the other two people were confounded (agreed with more than one perspective). However, the factor was considered important because it represented a distinctly different view of the causes of poaching and therefore was retained for analysis.

Factor A included five people: two public land managers, two (listed as others) who work with ginseng growers (extension, research, non-profit), and a dealer. Factor B was represented by two lawyers, two law enforcement officers, one grower, one gatherer, and one person (listed as other) who also works with ginseng growers. Factor C was also made up of seven people. Three people were public land managers that either worked for state or federal agencies. There were two dealers, one grower, and one person who worked with growers. Factor D was the smallest group and was made of a grower, a dealer and a law enforcement officer.
Table 10. 
*Q Sort Statements with Values for Each Factor*

<table>
<thead>
<tr>
<th>State. No.</th>
<th>Statement</th>
<th>Factor Rankings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>A</td>
</tr>
<tr>
<td>1</td>
<td>If there were other options in the region, other sources of money, then people wouldn't poach.</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>What some call poachers are just people who live off the land year round. They hunt deer in the fall, and dig ginseng in the summer.</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>There are areas where different pieces of property butt up against each other and people innocently stray on to someone else's land.</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>People have rights to ginseng on certain sections of ground because their grandfather owned it years ago.</td>
<td>-4</td>
</tr>
<tr>
<td>5</td>
<td>Hell with the forest service. It's too much bother to get a digger's permit from them.</td>
<td>-2</td>
</tr>
<tr>
<td>6</td>
<td>There are no teeth in state laws to protect ginseng.</td>
<td>0</td>
</tr>
<tr>
<td>7</td>
<td>Older diggers do what is right to keep ginseng on the landscape and harvest it in a sustainable way.</td>
<td>3</td>
</tr>
<tr>
<td>8</td>
<td>People who take ginseng illegally are just out for a quick buck.</td>
<td>0</td>
</tr>
<tr>
<td>9</td>
<td>I don't believe in private property rights; therefore, there's no such thing as ginseng poaching.</td>
<td>-4</td>
</tr>
<tr>
<td>10</td>
<td>People who collect ginseng illegally often just get a small fine for trespassing.</td>
<td>-1</td>
</tr>
<tr>
<td>11</td>
<td>The hillbilly is going to lead to the destruction of this poor plant.</td>
<td>-3</td>
</tr>
<tr>
<td>12</td>
<td>Mountaintop mining is the worst form of poaching, it's poaching from the next generation.</td>
<td>3</td>
</tr>
<tr>
<td>13</td>
<td>For people who are poor, illegal harvesting is one of the few ways to bring in money.</td>
<td>-3</td>
</tr>
<tr>
<td>14</td>
<td>Years ago sangers use to replant the berries, people aren't like that today, there's a loss of culture.</td>
<td>1</td>
</tr>
<tr>
<td>15</td>
<td>The buyers are the real link in this issue. Someone has to be buying illegally harvested ginseng.</td>
<td>2</td>
</tr>
<tr>
<td>16</td>
<td>It's OK to harvest ginseng on coal property if you're landless.</td>
<td>-1</td>
</tr>
<tr>
<td>17</td>
<td>Ginseng was put there by God and we are his people so we can take it.</td>
<td>1</td>
</tr>
<tr>
<td>18</td>
<td>I can't imagine a person taking ginseng illegally for beer or cigarettes, it’s a lot of work and you might even get shot at.</td>
<td>-1</td>
</tr>
</tbody>
</table>
Ginseng poaching is stealing someone's private property from his backyard. There's no justification for that. It's thievery.

Police and rangers don't have the resources to get poachers or enforce the laws.

Today the use of 4-wheeler makes it easy to get into and out of the woods and in a few hours you can dig a couple hundred dollars worth of ginseng.

It's unnecessary to go to the bother of cultivating wild simulated ginseng when it's so easy to poach.

It's a cat and mouse game between woodsy people and law officers.

Poaching ginseng is just another avenue to obtain money illegally, like shoplifting.

People who take ginseng illegally are aware of laws even though they may claim ignorance.

There are people who don't even know a season exists or that ginseng is regulated.

100 years ago landowners didn't worry about private property and people harvested ginseng in rural areas walking across land that belonged to someone else and it was no big deal. This culture is still present today.

The media will run a story about how much money you can get for it and then everybody and his brother are out digging it.

People who don't own their own land have no other choice but to seek out land where they can find ginseng.

You can expect to have some ginseng harvested by someone else if the land is not posted or fenced off, but that's not poaching.

Rural areas in Appalachia have a problem with drug rings and people will poach ginseng and anything else possible to get money to buy drugs.

It is OK to dig ginseng on property that was once owned by a member of your family, even if it's not your own because your ancestors helped keep the ginseng growing there in the first place.

Judges and prosecutors don't think poaching is a real crime.

The U.S. Fish and Wildlife people are too lenient on the states about how they handle the state ginseng programs.

<table>
<thead>
<tr>
<th>State. No.</th>
<th>Statement</th>
<th>Factor Rankings</th>
</tr>
</thead>
<tbody>
<tr>
<td>19</td>
<td>Ginseng poaching is stealing someone's private property from his backyard. There's no justification for that. It's thievery.</td>
<td>1 4 3 4</td>
</tr>
<tr>
<td>20</td>
<td>Police and rangers don't have the resources to get poachers or enforce the laws.</td>
<td>2 2 3 2</td>
</tr>
<tr>
<td>21</td>
<td>Today the use of 4-wheeler makes it easy to get into and out of the woods and in a few hours you can dig a couple hundred dollars worth of ginseng.</td>
<td>4 2 1 -2</td>
</tr>
<tr>
<td>22</td>
<td>It's unnecessary to go to the bother of cultivating wild simulated ginseng when it's so easy to poach.</td>
<td>-1 -1 -3 -3</td>
</tr>
<tr>
<td>23</td>
<td>It's a cat and mouse game between woodsy people and law officers.</td>
<td>0 1 -1 0</td>
</tr>
<tr>
<td>24</td>
<td>Poaching ginseng is just another avenue to obtain money illegally, like shoplifting.</td>
<td>0 3 0 -1</td>
</tr>
<tr>
<td>25</td>
<td>People who take ginseng illegally are aware of laws even though they may claim ignorance.</td>
<td>0 3 0 3</td>
</tr>
<tr>
<td>26</td>
<td>There are people who don't even know a season exists or that ginseng is regulated.</td>
<td>3 2 0 1</td>
</tr>
<tr>
<td>27</td>
<td>100 years ago landowners didn't worry about private property and people harvested ginseng in rural areas walking across land that belonged to someone else and it was no big deal. This culture is still present today.</td>
<td>4 1 0 2</td>
</tr>
<tr>
<td>28</td>
<td>The media will run a story about how much money you can get for it and then everybody and his brother are out digging it.</td>
<td>2 0 1 1</td>
</tr>
<tr>
<td>29</td>
<td>People who don't own their own land have no other choice but to seek out land where they can find ginseng.</td>
<td>-3 -2 -2 -1</td>
</tr>
<tr>
<td>30</td>
<td>You can expect to have some ginseng harvested by someone else if the land is not posted or fenced off, but that's not poaching.</td>
<td>-1 -2 -2 1</td>
</tr>
<tr>
<td>31</td>
<td>Rural areas in Appalachia have a problem with drug rings and people will poach ginseng and anything else possible to get money to buy drugs.</td>
<td>-2 0 0 3</td>
</tr>
<tr>
<td>32</td>
<td>It is OK to dig ginseng on property that was once owned by a member of your family, even if it's not your own because your ancestors helped keep the ginseng growing there in the first place.</td>
<td>-2 -3 -2 -2</td>
</tr>
<tr>
<td>33</td>
<td>Judges and prosecutors don't think poaching is a real crime.</td>
<td>1 0 4 -1</td>
</tr>
<tr>
<td>34</td>
<td>The U.S. Fish and Wildlife people are too lenient on the states about how they handle the state ginseng programs.</td>
<td>-2 1 2 -1</td>
</tr>
</tbody>
</table>
Table 11.
Re-ordered Factor Loading Matrix

<table>
<thead>
<tr>
<th>Pseudonym</th>
<th>Perspectives</th>
<th>State</th>
<th>Position</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A</td>
<td>B</td>
<td>C</td>
</tr>
<tr>
<td>Bernice</td>
<td>0.804**</td>
<td>0.164</td>
<td>0.109</td>
</tr>
<tr>
<td>Jeffery</td>
<td>0.588**</td>
<td>-0.003</td>
<td>0.052</td>
</tr>
<tr>
<td>Dan</td>
<td>0.562**</td>
<td>0.249</td>
<td>0.284</td>
</tr>
<tr>
<td>Dave</td>
<td>0.584**</td>
<td>0.296</td>
<td>0.477**</td>
</tr>
<tr>
<td>Rob</td>
<td>0.498**</td>
<td>0.075</td>
<td>0.380</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mike</td>
<td>-0.115</td>
<td>0.798**</td>
<td>0.359</td>
</tr>
<tr>
<td>Tim</td>
<td>0.101</td>
<td>0.760**</td>
<td>0.425</td>
</tr>
<tr>
<td>Jack</td>
<td>0.356</td>
<td>0.750**</td>
<td>0.087</td>
</tr>
<tr>
<td>Boblaw</td>
<td>0.107</td>
<td>0.692**</td>
<td>0.156</td>
</tr>
<tr>
<td>Adam</td>
<td>0.439**</td>
<td>0.681**</td>
<td>0.169</td>
</tr>
<tr>
<td>Hunter</td>
<td>0.442**</td>
<td>0.621**</td>
<td>0.177</td>
</tr>
<tr>
<td>Roger</td>
<td>0.434</td>
<td>0.459**</td>
<td>0.370</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dorothy</td>
<td>0.123</td>
<td>0.262</td>
<td>0.780**</td>
</tr>
<tr>
<td>Diane</td>
<td>0.275</td>
<td>0.270</td>
<td>0.778**</td>
</tr>
<tr>
<td>Fred</td>
<td>0.067</td>
<td>0.106</td>
<td>0.763**</td>
</tr>
<tr>
<td>Cole</td>
<td>0.173</td>
<td>0.099</td>
<td>0.747**</td>
</tr>
<tr>
<td>Shirley</td>
<td>0.151</td>
<td>0.351</td>
<td>0.718**</td>
</tr>
<tr>
<td>Charles</td>
<td>0.445**</td>
<td>0.248</td>
<td>0.663**</td>
</tr>
<tr>
<td>Alan</td>
<td>0.052</td>
<td>0.455**</td>
<td>0.518**</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tobi</td>
<td>0.285</td>
<td>-0.150</td>
<td>0.070</td>
</tr>
<tr>
<td>George</td>
<td>0.078</td>
<td>0.468**</td>
<td>0.247</td>
</tr>
<tr>
<td>Donald</td>
<td>0.068</td>
<td>0.463**</td>
<td>0.087</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sam</td>
<td>0.326</td>
<td>0.400</td>
<td>0.389</td>
</tr>
</tbody>
</table>

* Indicates a person who loaded significantly on more than one factor.
** Indicates Statistical Significance (critical value = 0.442)
Factor A: Historical Traditional View

People who hold this perspective have six major themes that define their opinions about why people poach. They include: a lack of belief in private property, poaching is a way of life, people poach out of ignorance, people poach because of issues surrounding land access, and people poach because it’s easy and they have a sense of entitlement to dig ginseng on certain sections of land.

Lack of Belief in Private Property Rights

Lack of belief in private property rights as a reason for poaching is a primary belief of people who hold this perspective. They embrace a historical view of private property rights. Some people in the region today refuse to recognize private property laws and harvest ginseng in the same manner as they did 100 years ago. They treat the land as a commons and roam across boundaries lines, ignoring them (27). However, like the other three perspectives, people who hold this view also strongly disagree that local residents’ refusal to acknowledge private property gives them the right to poach ginseng (9). Unlike the other three perspectives, people who hold this opinion only moderately agree that poaching is stealing someone’s private property (19).

Diane referred to some ginsengers as “generational gatherers.” Dan said, “People think they have rights to certain sections of ground because grandfather owned it years ago, but now it’s federal land and they can’t hunt here legally anymore.” Frank, a grower from West Virginia, said,
Historical data is starting to show that those who dig ginseng on property they don’t own are often heirs of people who planted the ginseng first and they know it is there. Even the national forest was once private property and folks from those families remember where their ginseng was and logically feel they have a right to come back and harvest from time to time.

Rob, a researcher, explained the feeling of treating land owned by others as a commons in this way,

In the South and Midwest, where much rural land is owned by large utility companies and the Federal government, hunting, fishing and poaching ginseng on this land have become accepted practices among some local residents. When the victim of poaching is a large, perhaps unknowing and seemingly uncaring corporate entity, it is difficult for me to become too upset by local people harvesting a resource that they may have planted themselves or at least have tended over many years, especially if they have stewarded that resource, protecting it from deer and other threats and are the main reason it still exists.

Dave, a researcher, in West Virginia commented about digging ginseng from absentee land. He said,

As far as harvesting on absentee, coal mining and timber companies’ land, you can write a letter to ask permission and they [absentee owners] say you aren’t getting permission but you can go in kind of at your own risk and then you may end up on someone else’s property. Because of this, poaching may happen as the result of an accident. But certain people, some people feel they have rights to ginseng that is located near the sang [ginseng] they have been harvesting for years and feel that no one else should do it [harvest] near their home even though it is on, say, coal company land that’s behind their house.

Roger said, “During the past two hundred years, land has been sold and resold many times over.” Generations of local people in West Virginia have become accustomed to treating the land as a commons, roaming over boundaries and property lines without little attention being paid to the legal owners. One interviewee believed that many people still
stand by the old saying “finders keepers” and what they may find in the woods is in fact theirs regardless of who owns the title or deed to that land. Roger went on to say,

It’s a complex issue of why or why not some people do not acknowledge boundaries. They don’t realize that land ownership changes over time. Pennsylvania is the number one state for breaking large portions of land into parcels. There are lots of pieces where it used to be a big area owned by one family and you had permission to hunt on it.

Way of Life

For people who hold the traditional viewpoint, poaching is not a game between law officers and woodsy people (23) but it is a way of life for people who continue to live off the land hunting deer and gathering ginseng (2). These local gatherers are not going to destroy the ginseng (11). Jeffery, said, “the hillbillies are more educated than the bureaucrats about ginseng. Sure they replant the berries. If they didn’t, it wouldn’t be here today.” Donald, a 70 year-old grower from West Virginia, said,

Poaching is a word used by academicians, and all aspects of ginseng in Central Appalachia is a tradition and has been passed down for generations. The local terminology is sang huntin,’ an income to be had free for the taking after finding it in the woods.

Ignorance

Lack of awareness of laws and sustainable practices plays a role in ginseng poaching as the people who hold this viewpoint strongly feel, in keeping with historical methods of harvesting, older diggers know about sustainability and continue to harvest ginseng in a sustainable way (7). Their viewpoint moderately believes that people today are not following these traditional sustainable techniques such as replanting ripe berries (14). They feel that there may be some people who are unaware that ginseng is regulated and there are set
seasons to harvest ginseng (26). Dave said, “There was this guy, he came to a trapper meeting, he was sending people out to hunt for all kinds of medicinals without any guidelines at all for sustainable harvesting.”

**Access to land**

The people who hold this perspective have mixed feelings about the role of land access in poaching. They disagree that a lack of land is a reason to dig ginseng on coal property (16) or to seek out other land to dig ginseng on (29). However, unlike perspectives B and C, people who hold this perspective, are concerned about the plant’s sustainability, and strongly agree with people who hold perspective D. For them, mountaintop mining is a form of poaching that takes ginseng from the next generation (12). Dave said, “if you look at the counties where the mountaintop mining is occurring, well that’s where the ginseng harvests are dropping. Those counties used to have huge amounts of ginseng, but it gets less and less every year.”

**Easy Way to Get Money**

The ease of poaching today by using 4-wheelers to get on and off of property (21) plays a part in the problem according to the people who hold this perspective, but they moderately disagree that it’s so easy to poach ginseng that cultivation of wild simulated ginseng isn’t worth the bother (22).
Finally, the people who hold this perspective do not agree that ginseng gatherers are entitled to ginseng because grandfather owned the property (4) or other ancestors owned the property and helped keep ginseng growing on the land (32). Unlike the other three perspectives though, this group moderately believes local residents feel that God has put ginseng there for them to use (17). Dave said, “I know a lot of people who feel pretty strongly about the idea that ginseng was put here for their use. They say, so we can take it at any time and any place, for economic prosperity or our own use.”
I don’t believe in private property rights; therefore, there’s no such thing as ginseng poaching. (9)

Ginseng poaching is stealing someone's private property from his backyard. There's no justification for that. It's thievery. (19)

100 years ago landowners didn’t worry about private property issues and people harvested ginseng in rural areas walking across land that belonged to someone else and it was no big deal. This culture is still present today. (27)

What some call poaching is just what people who live off the land do year round. They hunt deer in the fall and dig ginseng in the summer. (2)

The hillbilly is going to lead to the destruction of this poor plant. (11)

It's a cat and mouse game between woodsy people and law officers. (23)

Older diggers do what is right to keep ginseng on the landscape and harvest it in a sustainable way. (7)

Years ago sangers use to replant the berries, people aren't like that today, there's a loss of culture. (14)

People who take ginseng illegally are aware of laws even though they may claim ignorance. (25)

There are people who don’t even know a season exists or that ginseng is regulated. (26)

Mountaintop mining is the worst form of poaching, it’s poaching from the next generation. (12)

It’s OK to harvest ginseng on coal property if you are landless. (16)

People who don’t own their own land have no other choice but to seek out land where they can find ginseng. (29)

You can expect to have some ginseng harvested by someone else if the land is not posted, or fenced off but that’s not poaching. (30)

Today the use of 4-wheelers makes it easy to get into and out of the woods and in a few hours you can dig a couple hundred dollars worth of ginseng. (21)

It's unnecessary to go to the bother of cultivating wild simulated ginseng when it's so easy to poach. (22)

People have rights to ginseng on certain sections of ground because their grandfather owned it years ago. (4)

Ginseng was put there by God and we are his people so we can take it. (17)

It is OK to dig ginseng illegally on property that was once owned by a member of your family, even if it’s not your own, because your ancestors helped keep the ginseng growing there in the first place. (32)

| Statements Associated with the Historical/Traditional View of Harvesting |
|-----------------------------|-----------------|---|---|---|
| **Lack of Belief in Private Property** | **A** | **B** | **C** | **D** |
| I don’t believe in private property rights; therefore, there’s no such thing as ginseng poaching. (9) | -4 | -4 | -4 | -4 |
| Ginseng poaching is stealing someone's private property from his backyard. There's no justification for that. It's thievery. (19) | 1 | 4 | 3 | 4 |
| 100 years ago landowners didn’t worry about private property issues and people harvested ginseng in rural areas walking across land that belonged to someone else and it was no big deal. This culture is still present today. (27) | 4 | 1 | 0 | 2 |
| **Way of Life** | **A** | **B** | **C** | **D** |
| What some call poaching is just what people who live off the land do year round. They hunt deer in the fall and dig ginseng in the summer. (2) | 2 | -3 | -1 | 0 |
| The hillbilly is going to lead to the destruction of this poor plant. (11) | -3 | 0 | -4 | -3 |
| It's a cat and mouse game between woodsy people and law officers. (23) | 0 | 1 | -1 | 0 |
| **Ignorance** | **A** | **B** | **C** | **D** |
| Older diggers do what is right to keep ginseng on the landscape and harvest it in a sustainable way. (7) | 3 | -1 | 2 | 2 |
| Years ago sangers use to replant the berries, people aren't like that today, there's a loss of culture. (14) | 1 | 0 | 1 | 0 |
| People who take ginseng illegally are aware of laws even though they may claim ignorance. (25) | 0 | 3 | 0 | 3 |
| There are people who don’t even know a season exists or that ginseng is regulated. (26) | 3 | 2 | 0 | 1 |
| **Access to Land** | **A** | **B** | **C** | **D** |
| Mountaintop mining is the worst form of poaching, it’s poaching from the next generation. (12) | 3 | 1 | 0 | 3 |
| It’s OK to harvest ginseng on coal property if you are landless. (16) | -1 | -1 | -3 | 0 |
| People who don’t own their own land have no other choice but to seek out land where they can find ginseng. (29) | -3 | -2 | -2 | -1 |
| You can expect to have some ginseng harvested by someone else if the land is not posted, or fenced off but that’s not poaching. (30) | -1 | -2 | -2 | 1 |
| **Easy Way to Get Money** | **A** | **B** | **C** | **D** |
| Today the use of 4-wheelers makes it easy to get into and out of the woods and in a few hours you can dig a couple hundred dollars worth of ginseng. (21) | 4 | 2 | 1 | -2 |
| It's unnecessary to go to the bother of cultivating wild simulated ginseng when it's so easy to poach. (22) | -1 | -1 | -3 | -3 |
| **Traditional Right of Use/Entitlement** | **A** | **B** | **C** | **D** |
| People have rights to ginseng on certain sections of ground because their grandfather owned it years ago. (4) | -4 | -3 | -1 | -4 |
| Ginseng was put there by God and we are his people so we can take it. (17) | 1 | -4 | -2 | -4 |
| It is OK to dig ginseng illegally on property that was once owned by a member of your family, even if it’s not your own, because your ancestors helped keep the ginseng growing there in the first place. (32) | -2 | -3 | -2 | -2 |
Factor B: Poachers are Criminals

There are three major themes that create the viewpoint of people who hold the perspective that poachers are criminals. They are: people poach mainly for commercial gain, people know the ginseng laws but just ignore them, and ginseng harvesting is no longer part of a lifestyle of long ago.

Commercial Gain

One key element associated with people who hold to this perspective is a feeling that poaching is stealing and poachers are criminals out for money. Another belief is that poachers know what they are doing. It is illegal harvesting and they do it not because it’s a way of life but out of greed. A person who embraces this perspective by far has the strongest negative view of all four perceptions of poaching. He/she perceives anyone involved in any aspect of poaching, whether as a digger or a buyer, is engaged in an illegal activity. He/she also believes this behavior is driven primarily by the monetary value of the plant.

Commercial gain is a key point with people in this group. This group disagrees that if there were other options or other jobs in the area, people wouldn’t poach ginseng (1). They think poachers are just out for a quick buck (8).

People who have opinions in line with this perspective also hold buyers responsible for their involvement as they too benefit commercially from the act and are the real link in this issue; someone has to be buying illegally harvested ginseng (15). Jack said, “Jobs might help stop some of the ginseng poachers but not illegal dealers. Well even a guy who has a decent job might want to make a little extra money on the side and this is a way to do that.”
There is a lack of accountability and interest of buyers/exporters to buy and sell only legally obtained ginseng. Buyers and dealers are reluctant to enforce a “chain of ownership” to trace ginseng roots back to individual harvesters. Mike, a law enforcement officer, said of dealers, “I’ve seen them [dealers]. Many keep haphazard records; they only have names and pounds. They could have written down anything, any name and any amount. Dealers are a big part of this problem and there is no way to really address that. We need to mandate a license, a way to prove where the roots came from.”

People who poach ginseng would also do other illegal acts like shoplifting because for them it’s just another way to get money illegally (24). Matt, a wildlife officer from Ohio, said, “poaching is taking wildlife or ginseng illegally” and it is “theft whether it was theft from private property or stealing from the people of the State of Ohio” when the act occurs on public property. Mike, a wildlife officer from Northeastern Ohio, felt that poaching in general was a “violation of wildlife laws which we have authority on” and “poaching is a more serious violation of wildlife law, more than fishing without a license. Is it worse than poaching deer to poach ginseng? It all depends: [you] can have a deer with a big rack worth lots of money. The 2006 price paid for wild ginseng in Ohio was about $450 a pound, making it worth much more than most deer.” People who have the viewpoint associated with Perspective B do not feel strongly one way or the other that poaching is made worse by media coverage (28) or drug problems in the region (31).
Ignorance

People who hold the viewpoint of Perspective B do not feel ignorance of the laws is a justification for people to poach. Instead they express animosity towards those involved in poaching. They don’t believe older diggers are necessarily harvesting ginseng in a sustainable way (7). People in this perspective are evenhanded about the belief that harvesting practices have changed (14) and have become less sustainable because people are not replanting the berries. They strongly agree that poachers know exactly what they are doing and are aware of the laws even though they may claim they are uninformed (25). These people believe that there may be some harvesters who are not aware of ginseng laws (26) in the region.

Way of life

People in this perspective reject the idea that harvesting is a way of life for local residents. For this group, ginseng harvesters are not people living off the land (2) and they agree that some poachers may be playing games with law officers (23). Unlike the other three perspectives, this group feels that harvesters may be doing some harm to ginseng populations as they don’t strongly disagree with the statement that the hillbilly is going to leads to the destruction of this poor plant (11) as people who hold opinions of Perspectives A, C, and D.
Table 13.
Statements Associated with those who View Poachers as Criminals

<table>
<thead>
<tr>
<th>Factor B Categories with Statements</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Commercial Gain</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>If there were other options in the region, other sources of money, then people wouldn't take ginseng illegally. (1)</td>
<td>0</td>
<td>-2</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>People who take ginseng illegally are just out for a quick buck. (8)</td>
<td>0</td>
<td>3</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>The buyers are the real link in this issue. Someone has to be buying illegally harvested ginseng. (15)</td>
<td>2</td>
<td>4</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>I can't imagine a person taking ginseng illegally for beer or cigarettes, it's a lot of work and you might even get shot at. (18)</td>
<td>-1</td>
<td>0</td>
<td>-1</td>
<td>0</td>
</tr>
<tr>
<td>Poaching ginseng is just another avenue, like shoplifting, to obtain money illegally. (24)</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>-1</td>
</tr>
<tr>
<td>The media will run a story about how much money you can get for it and then everybody and his brother are out digging it. (28)</td>
<td>2</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Rural areas in Appalachia have a problem with drug rings and people will poach ginseng and anything else possible to get money to buy drugs. (31)</td>
<td>-2</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td><strong>Ignorance</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Older diggers do what is right to keep ginseng on the landscape and harvest it in a sustainable way. (7)</td>
<td>3</td>
<td>-1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Years ago sangers use to replant the berries, people aren't like that today, there's a loss of culture. (14)</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>People who take ginseng are aware of the laws even though they may claim ignorance. (25)</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>There are people who don't even know a season exists or that ginseng is regulated. (26)</td>
<td>3</td>
<td>2</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td><strong>Way of Life</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>What some call poachers are just people who live off the land year round. They hunt deer in the fall, and dig ginseng in the summer. (2)</td>
<td>2</td>
<td>-3</td>
<td>-1</td>
<td>0</td>
</tr>
<tr>
<td>The hillbilly is going to lead to the destruction of this poor plant. (11)</td>
<td>-3</td>
<td>0</td>
<td>-4</td>
<td>-3</td>
</tr>
<tr>
<td>It's a cat and mouse game between woodsy people and law officers. (23)</td>
<td>0</td>
<td>1</td>
<td>-1</td>
<td>0</td>
</tr>
</tbody>
</table>
Factor C: Failure of Legal Repercussions

People who hold this perspective have two major themes that define their opinions about why people poach. They are: a lack of legal repercussions and access to land.

*Lack of Legal Repercussions*

A person who holds this perspective strongly agrees the lack of legal repercussions is a major factor in poaching. This viewpoint, unlike the other three, was much more concerned with the legal interpretation of the laws and the legal definitions of poaching. Specifically, people who hold this opinion strongly agree that there are no teeth in existing ginseng poaching laws (6). People who hold this opinion also believe ginseng diggers who collect ginseng illegally only get a small fine for trespassing (10). Roger stated it well when he said,

> Rangers and police don’t know what the plant even looks like. Often [the poachers] just get it for trespassing and then it’s in paper and the grower is penalized because others will poach him too. Judges don’t take it seriously. There are no real teeth in the regulations, even when it involves theft of plants out of season or on public lands or between states. The incident of theft in Pennsylvania [the] rangers and police wouldn’t do anything about it but New York police did.

People within this perspective cite the small amounts of funding given to state ginseng programs, and the lack of resources available to police and rangers as part of the problem. The enforcement agents don’t have the resources to get poachers or enforce the laws (20). They strongly believe the frequent lackadaisical attitudes of prosecutors and judges overseeing poaching cases are a major issue. These attitudes are due to their lack of understanding of the problems including: the extent of ginseng poaching, the sensitive biology and ecology of the species, and the economic value of ginseng. Judges and lawyers don’t think ginseng poaching is a real crime (33) when it is in fact stealing from someone’s
property and taking someone’s livelihood. Alan is a grower who has just started to cultivate ginseng on his property. He said, “Some people might not be doing it intentionally but others know what they are doing. They are stealing. The penalties aren’t high enough. If you steal a bag of potato chips you don’t get a big fine but if you steal a $40,000 car, you go to prison. Judges need to be made aware of the real value of a ginseng crop.” Unlike, perspective A and D, people who hold this opinion believe that the U.S. Fish and Wildlife Service is too lenient on states about how they handle their ginseng programs (34). Alan said, “States need to require dealers to obtain legitimate identification from the ginseng growers and gatherers who sell their roots. If they [states] fail to provide true information, then they should be fined, but now they are only threatened by the U.S. FWS.”

Access to land

People who hold this perspective do not believe that lack of access to land is a justification to poach. Once again illustrating their strict legal interpretation of the term, those who hold this viewpoint do not agree with people associated with perspectives A and D, which feel mountaintop removal is a form of poaching (12). Cole said, “I don’t think it’s good for ginseng and the habitat to use the land in that format but as far as whether or not it is poaching, well going by the strict definition of the term, it is not.” Landless people should not be allowed to dig on coal property (16) or seek out other places to dig ginseng (29). Cole said, “I can’t understand why someone would go on another person’s property in West Virginia since most of the property in that state is owned by individuals.” Those who hold
the opinion of Perspective C disagree with people who believe in Perspective D that poaching on land that isn’t posted (30) is excusable.

Table 14.

Statements Associated with Failure of Legal Repercussions

<table>
<thead>
<tr>
<th>Factor C Categories with Statements</th>
<th>Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A</td>
</tr>
<tr>
<td><strong>Lack of Legal Repercussions</strong></td>
<td></td>
</tr>
<tr>
<td>There are no teeth in the state laws to protect ginseng. (6)</td>
<td>0</td>
</tr>
<tr>
<td>People who collect ginseng illegally often just get a small fine for trespassing. (10)</td>
<td>-1</td>
</tr>
<tr>
<td>Police and rangers don't have the resources to get poachers or enforce the laws. (20)</td>
<td>2</td>
</tr>
<tr>
<td>Judges and prosecutors don't think ginseng poaching is a real crime. (33)</td>
<td>1</td>
</tr>
<tr>
<td>The U.S. FWS people are too lenient on the states about how they handle the state ginseng programs. (34)</td>
<td>-2</td>
</tr>
<tr>
<td><strong>Access to Land</strong></td>
<td></td>
</tr>
<tr>
<td>Mountaintop mining is the worst form of poaching, it’s poaching from the next generation. (12)</td>
<td>3</td>
</tr>
<tr>
<td>It’s OK to harvest ginseng on coal property if you are landless. (16)</td>
<td>-1</td>
</tr>
<tr>
<td>People who don’t own their own land have no other choice but to seek out land where they can find ginseng. (29)</td>
<td>-3</td>
</tr>
<tr>
<td>You can expect to have some ginseng harvested by someone else if the land is not posted, or fenced off but that’s not poaching. (30)</td>
<td>-1</td>
</tr>
</tbody>
</table>

Factor D: Poverty and Drugs Contribute to Poaching

People who hold this perspective, the opinion that poaching is a result of socioeconomic issues in the region have six major themes that define their opinions about why people poach. They are: a need for money to support the family, commercial gain, a belief that poaching is not an easy way to get money, the lack of land access, and the feeling that there are adequate methods of intervention in place.
In contrast to people who have beliefs in line with Perspective B, which takes a very negative and unforgiving view of people who poach, a person who holds to opinions in this perspective does not take the view that poaching in the region is an act committed by greedy, unscrupulous individuals. Instead, people who hold to beliefs in this perspective tend to examine social issues in the region, such as poverty and drugs, and lack of access to land as motivating factors for ginseng poaching. People in this perspective take a more understanding stance of why a person might be motivated to poach ginseng. Illegal ginseng gathering is just a symptom of a larger problem. People who hold to viewpoints of this perspective strongly believe poaching is a way for the poor in the region to bring in money (13).

Commercial Gain

Similar to the other viewpoints in Perspectives A, B, and C, commercial gain was seen as a major reason to poach by Perspective D, but unlike people associated with Perspective B, people in Perspective D believe that if there were other options in the region, other jobs, people would not be inclined to poach (1). The motivations behind the poaching differ. While those who hold viewpoints of Perspective B feel poachers are just out for money because they are greedy, people who hold viewpoints with Perspective D believe local inhabitants are needy and poor and commit the crime out of necessity or love of family. They don’t feel that people poach to get money for beer (18) or for a quick buck (8). Jake, a researcher from Kentucky, illustrated the sympathetic stance many have towards some
poachers. He pointed out that in his state when it comes to absentee landowners like coal
and timber companies, poor people are being colonized much like the people of Africa. He
said, “People are dirt poor and can’t get enough to eat and the riches of the land aren’t being
shared. If the absentee landowner isn’t interested in it [ginseng], why can’t others have
access to it?” Donald, a long time grower, said, “A quick buck, well that might be a small
part of it but there are other reasons to steal it. “

“Temptation, it’s a temptation that some people can’t resist. It’s a kin to gold fever.
You’ve got something that other people don’t have and people can’t resist the temptation to
take it.” For these people, ginseng digging isn’t just another way to get money illegally (24).

Drugs also played a role in poaching with this group (31) who felt rural drug use
leads to some of the poaching. Frank, a grower from West Virginia, said,

I think it differs from state to state like there are different types of poachers, ones that
are involved in meth labs [methamphetamine] like Ohio and then the little guys like
those digging on the property because some relatives use to own it years ago. There
are certain cultural pockets around the east where ginseng theft can happen. For
instance, in Ohio they have a problem with drug rings and people that will poach
ginseng and anything of value to sell to buy drug-making ingredients.

Unlike those people who hold opinions associated with Perspectives A, B, and C, people who
hold opinions associated with Perspective D tended not to blame the buyers as much for
poaching (15). Tobi said, “Poachers stole the ginseng flat out from someone else, that’s
illegal. But, dealers, well they at least paid for the sang they have. They didn’t steal it.”

*Easy Way to Get Money*

For people who hold opinions of Perspective D, poaching is not easy to do (22) and
they do not believe poachers are folks who just jump on their 4-wheelers and ride through the
woods easily nabbing a couple hundred dollars worth of ginseng (21). “It’s a hard job, with hilly slopes, poisonous snakes, and August heat and humidity to contend with.”

Access to Land

Along with the effects of poverty, people who hold opinions associated with this perspective were also concerned with the lack of access to land in the region and the end result it had on poaching. They did not take a strong stance against harvesting ginseng on coal property especially for people who were landless (16) because folks without land had no other choice (29). Tobi said, “People came here to the mountains to scratch out a living and then suddenly other people want to develop the land and mine it and now local people are poachers ‘cause they dig ginseng.”

Mountaintop removal was viewed as another way to exclude harvesters from the land and ginseng by destroying the habitat (12). Tobi said, “I think the number one reason for the decline of plants is habitat loss from logging, development, and mountaintop removal. Sang can handle some clear cutting, but not taking the soil away.” Finally, people in this perspective placed the responsibility for protecting cultivated plots on the growers’ shoulders saying if the land wasn’t fenced or posted, well then you can expect to have your ginseng harvested by someone else (30).

Lack of Legal Repercussions

Overall, people who hold opinions of this perspective believe it is easier to pick on a small group of under-represented people (local gatherers) rather than go after coal companies
who may be destroying the species. They are more reluctant than any other perspective to blame the lack of legal repercussions for poaching. People within this group tend to side with the poor folks in the region, believing the laws, in addition to being hard on the locals, really do not address the root causes of poaching. Unlike people associated with Perspective C, people within this group don’t believe that the U.S. Fish and Wildlife Service is too lenient on states about their ginseng programs (34), or there are no teeth in state laws (6) or that judges and lawyers don’t take the crime seriously (33).
Table 15.  
Statements Associated with Poverty

<table>
<thead>
<tr>
<th>Factor D Categories with Statements</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Need Money for Family</td>
<td>-3</td>
<td>-1</td>
<td>-1</td>
<td>4</td>
</tr>
<tr>
<td>For people who are poor, illegal harvesting is one of the few ways to bring in money. (13)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commercial Gain</td>
<td>0</td>
<td>-2</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>If there were other options in the region, other sources money, then people wouldn’t take ginseng illegally. (1)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>People who take ginseng illegally are just out for a quick buck. (8)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Buyers are the real link in this issue. Someone has to be buying illegally harvested ginseng. (15)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I can't imagine a person taking ginseng illegally for beer or cigarettes, it’s a lot of work and you might even get shot at. (18)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Poaching ginseng is just another avenue to obtain illegal money, like shoplifting. (24)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The media will run a story about how much money you can get for it and then everybody and his brother are out digging it. (28)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rural areas in Appalachia have a problem with drug rings and people will poach ginseng and anything possible to get money to buy drugs. (31)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Easy Way to Get Money</td>
<td>4</td>
<td>2</td>
<td>1</td>
<td>-2</td>
</tr>
<tr>
<td>Today the use of 4-wheelers makes it easy to get into and out of the woods and in a few hours you can dig a couple hundred dollars worth of ginseng. (21)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>It's unnecessary to go to the bother of cultivating wild simulated ginseng when it's so easy to poach. (22)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Access to Land</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Mountaintop mining is the worst form of poaching, it’s poaching from the next generation. (12)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>It’s OK to harvest ginseng on coal property if you are landless. (16)</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>People who don’t own their own land have no other choice but to seek out land where they can find ginseng. (29)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>You can expect to have some ginseng harvested by someone else if the land is not posted, or fenced off but that’s not poaching. (30)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lack of Legal Repercussions</td>
<td>0</td>
<td>2</td>
<td>4</td>
<td>-2</td>
</tr>
<tr>
<td>There are no teeth in the state laws to protect ginseng. (6)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>People who collect ginseng illegally often just get a small fine for trespassing. (10)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Police and rangers don't have the resources to get poachers or enforce the laws. (20)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Judges and prosecutors don’t think ginseng poaching is a real crime. (33)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The U.S. FWS people are too lenient on state about how they handle the state ginseng programs. (34)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Most and Least Significant Reasons to Poach

After the Q sorts were completed, 19 of the respondents ranked a set of 13 cards containing the categories that were used to organize the Q sort cards. They ranked them in two ways: they indicated the top three most significant and top three least significant reasons to poach. The results of these rankings are in Table 16 and Table 17. These results enforce the discussion of the four perspectives from the previous section. The most significant reason that would cause someone to poach was commercial gain, which matched Perspectives B and D. The second reason was no legal repercussion, which parallels the beliefs of Perspective C people. The third reason, need money for family along with the sixth reason, access to land, matches the beliefs of Perspective D. The fourth and fifth reasons, lack of respect for private property and traditional right of use, coincide with Perspective A.

Table 16.

<table>
<thead>
<tr>
<th>Category</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial Gain</td>
<td>24</td>
</tr>
<tr>
<td>No Legal Repercussions</td>
<td>19</td>
</tr>
<tr>
<td>Need Money for Family</td>
<td>16</td>
</tr>
<tr>
<td>Lack of Respect for Private Property</td>
<td>13</td>
</tr>
<tr>
<td>Traditional Right of Use</td>
<td>13</td>
</tr>
<tr>
<td>Access to Land</td>
<td>9</td>
</tr>
<tr>
<td>Easy to do</td>
<td>8</td>
</tr>
<tr>
<td>Accidental</td>
<td>5</td>
</tr>
<tr>
<td>Way of Life</td>
<td>3</td>
</tr>
<tr>
<td>Ignorance</td>
<td>3</td>
</tr>
<tr>
<td>Sport</td>
<td>2</td>
</tr>
<tr>
<td>Rebellion</td>
<td>0</td>
</tr>
<tr>
<td>Trophy</td>
<td>0</td>
</tr>
</tbody>
</table>

Note. Raw data found in Appendix H.

Note. Each participant had six votes.
The least three significant reasons to poach were: rebellion, trophy, and sport.

Respondents felt these were not significant reasons to poach ginseng even though they were listed as top reasons in Muth’s and Bowe’s typology as well as other empirical studies of game poaching.

Table 17.

<table>
<thead>
<tr>
<th>Category</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rebellion</td>
<td>28</td>
</tr>
<tr>
<td>Sport</td>
<td>19</td>
</tr>
<tr>
<td>Trophy</td>
<td>18</td>
</tr>
<tr>
<td>Accidental</td>
<td>18</td>
</tr>
<tr>
<td>Ignorance</td>
<td>8</td>
</tr>
<tr>
<td>Easy to do</td>
<td>5</td>
</tr>
<tr>
<td>Lack of Respect for Private Property</td>
<td>5</td>
</tr>
<tr>
<td>Need Money for Family</td>
<td>4</td>
</tr>
<tr>
<td>Way of Life</td>
<td>4</td>
</tr>
<tr>
<td>Access to Land</td>
<td>3</td>
</tr>
<tr>
<td>Traditional Right of Use</td>
<td>2</td>
</tr>
<tr>
<td>No Legal Repercussions</td>
<td>0</td>
</tr>
<tr>
<td>Commercial Gain</td>
<td>0</td>
</tr>
</tbody>
</table>

Note. Raw data found in Appendix H
Note. Each participant had six votes.

Comparison of Categories Across the Four Perspectives

In order to compare the reasons to poach across the four perspectives, the positive value for the Z scores for the statements in the top five categories of reasons to poach (see Table 16) were added together and can be found in Table 18. This table shows once again that all perspectives believe commercial gain is a major reason to poach, and need money for family is somewhat a reason to poach. The factors disagree as to the effects of a lack of
respect for private property. It also shows the greatest disparity between perspectives is the idea that there are not sufficient legal repercussions to address poaching.

Table 18.

\textit{Differences Across Discourses Between the Top Five Reasons People Poach}

<table>
<thead>
<tr>
<th>Category</th>
<th>\textsuperscript{b}Statement</th>
<th>\textsuperscript{a}Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial Gain</td>
<td>1, 8, 15, 18, 24, 28, 31</td>
<td>3.24 4.64 3.11 3.32</td>
</tr>
<tr>
<td>No Legal Repercussion</td>
<td>6, 10, 20, 33, 34</td>
<td>2.48 2.58 6.99 3.49</td>
</tr>
<tr>
<td>Need Money for Family</td>
<td>13</td>
<td>1.02 0.31 0.29 1.71</td>
</tr>
<tr>
<td>Lack of Respect for Private Property</td>
<td>9, 19, 27</td>
<td>4.48 4.69 2.97 3.99</td>
</tr>
<tr>
<td>Traditional Right of Use</td>
<td>4, 17, 32</td>
<td>3.62 5.06 2.71 4.67</td>
</tr>
</tbody>
</table>

\textsuperscript{a}These numbers are the sum of the absolute values of the z scores for each statement associated with the topic.
\textsuperscript{b}These numbers correspond to Q statement numbers.

Confounding and Non-significant Loadings

Eight of the twenty-three people performing the Q sorts were significantly confounded on more than one perspective (see Table 11). This means that they agreed (loaded) on more than one perspective and have what might be called a hybrid point of view about what causes poaching. Hunter and Roger both loaded on A and B significantly. Both are in their thirties, both said they grew up in the woods and had dug ginseng as teenagers. Hunter is a teacher while Roger considers himself a grower and gatherer and also does research with the ginseng community. Both strongly believed there were some people who did not know a season exists and this contributed to their loading on Factor A. They also felt that people had grown up in a culture that often ignores private property laws (Factor A statement). While they both felt that poaching was just another way for some to make money (Factor B), Hunter loaded much higher on Factor B due in part to his strong feeling about poachers being out for a quick buck. Roger did not agree with this statement.
George and Donald both loaded on Factor B and on Factor D. George is a law enforcement officer in West Virginia and Donald is a long-time grower in West Virginia. Both agreed with statements 15, 19, 24, and 25. These are all key statements for Factor B and basically refer to the strong feeling that poachers are thieves who know the laws, disregard them, and take private property. They felt that poaching was a way for the poor to obtain money, a statement associated with Factor D. However, while George believed that poachers would not poach if there were other options (jobs), Donald did not.

Sam, a seventy-year old grower and gatherer from Kentucky did not load significantly on any one factor but had almost equal scores on all four factors (0.33, 0.40, 0.39 and 0.30). This means he agreed equally with all four perspectives. There are several possible explanations for the non-loading. It could be that he did not have a well-informed opinion, the Q sorts may have not been created in a way to represent his viewpoint, he may not have done a good job of performing the Q sort, or there could have been extraneous factors (Webler, Tuler, & Krueger, 2001).

Sam, however, had a well-formed opinion of the poaching problem and has been involved in the ginseng community as a grower and harvester for well over fifty years. He did not rush through the Q sort but took nearly two hours sorting cards and commenting on cards. It is believed that Sam loaded on all perspectives because he was so knowledgeable about issues affecting ginseng commerce and being a life-long resident of Appalachia, could relate to all four perspectives. Another aspect of his sort that reinforces this idea is, when he was asked to indicate on his completed sort what statements he disagreed with, he only disagreed with the statements 9, 17, 18, 22, and 32. Of these statements, 9, 18, and 32 are
consensus statements meaning all four perspectives ranked these statements in a similar manner. This shows once again how Sam has a belief in the validity of all four perspectives.

Consensus Statements

Perspectives A, B, C, and D all ranked five of the Q sort statements with similar values. People who hold opinions associated with Perspectives A, B, C, and D all disagreed with the statement that there are no private property rights and so there is not such thing as poaching, each ranking this statement with a -4 value (see Table 19). Two of the consensus statements were in the commercial gain category, but the other statements in this category differed in their rankings among the four perspectives. People who hold opinions associated with Perspectives A, B, C, and D were neutral in their feelings that people took ginseng for beer or cigarettes and that the media made the situation worse by publishing articles touting the value of the plant’s roots. All participants who hold opinions associated with Factors A through D also did not agree that it was acceptable to dig ginseng on property formerly owned by the family. All perspectives moderately agreed with the statement, “today, sangers are not replanting berries as they once did” (1, 0, 1, 0).
Table 19.
Consensus Statements

<table>
<thead>
<tr>
<th>Statement</th>
<th>Scores</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>I don’t believe in property rights; therefore, there’s no such thing as poaching. (9)</td>
<td>4,-4,-4,-4</td>
<td>Lack of Respect for Private Property</td>
</tr>
<tr>
<td>I can’t imagine a person taking ginseng illegally for beer or cigarettes; it’s a lot of work and you may even get shot at. (18)</td>
<td>-1, 0, -1, 0</td>
<td>Commercial Gain</td>
</tr>
<tr>
<td>The media will run a story about how much money you can get for ginseng and then everybody and his brother will be out digging it. (28)</td>
<td>2, 0, 1, 1</td>
<td>Commercial Gain</td>
</tr>
<tr>
<td>It is OK to dig ginseng on property that was once owned by a member of your family, even if it’s not your own, because your ancestors helped keep the ginseng growing there in the first place. (32)</td>
<td>-2, -3, -2, -2</td>
<td>Traditional Right of Use</td>
</tr>
<tr>
<td>Years ago sangers use to replant berries, people aren’t like that today, there’s a loss of culture. (14)</td>
<td>1, 0, 1, 0</td>
<td>Ignorance</td>
</tr>
</tbody>
</table>

Correlation Between Factors

The data revealed the degree of correlation between factors. This determines how the four perspectives are related to one another. Examining the correlation between the factor scores shows that the viewpoint that poachers are criminals just out for money (Factor B) and the belief that policies and laws are failing to curb the incidents of poaching (Factor C) are the two viewpoints that are most closely correlated (see Table 20). Complete correlation or agreement is represented by 1.00. The correlation between Factor B and C is a 0.61 correlation. It is better to have less correlation because this illustrates a more distinct difference or uniqueness among the perspectives.
Table 20.

*Correlations Between Factor Scores*

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<tr>
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<th>A</th>
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Table 21.

*Distinguishing Statements for Four Factors*

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Table 22.

*Q Sort Statements Organized by Categories with Values for Each Factor*

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<th>Statement</th>
<th>Factor Rankings</th>
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</tr>
<tr>
<td></td>
<td><strong>Commercial Gain</strong></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>If there were other options in the region, other sources of money, then people wouldn't poach.</td>
<td>0</td>
</tr>
<tr>
<td>8</td>
<td>People who take ginseng illegally are just out for a quick buck.</td>
<td>0</td>
</tr>
<tr>
<td>15</td>
<td>The buyers are the real link in this issue. Someone has to be buying illegally harvested ginseng.</td>
<td>2</td>
</tr>
<tr>
<td>18</td>
<td>I can't imagine a person taking ginseng illegally for beer or cigarettes, it's a lot of work and you might even get shot at.</td>
<td>-1</td>
</tr>
<tr>
<td>24</td>
<td>Poaching ginseng is just another avenue to obtain illegal money, like shoplifting.</td>
<td>0</td>
</tr>
<tr>
<td>28</td>
<td>The media will run a story about how much money you can get for it and then everybody and his brother are out digging it.</td>
<td>2</td>
</tr>
<tr>
<td>31</td>
<td>Rural areas in Appalachia have a problem with drug rings and people will poach ginseng and anything else possible to get money to buy drugs.</td>
<td>-2</td>
</tr>
<tr>
<td></td>
<td><strong>Traditional Right of Use of Land/Entitlement</strong></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>People have rights to ginseng on certain sections of ground because their grandfather owned it years ago.</td>
<td>-4</td>
</tr>
<tr>
<td>9</td>
<td>I don't believe in private property rights; therefore, there's no such thing as ginseng poaching.</td>
<td>-4</td>
</tr>
<tr>
<td>17</td>
<td>Ginseng was put there by God and we are his people so we can take it.</td>
<td>1</td>
</tr>
<tr>
<td>32</td>
<td>It is OK to dig ginseng on property that was once owned by a member of your family, even if it's not your own because your ancestors helped keep the ginseng growing there in the first place.</td>
<td>-2</td>
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</tbody>
</table>
Table 22 (continued).

*Q Sort Statements Organized by Categories with Values for Each Factor*

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<th>State. No.</th>
<th>Statement</th>
<th>Factor Rankings</th>
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<td>Access to Land</td>
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<tr>
<td>12</td>
<td>Mountaintop mining is the worst form of poaching, it's poaching from the next generation.</td>
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</tr>
<tr>
<td>16</td>
<td>It's OK to harvest ginseng on coal property if you're landless.</td>
<td>-1 -1 -3 0</td>
</tr>
<tr>
<td>30</td>
<td>You can expect to have some ginseng harvested by someone else if the land is not posted or fenced off, but that's not poaching.</td>
<td>-1 -2 -2 1</td>
</tr>
<tr>
<td>29</td>
<td>People who don't own their own land have no other choice but to seek out land where they can find ginseng.</td>
<td>-3 -2 -2 -1</td>
</tr>
<tr>
<td>Ignorance</td>
<td></td>
<td></td>
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<tr>
<td>7</td>
<td>Older diggers do what is right to keep ginseng on the landscape and harvest it in a sustainable way.</td>
<td>3 -1 2 2</td>
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<td>14</td>
<td>Years ago sangers use to replant the berries, people aren't like that today, there's a loss of culture.</td>
<td>1 0 1 0</td>
</tr>
<tr>
<td>25</td>
<td>People who take ginseng illegally are aware of laws even though they may claim ignorance.</td>
<td>0 3 0 3</td>
</tr>
<tr>
<td>26</td>
<td>There are people who don't even know a season exists or that ginseng is regulated.</td>
<td>3 2 0 1</td>
</tr>
<tr>
<td>Easy Way to Get Money</td>
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<td></td>
</tr>
<tr>
<td>21</td>
<td>Today the use of 4-wheelers makes it easy to get into and out of the woods and in a few hours you can dig a couple hundred dollars worth of ginseng.</td>
<td>4 2 1 -2</td>
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<td>It's unnecessary to go to the bother of cultivating wild simulated ginseng when it's so easy to poach.</td>
<td>-1 -1 -3 -3</td>
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<tr>
<td>Way of Life</td>
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<td></td>
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<tr>
<td>2</td>
<td>What some call poachers are just people who live off the land year round. They hunt deer in the fall, and dig ginseng in the summer.</td>
<td>2 -3 -1 0</td>
</tr>
<tr>
<td>11</td>
<td>The hillbilly is going to lead to the destruction of this poor plant.</td>
<td>-3 0 -4 -3</td>
</tr>
<tr>
<td>23</td>
<td>It's a cat and mouse game between woodsy people and law officers.</td>
<td>0 1 -1 0</td>
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<tr>
<td>11</td>
<td>The hillbilly is going to lead to the destruction of this poor plant.</td>
<td>-3 0 -4 -3</td>
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Table 22 (continued).

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Summary

Four factors or perspectives were determined from the Q Methodology data. Factor A is the belief that historical views of harvesting, land ownership, and ideas about the commons contribute to poaching. Factor B feels that poachers are basically criminals who ignore laws and are out to make money from ginseng poaching. Factor C believes that poaching is a result of inadequate polices and methods of intervention. Finally, Factor D holds the opinion that ginseng poaching is a symptom of socio-economic issues in the region such as poverty and drug addiction.

Participants ranked the categories of reasons to poach placing commercial gain, no legal repercussions, need money for family, lack of respect for private property, and traditional right of use as the top five reasons that cause poaching. They rejected the categories of rebellion, trophy, and sport as reasons to poach ginseng.

While eight of the twenty-three Q sort participants were confounded, loaded on more than one factor, only one participant was a non-loader, did not significantly load on any factor. It was believed that this participant was intensely immersed in the issue of ginseng poaching and therefore, could relate to all four factors as reasons to poach ginseng.

Within the four factors, Factors B, the belief that poachers are criminals and Factor C, the lack in legal repercussions, were most closely correlated.
CHAPTER 8
DISCUSSION

This chapter begins by using several theories of deviant behavior to frame a discussion of why people poach ginseng. The chapter also employs a typology of game poaching motivations created by Muth and Bowe to explain the differences between motivations for game poaching and the motivations for ginseng poaching found in a typology generated by this study. Stakeholders discussed their beliefs about the effectiveness of various methods of interventions used against poaching. Their narratives are included in this chapter. Results of this research were presented and discussed at two public meetings. The chapter concludes with excerpts from those discussions.

Theories of Poaching

There are several theories that can be used to examine game poaching. Some of these are: neutralization theory, differential association theory, focal concern theory, and folk crime theory. A few of these theories are useful in explaining what might motivate ginseng poachers, while others are not relevant to ginseng poaching in Appalachia.

Neutralization Theory

Neutralization is a process “by which an individual attempts to minimize the culpability of his/her actions through a distorted application of one or more excuses or justifications” (Collins, 1994, p. 2). Other studies of poaching illustrate that often poachers
will use this technique to justify or excuse their actions. In this research, poachers were not studied; therefore, direct neutralization by poachers was not ascertained. However, many people in the ginseng community neutralized poachers’ behaviors by justifying their actions. They acknowledged that the poachers did commit a criminal act, but using a neutralization technique, the respondents often excused the actions of ginseng poachers in Appalachia. This was especially true for respondents from Perspectives A and D.

One technique of neutralization theory is “claims of necessity” and may be used when someone steals game to feed a family (Sykes & Matza, 1957). In rural areas, subsistence poaching is often committed to acquire meat and poachers justify their actions by claiming necessity (Musgrave, Parker, & Wolok, 1993; Eliason & Dodder, 2000).

Several interviewees in the ginseng community justified ginseng poaching by using an “appeal to high authorities” or “claim of necessity”. Many local people have relied on ginseng as a supplement to their income during hard economic times (Bailey, 1999) and for some interviewees (Perspective D), poverty was seen as a reason to poach ginseng.

A few of the interviewees believed the poaching was an accident and harvesters were not aware of laws. So, these people employed “denial of responsibility” (Sykes and Matza, 1957). Diane, a public land manager, said,

I remember growing up, I don’t know how I knew, but I knew that they couldn’t pick on national parks. My Mom, maybe because she was an immigrant, had to learn the laws. Here’s another place where there are those good steward poachers. I think we tend to focus on them and not how many foreign visitors came to the national parks. We do not have a sign to tell people [digging ginseng is illegal]. You can’t even fault them. Who knows what the rules are in Korea? I really do think there are a couple of opportunities here, especially one for the signage.
Some respondents used denial of injury: a justification that says if the act does not hurt anyone it is not wrong. It [the act of poaching] may be illegal, but not immoral (Sykes and Matza, 1957). This justification method was especially evident when some respondents compared the effects of illegal ginseng harvesting to the effects mountaintop removal coal mining has on ginseng plants and ginseng habitat. Harvesting outside dictated harvest dates and on private property may be illegal but in contrast to outright destruction by mountaintop coal mining, this poaching was not immoral and was also perceived as a sustainable practice.

Roger, a researcher, was also concerned about sustainability. When asked about the effects of poaching in comparison to mountaintop removal and other forms of habitat loss, he said, “The number one threat to ginseng is habitat loss. It doesn’t grow everywhere. What do we do when the habitat is gone? It’s easy to pick on the small people but what about the big companies who have an impact?” George, a law officer said, “Is it [mountaintop removal mining] poaching? For sure it is. It affects ginseng for a hell of a long time. Well, it’s worse than poaching. It’s vast widespread habitat loss. It’s never going to grow there again.” Tobi, an herb buyer, said, “Harvesters have no representation, we can’t pick on the coal companies they have a lobby in D.C. We [harvesters] have no lobby.”

Finally, entitlement (Coleman, 1985), an excuse where the offender states that he/she is entitled to the gains of a crime, was mentioned as a justification for poaching. Rob said,

When the victim of poaching is a large, perhaps unknowing and seemingly uncaring corporate entity it is difficult for me to become too upset by local people harvesting a resource that they may have planted themselves or at least have tended over many years, especially if they have stewarded that resource, protecting it from deer and other threats and are the main reason it still exists.
Differential Association Theory

Differential association theory (Sutherland & Cressey, 1960) states that individuals learn criminal behavior through associations and interactions with intimate personal groups who engage in criminal behaviors. An “association to criminal behavior patterns” (Matsueda, 1988, p.281) will enhance the probability that the crime will be committed and the learning of the deviance will be complete. Pendleton’s 1998 study of tree poaching in the Pacific Northwest illustrates how generations of local people had been taught how to poach lumber through their family connections or community associations. However, no direct evidence was found in this study to suggest that ginseng poaching could be explained using this theory.

Although West Virginia’s and Kentucky’s rural populations are still strongly involved in a generations old process of seasonal rounds of hunting and wild-crafting (Hufford, 2002; Bailey, 1999), the results of this study do not indicate if ginseng poachers specifically learn the practice of poaching from associations with other ginseng poachers. They may just be practicing a traditional activity as suggested by Perspective A. One grower from West Virginia who participated in one of the public meetings did disclose a “father and son team” had poached him. Only one interviewee, a grower named Tim, suggested that poaching might be taught,

I know one individual [I] can’t think of his name, I was talking to him. I know he had his daughter with him. [A] twelve year-old. You don’t think of twelve year-olds doing this, but she goes out with him poaching; of course he doesn’t call it poaching, he calls it “getting sang.” So he’s taught her how to recognize it and where the sang is. He doesn’t pay attention to the date or property lines. He doesn’t care.
There is an apparent lack of connections and associations between illegal ginseng harvesters. This merits consideration when examining ginseng poaching using the *differential association theory*. Ginseng poaching is normally a solitary act and unlike tree poaching, requires no machinery or assistance. It can be accomplished without any involvement with deviant groups. Ginseng harvesters, much like fishermen, do not reveal the location of the areas where they dig ginseng. Donald, a grower from West Virginia, said, “People in West Virginia can’t or won’t talk about poaching. You have to be one of us. It’s a cultural thing. People around here are like that.” This contributes to a distrust of outsiders as well as neighbors and an unwillingness to discuss poaching or even ginseng cultivation openly. A respondent from Kentucky said, “People are use to keeping their patches [places where they know there is ginseng or where they plant ginseng on someone else’s property], whether legal or illegal, a secret.”

*Focal Concern Theory*

This theory, proposed by Walter Miller in 1958 proposes lower-class deviance is performed as a way to fit into the sub-culture. For example, people may poach (commit a crime) to become a part of or be accepted into this lower-class culture. The focal concerns are: trouble, toughness, smartness, excitement, fate, and autonomy.

French Acadian deer poachers in Louisiana expressed a feeling of excitement when trying to outfox law enforcement officers (Forsyth & Marckese, 1993; Forsyth, Gramling & Woddell, 1998). However, the people surveyed in the ginseng community for this study did not mention thrill seeking, toughness, smartness, or autonomy as a motivating force to
engage in ginseng poaching and no one interviewed discussed the idea that ginseng poaching is done as a way to fit into a sub-culture.

_Folk Crime Theory_

Another theory, which can be used to frame ginseng poaching within the Appalachian region, is referred to as the _folk crime theory_. A folk crime pertains to a legal act that has been reclassified as illegal, such as burning the woods to clear land. Ginseng harvesting outside the legal harvest dates, on restricted land, or of roots under five years of age were not considered illegal practices until after the species became listed on Appendix II of CITES in 1975. Many people within the ginseng community, especially people who identify with perspective A and D, view poaching in a way that is similar to a folk crime. Another attribute of folk crime is the homogeneity of the community where the crime takes place. This is true of Appalachia, a region that shares a common culture and historical perspective.

The description of folk crime states that law enforcement officers often recognize the traditional nature of the crime, respect the violators’ skills, and don’t perceive the crime as being a threat to the community. Folk crimes become un-stigmatized as criminal behavior and according to Wilson (1990), are “crimes that do not impair the public identity of offenders as respectable” (p. 591). At least two of the law enforcement people interviewed for this study said they perceived the crime as an extension of a traditional activity and believed it was frequently committed as a way to gain income for a family. They did not perceive the local poacher as a criminal.
Wilson (1990) said, “In order to understand folk crime, one must also understand the social context that creates and sustains these relationships” (p.591). People who believe in perspectives A and D convey an understanding of the social context of the region. Perspective A is aware of the historical connection between the local harvesters and ginseng. One respondent said, “if there is an old timer and the park was created and they’re going back and it’s sort of an almost innocent poaching and the guy’s replanting the berries it’s kind of good stewardship poaching.” Rob said,

There are low life rogues and then those who really believe that sang was put there by God and we are his people and so we can take it. I don’t consider these guys as thieves. But laws don’t distinguish between a formal legal definition and degrees of poaching. The biggest threat to wild ginseng is the US Fish and Wildlife Service. If you try to take the person out of the picture, the plant will disappear.

People how have opinions in line with Perspective D feel that the poverty in the region has an effect on whether or not someone may engage in poaching. Tobi, a buyer, said,

Taking underprivileged people and throwing them in jail with criminals isn’t good. These folks cite the bible and say, “God gives us those [ginseng] to use and mountaintop mining is taking the whole thing.” Maybe years ago it [ginseng] was just in the parkway. They have displaced people to make Mt. Mitchell, now the land is off limits, law enforcement use to turn their head the other way. It was no big deal to collect. They turned a blind eye to mushroom collectors. Now they aren’t.

These testimonies serve as examples of how poaching is interpreted much as a folk crime by many in the ginseng community. Unlike perspective B, which holds a distinct negative view of poachers and poaching, perspectives A and D often treat the act as a non-crime and are as concerned with sustainable harvesting practices as they are with the legality of harvesting practices.
Muth’s and Bowe’s Typology of Poaching

Muth and Bowe (1998) performed an extensive literature review of poaching studies and created a typology of reasons to poach. Most of the studies they employed in their review involved deer poaching, while a few involved fish, bird, and waterfowl poaching and one involved timber poaching. Their typology, along with typologies from other empirical studies, can be found in Appendix F.

In comparing the reasons listed on Muth’s and Bowe’s typology to reasons given during this research (see Table 23), it is apparent that “commercial gain” was a major motivation for ginseng poachers as it was with wildlife poachers. It was the most frequently discussed reason. Muth’s and Bowe’s typology did not list “lack of legal repercussions” as a reason to poach game but it was the second most mentioned reason to poach ginseng. Many in the ginseng community view inadequate laws and lackadaisical attitudes within the legal system as a major factor in the frequent occurrence of the action.

“Household consumption” was listed in Muth’s and Bowe’s typology and while this reason was not directly referred to by any of the interviewees [ginseng is usually not eaten], the sale of ginseng to obtain money for households in the Appalachian region was given as a major reason to poach. It was the third most cited reason to poach.

“Lack of respect for private property” was also given as a reason to poach ginseng and was not listed on Muth’s and Bowe’s typology. This may be because of the differences in perceptions of ownership of plants versus ownership of game species and private property laws. Current Federal and state laws are derived from old English common law. Common law held that the King owned the wild animals and dictated how and when they could be
harvested but plants were considered to be part of the property and belonged exclusively
to the landowner. Many view ginseng poaching as taking someone’s property, especially
when the ginseng is located in an obviously cultivated plot. Therefore, “lack of respect for
private property” was viewed as a significant reason to poach ginseng.

Additionally, today there seems to be a “plant blindness” or lack of awareness of
plants as compared to animals. People do not know much about plants and plants are absent
from many science reports (Hershey, 2002). This lack of knowledge and awareness of plants
may contribute to the lackadaisical attitude apparent in the treatment of ginseng poaching
cases versus deer poaching and the failure to recognize a plant as being someone’s property.

“Traditional right of use” was given as a rationale for poaching in Muth’s and Bowe’s
typology and was also cited as a reason to poach ginseng. One person said, “People have
rights to ginseng on certain sections of ground because their grandfather owned it years ago.”
Many of the studies examined believed poaching occurs accidentally. A few people gave
“accidental” as a reason to poach ginseng. Several interviewees stated that they themselves
were not aware of the harvest season dates and legal requirements for digging ginseng.
Table 23.
*Typologies*

<table>
<thead>
<tr>
<th>Muth and Bowe Literature Review</th>
<th>Ginseng Community Interviews</th>
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<tbody>
<tr>
<td>Commercial gain*</td>
<td>Commercial Gain *</td>
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<tr>
<td>Household consumption*</td>
<td>Need money for family*</td>
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<tr>
<td>Traditional right of use *</td>
<td>Traditional right of use*</td>
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<tr>
<td>Trophy poaching</td>
<td>Access to land</td>
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<td>Thrill killing</td>
<td>Way of life</td>
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<td>Protection of self and property</td>
<td>Lack of belief in private property</td>
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<tr>
<td>Recreational *</td>
<td>Recreation/Sport *</td>
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<tr>
<td>Accidental *</td>
<td>Accidental *</td>
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<tr>
<td>Disagreement with specific regulations</td>
<td>No legal repercussions</td>
</tr>
<tr>
<td>Gamesmanship</td>
<td>Ignorance</td>
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<td></td>
<td>Easy to do</td>
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* Given for both typologies

“Recreational satisfaction”, the idea of being in the woods with friends, was listed on Muth’s and Bowe’s typology. This reason was not given as a major reason to poach ginseng but it was alluded to during two interviews. Dave, a researcher, said, “Most poaching starts as a couple of good ol’ boys with drugs or alcohol sittin’ around a campfire. They start talking about someone with ginseng and soon they are out digging it in a drug/beer fog. Their inhibitions are down.” Tobi, a ginseng buyer also said, “Some people do it for sport. They did it when they were young and still do it for camaraderie, like people who don’t really need wild meat but still hunt. It goes back to males of the species who like to go into woods.”

When the 19 respondents were also asked to rank the 13 categories of reasons to poach in order of their top three reasons that would not cause a person to poach (see Appendix H) they were: rebellion, for sport, trophy, or accidentally. Rebellion is used as a
reason to poach deer and fish; however, the exact opposite was true with ginseng. No one thought poachers took ginseng illegally as a way of rebelling against law officers or laws.

Some of the motives for poaching listed in Muth’s and Bowe’s typology would not be applicable for plants. These include: thrill killing and protection of self and property. While some interviewees discussed the conflict and inadequacies in ginseng laws and fines state-to-state and even county-to-county, they did not say “disagreement with specific regulations” would be a reason to poach. “Gamesmanship” was also not cited as a reason to poach.

When compared to other types of poaching, according to the ginseng community, the reasons to poach ginseng are different than reasons to poach game. Monetary value is given as a reason to poach both wildlife and ginseng but it appears to play a larger role in ginseng poaching. Considering the 2007 price paid for roots ($1250/pound), this motive may be even more significant in the future (C. Carroll, personal communication, April 25, 2008). In addition, lack of respect for private property and inadequate legal repercussions also play a major role in ginseng poaching incidents.

**Poaching Interventions**

Given the high commercial value of ginseng, many people will run the risk of getting caught. Consequently, those involved in anti-poaching programs have become very ingenious about methods of interventions used on public and private property. These techniques range from very costly and sophisticated apparatuses to low cost, primitive methods. There are restrictive methods that rely on fines and jail time, incentive methods that use rewards, and alternative techniques that include education and the encouragement of cultivation programs.
The ginseng community suggested several different techniques to stop poachers. While some respondents still believe the use of restrictive methods are the best way to thwart poaching, others choose high tech methods to prevent the roots from being taken in the first place. These include video cameras and motion detectors along with fences and guard dogs to protect the property where ginseng is growing. There are also some stakeholders who mark the roots using systemic dyes, microchips, and metal fillings. This allows a person to trace roots back to their point of origin at the time the roots are offered for sale. Education is becoming a preferred method to address poaching. This includes the education of harvesters who often use unsustainable and illegal practices to take roots. Education is important when it comes to informing the legal community, such as lawyers and judges, as to the enormous value of ginseng roots and disastrous economic effects visited on ginseng growers who have been poached.

Finally, stakeholders utilize incentive programs to stop poaching. Many states have 1 800 numbers that allow people to anonymously report poaching. Other states are helping local residents cultivate their own ginseng plants. West Virginia has a new certification program that helps growers certify their crops. One respondent suggested the issuance of leases on national forest land to allow landless people to cultivate their own crops. The opinions and feelings about these techniques are expressed in the following dialogue from the ginseng community.
Many people who believe poaching can be attributed to a historical view of property ownership and land use suggested techniques that prevent or prohibit poachers rather than relying on restrictive techniques such as fines and jail time. Rob, a researcher who works with growers believes that big growers don’t get poached because they can afford to use remote cameras or fake cameras. He said,

If your garden is worth significant money, spend some money to protect it! Motion activated Critter Getter alarms cost $60. Fake video cameras cost about $10 each, real ones cost more but the technology exists today that allows monitoring a garden a half mile from your house while you watch it on a TV monitor. Would you leave the keys to your Lexus in the ignition and leave it parked on the street in an unknown neighborhood when you went on vacation?

He said of signs, “I’d write on my sign that the meanest SOB in the world lives here and he is gonna do whatever it takes to catch and prosecute ginseng poachers. So go ahead-poach me!” He added, “Nothing quite denotes ownership more than a fence, even if it’s a only a three foot chicken wire enclosure.” Rob also felt it was time to become more open about ginseng cultivation in order to gain recognition of the validity of the plant as an agricultural crop, one worthy of crop insurance. He said,

It is time for ginseng growers and diggers to get rid of their presumed cover of being anonymous. If you are anonymous or invisible how can anyone steal from you? If you [secretly] grow ginseng on your property and someone steals it from you what recourse do you have? How can you even prove that you had something stolen? You may think you have a secure and well-protected spot but in fact your secret garden may be well known among local thieves who are just waiting for it to become worth their effort to steal.

But Dave, another respondent in Perspective A, said when asked about people wanting to keep their crops secret.
If people do get poached they usually don’t tell or report it to the criminal justice system. It’s because people are used to not letting outsiders in. People may know about your ginseng around here because they listen to scanners and hear police reports. Also police calls are printed in the newspapers and now everyone knows about the ginseng growing on your property.

He went on to say, “I’d say don’t tell a soul what you are doing? Some growers have told me ‘off the record’ that ‘the wife doesn’t even know that there is ginseng growing behind the yard.”

More costly methods of interventions such as systemic dyes absorbed by the plants, microchips implanted into roots, and surveillance cameras have been chosen by public land managers fighting to stop the poaching of wild populations located on public land. A public land manager from Kentucky expressed how the entire barrel of ginseng roots could be rejected by APHIS inspectors if they found one root marked with the systemic dye or by other means.

Like dye methods in the Smokey Mountains can get the whole lot [barrel] rejected. If you find a dyed root, law enforcement can be successful in prosecution because they can apprehend the people. Now they did use a method where they injected roots with a powder that under 600X magnification has an ID on it. They can reject 400 pounds if just one root is marked as poached. APHIS inspectors [federal inspectors who examine the barrels before international export is allowed] can actually say it’s [ginseng] from one area or the other and they can impound the whole lot and prevent you from even selling it in USA. They [inspectors] just take it.

Dave said cameras and motion detectors work for land that is not close to your home but it’s very expensive and most growers can’t afford it. Some people who also agreed with Perspective A suggested other ideas for controlling ginseng poaching. Jeffery, a buyer, said “Poor people need to be encouraged to grow it. When people are so poor they don’t own their own land, they could enter into an agreement with a land owner to lease land to cultivate ginseng.” Several people in Perspective A believe that a lack of education is a big factor in
why poaching remains so widespread. There is lack of understanding within the legal community about the value and importance of ginseng to local residents in Appalachia, as well as a misunderstanding of private property rights.

*Perspective B: Poachers are Criminal View*

There were some respondents in this perspective, such as Roger, who expressed a need for a multiple technique approach to stop poaching. He said, “Growers can cut the leaves off the plants to disguise them in the fall. We also need more support for growers and we need to educate judges and lawyers as well as get more public involvement with sang.” Adam suggested offering jobs to poor residents so they wouldn’t need to resort to poaching ginseng. But most people in this perspective feel that poachers are basically criminals and afford them no leniency.

Mike, a law officer from Ohio, said “We need to use fines that reflect the seriousness of the crimes and educate people about just how severe this is.” Hunter, a ginseng gatherer, said, “Use fines and increase jail time and advise people to post the land, walk the land, patrol it and catch them in the act.” Alan, a grower from Ohio tells people he grows ginseng, but he’s not afraid of poachers because he lives next to his patches and has neighbors on all four sides of his acreage. He feels this insulates him against having a poacher walk onto his land. But, a grower/dealer in Ohio suggested the use of a type of neighborhood watch. He also lets his neighbors know about his ginseng and they look out for one another. Sam, an older grower from Kentucky, lets his neighbors know as well about his ginseng, so they keep
an eye out for trespassers. But, recently, Sam has had many ginseng plants poached. He did report it to the authorities and they printed a news story about the theft.

When it came to high tech methods, Tim, an Ohio grower, was not as enthusiastic about using dyes as were the people in Perspective A. He said he got a sample of the dye for a forest service employee and used it on some of his roots. He was apprehensive about the efficacy of the dye.

I think it’s not effective until you get laws changed. The guy who’s over certification in Ohio, it’s certified by lot, the big 100 pounds. They look at it [ginseng roots], count it, and weigh it. In order for the dye to work [you would have to] certify every individual that comes in; you can’t do that by the barrel. Is [the dye] useful? It can be useful. Like another grower said, ‘that’s gonna be a lot more work for our certifiers’, but ginseng is a big problem which I think it is. So what? Hire more certifiers. I think that officer [refers to an officer that use to arrest poachers] is a certifier now [certifies the ginseng as legal]. I think there’s only two in the state.

Tim said he believed that signs are an important part of taking the case to trial. He stated that, “If you do catch someone and your land isn’t posted, you are gonna have a hard time prosecuting.” He also said what was written on the signs was important. Don’t advertise that you are growing ginseng; instead have your signs say, “NO TRESSPASSING, NO FISHING, NO HUNTING, or I know some folks that say experimental crops, poisonous, danger-deadly chemicals on these plants.” A law enforcement officer from Ohio agreed and said, “I’d fence the property with barbed wire.” Another law officer from Ohio said, “If you have woods-grown ginseng then you need to spend some money to put up fences and use signs.”

A wildlife officer from Kentucky said, “Even given the most elaborate intervention techniques, poachers continue to poach ginseng and the declining populations will in fact
drive the price per pound up, resulting in more poaching.” Some people in this group also believe that education is needed, especially education of the legal community. When Tim had his own ginseng poached near Scioto County last year he called the authorities and relayed what happened.

Yes, it’s hard to get cooperation from the Department of Natural Resources but it’s even harder to get it from judges, prosecutors and sheriffs. When they stole it [ginseng], I called 911, cause hey, I got these guys out here in the forest and I’m running after them with a gun. So who’d they send out? Drug enforcement people, all with black coats and when they found out what it was they didn’t even go into the woods to investigate. You could tell where ginseng poaching was on their radar.

When asked why he thought the act wasn’t taken seriously he said,

I think a lot of it is ignorance on the part of prosecutors and judges. They don’t realize the value of the product and they see it as, “Oh, they say, you got too many fish here, you’re over the limit.” And in Ohio it is it’s just a misdemeanor. A small fine is all you’re going to pay. That tells you it’s not considered a major deal. Pike County last year prosecuted a buyer, an illegal buyer. I don’t know if any county this [Scioto] or any other have prosecuted poachers. Well it’s ignorance of the value of ginseng. The game officer we had in this county, the one [officer] that investigated this case, he’s now in charge of a five county region. Now we got a new one [officer]. He’s from Northwestern Ohio. He didn’t know what it [ginseng] looked like. Travis, the first officer, he didn’t know what it looked like either. Now they come to me out here and they were willing to learn, both of them. But they had not been taught ginseng and medicinal herbs. All they’ve learned is what I taught them, what it looks like, where it grows, how it grows. They were very eager to learn.

Mike, a law officer in Ohio, discussed a poaching case in Tuscarawas County that involved a grower who cut his plants’ tops off. He said about 12 pounds of roots were stolen and they couldn’t come up with any concrete evidence so the people in custody were released. They [poachers] received only some community service [for trespassing], a small fine, and were allowed to keep the roots. The value of the roots could have been upward of $4800 dollars. He also said, “they [poachers] usually plea bargain so a judge doesn’t hear the case. It is settled out of court. Some lawyers take it seriously some don’t. Like DUIs it
[ginseng poaching] is an M1 [misdemeanor] too.” When asked if he had repeat offenders he said, “No.” He spoke about adjusting fines to deal with large and small amounts of roots saying, “some good judges do that” and added, “most cases like in Tuscarawas County are plea-bargained out, the magistrate hears it and the two lawyers get together and make a deal and it never gets to the judge, it’s heard here in the Southern District Court.”

Recently, a man was convicted in Tuscarawas County, Ohio for wildlife violations that included taking deer over the limit and falsifying information. He killed six deer in a county where the seasonal limit was three. He falsely obtained a deer permit and had two counts of providing false information to a deer check station (“Baltic hunter”, 2007). Because the violations occurred in two jurisdictions, he had to appear in two Tuscarawas County courts. In one court he was fined $1000 and sentenced to 10 days in jail and ordered to perform 100 hours of community service. He also lost his hunting privileges for three years and was placed on probation for two years. In the New Philadelphia Municipal Court he was ordered to pay $1500 in fines, serve one-year probation, forfeit the antlers from a second buck, and ordered to pay restitution.

In contrast to the severity of those fines and jail time for game poaching, there is the story of a ginseng grower, Robin, who was poached of his entire ginseng crop. He also lives in Tuscarawas County and has been growing ginseng for almost 15 years but has yet to harvest any crop successfully. When he installed alarm systems, the poachers just took the ginseng and the alarms too. Last year [2006] he decided to dig his ginseng crop early [which is illegal] before the poachers had a chance to dig it first. Another grower, Tim also said that Robin cut the tops off his plants to disguise them from poachers, “he doesn’t use weed
whackers cause they [poachers] can tell you used them so he uses hand shears and one by one cut 53,000 tops off last year.” Even though two people were questioned about this case of poaching, the case never went to trial and the people who were suspected of stealing his sang were given a small fine for trespassing.

Once again, this group expressed a need for more education along with an increase in fines and jail time for those who are apprehended. Tim said, “These people are criminals and they don’t get prosecuted because no one knows enough about ginseng to see the validity of the case.”

**Perspective C: Lack of Legal Repercussions View**

People who have opinions that aligned with Perspective C feel that a major issue with ginseng poaching is a failure of laws and the legal system and the main reason that people poach is because they can. Dorothy, who works with growers, said,

> Well, because there are no financial incentives not to poach and no financial incentive to grow your own ginseng. People are going to do what comes easiest it’s just human nature. Well it’s a way of making a living and if given the chance the alternative to taking a factory job like say a 25 dollar an hour job like at a Toyota plant of course they’ll choose the regular standard way of making a living.

A public land manager from Virginia said, “There just isn’t enough money to apprehend poachers, especially on public land where one law officer is policing thousands of acres.”

Cole, a public land manager, believes that most of the people in eastern Kentucky are ignorant as to the potential value of a ginseng crop to the state’s economy and stated, “they don’t see the issue or problem of poaching because they don’t realize how much value the plant has.” Kentucky exports more ginseng than any other central Appalachian state. They
exported 9400 pounds of wild ginseng in 2005 compared to Ohio with 3300 pounds and West Virginia with about 5000 pounds (USFWS, 2006). Yet, when it comes to handing down fines and jail time in Kentucky for ginseng poachers, things are quite lackadaisical. Dorothy, who works with growers in Kentucky, responded,

There’s not a growers’ association in Kentucky. It’s [ginseng cultivation and commerce] not well organized and there’s virtually no law enforcement at all. The rangers might enforce it well if they find someone but of course there are so few rangers, like one per so many miles. I have no idea if they can keep up with poachers.

When asked about any arrests being made in Kentucky she said, “I have never heard of one arrest. No arrests at all.” Roberta, another public land manager in West Virginia, said, when asked about arrests and convictions,

Magistrates don’t take it seriously. It’s not important enough to do anything about. They need to go after [ginseng] dealers more that diggers. It is hard to get diggers. Most of the tickets [like speeding tickets] are given for digging without a permit on national forest and the civil penalty is $100-500. It’s weird, cause the DNR has the law enforcement portion [of ginseng] but the Department of Forestry does the CITES and record keeping, so two different departments handle it [ginseng]. It’s confusing.

Cole said, “Judges and prosecutors need to be made aware of the value, scale of ginseng and the penalty needs to be increased. Time and time again they don’t want to prosecute cases.”

An example of the lack of prosecution of cases is evidenced by the following story from Tim, an Ohio grower.

The state game officer for this county, there’s one for every county, the officer filed charges for digging out of season and digging without permission on the 2 individuals. What eventually happened was the charges were dropped because at the time they didn’t get a waiver. You have 90 days after the charges are filed to bring it to trial or well you can have the defendants sign a waiver [waive the 90 day limit]. But the prosecutor didn’t get them to sign a waiver so after 90 days the court dismissed the charges. I don’t think he [prosecutor] ever wanted to prosecute the case so instead of getting that waiver he full well knew that the lawyer for the defendants would wait the 90 days. But we had a pre-trail hearing scheduled and it was suppose to go to trial the next day. I go down with the arresting officer and the prosecutor
comes in and says, “I’m sorry Mr. J but the judge has dismissed the case ‘cause yesterday was the 90th day.” Well why would they schedule that hearing the day after unless that was the whole plan? Now I can’t prove that but I do think in most courts wildlife cases are not held in high esteem and so if they can get them out of the way they’ll do that.

Donald, a grower from West Virginia, said, “I have never heard tell of anyone ever being prosecuted for poaching ginseng, at least in West Virginia. Oh yeah, I have heard about the thefts, but not about any arrests.”

Part of the problem with prosecuting ginseng poaching is educating the lawyers and judges to take poaching seriously and see the value of the crop. But, given the overload of court cases and money involved in prosecution, they often plea bargain or dismiss cases. Additionally, law enforcement lacks the necessary resources and manpower to address the problem. George is a ranger in West Virginia and when asked about what his job duties were he said, “regulate hunting, fishing, fight forest fires, do boat patrols, pick up drunk driving and look for drugs. We have full police powers like state police and are conservation officers but often referred to as game wardens.” Matt, an officer in Ohio, said, “It’s an issue. There’s one officer per county, 165 officers for the state to enforce laws for 11 million people in Ohio. Ginseng’s not funded by taxes. They [officers] are funded by hunting and fishing licenses and excise taxes from sportsmen equipment.” Adam, a ranger for Kentucky, was asked, “On a list of one to ten, with ten being the most important problem you deal with, where would ginseng poaching rank?” He replied, “It would rank about a four. The first priority here [Kentucky] especially in the summer and fall, is fires. For some reason, folks around here like to start fires.”
Ohio has a better record of prosecutions than Kentucky or West Virginia. Two years ago, in 2005, there were 22 convictions statewide according to Matt, a wildlife officer from Southeastern Ohio. Ohio’s DNR has also instituted a 1-800-poacher hotline that can be used to anonymously report any poaching. Given the perceptible lack of importance assigned to ginseng commerce in Kentucky and West Virginia, and the lack of funding for ginseng law enforcement, poaching will remain a major issue for those attempting to grow the plants on their property. As long as poachers can make more money poaching, even after paying a nominal fine for trespassing, they will continue to engage in the activity.

*Perspective D: Socio-economic View*

People who hold opinions associated with Perspective D believe that poaching is a result of socio-economic conditions in the region and do not look at poachers as hard-core criminals as do people from Perspective B. They also feel that laws were sufficient. For these people, offering incentives for the poor such as other jobs or assistance with cultivation programs is a more meaningful mode of thwarting poaching. They do not believe in the use of dyes as one dealer in this group, Tobi, said, “It defaces the plant.” He also suggested cutting the leaves off the plants to deter poaching, and using a community watch system. He doesn’t feel that raising the fines would help, “after all these people are poor in the first place and you’re just hurting their families in the long run by raising fines and jail time.”
Feedback from Public Presentations

On January 14, 2008, results of this study were presented at the Roots of Appalachia Growers’ Association meeting in Athens, Ohio. Results were also presented April 25, 2008 at a conference for the ginseng community, Forest Farming at Shavers Creek, Pennsylvania. Attendees were requested to supply feed-back in the form of a brief questionnaire (see Appendix N). In Ohio, seven people submitted responses to the survey. No one directly agreed with Perspective A enough to exclusively select it and many people chose more than one perspective. Four people selected Perspective B as being the closest to their feelings about poaching. One person, from Licking County, Ohio [near Columbus], who has been involved with ginseng for nine years as both a grower and a conservationist, said,

I’m sort of between B and D, but I disagree with D on the fundamental point, jobs. I do not think that more jobs would be a sufficiently appealing alternative to stop a poacher from poaching. In our area anyway, my sense is that it is not the old timers doing most of the poaching (although I recognize that in some areas that may well be so). It’s the petty criminal element. Our region is not as economically depressed as many others and there are job opportunities available for those who make an effort to find work. But that may be where the criminal factor comes into play and where the social issues of Perspective D are paramount-many of the poachers probably can’t get decent jobs because they already have a criminal record, perhaps going back to their early teens. So they don’t really care much about what they consider the finer legal points of trespassing. Now we have also had problems in our area with individuals trespassing to plant illegal drugs (marijuana), often in the areas close to ginseng plantings. This suggests an overall disregard for private property rights and laws. On the other hand, the old time ginseng harvesters, many of whom we have neighborly relations with, for the most part seem to respect our desire to manage our property as we choose and in fact are more likely than not to let us know if a stranger has been lurking around. These people are becoming scarcer, though, as the population trends here accelerate towards a more suburban/exurban community, on sub-divided lots, rather than old family ties.

Another person, from Jackson County [southern Ohio] described himself as a

“hobbyist grower of NTFP [non timber forest products] and threatened and at risk medicinal
plants.” This person has been involved with ginseng for 6-8 years and although he agreed with Perspective B, he said he could say that he agreed with facets of A, B, C, and D.

A former grower and digger from Morgan County, Ohio agreed with Perspective B. This person said he’d been involved with ginseng for over 20 years, but abandoned growing it because there were “too many diseases” and he doesn’t dig it anymore because “it is too scarce.”

Another person identified himself as a “wildcrafter” who has been involved with ginseng for over 14 years. He lives in Athens County, Ohio and selected C.

I don’t think there’s much of a link between people stealing and poaching ginseng and illegal drug use. I agree that the poachers are not just people living off the land. They (poachers) are aware that many of the people they take from [take ginseng from their land] are poor and count on the ginseng for their own needs.

A grower from Ross County, Ohio selected both Perspective B and C. This grower of five years said,

I would add that poachers lack the stewardship and educational background necessary to understand why poaching is bad for the future harvest. These are the people that need educated/contacted the most about how precarious the future harvest is if current poaching/harvest rates continue. I also think that these people have no idea there are people actually growing it as an agricultural crop- again education. About this perspective, it sounds very harsh, and almost crude, but it’s basically reality. Before I was poached, my first choice of perspectives would have been C. As through RAGA [Roots of Appalachia Growers Association], I have been educated as to how weak the law enforcement link is. But that all changed when I walked onto my tiny stand of 3 year old rootlets and saw someone had come (within the last 24 hours) and taken the crop I had tended so carefully from seed for 3 years. Unless you’ve been poached, you do not realize what the loss feels like. I am just now feeling my way more around the laws and legal venues. Perhaps with time, I will come to support C more.

A person who lives in downtown Athens, Ohio identified himself as being “interested in cultivation and preservation. I dig some wild plants with a permit for personal use
(tincture making) every other year or so.” He said he has been involved with ginseng for two years and felt Perspective C “pretty well sums up my feelings.” Finally, one person agreed with Perspective D. He identified himself as being born and raised in rural Athens, Ohio. He has a bachelors degree in Environmental Studies and has been involved with ginseng “through my father since I was very young.”

I agree with poaching having to do primarily with social issues and it being a symptom of a larger problem but I agree less with the emphasis needing the money for drug purchases. Although drugs are obviously a problem, and may be a reason to poach, I believe it [poaching] is driven by the need to support one’s family by any means necessary and when jobs are not available this is one possible income. In all actuality, poachers may be the ones attempting to not resort to drug dealing/use to support their families and instead are poaching ginseng.

An additional presentation of the results of the research was made during a meeting held in Pennsylvania on April 25, 2008. Some growers and gatherers provided more feedback after the presentation. One person described himself as both a grower and a gatherer and selected Perspective A as his point of view on what causes poaching. This person was from Cambria County, Pennsylvania and said he had been involved with ginseng for over forty years. He had never been poached. He went on to add, “I actually plant ginseng anywhere and expect to loose some either through actions of other diggers, surface mining or development.” When asked if he planted on land he owned he said, “No, I just roam around planting here and there, probably on state lands and coal company lands.”

A grower who had been involved with ginseng for over 11 years selected both Perspectives A and D, the traditional/historical viewpoint of poaching and the viewpoint that poverty or drugs is a motivating factor. He admitted that he had dug ginseng on state lands but he didn’t know it was illegal then and he could imagine that other harvesters do not
know or are not aware of laws that regulate ginseng collecting today. This grower was from Beaver County, Pennsylvania.

A public land manger from Pennsylvania, who had been working with ginseng for only a year, selected D, poverty and drugs, as a reason to poach. A Licking County, Ohio grower and gatherer who had been involved with ginseng for over 13 years said, “I have to say, I feel all four categories apply” and “I can’t pick just one or two categories.” He didn’t believe he had ever been poached.

A grower and gatherer from Kanawha County, West Virginia said he had been growing for about 13 years and digging ginseng all of his life (he was in his late 60s). He felt that folks who poached ginseng mainly did it because they were poor as did the people in Perspective D. He said many people have a love of being in the woods and then they see it [ginseng] and steal it. He had been poached two times that he knew of and went on to describe the most recent incidence of poaching.

My land was posted on the front but it borders land owned by a land company that timbers. I saw a truck on a Sunday. Then it happened on a Monday. It was a kid in his 30s with his Dad in his 60s. I went after them but the kid dropped off his dad. They were wild looking with full camo gear on. They were gonna try to claim that they didn’t know the land was posted and came into the land on the timber side. They dug 5 pounds of my 4-year old roots in August [out of season]. My son-in-law caught them as they tried to leave the area and used his truck to block them in. He [son-in-law] said “don’t pull your gun on me”. So we called 911 and the deputy came and took the ginseng. And he told them he was going to prosecute but I could tell he [deputy] wasn’t sure about what to do. So he took the green sang out in a plastic bag. These were scary guys! I went back into the woods and gathered up about 700 plant tops. They dug over 700 plants. Finally, me and the son-in-law, we discussed what to do. We were worried. He was worried that they’d come back and burn me out. Burn the house down with us in it. So what happened in the end was the deputy split the sang and they got half and we took the other half.
While some of those surveyed could distinctly choose one perspective, many people chose two and some people believed all four applied. A tabulation of the two public meetings shows four people selected A, five selected B, five selected C, and seven selected D as their perspectives of what causes poaching.

The last story of the grower from West Virginia who had been poached illustrates that poaching can be economically destructive to growers as well as dangerous. With prices climbing, poaching will continue.

Summary

Folk crime theory best describes ginseng poaching in Appalachia. Clearly, historical information illustrates that the local residents are used to harvesting ginseng with little attention to specific dates and locations. Poaching does not appear to be a learned activity or one that is committed as a way to gain entrance into a deviant subculture.

Other typologies of game poaching list similar motivational reasons to those given by the ginseng community. However, lack of respect for private property and insufficient legal repercussions, play a major role in ginseng poaching but not for game poaching.

When asked about methods of interventions, people who agreed with Perspective A, that ginseng poaching was linked to historical, traditional practices, stressed a two-step process to address poaching. This group felt generations of local residents have treated the land as a commons and they roamed onto others’ property harvesting ginseng as they did 100 years ago. For people who hold opinions associated with Perspective A, deterring poachers is vital. Having landowners patrol their property and mark property boundaries
with signs and fences can accomplish this. In addition, people need to mark their roots by using systemic dyes thus, enabling inspectors to detect illegally harvested roots. Finally, people with opinions of Perspective A suggest the encouragement of sustainable harvesting practices. Supporting programs such as Rural Action’s “Grow it- Don’t poach it” and offering incentives to grow ginseng are beneficial. They support educating the public and involving them in ginseng regulations.

People associated with Perspective B felt strongly that poachers were just criminals out for commercial gain. The most frequently recommended intervention technique discussed within this group was to educate judges and lawyers about the seriousness of the crime, especially the monetary value of cultivated ginseng crops. Increased use of fines to deter poachers and more funding for state ginseng management programs was also suggested. Finally, this group felt that ginseng gatherers should be required to obtain a license for harvesting on public property.

People associated with Perspective C believe the inadequate enforcement of laws and regulations contributes to poaching. Poachers are aware of the weaknesses of the legal system and continue to poach. Dorothy, a person who works with ginseng growers, feels the rules for buying and selling ginseng have to be the same state to state. However, rules involving harvesting ginseng need to be promulgated based on eco-regions rather than based on the states’ individual laws. Ginseng harvest dates need to be determined by scientific studies on when ginseng seeds are mature and not decided by where (on the map) the plants are located. Plants may be in the same state yet ripen two weeks earlier because they are located in the southern part of the state
Dorothy also believes the severity of fines and jail time should be based in part on the motivations that cause the poaching and the amount of plants poached. In other words, if a person is poaching large amounts of plants, he needs to be fined more than a person poaching a pound of roots.

Every respondent in this group suggested the use of educational programs as a way to inform both the public and the legal community about the value of the plants and the seriousness of poaching. It harms the species, harms the economy of the community, and harms the individuals cultivating the plant. Diane, a public land manager said,

Educating the judicial system, especially the people in the upper levels, is a must. These people didn’t attend biology classes and don’t understand medicinal and things like that. Also a lot of people who do harvest correctly aren’t given credit for passing on information to generations about replanting seeds and this needs to be stressed for sustainability.

The people associated with Perspective D believe poverty plays a key role in poaching, and suggested incentive programs to help local people grow their own ginseng. A dealer in this group said,

We need transparency with ginseng. It’s been treated secretly for too long. We need to become an industry like every other industry or agricultural crop. Secrecy doesn’t stop poaching and it won’t get us [ginseng community] more funding for research and interventions. Extension agents need to be educated in the use of agro forestry and they can assist local people in growing their own plants. There’s not near the wild crafting [harvesting plants from the wild] done that there use to be. Folks don’t know near what they use to about them [plants]. I don’t think putting a moratorium on harvesting in national forest works either. It just hurts the honest people.

He also said,

People have been stewarding this resource for years. I’ve been in the business for 30 years and the herb business gets bigger every year. There’s more ginseng thriving in the world today than 200 years ago. People came here [Appalachiach] to try and scratch out a living in these mountains and then now suddenly people want the land for coal
and developments and so people become poachers. They make meth in the national forests and now find out they can make money on ginseng.

Of all the interventions methods suggested, educating the public about sustainable harvesting practices is the most frequently cited technique to stop poaching. This is followed by educating the legal community as to the value of the plants and necessity of prosecution of poachers. Of the methods listed, the easiest and least expensive method mentioned frequently during the interviews was the use of signs and fences. This was recommended for both public and private land.
CHAPTER 9

CONCLUSIONS

Poaching remains significant problem threatening ginseng commerce today. But members of the ginseng community have a divergence of opinion about what actions constitute poaching or the characteristics of a poacher and ways to stop poaching. Although ginseng commerce has remained in-tact for hundreds of years, declines of wild populations, global treaties, and dramatic increases in the prices paid for roots, are impacting ginseng trade. The ginseng community must be revived and invigorated through expanded participation of its stakeholders if it is to deal with these emerging issues and promote ginseng commerce.

The Poacher and Poaching

The study reveals there are four separate perspectives within the ginseng community about why people poach (Perspectives A, B, C, and D). People associated with Perspective A take the viewpoint that the activity is an expansion of a historical act and tied to a lack of belief in private property. People associated with Perspective B feel that poachers are basically criminals who knowingly ignore laws and steal ginseng for monetary gains. People associated with Perspective C blame inadequate law enforcement methods and lackadaisical attitudes within the legal community as the reason people commit the act. Finally, People associated with Perspective D believe poaching is a symptom of larger issues in the region, such as poverty and drug addiction.
The comparisons of statement rankings from Perspectives A, B, C, and D, show that although there are four perspectives surrounding the causes of ginseng poaching, Perspectives A and D and Perspectives B and C can be grouped into two distinct patterns of thought about how poaching is defined and what characteristics can be attributed to a ginseng poacher. For Perspectives A and D, there is a generational belief that poaching can often be viewed as a transformation of a historical, sustainable harvesting practice used by poor local people trying to make a living off the land they treat as a commons. Sustainability of the act is more of a concern for this paradigm, which believes any type of destruction of the plant, whether through poaching or destruction by mountaintop mining (MTM) is not acceptable. As one interviewee said about MTM, “It takes the land from the ginseng.” Another said, “It is more than poaching. If you do mountaintop mining out of season, is that poaching? When you blow it up outside of the season, is that poaching? Growers and harvesters are being regulated out of business, but mountaintop mining landowners, aren’t they bound by the state laws? CITES?”

Those people adhering to the first paradigm visualize the ginseng harvester dressed in bib overalls. He’s an old-timer, disappearing into the woods with his homemade ginseng hoe. He makes a living from the land and is aware of sustainable harvesting practices. The image is especially rooted in the culture of West Virginia and Kentucky. This may be partly due to land settlement and ownership patterns in these states. Agriculture was replaced by extractive industries and a barter system evolved that ultimately helped subsidize low paying wage jobs from coal and timber companies (Salstrom, 1994). Ginseng gathering became an important part of that system.
People associated with Perspectives B and C define poaching in a strictly legal sense. It is a violation of laws and weaknesses within the legal system that create the perfect environment for the activity. People in this paradigm paint the picture of today’s poacher much differently than the first paradigm. Many interviewees pointed out, because of the commercial value of ginseng today, everyone is out digging ginseng. Often, poachers are unaware of sustainable harvesting practices or ignore them, taking ginseng from private land and digging plants out of season from public property. They enter the woods on ATVs in camouflage with guns and global positioning systems (GPS). They are criminals. During the past two hundred years, Appalachians have lost their connection to the land both as a source of livelihood and a source of culture. With each successive generation, the intimate knowledge of the land, ginseng plants, and sustainable practices of ginseng harvesting are disappearing.

Changes in the Ginseng Community

American ginseng trade began in the late 1700s. As early as the late 1800s, people in the ginseng community were concerned about the survival of the plant. Over-harvesting had already wiped out most of China’s populations, greatly diminished Canada’s wild populations, and was starting to affect wild populations in America. Today, the ginseng community is still concerned with the survival of wild populations.

As a result of dwindling wild populations, ginseng cultivation became widespread in Northeastern, Central, and Upper Midwest regions of the United States. Growers were supported by several state ginseng organizations, the national ginseng association, and
ginseng cultivation documents published by the government in the early 1900s. There were state and federal meetings about ginseng and ginseng cultivation. Multiple seed catalogues offered seeds and plants, and hundreds of shade-covered ginseng gardens dotted the landscape in the United States from New York to Ohio, and north into Minnesota. Throughout the past one hundred years, many people in the ginseng community regarded ginseng as an agricultural crop. That sentiment is prevalent today, and for this reason, wild simulated ginseng growers believe ginseng should be exempt from federal and international regulations.

Ginseng commerce between China and the United States has been ongoing since the mid 1700s, and only a few times within the past 250 years has trade been suspended. While there were a few states that enacted laws concerning ginseng during the late 1800s and early 1900s, trade and harvesting practices were virtually unregulated until the passage of the CITES Treaty in 1975, which substantially changed ginseng trade. Today, that trade takes place within a global economy where ginseng commerce must navigate trade agreements and endangered species treaties in addition to layers of state and federal laws. There is an expressed animosity towards these regulations within the ginseng community, especially in light of limited amounts of funding to enforce them.

After the industrial revolution, major changes in ideas about land ownership began to occur in Appalachia. During the early 1700s, settlers viewed land as a commons. Even after out-of-state corporations and wealthy entrepreneurs purchased much of the land in West Virginia and Kentucky (post Civil War), people still viewed and used the land as a commons. Since the mid 1930s, this idea of the commons has been dismantled throughout the region.
Fences are more common along large coal mining operations and the creation of national and state parks and forests have placed millions of acres off limits to local residents seeking ginseng. However, many ginseng gatherers disregard the fences and boundary lines, and gather or plant their own ginseng plots on someone else’s land. Most of the time this is done without the property owners’ permission, and as many interviewees said: secretly.

At some point during the latter years of ginseng trade in Appalachia, the process of ginseng gathering, cultivation, and trade has for many members of the ginseng community become a secret activity. As one interviewee said “it flies under the radar”. For some this secrecy may be a way to protect their ginseng patches hidden in the forests, but others believe secrecy is not helping ginseng trade or the sustainability of ginseng populations. These people feel that ginseng and ginseng commerce needs to be placed back on the radar and into the public realm if it is to survive.

Revival of Ginseng in the Public Realm

Many diverse stakeholder groups have come together to create today’s ginseng community. These include growers, gatherers, dealers, law enforcement officers, public land managers, legal representatives, and researchers. However, as evidenced by the results of this study, there are a variety of perspectives about the causes of ginseng poaching. Many of the interviewees have suggested several strategies to address poaching. Nevertheless, before any strategy can be implemented, the ginseng community needs to be re-united, lines of communication between stakeholder groups need to be re-established, and the veil of secrecy surrounding ginseng commerce needs to be removed. Ginseng commerce needs to be placed
back into the public realm if it is to receive the funding, legal support, and legitimacy it requires to remain viable.

An issue facing some of the people in the ginseng community of Central Appalachia is the loss of access to the physical commons. They have also become alienated from the public realm or non-material commons. A resurrection of this public realm or commons is essential if ginseng and ginseng commerce are to survive in modernity. This public realm or common world can act as a table, a common place where everyone in the ginseng community has a recognized seat.

Arendt describes the importance of the public realm or commons in her book, *The Human Condition*. “It relates and separates men at the same time. It both gathers us together and yet prevents our falling over each other” (Arendt, 1958, p. 48). She believes that modern society has all but extinguished this commons. People have instead retreated to their private worlds in an attempt to save a piece of life from a world where “rapid industrialization constantly kills off the things of yesterday to produce today’s objects.” She also argues that the commons relies on innumerable perspectives but mass society has lost its “power to gather people together” and reveal those perspectives.

Charles Taylor (2004) also describes this public sphere or commons in his book, *Modern Social Imaginaries*. It is a common space in which “people who never meet understand themselves to be engaged in discussion and capable of reaching a common mind” (p. 85). Taylor argues that this public sphere should guide government and is “an essential feature of a free society” that knits together common space. It doesn’t embody power but has the ability to inform power institutions, such as in governmental legislatures.
A major problem with the public realm in the modern world, according to Arendt, is the sacredness ascribed to private property. The role that private property plays in modern times is as a conveyor of citizenship. Property allows access to the public realm and the right to use the protection provided by society’s laws. Without private property, a person has “lost his citizenship and the protection of the law as well.”

Appalachian people, in addition to losing their ability to use the commons, have also lost their private property to absentee landowners, who through questionable practices have gained physical and political control over much of the region’s resources. “There is a long history of local farmers and landowners in conflict with outside people and organizations who have captured access to local land, timber, and water resources” (Nesbitt & Weiner, 2001, p. 335). Without property, the people of the region have been excluded from discourse in the public realm. Arendt said, “To have property means to be able to enter the world all have in common” (p. 9). The modern age has alienated certain strata of the population from the world. This is especially true in Appalachia where certain groups of people have been deprived and expropriated in order to transform the region’s natural resources into capital through labor.

There is a need for more inclusion of all stakeholders in the creation of ginseng legislation, scientific research, poaching interventions, outreach and educational programs, and the development of non-timber forest products within national forest management plans. The public realm surrounding ginseng commerce must be rewoven to better sustain ginseng and support stakeholder groups that sit at the common table.
A first step in this process was a gathering of members of the ginseng community; April 25, 2008 at the Forest Farming of Non-timber Forest Products in Eastern North America. It connected growers, collectors, and researchers at Shavers Creek Environmental Center, PA. Some of the issues discussed at this meeting were the resurrection of a national ginseng association and a need for ginseng certification programs to protect wild-simulated ginseng growers. This meeting was a start in the creation of a new public realm around ginseng.

Recommendations

This study was conducted to ascertain attitudes towards ginseng poaching, not to make recommendations for addressing the problem of ginseng poaching. However, the recent dramatic increase in prices for ginseng roots ($1250/pound) and the compelling suggestions and proposals put forth by members of the ginseng community have lead me to summarize the diverse views of this community and will enable them to take the following steps in moving forward to address ginseng poaching.

A primary consideration of the ginseng community is the inclusion of all stakeholders in finding solutions for the issues affecting ginseng commerce. This inclusion could extend to the legislative process, scientific research, and the development of non-timber forest products within national forest plans.

Members of the ginseng community have suggested the formation of a task force charged with investigating the effectiveness of laws, fines, and the direction of current ginseng poaching laws. This study shows there is a schism within the ginseng community
about the efficacy of restrictive methods such as laws, fines, and jail sentences used to thwart ginseng poaching. It is important to create a task force that incorporates people who represent all four perspectives: poaching is tied to history and tradition; poachers are criminal out for commercial gain; poaching occurs as a result of inadequate laws; and poaching is a result of socioeconomic conditions in the region. If laws, fines, and jail sentences distinguish between the four different ginseng perspectives, they might better address poaching.

*Residents in the region are polarized about what types of actions constitute poaching; it is important to generate definitions of poaching that take into account this polarity.* One paradigm of thought supports a more inclusive approach to define poaching and incorporates any type of destruction in a definition of poaching. This includes destruction from stealing ginseng, harvesting ginseng in an unsustainable manner, or destroying the plants by eradicating their habitat. However, another paradigm operates from a strictly legal position when defining the act. Poaching is a violation of wildlife laws and usually involves activities such as harvesting roots out-of-season, harvesting on restricted property, or taking under-age roots. All of these actions harm ginseng populations by reducing the amount of mature reproducing plants and thus causes declines of available plants for harvesting. As wild ginseng populations and ginseng habitat decrease, both cultivated and wild populations may be targeted more frequently by poachers and the demand for dwindling populations may increase ginseng prices or may even lead to additional legal protection.

*The ginseng community suggests the need for multiple venues for education about ginseng poaching.* This includes educating judges and lawyers about the consequences of ginseng poaching and the economic impact to ginseng growers. Many in the ginseng
community believe that ginseng harvesters can be educated about sustainable techniques and the legal requirements pertaining to ginseng. Dealers can be educated about their role in stopping poaching. Extension personnel can be made aware of the biology, ecology, and cultivation of ginseng. Legislative personnel can be informed about the concerns growers and harvesters have with federal and international regulations. Law enforcement officers can be made aware of the economic impact of ginseng poaching as well as educated about the plant itself. This includes specific information on how to recognize ginseng and what types of methods poachers use to gain access to cultivated crops. Stakeholders advocate the use of regional workshops enlisting the expertise of growers, gatherers, and dealers from Central Appalachia.

Many ginseng growers, gatherers, and dealers support the development of a system of ginseng crop certification. At present, wild simulated ginseng is defined by CITES as wild and as such is subject to all the legal requirements of wild ginseng. Certification would aid ginseng growers in Appalachia on several levels. Internationally, certified wild-simulated ginseng may be exempt from the CITES restrictions. West Virginia and Wisconsin already have certification programs in place that distinguish their cultivated ginseng from wild ginseng. On the state level, certification may help legitimize wild simulated ginseng as an agricultural crop and help afford it protection through crop insurance. It may also encourage more local residents to engage in cultivation as a result of this additional protection. On the local level, support of the cultivation of wild simulated crops and the infusion of these crops into the local economy may increase the overall ginseng harvest in the region. The
opportunity to cultivate ginseng could help alleviate some of the poaching of cultivated crops and lessen the impacts of poaching on wild populations.

*Members of the ginseng community believe that an increase in signage, boundary markings, and fences can reduce poaching on private and public land.* There has been a steady increase in ginseng poaching incidents on public lands during the past decade, but a lack of resources, specifically law enforcement staff, has made it difficult to police large land areas. Interviewees in this study attribute some of the ongoing incidents of poaching to the lack of signage and boundary markings on national forest land as well as some national parks. The findings of this study suggest members of the ginseng community are in agreement on increasing the use of simpler, less expensive methods of intervention such as signs and fences as ways to educate uninformed harvesters and deter poachers.

*Members of the ginseng community advocate the formation of a national ginseng organization and state chapters to support ginseng commerce in Appalachia.* This organization would be beneficial in many ways. In addition to supporting ginseng certification, a national organization could assist in acquiring funding for ginseng research, provide technical support for ginseng growers, help garner recognition of ginseng as an agricultural product, and offer educational services to the public about sustainable harvesting techniques and ginseng regulations. Stakeholders in Central Appalachia have expressed concerns about all of these topics.

Widespread destruction of ginseng habitat, extensive regulations, globalization, changing characteristics of ginseng diggers, and exclusion from land, are recent issues that are affecting the ginseng community and contributing to ginseng poaching. This study calls
for a renewed vision of an all inclusive ginseng commons to help preserve wild ginseng and promote wild-simulated ginseng cultivation in Appalachia. It is hoped that the seven measures introduced in this section will go a long way in helping to address the dramatic changes faced by the ginseng community in the next several years.
Appendix A
Interview Guide

1. What is poaching?
   a. Do you think poaching is an important problem?
   b. When they perform mountain top mining, is that poaching?
   b. What does it mean to harvest ginseng?

2. Why do people poach (do poachers have reasons or justifications for poaching)?
   a. Do people poach because they need to (poor)?
   a. Do people poach because they are greedy?

3. Have economic conditions caused people to poach?

4. Do you think the money obtained from illegal ginseng poaching plays a substantial role in some residents’ incomes?

5. Do you think land access affects poaching?

6. Do you think attitudes about land use and land ownership play a role in poaching?

7. Is poaching an activity in the Appalachian region that has been taught and/or passed down from one generation to another?

8. What types of poaching interventions are in use currently?
   a. Do you think people who poach are aware of laws and regulations or other interventions used?

9. How effective are these methods?
   a. Are they other methods that would work better than current methods?
Other

1. Are there any other factors that you feel lead to poaching that have not been discussed?
2. Do you want to add any additional ideas or beliefs that we have not discussed that you feel are important to understanding the problem of poaching?
Goal of study: This study will seek to uncover the perceptions of various people concerning the causes of ginseng poaching and the effectiveness of poaching interventions used in Central Appalachia. It will hopefully provide useful information that can be used to address poaching problems in the region. This study is performed as partial requirements for the fulfillment of the researcher’s doctorate degree in Environmental Studies from Antioch University located in Keene, New Hampshire.

Selection and Participation of Subjects: Participation in the study is completely voluntary and may be ended at any time and for any reason. This study seeks to explore ideas of various stakeholders who are affected by ginseng poaching in some way. Participants are selected for this study because they have a connection to ginseng, such as they have gathered it, they grow it, they are involved with law enforcement, game laws, and permits (state and federal), they buy or sell ginseng roots, they are involved with research on ginseng, or they are interested in conserving the plant species.

Requirements of the participants: Participants may be interviewed and asked about their perceptions of ginseng poaching and the various methods used to stop ginseng poaching. They may also be asked to sort statements about these two topics. This means they will rank about 40 statements about poaching and poaching remedies in order from ones they most agree with to ones they least agree with. Interviews and sorting of statements will be done at the convenience of the participants and in a mutually agreed upon time and location. Follow up interviews may be performed.

Access to the Data: Any personal data will be held in confidentiality and no names will be used in the final report. Fictional names and/or codes will be used to identify categories of participants. For example, growers will be coded as C-1, C-2.

Risks: There are no foreseeable risks involved with this research. The Institutional Review Board of Antioch University has approved this study. If you have any questions regarding your rights as a research participant, please contact the Director of Research, Department of Clinical Psychology, Antioch University at 603-357-3122 ext. 236.

Final Report/Publication: The final results of this study will be shared with members of the ginseng community (stakeholder groups represented by the people participating in the study) in the form of a public meeting. The results of the study may eventually be published.

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<th>Randi Pokladnik, Researcher</th>
<th>Date</th>
<th>Participant signature</th>
<th>Date</th>
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If there are any questions, contact the researcher at Randi@clover.net
# Appendix C

## Respondent Information

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Appendix D

Map of Central Appalachia
Appendix E
List of Q Sort Statements

1. If there were other options in the region, other sources of money, then people wouldn’t poach.

2. What some call “poachers” are people who live off the land year round. They hunt deer in the fall and dig ginseng in the summer.

3. There are areas where different pieces of land butt up to each other and people innocently stray onto to someone else’s land.

4. People have rights to ginseng on certain sections of ground because their grandfather owned it years ago.

5. Hell with the forest service, it’s too much bother to get a diggers permit from them.

6. There are no teeth in the state laws to protect ginseng.

7. Older ginseng diggers do what is right to keep ginseng on the landscape and harvest it in a sustainable way.

8. People who take ginseng illegally are just out for a quick buck.

9. I don’t believe in property rights; there there’s no such thing as ginseng poaching.

10. Often people who collect ginseng illegally often just get a small fine for trespassing.

11. The hillbilly is going to lead to the destruction of this poor plant.

12. Mountaintop mining is the worst form of poaching; it’s poaching from the next generation.

13. For people who are poor, illegal harvesting is one of the few ways to bring in money.

14. Years ago sangers use to replant the berries, people aren’t like that today, there’s a loss of the entire culture.

15. The buyers are the real link is this issue. Someone has to be buying illegally harvested ginseng.

16. It’s OK to harvest ginseng on coal property if you’re landless.

17. Ginseng was put there by God and we are his people so we can take it.
18. I can’t imagine a person taking ginseng illegally for beer or cigarettes, it’s a lot of work and you might even get shot at.

19. Ginseng poaching is stealing someone’s private property from his backyard, there’s no justification for that. It’s thievery.

20. Police and rangers don’t have the resources to get poachers or enforce the laws.

21. Today the use of 4 wheelers makes it easy to get into and out of the woods and in a few hours you can dig a couple hundred dollars worth of ginseng.

22. It’s unnecessary to go to the bother of cultivating wild simulated ginseng when it is so easy to poach it.

23. It’s a cat and mouse game between woodsy people and the law officers.

24. Poaching ginseng is just another avenue to obtain illegal money like shoplifting.

25. People who take ginseng illegally are aware of laws even though they may claim ignorance.

26. There are people who don’t even know a season exists or that ginseng is regulated.

27. 100 years ago landowners didn’t worry about private property issues and people harvested ginseng in rural areas walking across land that belonged to someone else and it was no big deal and this culture is still present today.

28. The media will run a story about how much money you can get for it and then everybody and his brother are out digging it.

29. People who don’t own their own have no other choice but to seek out land where they can find ginseng.

30. You can expect to have some ginseng harvested by someone else if the land is not posted or fenced off, but that’s not poaching.

31. Rural areas in Appalachia have a problem with drug rings and people will poach ginseng and anything possible to get money to buy drugs.

32. It is OK to dig ginseng illegally on property that was once owned by a member of your family, even if it’s not your own, because your ancestors helped keep the ginseng growing there in the first place.

33. Judges and prosecutors don’t think ginseng poaching is a real crime.

34. The US Fish and Wildlife people are too lenient on the states about how they handle the state ginseng programs.
Appendix F

Typologies of Poaching (from literature)

Sawhill and Winkell 1974 (Interviews of illegal deer hunters)
1. For meat - 73%
2. For the fun of it - 8 %
3. For profit – 19 %

Glover and Baskett 1984 (From interviews of deer poachers)
1. Meat
2. Recreation

Brymer 1991 (From ethnographic and historical data)
1. Commercial/market
2. Non commercial
   a. Trophy
   b. Tourists
   c. Local hunter

Forsyth and Marckese 1993 (From interviews with poachers)
Done primarily for need or greed and gave these justifications
1. Others are worse
2. Guided by their own code of ethics
3. Good deeds outweigh this bad deed

Musgrave, Parker and Wolok 1993 (From interviews of law enforcement officers)
1. Commercial (profit based)
2. Non-commercial
   a. Did it because they can!
   b. Trophy hunter
   c. “Slob” hunter (sheer greed)
   d. Subsistence hunter
   e. Culture/ defiance of laws
Muth and Bowe 1998 (From literature on poaching)

1. Commercial gain
2. Household consumption
3. Recreational satisfaction
4. Trophy
5. Thrill killing
6. Protection of self and property
7. Poaching as rebellion
8. Poaching as traditional right of use
9. Disagreement with specific regulations
10. Gamesmanship

Forsyth, Gamling and Wooddell 1998 (From interviews with poachers)

1. Food for household
2. Money to support family
3. Tradition
4. Exhilaration

Pendleton 1998 (Ethnographic data concerning tree poaching)

1. Timber trespass by logging companies (accidentally cut beyond boundaries)
2. Timber theft as shared community identity and social boundary
   a. Affiliated theft –theft within a legitimate operation- multiple persons engaged in activity and it is sanctioned by community
   b. Unaffiliated – logging company cuts without a permit- not sanctioned by community
3. Tree poaching as shared deviant activity – individuals and single trees only (not sanctioned by community)
   a. Learned from a family member
   b. Profit only

Eliason and Dodder 1999 (From surveys of deer poachers)

1. Accidental
2. Good deeds outweigh this bad deed
3. Needed meat
4. Accused game wardens of being just as bad (did illegal acts as well)

Hampshire, Bell, and Wallace 2004 (From interviews and ethnographies of fish poaching)

1. Subsistence -need
2. Commercial - greed
Appendix G

Q Sort Form
Appendix H

Most and Least Significant Reasons to Poach

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<th>Rebellion</th>
<th>Trophy</th>
<th>Sport</th>
<th>Commercial Gain</th>
<th>No legal repercussions</th>
<th>Lack of respect for private property</th>
<th>Easy to do</th>
<th>Ignorance</th>
<th>Need for Family</th>
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Appendix I
Kentucky, Ohio, and West Virginia Ginseng Laws

KENTUCKY CODE OF LAWS

302 KAR 45:010. Ginseng, general provisions.

RELATES TO: KRS 246.650, 246.660, 246.990(9), 50 C.F.R. Part 23.51
STATUTORY AUTHORITY: KRS 246.660
NECESSITY, FUNCTION, AND CONFORMITY: KRS 246.660 requires the Department of Agriculture to promulgate administrative regulations relating to the administration of a program for Wild American Ginseng. This administrative regulation establishes general provisions which apply in this chapter with regard to definitions, harvest season, and cooperative agreements.

Section 1. Definitions. (1) "Ginseng dealer" means a person engaged in the business of buying ginseng roots from ginseng collectors, ginseng cultivators, and other ginseng dealers for resale to ginseng exporters or to other ginseng dealers or any person who sells ginseng in a form in interstate commerce.
(2) "Commissioner" is defined at KRS 246.010(2).
(3) "Department" is defined at KRS 246.010(2).
(4) "State" means the Commonwealth of Kentucky.

Section 2. Registration. (1) A person shall complete a "Kentucky Ginseng Dealer Application" and return it to the Department prior to June 30 of each year.
(2) An applicant for renewal of a certificate of registration shall meet the department’s recordkeeping and reporting requirements.
(3) Certificates of registration shall be issued for a period of one (1) year and shall expire on April 30 of each year.

Section 3. Recordkeeping. (1)(a) Purchase and sale of ginseng. Ginseng dealers shall keep records on forms furnished by the department of purchases and sales of ginseng. The records shall include:
1. Month purchased;
2. Month dug;
3. County where dug;
4. Weight of purchase; and
5. Signature and address of digger or seller.
(b) Records of sales between dealers. Ginseng dealers shall keep records of purchases from other dealers. Records of sales between dealers shall include:
1. The month of purchase from a dealer;
2. The weight of the ginseng purchase; and
3. The signature and registration number of the dealer from whom the purchase is made.
(c) All purchase records shall be submitted to the department on a monthly basis.
(d) No ginseng shall be certified until the department records the purchase records.
(2) Retention. A person required to maintain records under this section shall retain the records for a period of three (3) years.

(3) Availability. Records required under this section shall be made available to the department upon request.

Section 4. Annual Report. A ginseng dealer shall file an annual report with the department by April 30th. The annual report shall include the listing of each purchase and sale of ginseng made by the dealer since July 1 of the previous year.

Section 5. Reporting Ginseng Originating Outside of Kentucky. A ginseng dealer shall file a report with the department at least every calendar-year quarter if the dealer has any commerce in ginseng originating from any state other than Kentucky. The report shall be sent within fifteen (15) days of the end of any calendar-year quarter and shall list each purchase and sale of out-of-state ginseng made by the dealer during that quarter.

Section 6. Harvest Season. Beginning September 1, 1988 and each year thereafter, wild ginseng shall only be dug between August 15 and December 1 of each year. Seeds adhering to a plant taken during the season shall be planted within fifty (50) feet of the location of the plant with no tool used other than the finger. Ginseng growers will not longer be able to harvest the ginseng until it is five (5) years old or has three (3) prongs.

Section 7. Certification for Sale. Sales of ginseng by dealers shall be certified for sale during the ginseng selling season beginning September 1 of each year and extending until March 31 of the following year.

Section 8. Unsold Ginseng. Ginseng unsold by March 31 of the year after harvest shall be weighed by the department and the dealer given a weight receipt. A future export certification of this stock shall only be issued against the weight receipt.

Section 9. Exportation of Ginseng. (1) Ginseng dealers holding a certificate of registration shall obtain a certificate of legal taking issued by the department after inspection by an official of the department identifying the origin, year of taking, and weight of a shipment of ginseng to a destination outside the Commonwealth of Kentucky. The certificate shall also state whether the ginseng is Wild American Ginseng or whether the ginseng has been cultivated or propagated by a grower. Certification shall be issued to the dealer on triplicate forms issued by the department. A copy of certification shall be enclosed with the shipment subject of the certification. A copy of a certificate shall be retained for a minimum of three (3) years by the licensed ginseng dealer and a copy of the certificate shall be retained by the certifying agent of the department.

(2) At the time of issuance of the certificate, the department official shall receive from the ginseng dealer copies of all purchase records covering the amount of ginseng certified. Records of ginseng purchased from other dealers shall be recorded with the department prior to a certificate being issued.

Section 10. Ginseng dug outside the borders of Kentucky and not certified in its state of origin shall not be allowed to enter Kentucky.

Section 11. (1) Protection of Species, Violation of Law. Ginseng which is obtained in contravention of laws for the protection of the species or in violation of any other law shall not be purchased, sold, shipped, or transported within the Commonwealth of Kentucky.

(2) The Kentucky Department of Agriculture may enforce the provisions of Section 11 of this administrative regulation herein as provided in KRS 260.030.
Section 12. Incorporation by Reference. (1) The following material is incorporated by reference:
(a) "2000-20001 Kentucky Ginseng Dealer Application" (2000-2001 edition);
(b) "American Ginseng Export Certificate" (December 2000);
(c) Dealer Transaction Log - Sales (December 2000);
(d) Ginseng Dealer Purchase Record (December 2000); and
(e) Wild Ginseng Purchase Record (December 2000).

(2) These materials may be inspected, copied, or obtained, subject to applicable copyright law, at the Kentucky Department of Agriculture, Division of Value-Added Foods, 100 Fair Oaks, Suite 252, Frankfort, Kentucky 40601, Monday through Friday, 8 a.m. to 4:30 p.m. (9 Ky.R. 292; Am. 572; 917; eff. 1-6-83; 13 Ky.R. 1713; 14 Ky.R. 431; eff. 8-5-87; 18 Ky.R. 743; 1840; eff. 11-26-91; 27 Ky.R. 1061; 1774; eff. 1-15-2001.)

OHIO CODE OF LAWS

1533.86 Ohio ginseng management program definitions. As used in sections 1533.86 to 1533.90 of the Revised Code:
(A) “Ginseng” means the plant Panax quinquefolius L., also known as Panax quinquefolium L., commonly known as American ginseng.
(B) “Wild ginseng” means ginseng that grows in an uncultivated state and in its natural habitat whether the plant occurs naturally from that habitat or was introduced or increased in abundance by sowing ginseng seed or transplanting ginseng plants from other areas and performing no other cultivation practices.
(C) “Cultivated ginseng” means ginseng that grows or has been grown in tilled beds under the shade of artificial structures or natural shade and is cultivated according to standard ginseng horticultural practices.
(D) “Harvest” means to cut, pick, dig, root up, gather, or otherwise collect ginseng.
(E) “Person” includes any legal entity defined as a person under section 6111.01 of the Revised Code and any political subdivision, instrumentality, or agency of another state.
(F) “Collector” means a person who harvests ginseng.
(G) “Grower” means a person who grows cultivated ginseng.
(H) “Dealer” means a person who buys or otherwise acquires or conveys ginseng for resale.
(I) “Buy” includes trade or barter.
(J) “Sell” includes trade or barter. Effective Date: 03-18-1999; 04-06-2007

1533.87 Ohio ginseng management program.

There is hereby established in the department of natural resources the Ohio ginseng management program, which shall be administered by the chief of the division of wildlife. The program shall be administered to achieve and maintain a sustained yield of ginseng so that harvesting of the plant is not detrimental to the survival of the species. The chief shall do all things necessary to regulate the harvesting of wild ginseng and the buying, possession,
transportation, sale, offering for sale, or exposure for sale of wild or cultivated ginseng.
Effective Date: 03-18-1999

1533.88 Rules.
The chief of the division of wildlife shall adopt rules under section 1531.10 of the Revised Code as necessary to carry out the purposes of sections 1533.86 to 1533.90 of the Revised Code, including, but not limited to:

a. Establishing a harvest season for wild ginseng;
b. Establishing a certification program for all legally harvested ginseng, including setting a certification fee;
c. Establishing a buying season for ginseng that has not yet been certified in accordance with rules adopted under division (B) of this section;
d. Establishing a registration permit system to authorize ginseng dealers to buy or otherwise acquire or convey ginseng for resale and export;
e. Establishing a record system to be kept by collectors, dealers, and growers of ginseng;
f. Developing educational materials about ginseng, ginseng regulation, and the Ohio ginseng management program. Effective Date: 03-18-1999

1533.881 Resale or export registration permit.
No person shall buy or otherwise acquire or convey ginseng for resale or export without a registration permit issued annually by the chief of the division of wildlife in accordance with rules adopted pursuant to section 1533.88 of the Revised Code. In addition to any other penalty, the chief may refuse to issue a permit to or suspend the permit of any person who fails to comply with sections 1533.86 to 1533.90 of the Revised Code or rules adopted pursuant to section 1533.88 of the Revised Code. Effective Date: 03-18-1999

1533.882 Prohibited acts.No person shall do any of the following:

(A) Without written authorization from the chief of the division of wildlife, harvest wild ginseng except during the harvesting season as established by rule adopted pursuant to section 1533.88 of the Revised Code;
(B) Without first obtaining written permission from the person entitled to the ginseng, willfully destroy, injure, or harvest ginseng that is the property of that person;
(C) Attempt to harvest ginseng in a manner that, if harvested, would constitute a violation of division (A) or (B) of this section;
(D) Ship or otherwise transport out of state ginseng that has not been certified in accordance with rules adopted pursuant to division (B) of section 1533.88 of the Revised Code;
(E) Except during the buying season as established by rule adopted pursuant to section 1533.88 of the Revised Code, buy, otherwise acquire, or sell uncertified ginseng;
(F) Fail to keep records as established by rule adopted pursuant to section 1533.88 of the Revised Code;
(G) Possess ginseng from another state without a certificate of legal taking issued by that state under its ginseng management program;
(H) Knowingly provide incorrect or false information on or in any permit application, report, export certificate, or other document required by rules adopted pursuant to section 1533.88 of the Revised Code;


1533.891 Seizure and forfeiture of ginseng.

The chief of the division of wildlife shall seize any ginseng harvested or acquired in violation of any provision of sections 1533.86 to 1533.90 of the Revised Code or rules adopted pursuant to section 1533.88 of the Revised Code. Ginseng so seized is forfeited to the state, to be disposed of as directed by the chief. Effective Date: 03-18-1999

WEST VIRGINIA CODE OF LAWS

§19-1A-3a. Providing criminal penalties for the illegal possession of uncertified ginseng.

(a) (1) The Legislature finds that ginseng trade must be controlled in order to protect the survival of wild ginseng as evidenced by its listing in Appendix II of the Convention on International Trade in Endangered Species of Wild Fauna and Flora. It is the policy of this state to regulate the commerce in ginseng in a manner that protects the survival of wild ginseng.
(2) For purposes of this section:
(A) "Certified" means the ginseng carries a certificate of origin issued by the director which allows the export from West Virginia of ginseng legally harvested in this state;
(B) "Commercial use" means to sell or to use ginseng for financial gain;
(C) "Cultivated ginseng" means ginseng that is purposefully planted in beds under artificial shade using standard horticultural practices such as mechanical tillage, fertilization, weed control, irrigation and pesticides;
(D) "Dealer" means a person who purchases ginseng for purposes of commercial use;
(E) "Digger" means a person who digs, collects or gathers wild ginseng by searching woodlands to find the plants;
(F) "Director" means the Director of the Division of Forestry;
(G) "Division" means the Division of Forestry;
(H) "Export" means the movement of ginseng from state to state as well as sending it abroad;
(I) "Ginseng" means cultivated ginseng, woods grown ginseng, wild simulated ginseng and wild ginseng;
(J) "Green ginseng" means a fresh wild ginseng root that has not been intentionally subjected to a drying process and from which most natural moisture has not been removed by drying.

(K) "Grower" means a person who purposefully plants and grows cultivated ginseng, woods grown ginseng or wild simulated ginseng for purposes of commercial use: Provided, That a grower does not include a digger who plants wild ginseng seed from the wild ginseng plants he or she digs, collects or gathers;

(L) "Harvest" means to dig, collect or gather ginseng;

(M) "Person" means an individual, corporation, partnership, firm or association;

(N) "Rootlets" means woods grown or wild simulated one to two-year old ginseng roots commonly sold as transplants to growers;

(O) "Wild ginseng" means Panax quinquefolius L. that is not grown or nurtured by a person regardless of the putative origin of the plants: Provided, That wild ginseng may originate from seeds planted by a digger at the same site from which the digger harvests the wild ginseng.

(P) "Wild simulated ginseng" means ginseng that is purposefully planted in the woods without a bed being prepared and without the use of any chemical weed, disease or pest control agents;

(Q) "Woods grown ginseng" means ginseng that is purposefully planted in beds prepared in the woods in a manner that uses trees to provide necessary shade and which may be grown with the use of chemical or mechanical weed, disease or pest control agents.

(3) (A) The Division of Forestry shall regulate the growing, digging, collecting, gathering, possessing and selling of ginseng.

(B) The division may propose rules for legislative approval in accordance with article three, chapter twenty-nine-a of this code to implement the provisions of this section including the amount of any permit fee.

(C) For purposes of regulating the growing, harvesting and commercial use of ginseng, a division employee may enter upon any public or private property, other than a dwelling house, at reasonable times, in order to inspect the ginseng operation or records. A person may not obstruct or hinder the employee in the discharge of his or her enforcement duties.

(D) All moneys received from permit fees and civil penalties assessed pursuant to this section shall be credited to the special account within the Division of Forestry to be used for the purposes set forth in section three of this article.

(E) The site plats required to be submitted to the division and other information identifying the specific location of ginseng plants are not open to public inspection pursuant to article one, chapter twenty-nine-b of this code since they disclose information having a significant commercial value.

(b) (1) The digging season for wild ginseng begins on the first day of September and ends on the thirtieth day of November of each year. It is unlawful for a person to dig, collect, or gather wild ginseng between the first day of December and the thirty-first day of August of the following year.
(2) A person digging, collecting, or gathering wild ginseng upon the enclosed or posted lands of another person shall first obtain written permission from the landowner, tenant or agent, and shall carry the written permission on his or her person while digging, collecting or gathering wild ginseng upon the enclosed or posted lands. It is unlawful to dig, collect, or gather wild ginseng from the property of another without the written permission of the landowner.

(3) A person digging, collecting or gathering wild ginseng shall plant the seeds from the wild ginseng plants at the time and at the site from which the wild ginseng is harvested. It is unlawful to remove wild ginseng seeds from the site of collection.

(4) It is unlawful to dig, collect or gather wild ginseng less than five years old.

(5) A person may not rescue wild ginseng plants endangered by ground-disturbing activities unless he or she has first obtained a moving permit from the division. The person shall provide the reason for moving the plants, the current location of the plants, the proposed new planting site and other information required by the division.

(6) It is unlawful to plant ginseng or ginseng seed and to dig, collect or gather ginseng on West Virginia public lands, except by land grant university researchers performing research or demonstration projects regarding the growing, cultivating or harvesting of ginseng: Provided, That it is unlawful for anyone to plant ginseng or ginseng seed and to dig, collect, or gather ginseng on state wildlife management areas or on state parks.

(c) (1) A person may not act as a grower unless he or she has obtained a grower's permit from the division.

(2) Prior to planting cultivated, woods grown or wild simulated ginseng, a grower shall:

(A) Submit to the director a plat of the exact planting location prepared by a licensed surveyor or a registered forester as defined in article nineteen, chapter thirty of this code, along with information verifying the name of the landowner: Provided, That if the grower is not the landowner, the grower shall also submit written permission from the landowner to grow and harvest cultivated, woods grown or wild simulated ginseng on that property.

(B) Obtain a written determination from the director certifying that the planting area is free from wild ginseng; and

(C) Submit other information required by the division.

(3) A grower shall keep accurate and complete records on each ginseng planting on forms provided by the division. The records shall be available for inspection by a division employee and shall be submitted to the division at intervals established by rule by the division. A grower shall maintain records for a period of not less than ten years. The information required to be kept shall include:

(A) The origin of ginseng seed, rootlets or plants;

(B) The location of purposefully planted cultivated, wild simulated and woods grown ginseng and a site plat of the planting;

(C) The original of the director's determination that the site was free from wild ginseng at the time of planting;

(D) The date each site was planted;

(E) The number of pounds of seeds planted, or the number and age of rootlets, or both; and

(F) Other information required by the division.
(4) A grower may harvest cultivated ginseng on or after the effective date of this section throughout the year.

(5) A grower may harvest wild simulated and woods grown ginseng from the first day of September through the thirtieth day of November of each year.

(6) It is unlawful for a person to dig, collect or gather wild simulated and woods grown ginseng between the first day of December and the thirty-first day of August.

(7) It is unlawful to dig, collect and gather wild simulated and woods grown ginseng less than five years old.

(8) A grower shall comply with the certification procedures set forth in subdivision (f) of this section.

(9) For planting locations in existence prior to the first day of July, two thousand five, provide proof of having purchased ginseng seed, rootlets, or plants for planting for a minimum of one or more of the five years immediately prior to the first day of July, two thousand five, and sign a certification that to the best of his or her knowledge, no wild ginseng existed on the site at the time the ginseng was planted: Provided, That no grower may certify a planting location in existence prior to the first day of July, two thousand five under this provision after the thirty-first day of December, two thousand nine.

(d) (1) A person may not act as a dealer unless he or she has obtained a dealer's permit from the division.

(2) A dealer shall keep accurate and complete records on his or her ginseng transactions on forms provided by the division. A dealer is required to maintain a record of all persons, including a digger, grower and dealer, involved in each purchase or sale transaction and shall include the name, address, permit number, and a copy of each ginseng certification issued by the division. All records shall be available for inspection by a division employee. A dealer shall maintain records for a period of not less than ten years. In addition, a dealer is required to report the following information to the division monthly:

(A) The date of the transaction;

(B) The type of ginseng, whether wild, cultivated, woods grown or wild simulated ginseng;

(C) Whether the ginseng is dried or green at the time of the transaction;

(D) The weight of the ginseng;

(E) The county from which the ginseng was harvested;

(F) The identification number from the state ginseng certification; and

(G) Other information required by the division.

(3) A dealer shall include a West Virginia export certificate, numbered by the division, with each shipment of ginseng transported out-of-state.

(4) A dealer may not import out-of-state ginseng into this state unless the ginseng is accompanied by a valid export certificate issued by the state of origin. A dealer must return uncertified ginseng to the state of origin within fifteen calendar days.

(5) It is unlawful to include false information on any certificate or record required to be completed or maintained by this section. All ginseng harvested in West Virginia must be certified by the director before being transported or shipped out-of-state.

(e) (1) A person may not act as a grower or act as a dealer unless he or she has been issued the appropriate permit by the division. A person must obtain a separate permit for each activity. Permit applications shall be made on forms provided by the division. The
application for a permit shall be accompanied by the applicable permit fee. The division
shall assign a permit number to each person granted a permit and it shall keep records of the
permits issued.
(2) Permits expire on the thirty-first day of December of each year for growers and the thirty-
first day of August of each year for dealers. All permits must be renewed annually. Renewal
forms will be mailed to current permit holders. The failure to receive a renewal form does not
relieve the permit holder of the obligation to renew. The division may require a late fee when
renewal is received more than sixty days after the expiration of the current permit.
(3) The permit holder shall notify the division of any changes in the information on the permit.
(f) All ginseng harvested in this state shall be certified as to type, whether wild, cultivated,
woods grown or wild simulated, and to its origin, weight and lawful harvest. Other
information may be required for ginseng to be certified by the division to comply with the
Convention on International Trade in Endangered Species of Wild Fauna and Flora to allow
for its export: Provided, That live one and two-year old cultivated, woods grown or wild
simulated rootlets sold by growers for propagation purposes within the United States are not
regarded as harvested and are exempt from the certification requirement. All ginseng, except
cultivated ginseng, must be certified or weight receipted by the first day of April of the year
following harvest: Provided, however, That no ginseng may be certified between the first day
of January through the thirty-first day of March unless the person requesting certification
displays a valid permit. It is unlawful for a person to have in his or her possession uncertified
wild ginseng from the first day of April through the thirty-first day of August.
(g) The director shall propose rules for legislative approval in accordance with article three,
chapter twenty-nine-a of this code designed to implement the ginseng certification process.
(h) The division may, by order entered in accordance with the provisions of article five,
chapter twenty-nine-a, deny, suspend or revoke the permit of a grower or dealer and may
invalidate an export certificate completed by a dealer when the division finds that a grower or
dealer has violated any provision of this section or a legislatively approved rule.
(i) The division may assess a civil penalty against a person who violates any provision of this
section or a provision of a legislatively approved rule. The division may assess a monetary
penalty of not less than one hundred dollars nor more than five hundred dollars.
(j) Any person violating a provision of this section is guilty of a misdemeanor and, upon
conviction thereof, shall be fined not less than one hundred dollars nor more than five
hundred dollars for the first offense, and for each subsequent offense, shall be fined not less
than five hundred dollars nor more than one thousand dollars, or confined in jail not more
than six months, or both. The court, in imposing the sentence of a person convicted of an
offense under this section, shall order the person to forfeit all ginseng involved in the offense.
(k) It is the duty of the prosecuting attorney of the county in which the violation occurred to
represent the division, to institute proceedings, and to prosecute the person charged with the
violation.
Appendix J
Ginseng Purchase Forms

<table>
<thead>
<tr>
<th>DEALER NUMBER</th>
<th>DEALER NAME</th>
<th>DEALER ADDRESS</th>
<th>DEALER CITY</th>
<th>DEALER STATE</th>
<th>DEALER ZIP CODE</th>
</tr>
</thead>
<tbody>
<tr>
<td>12345</td>
<td>John Smith</td>
<td>123 Main St.</td>
<td>Louisville</td>
<td>KY</td>
<td>40205</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>TOTAL WEIGHTS</th>
<th>Number</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dry/Grain</td>
<td>10</td>
<td>5.0</td>
</tr>
<tr>
<td>Green</td>
<td>5</td>
<td>2.5</td>
</tr>
<tr>
<td>Total</td>
<td>15</td>
<td>7.5</td>
</tr>
</tbody>
</table>

**NOTICE:**
Upon receipt of this form, the undersigned parties certify that they have complied with all state and federal laws pertaining to the recording, harvest, purchase, sale, and transfer of these roots.
<table>
<thead>
<tr>
<th>County Collected</th>
<th>Signature of Seller</th>
<th>Dealer Permit Number</th>
<th>Dealers Name</th>
<th>Dealer's Address</th>
<th>Dealer's Phone</th>
<th>Dealer's FAX</th>
<th>Dealer's Business Number</th>
<th>Total Green</th>
<th>Total Os</th>
<th>Total OZ</th>
<th>Total Died</th>
<th>Total Threw</th>
<th>Date Purchased</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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<td></td>
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</tr>
</tbody>
</table>

**SALES OF UNCERTIFIED OHIO ROOT FROM DIGGERS**

DIVISION OF WILDLIFE

Ohio Department of Natural Resources

VOID
### Ginseng Dealer's 30-Day Report - Page 2

<table>
<thead>
<tr>
<th>Date of transaction</th>
<th>Name and Address of Digger or if Dealer list Dealer No. Please print</th>
<th>Type of roots</th>
<th>WV County Roots dug in</th>
<th>Amount Purchased</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Circle one</td>
<td></td>
<td>Green</td>
<td>Dry</td>
</tr>
<tr>
<td></td>
<td></td>
<td>W C WS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>W C WS</td>
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<td>W C WS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>W C WS</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Type of Roots:** W- Wild / C- Cultivated / WS- Wild Simulated / WG- Woods Grown
Appendix K

CITES Export Permit

Department of the Interior
U.S. Fish and Wildlife Service

OMB No. 1018-0130
Expires 08/31/2009

CITES EXPORT PROGRAMS

RETURN TO:
Division of Management Authority
U.S. Fish and Wildlife Service
6401 N. Fairfax Drive, Room 700
Arlington, VA 22203
1-800-358-2104 or 703-358-2104

Type of Activity: American Ginseng Export Program

STATE OR TRIBE: ________________________________

PREPARED BY: ________________________________

(Convention on International Trade in Endangered Species of Wild Fauna and Flora)

You may indicate "No Change" for all items where your response is identical to information previously submitted.

Below, please provide the amount of ginseng harvested.

<table>
<thead>
<tr>
<th>SOURCE OF GINSENG</th>
<th>HARVESTED (lbs.)</th>
<th>CERTIFIED (lbs.)</th>
<th>ESTIMATED NUMBER OF ROOTS PER POUND</th>
</tr>
</thead>
<tbody>
<tr>
<td>WILD*</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ARTIFICIALLY PROPAGATED*</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Program administered by (Department or Agency name):

Ginseng certification by (Department or Agency name):

Has your State or Tribe's enabling legislation, ginseng regulations or ginseng certification form been modified in the last year? If yes, please provide a copy.

Does your agency certify all wild ginseng harvested? If so, when would your agency not certify wild ginseng harvested in the State or on the tribal lands, and can uncertified ginseng be sold or transported outside the State or Tribe?

Does your agency certify all artificially propagated ginseng harvested? If no, when would your agency not certify artificially propagated ginseng harvested in the State or on the tribal lands, and can uncertified ginseng be sold or transported outside the State or Tribe?

When does your agency certify wild/artificially propagated ginseng (e.g., at time of harvest, at time of sale)?

How does your agency handle wild/artificially propagated ginseng entering the State or Tribe from another State or Tribe? Is this procedure the same for both certified (by another State or Tribe) and uncertified ginseng?

*Artificially propagated plants are defined under 50 CFR 23.64.

FWS Form 3-200-61 (REV 08/06)
<table>
<thead>
<tr>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>Do all resident and non-resident individuals and companies dealing in (i.e., buying or selling) ginseng in your State or Tribe have to be registered or licensed? If so, please explain.</td>
</tr>
<tr>
<td>Can wild and/or artificially propagated ginseng be sold at any time during the year?</td>
</tr>
<tr>
<td>How often are dealers required to report the sale, purchase or export of ginseng (e.g., monthly, quarterly)?</td>
</tr>
<tr>
<td>Do you track unsold and/or un-exported ginseng from one season or one year to the next? Please explain.</td>
</tr>
<tr>
<td>What is the wild ginseng harvest season in your State or Tribe?</td>
</tr>
<tr>
<td>Does your State or Tribe have a harvest season for artificially propagated ginseng? If so, what is it?</td>
</tr>
<tr>
<td>Within the wild and artificially propagated ginseng reported above, are there other sub-categories of ginseng production that you track in your State or Tribe? If so, please describe each sub-category (e.g., woodgrown, wild sown), and, if available, what quantities have been harvested and certified?</td>
</tr>
<tr>
<td>Is there a minimum allowable size/age for harvest of wild and/or artificially propagated ginseng in your State or Tribe?</td>
</tr>
<tr>
<td>Is harvest of wild ginseng allowed on State or tribal lands?</td>
</tr>
<tr>
<td>Does your State or Tribe require ginseng diggers to have written permission from private landowners before harvesting? Do dealers need to supply copies of these written permissions when having ginseng certified?</td>
</tr>
<tr>
<td>Please provide the average age of wild-harvested ginseng from your State or tribal lands?</td>
</tr>
<tr>
<td>Please provide an estimate of the number of roots per pound (dry weight) of wild ginseng harvested in your State or on your tribal lands for the most current season, and describe the methodology you used to calculate the estimate.</td>
</tr>
<tr>
<td>Does your State or Tribe require or encourage diggers to plant seeds from harvested wild ginseng plants at the site of harvest? If so, please describe any guidelines. Does your State or Tribe allow diggers to plant ginseng seeds from other sources (e.g., commercial sources)?</td>
</tr>
</tbody>
</table>
Based on your information, what is the effect of the current harvest level of American ginseng in your State or on your tribal lands on the wild population? (positive, negative, no impact)

<table>
<thead>
<tr>
<th>Please provide your assessment of the status of ginseng in the State or on your tribal lands (i.e., stable, increasing, declining). If population levels are declining, please provide the State or Tribe’s professional assessment of the reason for the decline and any steps being taken to address it.</th>
</tr>
</thead>
</table>

| On a separate sheet of paper, please provide a brief description of any research, including ginseng population monitoring, being conducted in your State or Tribe on American ginseng. |

| Please provide details of any ginseng-related violations found and/or prosecuted in your State or on your tribal lands during the last year. |

FWS Form 3-200-61 (REV 08/06)
Paperwork Reduction Act and the Privacy Act – Notices

In accordance with the Paperwork Reduction Act of 1995 (44 U.S.C. 3501, etc.) and the Privacy Act of 1974 (5 U.S.C. 552a), please be advised that:

1. The gathering of information on fish and wildlife is authorized by:
   (a) Bald and Golden Eagle Protection Act (16 U.S.C. 668), Title 50 Part 22 of the Code of Federal Regulations (CFR);
   (c) Migratory Bird Treaty Act (16 U.S.C. 703-712), Title 50 CFR Part 21;
   (f) Lacey Act (18 U.S.C. 42); Injurious Wildlife, Title 50 CFR Part 16;
   (g) Convention on International Trade in Endangered Species of Wild Fauna and Flora (TIAS 8249); Title 50 CFR Part 23.
   (h) General Provisions, Title 50 CFR Part 10;
   (i) General Permit Procedures, Title 50 CFR Part 13; and

2. Information requested in this form is purely voluntary. However, submission of requested information is required in order to process applications for permits authorized under the above laws. Failure to provide all requested information may be sufficient cause for the U.S. Fish and Wildlife Service to deny the request. An agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless a currently valid Office of Management and Budget (OMB) control number is displayed. The OMB Control Number for this information collection is 1018-0150, which expires August 31, 2006.


4. Routine use disclosures may also be made:
   (a) To the U.S. Department of Justice when related to litigation or anticipated litigation;
   (b) Of information indicating a violation or potential violation of a statute, regulation, rule, order or license to appropriate Federal, State, local or foreign agencies responsible for investigation or prosecuting the violation or for enforcing or implementing the statute, rule, regulation, order or license;
   (c) From the record of an individual in response to an inquiry from a Congressional office made at the request of that individual (42 FR 1903; April 11, 1977);
   (d) To subject matter experts, and State and other Federal agencies, for the sole purpose of obtaining advice relevant to issuance of the permit.

5. For individuals, personal information such as home address and telephone number, financial data, and personal identifiers (social security number, birth date, etc.) will be removed prior to any release of the application.

6. The public reporting burden on the applicant for this information collection varies depending on the activity for which a permit is requested. We estimate the relevant burden for this permit application varies from 2 to 85 hours. This burden estimate includes time for reviewing instructions, gathering and maintaining data and completing and reviewing the form. You may direct comments regarding the burden estimate or any other aspect of the form to the Service Information Clearance Officer, U.S. Fish and Wildlife Service, Mail Stop 222, Arlington Square, U.S. Department of the Interior, 1849 C Street, NW, Washington D.C. 20240.

Freedom of Information Act – Notice

For organizations, businesses, or individuals operating as a business (i.e., permittees not covered by the Privacy Act), we request that you identify any information that should be considered privileged and confidential business information to allow the Service to meet its responsibilities under FOIA. Confidential business information must be clearly marked "Business Confidential" at the top of the letter or page and each succeeding page and must be accompanied by a non-confidential summary of the confidential information. The non-confidential summary and remaining documents may be made available to the public under FOIA (43 CFR 2.13(c)(4), 43 CFR 2.15(d)(1)(ii)).
Appendix L
Federal Permit

<table>
<thead>
<tr>
<th>Section</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.</td>
<td>Complete if applying as an individual (Provide a U.S. address)</td>
</tr>
<tr>
<td>B.</td>
<td>Complete if applying as a business, corporation, public agency or institution</td>
</tr>
<tr>
<td>C.</td>
<td>All applicants complete</td>
</tr>
</tbody>
</table>

1. Return to: Division of Management Authority (DMA)
   Export of American Ginseng (Comm
   4401 N. Fairfax Drive, Room 700
   Arlington, VA 22203
   1-800-358-2104 or 703-358-2104

2. Type of Activity:
   Export of American Ginseng (Commercial Only) (Check only one)
   [ ] Wild, taken from the __________ harvest season
   [ ] Artificially Propagated
   [ ] Renewal; permit no. __________

3. Complete sections A or B and C and D of this application. Note: if a field is "gray", no answer is required. Application will not be considered complete without all sections. See additional instructions on attached pages.

4. Form 3-200-34 (Rev. 05/2005) Please continue to next page...
D. EXPORT OF AMERICAN GINSENG (Commercial only)

Note: For a single shipment, use form 3-200-32.

The fee to process this application is $200 for a three-year artificially propagated authorization ($100 to renew), $50 for a one-year wild authorization, and $5 for each export permit issued from these authorizations.

Complete either Part I or Part II as appropriate, and Part III. If both artificially propagated and wild ginseng are to be exported, submit a separate application for each. For wild ginseng, submit a separate application for each harvest season.

Part I. Complete if exporting WILD American ginseng (Panax quinquefolius). Upon approval, this application will be used to create a master file which will allow the export of ginseng under CITES. The master file is valid for one year and is renewable. The master file allows the applicant to obtain single-use permits for each export (50 CFR 13.11, see attached). The processing fee is $50.00 for this one year authorization and $50.00 for subsequent renewals.

ENTER:

1. Approximate number of pounds expected to be exported: __________

2. Harvest season during which ginseng was collected or will be collected (give the year harvest season began):

3. List State(s) from which ginseng was or will be harvested: __________________________________________________________________________

4. ENTER an “X” in the box that applies. Type of goods to be exported:
   □ dried roots □ green roots □ other, ENTER a description: __________________________________________________________________________

5. If applicable, please attach a copy of your valid State license(s) or permit(s) authorizing you to deal in ginseng (check with your State) and a copy of your USDA General Permit.

6. I understand that all wild American ginseng to be exported must be accompanied by valid State documents which certify that it was legally harvested in a State for which the U.S. Scientific Authority has approved export and the U.S. Management Authority has approved the State's management program.

   Applicant's signature: ___________________________________________ Date: ____________

Part II. Complete if exporting ARTIFICIALLY PROPAGATED American ginseng (Panax quinquefolius). Upon approval, this application will be used to create a master file which will allow the export of ginseng under CITES. The master file is valid for three years and is renewable. The master file allows the applicant to obtain single-use permits for each export (50 CFR 13.11). The processing fee is $200.00 for this three year authorization (and $100 for subsequent renewals).

ENTER:

1. Approximate number of pounds expected to be exported: __________

2. ENTER an “X” in the box that applies.
   Type of goods to be exported:
   □ dried roots □ green roots □ other, ENTER a description: __________________________________________________________________________
3. List State(s) from which ginseng was or will be harvested: ____________________________.

4. If applicable, please attach a copy of your valid State license(s) or permit(s) authorizing you to deal in ginseng (check with your State), and a copy of your USDA General Permit.

5. I understand that all artificially propagated American ginseng to be exported must be accompanied by valid State documents which certify that it was artificially propagated in a State for which the U.S. Scientific Authority has approved export and the U.S. Management Authority has approved the State's management program.

Applicant's signature: ____________________________ Date: __________

Part III

1. How many single-use permits would you like to have issued upon completion of this master file review? ________ (Provide $5 for each single use, six-month permit)

2. Address where you wish permit mailed (if different than page 1):

3. If you wish the permit to be mailed other than by regular mail, provide air bill, pre-paid envelope, or billing information ____________________________________________________________________________

4. Who should we contact if we have questions about the application? (Include name, phone number, and email):

__________________________________________________________________________________
PERMIT APPLICATION FORM INSTRUCTIONS

The following instructions pertain to the standard permit form 3-200 that must be completed as an application for a U.S. Fish and Wildlife Service or CITES permit. The General Permit Procedures in 50 CFR 13 address the permitting process. For simplification, all licenses, permits, registrations, and certificates will be referred to as a permit.

- Complete all appropriate blocks/lines/questions in Sections A OR B, and C and D. Print clearly or type in the information. An incomplete application may cause delays in processing or may be returned to the applicant. Note: If a field is "grayed out," no answer is required.

- Sign the application in blue ink and send the original to the address at the top of the application. Faxes or copies of the original signature will not be accepted.

- Please plan ahead. Allow at least 60 days for your application to be processed (50 CFR 13.11). However, some applications may take longer than 90 days to process. Applications are processed in the order they are received.

- Additional forms and instructions are available from http://permits.fws.gov/.

Most of the application form is self-explanatory, but the following provides some assistance for completing the form:

COMPLETE EITHER SECTION A OR SECTION B:

Section A. "Complete if applying as an individual" - Enter the complete name of the responsible individual who will be the permittee if a permit is issued. Enter personal information that identifies the applicant. All blocks must be completed. If you are applying on behalf of a client, the personal information must pertain to the client; and a document evidencing power of attorney must be included with the application.

Section B. "Complete if applying as a business, corporation, public agency, or institution" - Enter the complete name and address of the business, agency or institution that will be the permittee if a permit is issued. Give a brief description of the type of business the applicant is engaged in, the name and phone number of the person in charge (i.e., principal officer), and if the company is incorporated, the State in which it is incorporated.

ALL APPLICANTS COMPLETE SECTION C:

Section C.1 "Do you currently have or have you had any Federal Fish and Wildlife permits?" List the number(s) of your most current FWS or CITES permit or the number of the most recent permit if none are currently valid. If applying for a renewal of a CITES permit, the original permit must be returned with this application.

Section C.2 "Have you obtained all required State, Federal or foreign government approval to conduct the activity you propose?" (Please be aware that there may be other requirements necessary to conduct this activity such as a hunting license, import permit, or collection permit.) If "yes," list the state, Federal or foreign countries involved and type of document required. Include a copy of these documents with the application. If you have applied for the documents, check the "have applied" box and list the state, Federal or foreign countries involved and type of documents required. If the proposed activity is not regulated check "not required."  

Section C.3 "Check or money order (if applicable)" There is an application processing fee unless you are applying as a Federal, State or tribal government agency or you are an individual or institution under contract to such agency for the proposed activities. (See 50 CFR 13.11(d)(2) for fee schedule.) Proof of status as a Federal, State or tribal government agency or contractor to such agency should accompany your application. The application processing fee is assessed to partially cover the cost of processing a request. The fee does not guarantee the issuance of a permit. It will not be refunded regardless of whether a permit is issued, abandoned, or denied. See the accompanying section APPLICATION PROCESSING FEE for the fee to process this application. Make your check or money order payable to the "U.S. Fish and Wildlife Service" and attach it to the application form.

Section C.4 "CERTIFICATION" The individual identified in Section A, the principal officer named in Section B, or person with a valid power of attorney (documentation must be included in the application) must sign and date the application in blue ink. This signature binds the applicant to the statement of certification. This means that you certify that you have read and understand the regulations that apply to the permit. You also certify that everything included in the application is true to the best of your knowledge. Be sure to read the statement and re-read the application and your answers before signing.

ALL APPLICANTS COMPLETE SECTION D:

Provide any required additional information outlined in Section D of the application form. Be as complete and descriptive as possible. If there is any doubt as to the information’s relevance, include it with the application. Please do not send videotapes or DVDs.
APPLICATION FOR A FEDERAL FISH AND WILDLIFE PERMIT

Paperwork Reduction Act and the Privacy Act — Notice

In accordance with the Paperwork Reduction Act of 1995 (44 U.S.C. 3501, et seq.) and the Privacy Act of 1974 (5 U.S.C. 552a), please be advised that:

1. The gathering of information on fish and wildlife is authorized by:
   e. Wild Bird Conservation Act (16 U.S.C. 460l-496), Title 50, Subpart F.
   f. Lacey Act (18 U.S.C. 42), Injunctions, and Prohibitions, Title 50, Subpart G.
   g. Convention on International Trade in Endangered Species of Wild Fauna and Flora (ITTA 8240), Title 50, Subpart H.
   h. General Provisions, Title 50, Subpart I.
   i. General Permit Procedures, Title 50, Subpart J, and
   j. Wildlife (import/export/training), Title 50, Subpart L.

2. Information requested in this form is purely voluntary. However, submission of requested information is required in order to process applications for permits authorized under the above laws. Failure to provide all requested information may be sufficient cause for the U.S. Fish and Wildlife Service to deny the request. Response is not required unless a currently valid official Office of Management and Budget (OMB) control number is displayed.


4. Routine use disclosures outside the Department of the Interior may be made by the consent of an individual if the disclosure is compatible with the purposes for which the record was collected. (Ref. 68 FR 52611, September 4, 2003) Disclosures outside the DOI may be made under the routine uses listed below without the consent of the individual if the disclosure is compatible with the purposes for which the record was collected:
   a. To subject matter experts, and State, Federal, local, and foreign agencies, for the purpose of obtaining advice relevant to making a decision on an application for a permit or when necessary to accomplish a FWS function related to this system of records.
   b. To the public as a result of publishing Federal Register notices announcing the receipt of permit applications for public comment or notice of the decision on a permit application.
   c. To Federal, State, local, or foreign wildlife and plant agencies for the exchange of information on permits granted or denied to assure compliance with all applicable permitting requirements.
   d. To Captive-bred Wildlife registrants under the Endangered Species Act for the exchange of authorized species, and to share information on the captive breeding of these species.
   e. To Federal, State, and local authorities who need to be informed of a permit issued to receive, and rehabilitate sick, orphaned, and injured birds under the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act, federally permitted rehabilitators, individuals seeking a permitted rehabilitator with whom to place a sick, injured, or orphaned bird in need of care, and licensed veterinarians who receive, treat, or diagnose sick, orphaned, and injured birds.
   f. To the Department of Justice (DOJ), or a court, adjudicative, or other administrative body or to a party in a litigation before a court or adjudicative or administrative body, under certain circumstances.
   g. To the appropriate Federal, State, tribal, local, or foreign governmental agency responsible for investigating, prosecuting, enforcing, or implementing statutes, rules, or licenses, when we become aware of a violation or potential violation of such statutes, rules, or licenses, or when we need to monitor activities associated with a permit or regulated use.
   h. To a congressional office in response to an inquiry to the office by the individual to whom the record pertains.
   i. To the General Accounting Office or Congress when the information is required for the evaluation of the permit programs.
   j. To provide addresses obtained from the Internal Revenue Service to debt collection agencies for purposes of locating a debtor to collect or compromise a Federal claim against the debtor, or to consumer reporting agencies to prepare a commercial credit report for use by the FWS.

5. For individuals, personal information such as home address and telephone number, financial data, and personal identifiers (social security number, birth date, etc.) will be collected prior to any release of the application.

6. The public reporting burden for the collection of information is estimated to average 20 minutes. This burden estimate includes time for reviewing instructions, gathering and maintaining data, and completing and reviewing the form. You may direct comments regarding the burden estimate or any other aspect of the form to the Service Information Clearance Officer, U.S. Fish and Wildlife Service, Mail Stop: CSS, Arlington, Virginia 22203.

Freedom of Information Act — Notice

For organizations, businesses, or individuals operating as a business (i.e., entities not covered by the Privacy Act), we request that you identify any information that should be considered privileged and confidential business information to allow the Service to meet its responsibilities under FOIA. Confidential business information must be clearly marked "Business Confidential" at the top of the letter or page and each succeeding page and must be accompanied by a non-confidential summary of the confidential information. The non-confidential summary and remaining documents may be made available to the public under FOIA §50 CFR 2.1(3)(ii, iv, 4) CFR 2.15(6)(1)(i).

Application Processing Fee

The fee to process this application is $200 for a three-year artificially propagated authorization, $50 for a one-year artificially propagated authorization, and $5 for each export permit issued from these authorizations. Checks should be made payable to "U.S. Fish and Wildlife Service." Fees for renewals and amendments may vary; see fee schedule at 50 CFR 13.11(e)(4). The processing fee will not be refunded regardless of whether a permit is issued, abandoned, or denied. The fee schedule does not apply to any Federal, State, or tribal government agency or individual or institution under contract to such agency for the proposed activities.
Appendix M

Correlation Matrix Between Sorts

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Appendix N
Survey for Public Meetings

1. Which perspective most fits your feelings about ginseng poaching?  A  B  C  D

2. Are there any additions or deletions you would make to the perspective that would better match your feelings about poaching?

3. How would you define yourself?
   Grower    Wild crafter (harvest only wild ginseng)    Both    Other ____________

4. Where do you live (state and county)?

5. How many years have you been involved with ginseng? ____________


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