

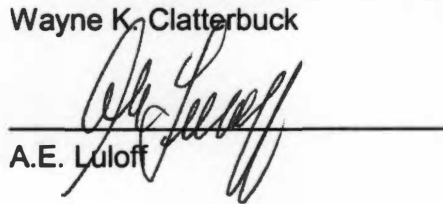
To the Graduate Council:

I am submitting herewith a thesis written by Leslie Ann Horner entitled "Assessing Capacity for Collaborative Land Management in a Western Tennessee Community." I have examined the final paper copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Science, with a major in Forestry.



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Vice Chancellor and
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*ASSESSING CAPACITY FOR
COLLABORATIVE LAND MANAGEMENT
IN A WESTERN TENNESSEE COMMUNITY*

*A THESIS
PRESENTED FOR THE
MASTER OF SCIENCE DEGREE
THE UNIVERSITY OF TENNESSEE, KNOXVILLE*

*LESLIE ANN HORNER
DECEMBER 2004*

AG-VET-MED.

Thesis
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.H676

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DEDICATION

This thesis is dedicated to the memory of my dear dad, “the Colonel” John C. Horner (USAF), and to my wonderfully unique mother, Carol A. Horner. Thank you for always truly challenging me to do my best, to think critically, and for teaching me, by example, to respect different perspectives. I have been inspired by the courage to try new things in life that each of you has lived by (in your own ways), and am grateful for the support and patience you’ve shown when my new paths have skirted the path to financial security. You have shown me how to live life with love and humor.

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*I continue to work with the materials I have, the materials I am made of.
With feelings, beings, books, events, and battles, I am omnivorous.*

~Pablo Neruda

While stopping short of thanking everyone I've ever known or met, I must acknowledge that my life (and this accomplishment) has been shaped by many experiences and interactions—long or brief, joyful or painful, challenging or comfortable. I often feel like I myself am a mosaic of these people and experiences.

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Sit down before fact as a little child, be prepared to give up every conceived notion, follow humbly wherever and whatever abysses nature leads, or you will learn nothing.

~Thomas Huxley

ABSTRACT

Human and natural alterations resulting in sedimentation, flooding, and hardwood tree mortality in western Tennessee's Hatchie River watershed represent a landscape-level natural resource problem. Flooding and tree mortality have significant negative economic impacts on the residents of the watershed's communities. Efforts to address these ecological problems will need to be conducted at a landscape level, across various boundaries, involving multiple private landowners. In order to succeed in a cross-boundary restoration approach, the needs of the people and the ecosystem must be addressed. Collaboration in natural resource management has emerged as one tool for discovering and maintaining a balance between community and ecosystem needs. An initial assessment of a community's history of interactions and the range of residents' values and needs should help to identify and address potential stumbling blocks in future collaborative efforts. Critical efforts in community collaboration should include all affected parties and should seek common ground among divergent perspectives. Such an assessment was conducted within the Richland Creek watershed, a tributary of the Hatchie River, prior to comprehensive restoration efforts. The assessment included 1) key informant interviews to gain a general understanding of community conditions, and 2) focus groups with distinct and representative populations within the community, to validate and elaborate on initial findings. The information gathered from this research—including residents' understanding of the river system ecology and the range of values regarding natural resources—will be used to inform the future restorative work of agencies and non-governmental organizations as well as for education and support of resident landowners.

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CHAPTER 1: *MANAGING ACROSS BOUNDARIES*

Introduction

Natural resource management has undergone significant changes in the course of the last century. The Progressive Era of the late 1800s and early 1900s materialized in large part as a response to the exploitation that was seen during settlement and industrialization. This era in resource management, reflecting primarily a utilitarian philosophy, was marked by a strong reliance on science and expert knowledge, the disregard for local citizens' knowledge, and the bias of managing natural resources to meet commodity needs through sustained yield (Baker and Kusel 2003; Cortner and Moote 1999; Ostermeier 1999). In recent decades, the acknowledgement that environmental problems are occurring at landscape levels, diversification of public values, and the integration of the concept of sustainability into agency and public thinking have led to new approaches to natural resource management. Moreover, the 1992 Earth Summit in Rio de Janeiro played a large role in bringing the concept of sustainability to the attention of political leaders, non-governmental organizations, and the general public. The USDA Forest Service, for example, has adopted Sustainable Forest Management (SFM) as an official policy. In general, the philosophical and managerial shift in the approach of natural resource agencies has been from a relatively anthropocentric and rigid view of natural systems to a view that is more holistic and pursues the maintenance of healthy relationships within ecosystems. In practice, this shift has taken various forms and characterizations including ecosystem management, SFM, community forestry, and collaborative natural resource management. Many of these management approaches seek to balance ecological needs with economic needs

of communities, as well as social needs and the diverse range of values relating to natural systems that are held by the public.

Social Context for Collaborative Natural Resource Management

Due to the broad range of public values and the increased number of participants in decision-making processes, traditional methods of public participation in natural resource management often result in conflict. American society has an increasing tendency to view the world “in an adversarial frame of mind,” with various groups vying to demonstrate the loudest and most persuasive voice (Tannen 1998). In addition, public participation has historically been pursued through a top-down approach, leaving participants feeling undervalued (Germain, Floyd, and Stehman 2001). Other researchers have found that traditional decision-making processes and agencies themselves tend to be biased toward one interest group’s needs and ineffective in accomplishing intended goals (Wondolleck and Yaffee 2000).

Additional problems have surfaced when regulatory measures are imposed upon a community in order to protect an ecosystem or species valued by the broader society. Such situations can result in unintended outcomes that are damaging to the local community, and/or pit the needs of one community against another. The ongoing controversy over allocation of water between the upper and lower basins of the Klamath River basin, stretching between Oregon and California, is an excellent example of the difficulty in balancing the needs of various stakeholders. In the Klamath River case, efforts to protect two endangered species of sucker fish and the coho salmon—as well as a lower-basin community dependent upon these fish for food—have been at odds

with an upper-basin community's agricultural practices (Clarren 2001). In 2001, persistent drought led to significant damage to crops and altered the wetland ecosystem at a National Wildlife Refuge in the Oregon portion of the basin. Farmers were legally barred from diverting the flow from the waterways of the Klamath River watershed in order to irrigate their crops, as a result of a U.S. Bureau of Reclamation ruling. The Bureau ruled that the water must remain in the waterways in order to protect the endangered suckers and coho salmon in the California portion of the basin. That decision has led to strong tensions between the upper and lower basin communities, culminating in farmers taking direct action to open the headwaters themselves. Enforcement of the Endangered Species Act has shown, in this case, a degree of rigidity that makes it impractical. Reliance on such policies—those that fail to obtain a balance between a species' needs and the needs of human communities—will likely lead to continued patterns of conflict and deadlock.

As resource controversies such as the Klamath Basin case continue to emerge, natural resource managers must begin to draw upon social sciences research to inform their work. This shift has only taken place to a small degree so far (Daniels and Cheng 2004), due in part to the longstanding tradition of science-driven natural resource management taking place in resource-dependent communities, and isolate of an understanding of the local conditions and needs of the communities that may impact or be impacted by those resources. Communities have unique sets of economic, social, and environmental needs (Luloff, Bridger, and Brennan 2002; Wilkinson 1991). The well-being of a community is linked with the community's ability to pursue collective action and can be impaired when relationships and interactions are "dominated by outside interests or by a powerful elite" (Wilkinson 1991). Wilkinson also asserts that

social, individual, and ecological well-being are inherently related (Wilkinson 1991). Projects that seek to improve well-being cannot succeed without considering *all* the needs of the community and of individuals within the community.

Recognizing that effective public involvement is critical to the success of promoting sustainable management of land and to the well-being of the communities impacted by decision-making processes, natural resource professionals have also recently begun to give more attention to collaborative approaches to natural resource management. Wondolleck and Yaffee's review of successful ecosystem management efforts identified projects that are "place-based, cooperative, multiparty, and grounded in high-quality information" (Wondolleck and Yaffee 2000). The USDA Forest Service and the Environmental Protection Agency, in particular, have begun to shift their public participation processes to better balance local community needs and values with the needs and values of the broader society. The Forest Service has established a Collaborative Stewardship Team, which defines collaborative stewardship as "people working together, sharing knowledge and resources, to ensure sustainable ecological systems and communities" (Selin, Schuett, and Carr 2000).

Ecological Context for Collaborative Natural Resource Management

While there is a growing list of successful collaborative efforts toward management of public lands, there has been little research on the applications of collaboration to management of private lands. The Southern Forest Resource Assessment reports that 89% of the southeastern United States' 215 million acres of forest land are held in private ownership (Wear and Greis 2002). While the total number

of privately owned forest acreage is increasing slightly, parcelization of these properties is occurring (Wear and Greis 2002). The term parcelization, which was not distinguished from fragmentation in the literature until relatively recently, refers to a shift from few owners of large tracts of land to many owners with small tracts of land (Best 2002; Mehmood and Zhang 2001). Assessment of non-industrial private forests (NIPF) covering 56 million acres in Florida, Georgia, South Carolina, Virginia, and Tennessee shows 30 million acres of forest in tracts 100 acres or smaller, and 20 million of those acres were forests in tracts of 50 acres or less. Tracts of 500 acres or more represented less than 8 million acres (Wear and Greis 2002). In the bigger picture, the ecological integrity of a landscape can become compromised through parcelization, as different landowners may have conflicting management objectives. Furthermore, these parcels of land are often significantly fragmented by structures such as roads, buildings, and cleared land.

Together, the trends of increasing private ownership, parcelization, and fragmentation represent a potential to significantly reduce “forest functionality for wildlife, watershed, or timber” (Best 2002). Conversely, these trends present a challenging opportunity to develop collaborative environments for private land management in order to maintain ecosystem functionality. Best, in her review of the literature, notes that “fragmented properties must be functionally reassembled through landscape-level cooperative stewardship mechanisms” (Best 2002). Landscape-level stewardship cannot happen without deliberate and meaningful involvement of private landowners.

Background and Purpose of Study

This thesis is being conducted as a part of a larger interdisciplinary and intercollegiate project called “Sustaining Natural Resources on Private Lands in the Central Hardwoods Region.” The University of Tennessee, The University of Missouri, and Purdue University were awarded a joint grant from the USDA’s Initiative for Future Agricultural and Food Systems to promote management practices that meet the needs and values of individual landowners as well as the needs of future generations. Specific goals of the project are to foster understanding of social, economic, and ecological benefits of forests in the central hardwood region, and to provide education and tools for improved forest stewardship among private landowners. Two watersheds in Tennessee were chosen for this work—the Emory-Obed Rivers in the eastern part of the state, and the Hatchie River in the western part of the state. The work for this thesis took place in the Hatchie River watershed.

Sedimentation, flooding, and hardwood tree mortality along the Hatchie River and its tributaries represent a landscape-level natural resource problem. Restoration efforts that operate at a landscape level will need to be conducted across boundaries, involving multiple private landowners. Casual observation shows that the historical and current needs of the Hatchie River watershed communities are linked to a range of values—particularly with regard to natural resources. For collaborative restoration efforts to succeed, the needs of the people *and* the ecosystem of the Hatchie River watershed must be addressed. An assessment that examines a community’s history of interactions, as well as finding out what the range of values and needs are—before any

restoration work begins—will help to identify and address potential stumbling blocks in the collaborative process.

The goal of this thesis is to conduct an assessment of a community that is within—and roughly defined by—a tributary watershed system. Existing local conditions were examined to aid in establishing a collaborative effort involving private landowners, natural resource managers, and other stakeholders. This pre-collaboration assessment of community conditions is important in gaining an understanding of natural resource issues—as well as the cultural and social context in which they occur—from the perspective of private landowners and other stakeholders within a Hatchie River watershed community. Specific areas of investigation, described further in Chapter 3 (see Table 1, p. 39), included the range of values related to natural resources, views of land management and factors affecting management decisions on private lands, understanding of ecological processes, quality of interactions between various segments of the community, past community activeness, and perceptions of collaboration.

The results will serve as a tool to inform the collaborative restoration efforts pursued by the partnership, and will be used to help prevent potential conflict by establishing an awareness of concerns that are not captured in traditional public involvement and survey techniques. The assessment may also help natural resource professionals who frequently work with private landowners, by providing insight into landowners' frustrations, motivations, technical assistance needs, and other topics of relevance so that they might be most appropriately addressed.

CHAPTER 2: LITERATURE REVIEW

COLLABORATION AS AN APPROACH TO ECOSYSTEM MANAGEMENT

Introduction

This section provides a synthesis of the concepts of ecosystem management and collaboration in natural resource management. A review of the interactionist perspective of community theory, taken from rural sociological literature, is provided to clarify the often-broadly defined and applied concept of community. The chapter concludes with an examination of the concept of community capacity, which provides a theoretical framework to assess the ability of a community to accomplish a unified goal such as collaborative management and restoration of natural resources.

Understanding Collaborative Ecosystem Management

The relatively recent philosophical evolution in natural resource management is evidenced by change in approaches to management that focus on meeting both human and ecosystem needs. These approaches have been termed differently: ecosystem management, community-based ecosystem management, collaborative natural resource management, collaborative conservation, and community forestry are among the terms heard most frequently. Beyond differences in terminology, there is significant overlap in the foundations and desired outcomes of these approaches. In general terms, the unified goal is to sustain natural and human communities—to find a balance between ecocentric and anthropocentric goals (Brick, Snow, and Wetering 2001). Still, there are enough distinctions between some of these theoretical perspectives—primarily building on the foundations of ecosystem management by involving the local community in caring

for natural resources, the care of the community itself, and fostering a broader sense of community—that it is useful to examine the terms more closely.

Ecosystem management, or the ecosystems based approach (EBA), was developed as a process for planning land management which facilitates the “integration of broad-scale natural and social systems in community development” (Elmendorf and Luloff 1999). Although the theory of ecosystem management has been evolving and has been described in numerous ways, Grumbine (1994) identified ten key themes common to these definitions. Ecosystem management must 1) be systems-based rather than focusing on individual species, 2) cross geo-political boundaries, 3) focus on the functional integrity of an ecosystem, 4) incorporate data collection, 5) provide continuous monitoring, 6) employ the flexibility of adaptive management, 7) encourage cooperation between agencies, 8) bring about change in the organizational structure of agencies in order to increase effectiveness and efficiency, 9) recognize that humans are intrinsically tied to nature, and 10) recognize the importance of human values in management decisions (Grumbine 1994).

Management that occurs at the scale of an entire ecosystem—as opposed to a forest stand or a public park, for instance—came about largely in response to the recognition that ecological problems do not stop and start in conjunction with political and property boundaries (Cortner and Moote 1999). One owner’s objectives for managing a property may directly conflict with a neighbor’s management objectives and be counterproductive to those objectives. On a larger scale, there are objectives and values relating to natural resources that are held by the general public, and may be considered in terms of “the greater good.” Because ecosystems are, in part, socially

constructed places, implementation of ecosystem management practices is affected by emotional attachments of community members and other stakeholders to a particular place (Clark and Stein 2003). In addition, the potential of affecting the ability of future generations to be able to meet natural resource-related needs is a concern that lies at the core of the concept of sustainability, which is the ultimate goal of ecosystem management. As defined in the landmark report known informally as the Brundtland Report, "sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs" (WCED 1987). The concept of sustainability recognizes that human communities are not separate from the ecosystems in which they live, and the efforts toward sustainability must reflect this interdependence.

Baker and Kusel (2003) characterize community forestry as analogous to a three-legged stool; the practice of community forestry seeks a balance between environment, economy, and social equity. Failure to properly balance the three "legs" is often what leads to conflicts in communities. As Clark and Stein (2003, p. 874) note, "the better land managers understand the role natural areas play in the lives of area residents, the more successful they will be in managing those ecosystems." In short, ecosystem management is "management across ecological, political, generational, and ownership boundaries" in which there is an equitable distribution of the costs and benefits of this management (Baker and Kusel 2003). It is management of natural resources that makes an effort to address non-technical issues—including equity and personal and economic attachment to a particular place—by balancing the complex set of values our society assigns to natural systems. If this balance is genuinely achieved, both ecosystems and human communities will be sustainable.

One of the foundations of successful ecosystem management—that is, ecosystem management that recognizes the interdependence of the health of ecosystems and the health of human communities—is the co-determination of its goals and objectives by the public (Cortner and Moote 1999; Gray, Enzer, and Kusel 2001). Such management objectives must reflect not only local ecological and social conditions but also, to some extent, the values held by the broader society. Another foundation of ecosystem management that sets it apart from previous management models is the integration of different subfields of science, as well as other types of knowledge. There is the recognition in ecosystem management that *science provides information*. Science alone does not provide the answers. The information that guides decision-making in ecosystem management must be holistic.

The system for obtaining information must itself be informed through ongoing evaluation methods that look at the ecosystem *and* the human community. Management objectives are adapted continuously based on information provided through this “feedback loop”—making the management system dynamic. Many of these lessons for ecosystem management have been borrowed from models of adaptive management that have been applied in business and organizational contexts (Cortner and Moote 1999). Modern management regimes need to move beyond compartmentalization and specialization in order “to recombine, to reorder, and to integrate the knowledge base into larger and larger aggregations and to study rigorously how things relate” (Behan 1997). This examination of interrelationships—at a systems level—is critical to the role of models of governance that foster sustainability. It naturally follows that individual organizations and agencies involved in ecosystem management must also be flexible and adaptable. Perhaps the most significant adaptation that

institutions must make in ecosystem management is the shift from a role of enforcer and instructor to that of a participant with shared power and a co-learner. Decisions are made in a decentralized context, in settings that are deliberative, open, and participatory (Cortner and Moote 1999; Gray, Enzer, and Kusel 2001; Grumbine 1994).

Collaboration is a tool used within ecosystem management, to facilitate the high degree of coordination that is required when management units are defined ecologically rather than politically. Collaboration in natural resource management emerged as a new approach largely due to recurring conflict in communities and the sense that there simply are no other ways to go about the type of cross-boundary management that is needed (Wondolleck and Yaffee 2000). A seemingly pervasive sense of mistrust of agencies that manage natural resources—juxtaposed with a continuing reliance on experts—has led, conversely, to a decline in the individual's responsibility to be an active part of decision-making processes. Within current and social contexts, collaboration is the most appropriate choice in a shrinking pool of options. Particularly because non-federal and private lands are necessary to incorporate into conservation strategies, cooperation *must* occur to assure the long-term health of ecosystems. Compartmentalization of management strategies does not make sense, as natural systems are not compartmentalized. Furthermore, there is a need for natural resource management to evolve in union with the evolution of social values and needs that has occurred over the last several decades (Wondolleck and Yaffee 2000).

As reflected in the sometimes separate and sometimes interchangeable discussion of ecosystem management and collaborative natural resource management, there are both strong similarities and distinctions between the two management

approaches. Both are typically place-based (while also including communities of *interest* represented by various stakeholders), multi-party, decentralized, informed by good science and local knowledge, and attempt to moderate the traditional top-down approach to natural resource management. While many principles are shared, collaborative resource management differs from ecosystem management, in that its focus lies primarily in process rather than outcomes. Some discussions of human management of natural systems (Costanza and Folke 1996; Holling and Sanderson 1996) attempt to describe human-environment interactions such as adaptive management and ecosystem management with formulaic models similar to ecological processes; collaboration is prescribed within these conceptual models. Although the collective descriptions of collaborative management do not attempt to provide a formula for management, they do provide guidelines for *what the process should look like*. Collaboration is not seen as the end goal, as is ecosystem management, but rather a stepping-stone to more effective management (Wondolleck and Yaffee 2000).

The characteristics that are key to the process of collaboration are related to three fundamental questions: *Who* is involved?, *How* are they involved?, and *Why* are they involved? The first question conveys the importance of a process that is inclusive and representative, involving a broad array of participants. The question of *how* these participants are involved speaks to the nature of influence and control of the process, as well as personal relationship and group dynamics. Finally, the question of *why* individuals are involved relates to characteristics that must already exist to some extent (such as a shared sense of urgency about a problem), but that the collaborative process itself will help to articulate and strengthen shared goals and/or purpose. This question of

motivation to act is particularly important, given the voluntary nature of collaboration. Each of these questions will be explored in greater depth in the following sections.

Collaboration: Involvement

Poorly executed public participation methods in agency planning have been dubbed by some critics as the “Decide-Announce-Defend” or “Inform-Invite-Ignore” models of involvement. Public participation is mandated in many agency procedures, and it has long been recognized that participatory decision-making can help to reduce conflicts among stakeholders and agencies. However, these somewhat cynically named models of public participation reflect growing criticisms relating to the ineffectiveness of current methods for involving the public (Daniels and Walker 2001). There is a growing sentiment among the public that—even if public involvement is sought—the decisions have already been made, the efforts to gather input from the public are not substantial, and their input does not shape the outcomes.

Collaboration is about more than just attracting participants. To achieve the degree of inclusivity that is vital to collaboration, the facilitators must make a deliberate effort to find and involve those who are directly affected by the problem, those who have formal responsibility and jurisdiction relevant to the problem, and those who control key resources. Beyond these more obvious participants, collaborative efforts must also ask: “who *cares* enough to invest time, energy, and other resources?” and “who *must* be involved to ultimately lead to a change in behavior?” (Wondolleck and Yaffee 2000). These last questions are important in order to address the effect of community

“gatekeepers” and others whose enthusiasm or suspicion may influence other community members’ willingness to become involved.

While collaboration seeks to build on and extend existing relationships, facilitators of the process must work to extend the social networks already present in a community and to encourage unlikely partnerships. In doing so, stakeholders can move beyond adversarial interactions by bringing together polarized groups or individuals. Second, broadened involvement allows the collaborators to gain access to a fuller range of information, skills, and resources. Lastly, the broadening of the existing social networks facilitates the ability to address problems that must be addressed at multiple institutional levels. This typically includes building the organizational support of NGOs and agencies, as well as advisory committees. While a broad array of participants may slow the process of decision-making, the diversity of experiences, knowledge, and access to resources possessed by these participants also increases the group’s ability to solve problems (Baker and Kusel 2003; Lasker and Weiss 2003; Wondolleck and Yaffee 2000).

Collaboration: Influence and Control

Collaboration, by definition, requires a commitment to a sharing of decision-making power and leadership. In practice, this can be more difficult than anticipated as shared power can be interpreted as a threat to the status quo, in which one or more groups or individuals may be accustomed to being in a primary leadership role (Gray, Enzer, and Kusel 2001). In order for the process not to be dominated by one or two organizations, both the support and the decision-making power *must* be shared (Lasker

and Weiss 2003). Involving all the affected parties early and often, and being attentive to the management and facilitation of democratic decision-making processes in meetings helps to ensure that domination does not occur.

Participatory research is often emphasized in community-based ecosystem management. While not all groups opt to conduct community-led research, collaborative efforts do demand and encourage investigating and learning together (Baker and Kusel 2003; Brick, Snow, and Wetering 2001; Cortner and Moote 1999; Wondolleck and Yaffee 2000). Community forestry seeks “to redefine, through new ways of interacting, those institutions that govern the relationship between a human community and the ecosystem that they rely on” (Baker and Kusel 2003). This requires openness to varying perspectives and types of knowledge, as well as skill in integrating these perspectives and knowledge. The sharing and value of information that is offered by all participants helps to build a high degree of ownership of the process and the outcomes (Gray 1989; Wondolleck and Yaffee 2000). In following and trusting processes that foster meaningful involvement of all parties, participants become co-creators of solutions, not buyers-in to an already constructed solution. The individual empowerment that develops through such processes in turn can help lead to community empowerment (Lasker and Weiss 2003).

Collaboration: Relationships and Group Dynamics

Collaborative natural resource management sets itself apart with its emphasis on building relationships where none have existed before. At its core, collaboration refers to a transformation in the way people interact with each other. This begins with open and ongoing communication among all involved parties and by giving care to creating

and strengthening individual relationships, both formally and informally. Personal discoveries that are made through such attention and commitment to relationships can help to build a common understanding of the ecological *and* social context of the place and culture in which collaborative ecosystem management is being attempted (Wondolleck and Yaffee 2000).

Through the collaborative process, facilitators must ensure that much of the focus is directed at what unites the participants, rather than where disagreement lies. In focusing on identifying common interests, the group increases its capacity to move beyond maintaining polarized positions to effective problem-solving (Lasker and Weiss 2003; Wondolleck and Yaffee 2000). Dialogue is seen as an important tool in helping to shatter stereotypes and misconceptions held by participants, in building understanding among diverse perspectives and experiences, and in promoting critical thinking (Isaacs 1999; Lasker and Weiss 2003; Wondolleck and Yaffee 2000). Isaacs (1999, p. 9) defines dialogue as a “shared inquiry, a way of thinking and reflecting together.” This shared inquiry requires that people first set aside the effort to advance their own perspective, and commit to listening and suspending judgment of others. Beginning with this trust in the process itself—which requires a degree of skill in facilitating—participants develop trust, respect, shared meaning, and the ability to look at the problem in new and different ways (Isaacs 1999; Wondolleck and Yaffee 2000). Participants in collaboration come to understand that there is no room at the table for adversarial exchanges and behaviors that exclude segments of the affected population.

The recognition of a shared sense of *place* that may emerge through dialogue can help community members see themselves as a group, and not a collection of

individuals. While collaborative conservation and natural resource management is not always place-based, sense of place is the foundation upon which these efforts are built most successfully (Brick, Snow, and Wetering 2001). Developing a group identity—recognizing the links between the locality, the people, and the natural resources themselves—can naturally guide the community toward the development of a mutual stewardship ethic (Baker and Kusel 2003).

Another aspect of discovering and building commonalities is development of a common language that will enable trust and equity among participants. To this end, the language must be one in which jargon is not used to bolster the value of expert knowledge over other types of knowledge. Not only does scientific knowledge sometimes serve as a “gatekeeper”, excluding those who can’t or don’t speak the same language, but it also limits the scope of the questions that are asked and answered through research. Those who speak in expert terms often dominate the process (intentionally or unintentionally) and thereby have a disproportionate role in determining the agenda for investigation. Avoiding the use of jargon can further the group’s ability to learn together (Lasker and Weiss 2003; Wondolleck and Yaffee 2000). A common language also contributes toward the development of a civic science, in which “residents and workers can engage with scientists, wielding local knowledge and a diverse set of values” (Borchers and Kusel 2003). Brick and Weber (2001) stress the importance of developing a civic democracy as a replacement for the regulatory democracy of the past. This equalized exchange between community, academic, and agency participants that is the foundation for civic science helps to ensure that the right questions are asked, that they are answered correctly, and that the behaviors of all participants are adapted appropriately (Borchers and Kusel 2003; Gray, Enzer, and Kusel 2001).

A fundamental component of collaborative ecosystem management is the creation of mechanisms that validate, apply, and strengthen local knowledge. Because there has been an absence of these mechanisms for a considerable length of time, and particularly in forestry, community members may not have the confidence in their own abilities and knowledge that is needed to spur grassroots efforts such as community forestry. When individual self-esteem is built through these mechanisms that validate and apply local knowledge, a collective confidence also emerges (Baker and Kusel 2003).

Collaboration: Creating a New “We”

In many ways, collaboration is analogous to the building of roads that make future “journeys” less formidable—and possible in cases where impasse had previously existed. The tool of collaboration can serve as a mechanism for more effective decision-making, through resolution and prevention of conflicts (Gray 1989; Wondolleck and Yaffee 2000). Comparisons have been made between collaboration, and conflict resolution (also known as alternative dispute resolution or ADR), noting that they are largely “experiments with process” (Brick, Snow, and Wetering 2001). Factors such as shared meaning, trust, and shared sense of purpose *must* exist, to some extent, in order to motivate involvement in collaborative efforts. However, the process itself helps to articulate and strengthen these motivating factors.

One of the threads that ties together the concepts of ecosystem management, collaboration, and community forestry may be best found in the latent outcomes of the process, an outcome which Schusler, Decker, and Pfeffer (2003) refer to as social

learning. Social learning “occurs when people engage one another, sharing diverse perspectives and experiences to develop a common framework of understanding and basis for joint action” (Schusler, Decker, and Pfeffer 2003). In this act and process of working together toward a goal that has been commonly identified, relationships can be transformed, the group’s base of knowledge can be enhanced, and the quality and wisdom of decisions can be improved. The elements that have been discussed as results of community cannot occur within the constraints of traditional public participation methods, primarily because there is no opportunity for dialogue.

Current “ownership” of natural resources is also seen through a new lens, as community members learn, from each other, what the past uses of the land have been. In doing this, an awareness of who has used the land in the past also emerges. It is primarily in hearing each other tell stories that community members learn what the needs of their neighbors are and *who* their neighbors are. The sharing of community narratives plays an important role in public discourse, in that the “stories we tell about how a community came to its present form provide an overarching framework within which the meaning of contemporary events can be placed” (Bridger 1996, p. 355). Inclusion of all affected parties also happens more easily and naturally with the awareness of who they are. With this consciousness of past and present residents, the espousal of private property rights has the potential to be transformed into espousal of a bundle of diverse property rights (Cortner and Moote 1999; Wondolleck and Yaffee 2000).

Understanding “Community” in Rural America

The particular origins and on-the-ground applications of collaborative ecosystem management vary depending on local conditions. To recognize that there are differences between rural communities is a significant lesson in itself. Variation in local communities is a significant factor to be considered in developing and implementing models of sustainable use of natural resources (Gibson, Ostrom, and McKean 2000; Oakerson 1990; Poteete and Ostrom 2002). Many of the most bitter conflicts over natural resources arise when rules are developed outside of the community and imposed upon the community in which the resource is housed. Even institutions whose design was intended to be integrative of social, economic, and ecological concerns are lacking when their development has not taken place within the context of the local community.

In order to begin to successfully engage residents of a rural community in collaborative management of natural resources, one must first have an understanding of what “community” *is*—particularly in a rural context. Though “community” is defined in numerous ways, across and even within various disciplines, this thesis draws mainly from the theoretical framework provided by Wilkinson (1991) and Kaufman (1959), in which interaction is identified as a key element of community.

The interactional concept of community is based on three components: a locality, a local society, and a community field (Kaufman 1959; Wilkinson 1991). The locality is the geographic area in which people meet their daily needs, while the local society is the network of organizations and institutions that enable people to meet those needs. There has been debate about whether individuals have ever been able to meet all of their

needs within a single, politically delineated community, but it is without question that the geographic area in which a community must have access to, in order to meet all its needs, is ever-increasing. Warren (1978) describes a “Great Change” in American community structure that includes increasing systemic relationships to the larger society, bureaucratization and impersonalization, urbanization and suburbanization, and changing values.

While labor and commuting data today illustrate that the existing local society in many rural towns is not sufficient to meet citizens’ needs, Wilkinson (1991) stresses that the concept of community locality does not adhere strictly to political boundaries. Thus, although a community is place-oriented, the particular place that a community is associated with could bridge the geopolitical boundaries of multiple towns and community could hypothetically exist at the scale of a watershed. In order for community to exist at this scale, however, the element of a regional local society must be complimented by interaction—development of a community field—among citizens at the same geographic scale (Wilkinson 1992).

Just as the locality and local society give *community* a tangible nature, the community field gives an emergent nature to *community*. Community field, in Wilkinson’s words, is “a process of interrelated actions through which residents express their common interest in the local society” (Wilkinson 1991). A community field identifies commonalities, and links and coordinates the activities that are related to meeting residents’ shared interests and needs. He also suggests that there is a strong link between community field and social well-being (Wilkinson 1979). The well-being of a community’s residents is highly correlated with the quality of interactions among those

residents. Wilkinson (1991) asserts that communities are strengthened as the community field is strengthened. This is accomplished by opening and maintaining communication and cooperation between members of the community.

The relationship between well-being and community is somewhat cyclical in nature (Summers 1986). *Community* refers to a set of social relationships encountered in a person's daily life. Contact with other humans is necessary for personal growth, thus making community a causal factor in a person's growth and self-actualization. Self-actualization of individuals within a community locality contributes to social well-being (Wilkinson 1979; Wilkinson 1991). Development of community helps to remove any barriers to open communication and cooperation, thus facilitating the interactive community field to bridge the gap between personal and social well-being. Community is both a causal factor *and* a product of economic, political, and social well-being.

In their discussion of the principles guiding community forestry, Baker and Kusel (2003) describe community well-being in terms of a capital assets framework in which community and forest health are interrelated. According to the authors, community well-being is defined by a community's access to physical capital (infrastructure), financial capital, human capital, cultural capital (beliefs and norms), and social capital (Baker and Kusel 2003; Kusel 2001). Community activities that are oriented toward enhancement of physical and financial capital, while overlooking the community field and cultural and social capital, lead to development *in* the community but not development *of* community. Development *in* community is primarily concerned with economic growth, improving social services, and modernization of the community. Development *of* community, on the other hand, focuses on relationships within the community and their interplay with

personal and social well-being. This distinction between the two approaches to community development is important to make, as community needs can often be greater than either approach can address by itself. Moreover, the importance of one type of development does not preclude the importance of the other.

The goal of development *in* the community is to improve the capacity for individuals within the community to meet their basic needs. Products of this type of community development may include infrastructure improvements in the hopes of attracting new employers to the community, or may include organizational improvements such as devoting more staff time to community outreach and provision of technical assistance. The interactions of the people who live within the locality are not ignored in development *in* community, but examination of the relationships and interactions associated with this type of development may have more to do with an individual's access to certain tangible resources s/he needs. The human ecology (Love 1996; Micklin and Sly 1998; Poplin 1979) and social systems (Horton 1998; Sanders 1958; Warren 1978) perspectives of community theory are closely tied to this focus of community development. Like these theoretical perspectives, development *in* community pays close attention to demographics, spatial distribution, and economic characteristics.

Although these approaches are decidedly different, they are complimentary. Development *in* the community is essential in cases where basic needs are not being met sufficiently with the existing social structures. Based on Wilkison's summary of Maslow's Hierarchy of Needs, individual well-being can be pursued only when an individual's basic needs are met (Wilkinson 1991). Without the worry and stress caused

by poverty and ill-health and other barriers to personal well-being, one's energies are freed up for the pursuit of higher-order needs such as self-actualization (motivation for growth), and building relationships with others. Wilkinson (1991) indicates that individual well-being, ecological well-being, and social well-being are integrally related. However, development that leads to an improved economy (fostering individual well-being), for example, does not guarantee that higher-order needs (fostering social well-being) will be pursued or even recognized. The fruition of social well-being may be prevented in a community for reasons not related to economics, demographics, and access to physical resources. As seen in multiple community case studies (Duncan and Lamborghini 1994; Gaventa 1982; Ramsay 1996), stifled interactions and the dynamics of power often serve as a significant barrier to social well-being. This is due in part to the inequitable distribution of the benefits of in-community development that may occur if an elite group holds a disproportionate amount of power.

Community developers often focus on development *in* community because economic and environmental barriers are readily identifiable and relatively easy to strategize about. While this focus is undeniably needed in rural development, Wilkinson (1991, p. 66) notes that "economic development and services are means and not ends of individual and social well-being." Social well-being requires a community responsiveness and solidarity that do not emerge with development that focuses solely on removing impediments to basic needs. The removal of structural and economic impediments must be balanced with removal of impediments to social well-being. Development *in* community and development *of* community must be pursued together in order to facilitate lasting and meaningful change in a community.

Acting Together in Rural Communities

Five indicators of social well-being, as described by Wilkinson (1991) are distributive justice, open communication, tolerance, collective action, and communion. Barriers to these elements of social well-being that may exist in the community can only be addressed through an exploration of community interactions that is integral to development of community. Depending on the quality of the interactions, and of the community field, a community's ability to mobilize available forms of capital through collective action may be helped or hindered (Luloff and Swanson 1995).

Collective action, or community action, is the responsiveness of community members to collectively accomplish goals that will benefit the community as a whole (Kusel 2001; Wilkinson 1991). This action stems from interaction and communication within the community field, which helps to identify common goals. In addition to serving as an indicator of current social well-being, collective action contributes to the community's well-being (Claude, Bridger, and Luloff 2000). Community action is initiated when an individual or group of individuals recognizes a problem—often either seeking to fill a gap in community needs or in response to perceived threats to the community. The second stage is legitimization, which involves communication between the action initiators and members of the community who have influence in whether the call for action has a broad acceptance. The people who are sought to legitimize the momentum for action are individuals who are respected in the community, often having either power in local government or the informal power to mobilize community members. Goal setting, the third stage, involves brain-storming and prioritizing several strategies according to their feasibility. Next in the process is mobilization of resources needed to

accomplish the goal. Necessary resources often include money, people (new energy), technical expertise, and media support. The last stage of the community action process is the implementation of the goal setting strategies laid out earlier. Implementation will lead to task accomplishment, but it may not be the same goal that was intended in the beginning.

Wilkinson argued that the increase in communication, tolerance, and extra-community interaction that has coincided with the "Great Change" (Warren 1978) discussed earlier in the chapter should contribute to improved community field and occurrence of collective action (Luloff and Swanson 1995). In cases where collective action is not taking place, it is necessary to examine community capacity (also referred to as community agency), or "the ability of a community to act in addressing specific locale-oriented needs" (Luloff and Swanson 1995). In a broader sense, community capacity may be defined as the potential to act for and *achieve* the improvement of social well-being through utilization of the community field and through access to sufficient resources. Community capacity has been defined, in the context of community-based ecosystem management as "a community's collective ability to address local social and economic needs and take on the challenges of stewardship" (Gray, Enzer, and Kusel 2001).

Community capacity, like community field, is an emergent phenomenon that can be helped or hindered by various factors. Luloff and Swanson (1995) assert that one must ask, in the absence of community capacity, "What factors are blocking its emergence?" Four factors that may deter the emergence of community capacity noted by these authors are inequitable decision-making processes, limited ability to find and

process information, how perceptions of issues are constructed, and disaffection.

Community disaffection refers to the general sentiment that arises in the presence of structural impediments to activeness and negatively impacts the quality of life.

Disaffection may be brought about by and exhibited as alienation, anomie, and fragmentation of the population (Luloff and Swanson 1995).

There are additional factors, closely related to disaffection, that influence community action and are integral to evaluation of community capacity: personal well-being, past-activeness, and shared meanings. These factors represent access to non-monetary resources and significant contributors to community field. An assessment of a community aimed at discovering the ways in which these factors are expressed and are suppressed can help in evaluating a community's capacity to accomplish common goals together.

Poor personal well-being can sometimes lead to community action, and sometimes to quiescence. Wilkinson (1991) notes that private troubles—threats to attainment of basic needs—can serve as strong motivation for community action. The determination of responsiveness depends significantly on self-esteem and awareness. In *Power and Powerlessness*, Gaventa (1982) documents how coal workers were aware of the oppression they were subjected to by the powers of the coal company and the United Mine Workers of America, yet rarely acted collectively to change their situation. Their quiescence was deeply tied with a low self-esteem that had become engrained in their community self-identity. Similarly, if individuals are not aware of how their condition relates to the condition of others in the community, they are unlikely to be motivated to

action. Personal well-being will be a motivating factor only if awareness or self-esteem is fostered.

The structure of decision-making processes also plays a large role in whether or not community action will occur. Some rural communities are dominated by a group of elites—their status being sometimes associated with a family name and sometimes with wealth. These types of power structures often embody a primary concern for the politics of the elite, failing to pursue goals for the betterment of the whole community. Local governments that place a high value on open communication with citizens allow for broader reaching concerns and goals to be placed on the political agenda. While action is more likely to occur under circumstances of open communication and shared decision-making, *lack* of access to decision-making processes can also serve as motivation for action.

Past activeness and shared meanings also contribute to the potential for community action. It has been noted that in communities where there were examples of community responsiveness to a problem, further community action was more likely to occur (Zekeri, Wilkinson, and Humphrey 1994). Likewise, in places where citizens were unified by symbols and stories of their community, community action was more probable. This social capacity for action may be related to a strong desire within the community to maintain the values that have shaped the community. Rural communities often have a self-identity that proudly sets them apart from urban areas, which may motivate action in response to any threats to that lifestyle (Fitchen 1991).

Institutional Capacity

Rural communities have been increasing in their heterogeneity (Oakerson 1990). As American rural communities have become bedroom and retirement communities for a growing number of people, the range of values and attitudes toward natural resource use has diversified. This in itself represents a challenge to the practice of sustainability. Among the local factors that shape the formation of collaborative ecosystem management ventures are local property rights regimes, culture(s), social histories, values, economic conditions, and residents' hopes and visions for the future of the resources. The challenge is greater, however, when attention is given to the diversity in institutional capacity that characterizes today's rural communities (Oakerson 1990). Often, the communities themselves are in need of development in order to effectively govern the use (and non-use) of natural resources. Collaboration, having a circular nature similar to that of community field, is a tool with which to build capacity of agencies, community members, and organizations to accomplish goals together.

Gibson et al. (2000), and Poteete and Ostrom (2002) address these challenges through an analytical framework that provides markers of social characteristics that are important to collective action such as collaborative management of natural resources. These community characteristics include salience, common understanding of the resource, trust and reciprocity, true local autonomy, and some degree of local skill in leadership and organization (Poteete and Ostrom 2002). The resource itself also must possess certain attributes: improvement of the resource is possible, its size and terrain is manageable with available resources, availability of the resource is relatively predictable, and indicators of quality and quantity are definable (Poteete and Ostrom 2002). These

characteristics of local communities and of the resource interact with one another and produce different results in different localities. Having an awareness of these characteristics, however, is a good starting place for developing new models of governance for natural resource management. In addition to consideration of local contexts and conditions, effective governance will depend on looking at the larger context. Changes need to be made within all levels of government, and these changes will have to be flexible enough to allow for learning, as well as action, to take place.

CHAPTER 3: METHODS

DATA COLLECTION AND ANALYSIS

Introduction

Using historical and current biophysical data, the Hatchie Alliance—a multi-agency collaborative partnership spearheaded by The Nature Conservancy—has identified three tributaries of the Hatchie River as priorities for restoration. Research for this thesis took place within the Richland Creek watershed—one of these three prioritized tributaries.

Study Site

The Hatchie River originates in Mississippi and flows north and west through Tennessee before draining into the Mississippi River (Figure 1). The river is 220 miles in length and the Tennessee portion of its watershed has a drainage size of 1,430 square miles (TDEC 2002). Although much of the Mississippi portion of the Hatchie has been channelized, the main stem of the Hatchie remains naturally meandering in the 220-mile flowing through Tennessee—making it the longest unchannelized river remaining in the

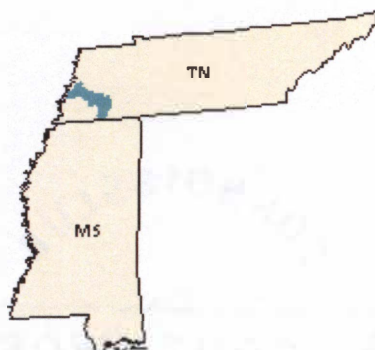


Figure 1. Location of the Hatchie River watershed in Tennessee and Mississippi

Source: EPA Surf Your Watershed http://cfpub1.epa.gov/surf/huc.cfm?huc_code=08010208

lower Mississippi River Valley. The Hatchie snakes through the western Tennessee landscape with a low gradient and slow rate. River systems such as this are prone to a natural flood regime, and give rise to many water-tolerant plant species. Bottomland (water-tolerant) forests, which include many species of economic value, account for 55,850 hectares of the total watershed area of 600,000 hectares (TNC 2000). The aquatic communities and bottomland hardwood forests of the Hatchie River watershed are integral to this unique ecosystem. The ecosystem supports a greater biodiversity than many other tributary systems in the lower Mississippi alluvial floodplain. Two National Wildlife Refuges, the Hatchie NWR and the Lower Hatchie NWR, are located within the watershed. In addition, the Nature Conservancy has identified the Hatchie watershed as suitable for restoration of American swallow-tailed kites and has named the Hatchie River one of the "Last Great Places" (TNC 2000).

Land use within the Hatchie watershed is primarily agricultural and timber-related, though there are some manufacturing industries located there. Cotton is the primary row crop grown within the watershed, with soybeans, milo, and a limited amount of corn also being grown. Farm size is much larger than was seen in previous generations of farmers, as a changing market and technological advances in farm operations have made small-scale farming financially prohibitive. Forestry is also a prevalent land use in the Hatchie watershed and Hardeman County, in which a large section of the Hatchie watershed is located, is Tennessee's leading producer of hardwood timber (TN Division of Forestry employee, personal communication). Many small, local timber companies and saw mill operations are found throughout the Hatchie watershed. These businesses have been passed on through as many as five generations of the same families. Miller Lumber Company is a larger, regional company

whose land ownership in west Tennessee totals about 22,000 acres—18,000 of which are found within the Hatchie bottomlands. Although most of these timber operations are focused on hardwood production, there has been an increase in the number of pines planted in the watershed over the last decade. In recent years, more attention has also been given to managing land for wildlife habitat and hunting opportunities.

During the late 1970s, many of the Hatchie River's tributaries were channelized (Figure 2) at the suggestion of the Army Corps of Engineers, to increase the amount of arable land by reducing the occurrence of flooding in the tributary systems. The increase in available acreage for farming, in combination with economic pressures on farmers to compete in the new technologically advanced market, has served as an



Figure 2. Location of the Hatchie River watershed, showing channel network
Source: USGS, <http://water.usgs.gov/pubs/wri/wri004279/hatchie.pdf>

incentive for farmers to farm right to the edge of their fields. With few vegetation buffer strips along the creeks, runoff of sediment and agricultural chemicals has become a problem. Forestry operations have also been identified as a source of sediment erosion (TNC 2000). Sediment is easily carried by the increased velocity of the channelized tributaries, and is deposited in downstream locations as stream velocity decreases. The high rates of sediment deposition, in turn, cause flooding that is more frequent and prolonged than the natural flood cycles of the system.

A United States Geological Survey publication released in 2001 estimated that 640,000 tons of sediment are eroded and deposited within the Hatchie River watershed each year (Diehl 2000). Doctoral research at the University of Tennessee has documented erosion and deposition in the tributaries for the past two years (Pierce 2003). In one year, the mean deposition of sediment in the channelized tributaries was found to be 13.08 cm/yr (range of 0 to 78 cm/yr), compared to a deposition rate of 1.2 cm/yr in an unchannelized tributary of the Hatchie. Gully erosion, channel erosion, and channel deposition occur in the headwaters. Downstream, the effects are valley plugs, braided channels, excessive sand deposition, and abandoned channels. In the big picture, the effects of the alterations to the Hatchie tributary system include 1) altered water table levels, 2) premature tree mortality in bottomland hardwood forests due to sand deposition and flooding frequency and length, and 3) shifts in floral composition which may in turn alter the faunal composition. All of these biophysical results of the system's alteration—in particular, the shift in plant species composition—could potentially have significant impact on the already-struggling economy of the communities of the Hatchie River watershed.

These dramatic changes in the Hatchie River's ecology are of concern for several reasons. First, the Hatchie River is the *only* lower-Mississippi River tributary system whose main stem has not been channelized. Further, the Hatchie River ecosystem is unique and supports a richer biodiversity in comparison with other tributary systems in the lower-Mississippi. The watershed has received attention through designation of the Hatchie River National Wildlife Refuge and through conservation and restoration efforts of The Nature Conservancy. Second, saw-timber and other forest products from the bottomland hardwood forests are important to the local economy.

The Nature Conservancy has formed a partnership with various state and federal agencies that work within the Hatchie River watershed in order to develop a strategic restoration plan for the tributary system. The goal of the partnership is to consolidate the work, knowledge, and financial resources of each agency into one joint effort to restore damaged tributaries within the privately owned lands of the Hatchie River watershed. Participating agencies include the Tennessee Department of Agriculture (TDA), United States Geological Survey, United States Department of Agriculture's (USDA) Natural Resources Conservation Service, United States Fish and Wildlife Service, and the TDA Division of Forestry. The Nature Conservancy has made an effort to involve other stakeholders in the partnership—including Ducks Unlimited—but landowner participation in planning thus far has been limited to landowner representation on the Hatchie Alliance and The Nature Conservancy Hatchie Project advisory councils.

Methods

Key informant interviews were chosen as the first of two methodologies used to develop an understanding of the current natural resource issues within the watershed and insights into the cultural and social context in which they occur. A key informant interview is a semi-structured interview of an individual within a community who—based on his or her experience and/or knowledge of an area—has been identified as being able to give an honest representation of the issues, values, and concerns of a community's residents. Responses to interview questions should show “reasonable and diverse understanding” of the social reality of the community (Elmendorf and Luloff 2001).

Interviews were conducted with eleven individuals identified as key informants living and/or working in the Richland Creek watershed. The individuals interviewed were identified through the snowball method, beginning with several members of The Nature Conservancy's Hatchie Project advisory board. Each key informant was asked to identify others who might be interviewed. An emphasis was placed on obtaining a representative balance of landowners, natural resource agency professionals, and other stakeholders (including conservation and recreation interest groups). Interviewees consisted of four natural resource professionals, four landowners, two conservation/recreation advocates, and one economic development professional. One woman and one African-American man were among the eleven people interviewed. Interviews were conducted in person, with two interviewers—one conducting the interview and one taking notes. Interviews typically lasted between one to one and a

half hours. Each interviewee signed a consent form indicating that their words may be used in reporting the results, but not associated with his or her name (Appendix 1).

The key informant interview protocol (Appendix 2) was used to achieve or help achieve the following assessment objectives:

- 1) Determine the *range of values* in relation to natural resources that is present in the community, an understanding of landowners' *views* of their own land, and the level of *ecological understanding* of the Hatchie River watershed held by landowners and other stakeholders
- 2) Identify trends and changes in land use and ownership, as well as factors influencing those trends and landowners' motivations when making decisions about their land
- 3) Gain an understanding of current interactions and relationships between various segments of the community, including past and current collective actions, mechanisms for decision-making, and other political or cultural nuances that may relate to collaboration
- 4) Help to understand what community members like/dislike about their community and natural resources, and their hope and fears for the future

Focus groups were conducted following the key informant interviews. Focus groups are focused conversations among individuals with relatively homogenous interests and experiences. They can be guided or unguided discussions, but the conversation centers around a primary topic of interest to the researcher and participants (Edmunds 1999; Krueger 1998a). They offer a unique research perspective, helping to:

“...determine the salience of particular topics to a target population, understand the language people use to comprehend and describe some phenomena, translate theoretical concepts into understandable survey questions, and provide valuable information for more harmonious decision making” (Elmendorf and Luloff 2001).

Focus groups, when facilitated well, create an atmosphere that enables participants to “bring out insights and understandings in ways which simple questionnaire items may not be able to tap” (Garson 2003). The information gathered with this group facilitation method is often richer than information gathered via a one-on-one interview. The conversation is structured by prepared questions, but is flexible enough to allow for interactions between participants, as they build on ideas expressed by others (Garson 2003). In this way, multiple layers of meaning may come to light through participants’ interpretations. While a focus group does not take the place of a formally structured dialogue, it can afford opportunities for learning not possible when individuals remain isolated from each other (physically or verbally).

The focus group protocol (Appendix 2) included these additional objectives:

- 1) Determine whether there are differences between values and perceptions of people living in different parts (sources and sinks) of the tributary system
- 2) Identify the range of individuals’ ecological and social values, experiences, and perceptions
- 3) Validate—through repetition and enhancement—information about the community, natural resources, and individual values gathered in key informant interviews.

Table 1. Residency status of Richland Creek landowners

<i>Residency Status</i>	<i># of Owners</i>	<i>Percentage</i>
On property	39	33.6
In county, not on property	38	32.8
In county, P.O. Box	10	8.6
In TN, not in county	22	18.9
Out of state	7	6.1
<i>Total</i>	116	100

To begin to identify potential participants for the focus groups, plat maps and online property tax records available through the State of Tennessee were used to compile a list of owners of any sized property within the Richland Creek watershed. The watershed delineation was based on the tributary system seen on the plat maps. A total of 157 parcels of land within the watershed were identified, with a total number of 116 landowners. Twenty-nine of these landowners were eliminated from the pool of potential focus group participants due to permanent residency out of state or within Tennessee but at a distance that would make their participation improbable (Table 1). While the input of these absentee landowners may be useful in the future, their exclusion was practical in light of the limitations of the focus group methodology and the relatively small proportion of the total land ownership that this group comprises.

As Table 2 shows, there is overlap in the objectives of the focus groups and key informant interviews. However, the focus groups were deemed necessary to allow gathering of information that is more in-depth than the key informant interviews. The focus groups served to supplement and verify the data collected through the interviews, and an opportunity to define issues and sentiments as they are expressed and defined by specific groups of people.

Table 2. Assessment objectives and methods

Objective of assessment	Method
Land and Natural Resources	
Determine the range of values in relation to natural resources present in the community	Focus groups and key informant interviews
Identify trends and changes in land use and ownership	Key informant interviews
Characterize landowner views on natural resources within the tributary system--issues, concerns, effects of land uses	Focus groups and key informant interviews
Characterize landowners' perceptions of their land, its use, And management of natural resources	Focus groups and key informant interviews
Individuals	
Characterize landowners' perceptions of their own land, its use, and the management of natural resources	Focus groups and key informant interviews
Determine whether differences exist between source (upland) and sink (lowland) landowners	Focus groups
Gain an understanding of landowners' motivations when making decisions regarding their land	Key informant interviews and focus groups
Identify major participation trends in various incentive programs	Key informant interviews
Determine the level of ecological understanding held by landowners and other stakeholders about the Hatchie River watershed	Focus groups and key informant interviews
Determine whether differences exist between source (upland) and sink (lowland) landowners	Focus groups
Community	
Characterize the community's capacity for collaborative planning and management regarding natural resources by:	
Gaining an understanding of current interactions and relationships between various segments of the community	Key informant interviews and focus groups
Identifying past collective actions and potential forums for future collective action within the community	Key informant interviews
Investigate current decision-making processes/structures, and other political or cultural nuances that may relate to collaboration	Key informant interviews and focus groups
Characterize how community members relate to the community (What is special about where they live, their hopes and fears, etc.)	Key informant interviews and focus groups

The available number of participants for each distinctive category guided the final sorting of landowners for the focus groups (Table 3). The research objective of determining whether differences in values and ecological understanding exists between the watershed's upland and lowland residents had to be forgone due to the actual numbers of landowners, which were inadequate to constitute four separate categories for owners of more than 10 acres. The four initial categorizations for focus groups were 1) farmers of 75 acres or more, 2) non-farming owners of 75 acres or more, 3) owners of 10 to 75 acres, and 4) owners of less than 10 acres. The first two of these categories were combined into one focus group, as some individuals were discovered to be deceased, elderly, or in poor health. Six to eight participants is considered to be an ideal number for a focus group (Krueger 1998a), and a 50% attendance rate was anticipated.

Invitations to the focus groups were initially made by phone. With this method alone, the first focus group had very poor attendance and had to be rescheduled. Subsequent invitations to the focus groups were made to the 58 residents who made up the three final categories first by personalized, hand-addressed letters (Appendix 3), followed by a reminder phone call. Several invitees volunteered to call the potential participants that they knew well to encourage their attendance. The scheduling of the

Table 3. Parcel size and ownership distribution in Richland Creek watershed

<i>Parcel Size</i>	<i># of Parcels</i>	<i>Percentage</i>	<i># of Owners</i>	<i>Percentage</i>
< 10 acres	88	57.14	56	48.3
10 to 50 acres	31	20.13	25	21.5
51 to 100 acres	17	11.04	16	13.8
101 to 200 acres	11	7.14	11	9.5
201 to 500 acres	7	4.55	8	6.9
> 500 acres	0	0	0	0
Total	154	100	116	100

focus groups was done in consultation with two landowners who were key informants, and an effort was made to avoid known time conflicts such as church attendance. As recommended in the guidelines seen in Figure 3, an effort was made to convey the importance and benefit of participation by invitees. Dinner was provided as an extra incentive and compensation for participants' time.

Focus groups were conducted with the 10 to 75 acre landowner group and the owners and farmers of 75 acres or more. After many unsuccessful attempts to confirm enough attendance by participants of the third group—owners of less than 10 acres—the decision was made to proceed just with the other two focus groups. Further discussion about this decision and this population will be pursued in Chapter 5.

☐ Did participants actually receive phone calls and letters of invitation? ☐ Did we avoid conflicts in scheduling the focus groups? ☐ Did our invitations convey sincerity? ☐ Were participants told why the topic was important to them? ☐ Did we convey that their opinions would be valued? ☐ Did the recruiter get a commitment from the participant to attend? ☐ Did we send several reminders? ☐ Were the reminders personalized? ☐ Did we describe the incentive? ☐ Was our incentive appropriate? ☐ Was our incentive sufficient? ☐ Was the location appropriate?

Figure 3. Focus group checklist and attendance diagnosis
Adapted from *Moderating Focus Groups*, by R. Krueger (1998a, p. 52)

Each focus group was facilitated by the author, and tape-recorded in addition to notes being taken by a colleague. Consent for the tape-recording was given by each participant (Appendix 1), with the understanding that no names would be associated with any direct quotes in the data analysis and reporting. Both focus groups lasted approximately two hours, including an introduction (Appendix 4), dinner, and a 15-minute presentation by a representative of the Hatchie Alliance. The representative each night was asked to be present after the focus group was completed, so as not to influence or distract the discussion of the participants. The focus group recordings were later transcribed by the author/facilitator and verified with the second researcher present during the focus groups.

Analysis

Much as the application of qualitative or quantitative methodologies depends on the *type* of information needed, the tools chosen for analysis of qualitative data depend primarily upon the *depth* of information that is desired (Silverman 2000; Strauss and Corbin 1998). If the goal of the research methodology is as straightforward as trying to ascertain a range of ideas, a preferred choice, or to identify views on a particular topic, the corresponding analysis will also be straightforward. If the research objectives are as complex as identifying behaviors or inquiring about how a policy affects individuals, it would be necessary to conduct typology formation, discourse analysis, or other methods that operate at a deeper level of analysis. Because the methodologies used in this research are attempting to simply describe the social context in which collaboration might take place, descriptive analysis is warranted (Krueger 1998b; Silverman 2000).

In descriptive analysis of the data, the researcher must be methodical and highly organized, be able to think abstractly, and to have the ability to analyze the data critically and without bias (Berg 2001; Strauss and Corbin 1998). Kreuger (1998b) states that the key tenets of focus group analysis are maintaining a disciplined process, following systematic steps and a defined protocol, having results that can be verifiable with one or more people, and having multiple feedback loops in which this verification can take place.

Analysis of the key informant interviews was relatively straightforward, consisting of grouping and summarizing interviewees' responses by topic while also trying to portray differences in respondents' experiences and views of the community. This descriptive analysis was grounded in the notes taken during the interview, and checked for accuracy by the second researcher present during the interviews. In consideration of sample size or—in this case—the number of interviews needed, the general rule is to continue until there is no new information being mined in new interviews (Strauss and Corbin 1998). The collection of further data would provide minor variations on the themes that have already been represented in the existing data.

Analysis of the focus groups followed the guidelines provided in Krueger's (1998a, 1998b) set of volumes on planning, conducting, and analyzing focus groups. The systematic steps that he refers to as part of the analytical process began with the logical ordering of questions, from simple to more complex. To the degree that it was possible, a framework of observation, reflection, interpretation, and decision was applied to the structure of the questions, as a recommended tool for the facilitation of focused conversations (ICA 2000). Immediately following each focus group, the researcher and

notetaker briefly discussed the session, noting significant verbal and non-verbal aspects of the focus group. As previously indicated, the facilitator transcribed the audio recordings of each focus group. Transcript-based analysis was chosen because it is a more rigorous method than analysis based on notes or the tapes themselves.

Focus group analysis involves examination of the discussion itself and non-verbal cues. Attention to body language and silences in the conversation both during the focus group and in the transcription can lead to meaning that is not found within the transcript text. A discussion of non-verbal cues was one aspect of the post-focus group debriefings between the researcher and assistant. Analysis of the verbal cues can occur at the level of individual words, phrases, paragraphs, themes, entire sections of transcripts, or any combination of these, depending on the research objectives (Berg 2001). In analysis of the focus groups, a basic coding system was devised based on the original research topics, operating at the level of phrases, sentences, paragraphs, and sections of the conversation. The data was then examined again, refining codes and looking more closely for themes that were not directly sought by the research questions. As recommended by Krueger (1998b), attention was also given to the frequency of particular words, tone and emphasis, the intensity of responses, and how many people expressed similar views.

This descriptive analysis used for the focus groups is, in some ways, a simplified content analysis. Content analysis is “any technique for making inferences by systematically and *objectively* identifying special characteristics of messages (Holsti 1969). In general, content analysis is seen as a collection of tools for sorting and organizing data, then interpreting patterns, and introducing theoretical perspectives. The

analysis used in this research was a dynamic process which relied on organizing and categorizing data, but also flexible and broad enough so as not to miss important themes that emerge from the data that are not directly tied to the questioning. In content analysis, this identification of the emergent themes is known as grounded theory. The themes identified in this research are not being referred to as grounded theory because of the limited number of focus groups conducted and the limitations to the appropriateness of generalizing focus group research (Krueger 1998b). Because focus groups are aimed at ascertaining a depth—rather than a breadth—of information, Krueger (1998b, p. 70) suggests that researchers “give thought about whether or not the findings can transfer into a different environment,” since generalization in its strictest sense is not appropriate.

Validity of the focus groups, as well as the key informant interviews, rests in the structuring of the questions, the skill of the interviewer/facilitator, and—to some extent—external factors such as the comfort of the physical surroundings (Fern 2001; Krueger 1998b). Secondary data from sources such as the U.S. Census and newspapers can also serve to validate primary qualitative data. Two factors in designing focus groups, which enhance their validity—and that were applied in the execution of this research to the best of the researcher’s ability—are 1) the focus group participants are representative of the population being researched, 2) the participants are recruited by the researcher and not by each other (Fern 2001). Internal consistency of participants’ responses was also considered, being one common method of checking reliability of focus group data.

CHAPTER 4: FINDINGS

Introduction

Richland Creek is located in the northwest portion of Hardeman County, flowing north into Haywood County, where it meets the Hatchie River. Many residents of the watershed identify where they live in relation to where churches and other community gathering places are currently or were formerly located. Residents remember Hillville, in Haywood County, for an active country store that is now closed. Hillville also had its own schools until a recent merger of schools in the area. In Hardeman County, Cedar Chapel appears to be just a handful of houses, but residents take pride in talking about the most active days of the cotton gin located in their community. Whiteville is the largest town—and the only incorporated town—in the northwest portion of Hardeman County. Some residents of the Richland Creek watershed identify that community as their home. A recent annexation of two nearby correctional facilities brought the population of Whiteville from 1,176 to about 4,500. One landowner who was interviewed described Whiteville as just a “bunch of individuals living in the same place,” indicating that there is not much of a community identity associated with the town itself. Whiteville is home to an elementary school, which serves residents of the Richland Creek watershed.

Some watershed residents also come to Whiteville to work at one of the four industries located there: Meridian Manufacturing Company (laminated vinyl production), Garner Automotive Electrical (rebuilt starters, alternators, and solenoids), Hardeman County Correctional Center, and the Whiteville Correctional Facility. Both correction facilities are owned and operated by a Nashville-based company. Although further

demographic research may be needed to gain a more clear understanding of work and commuting patterns in the Richland Creek watershed, the key informant interviews, general observations, and the data in Table 4 provide insight. Some residents—though fewer than in the past, according to the local Farm Service Agency representative—make their living farming cotton, soybeans, and milo. The size of farms has increased considerably and the number of farm owners and operators has decreased, as industrialized farming has made small-scale farming less economically feasible. Many farming operations are in transition as farmers near retirement age, and their children move to cities in pursuit of other jobs. Still others are employed by a few small businesses in the Richland Creek area, including several greenhouse and nursery operations. Many residents of the watershed commute to work in Jackson, where several large industries are located, or to other communities where industry and timber jobs are available. Unemployment in Hardeman and Haywood counties remains high.

Table 4. Economic characteristics of residents of Hardeman and Haywood Counties

<i>Economic characteristic</i>	Hardeman County		Haywood County		TN	U. S.
	<i>Number</i>	<i>Percent</i>	<i>Number</i>	<i>Percent</i>		
In labor force (%)	10,879	49.1	9,103	60.8	63.5	63.9
Mean travel time to work (in min.)	29.4	n/a	24	n/a	25.5	25.5
Median household income (dollars)	29,111	n/a	27,671	n/a	36,360	41,994
Median family income (dollars)	34,746	n/a	32,597	n/a	43,517	50,046
Per capita income (dollars)	13,349	n/a	14,669	n/a	19,393	21,857
Families below poverty level (%)	1,140	16.9	888	16.3	10.3	9.2
Individuals below poverty level (%)	4,769	19.7	3,802	19.5	13.5	12.4

Source: U.S. Census Bureau 2000

Key Informant Interview Findings

The results of the key informant interviews are discussed in a narrative form.

They include the thematic categories of pride and connections, landscape and ownership changes, relationships and interactions, community awareness and concern, and past collective action.

Pride and Connections

Residents of the Richland Creek watershed, like other residents of Hardeman and Haywood Counties, have deep family roots in the area and appreciate having lived there for multiple generations. Ties to other families cross generations also. When interviewees were asked what residents consider to be special about where they live, peacefulness, independence, the rural way of life, and pride in people and heritage were common responses. Symbols and memories of the past such as “the old cotton gin” or “the old post office” are also important to residents. Residents also feel pride and respect for the natural beauty and natural resources found in the area, although more people know and talk about the Hatchie River than any of its tributaries.

Landscape and Ownership Transitions

Changes in the landscape within the Richland Creek watershed are similar to other parts of the Hardeman and Haywood Counties. Many farmers have adopted no-till agricultural practices, a trend which has led to a decrease in the rate of topsoil erosion. One landowner in his fifties noted that the Hatchie River is cleaner at present than it was during his childhood. Sedimentation clearly does still occur, however, as Richland Creek itself is loaded with sediment to the extent of being completely dry in some portions.

Another landowner noted that he has watched his pond fill in with sediment over some length of time.

While the Richland Creek watershed is not as heavily forested as other parts of the county, there were differences in perception among the interviewees about changes in forest and farmland cover. Interviewees agreed that there has been a decrease in the use of row crops, and more farmers are now planting cover crops. This can be partly attributed to enrollment in the Conservation Reserve Program (CRP), as well as a growing attention to management for wildlife habitat and hunting grounds. There has also been some increase in the percentage of pastureland due, in part, to more farmers raising beef cattle than in the past, as well as the overall increase in farm size. While 150 acres was a typical farm size just five decades ago, many farming operations now encompass several thousand acres, which are rarely contiguous.

Ownership patterns in the watershed have also changed. As farming technology has become more industrialized and farm size has increased, more people have given up farming in order to better meet their families' economic needs. The people who have remained in the farming business now lease land to farm in addition to the land they may own themselves. One natural resource professional who was interviewed noted that 90% of farmland in the county is leased to those who are farming it. While it is not easy to find land for sale in Hardeman County, there has been a recent influx of new permanent and part-time residents from Memphis. This may be attributable to a trend of heirs of family land selling that land as they move from rural areas to cities such as Memphis. These children of owners who worked the land, who are now moving from the area, also account for a portion of the large absentee ownership percentage (estimated

by a natural resource professional to be 30-35% of the total acreage) in Hardeman County.

Relationships and Interactions

Although the opportunities for interaction within the watershed are somewhat limited—happening primarily at church, the county farmers' cooperative, and holiday celebrations—the relationships between various segments of the population seem to be of good quality. Relationships among landowners were described as being generally trusting and of a helpful nature. When disputes do arise (often relating to trespassing) they are worked out in a civil manner. While not necessarily having a negative connotation, a distinction is made between people who have grown up in the area and those who have not. An “outsider” can be a person who just recently moved from Memphis as well as someone who has lived their whole adult life in the area. Trespassing and other boundary-related tensions seem to be more common between lifelong residents and outsiders. Racial tensions between whites and blacks, as well as between blacks and Latinos, were also mentioned as being present to some degree within the community. The overall sentiment of landowners was characterized by one key informant in this way: “I like my neighbor, but this is my property. Don't try to regulate it or tell me what to do with it.”

Relationships between landowners and natural resource agency personnel were described as being generally positive. Many of the agency personnel grew up in the area with the landowners. With some agency personnel, the relationship is more formal and less familiar. Landowners are usually trusting of agency personnel, but there are differences of opinion and some landowners were described as being suspicious of

agency personnel. When frustrations of landowners with agencies arise, they are typically related to time lost in the bureaucratic process and with the rigidity of some regulations. The less regulatory an agency's nature is, the better the relationships between agency personnel and landowners seem to be. The Natural Resource Conservation Service (NRCS) is seen as a "middle-of-the-road" agency—finding a balance between regulations and practical, on-the-ground implementation. Agency personnel who were interviewed are very aware of the importance of developing personal relationships with landowners, and being open in communicating with them. Racial tensions sometimes are carried over into these interactions, with some African-American landowners feeling like they are unfairly targeted for violations, or that they are not offered as much help as white landowners.

The view of government, in general, by landowners in the Richland Creek watershed is comparable to relationships with agency personnel. Interactions with local government feel less threatening because people know each other at that level. This familiarity is, not surprisingly, absent at the level of state and federal government representatives. As the scale of government increases and the authority to regulate increases, suspicion and resentment by landowners also increases. In some cases, there are memories of specific interactions—even at the local level—such as not seeing results, or an agency's implementation of "bad projects" that have had a lasting negative influence in landowners' views of government (the Army Corps of Engineers was mentioned specifically). In general, however, landowners were described as open-minded and adaptable to individual interactions. Individual landowners in the watershed have more involvement with government at any level when there is money available for assistance or when they are personally impacted by a decision or event.

Other general characterizations of community relationships that emerged from the key informant interviews are:

- The Nature Conservancy has done a good job at establishing relationships with landowners, which is critical to reducing suspicion in their status as an outsider group.
- Churches are among the last community institutions to bring people together, but they do so to a lesser degree than in past.
- Communities in Hardeman County have strong economic bonds with sawmill owners because sawmills or their owners donate to community fundraisers.
- Tensions would arise if people felt their property rights were being challenged, either via regulations or through eminent domain.
- Socioeconomic standing is now similar for most people in the area, so some past tensions related to socioeconomic status are no longer prevalent.
- Landowners can lose patience if there is not clear evidence of getting things done. Sometimes this translates into taking action themselves, with or without the assistance of natural resource agency staff or other technical assistance.
- Racial and other tensions tend to disappear or decrease as people get to know one another.
- Farmers with more resources (relative to other farmers) are engaged in an informal technology transfer, by working with and demonstrating to other farmers new technological advances in farming.

Community Awareness and Concern

Residents of the Richland Creek watershed seem to be more attentive to changes in the Hatchie River than to changes in the tributary creeks. People are often curious, and talk casually with each other about changes in the creeks and the Hatchie

River. However, they are likely not to take action or ask questions unless those changes directly affect the individual or his/her property. One key informant noted the linkage between awareness (or lack of it) and level of concern. The majority of key informants observed, in the course of their interactions, that landowners do not have a sound understanding of the ecology of the watershed and the current and potential impacts of human management upon it. However, one landowner who was interviewed expressed concern about what people on the upper end of the watershed were doing on their properties that will affect landowners downstream. Residents want to preserve the natural beauty of the area and use the resources in a sustainable way. Other concerns relating to natural resources in the area include:

- Concern about use of farming chemicals and genetically altered seeds
 - These concerns related more to health than to environmental reasons
- Knowing what other farmers are doing—keeping up with trends in agricultural technology
- Concern about the extent of timber harvesting
 - Smaller companies are perceived as not as careful as Miller Lumber Company is in their harvesting practices
- Concern about conserving soil resources
- Some areas have trash dumping problems
- Concern with trees falling into river—no agency has jurisdiction over removal
- Beaver populations have had an impact on bottomland hardwoods

When asked about community concerns that are not related to natural resources, interviewees all noted concerns related to money and to making a living. Unemployment and reliance on government assistance are high in Hardeman County. The decline of

farming as a feasible livelihood for many landowners weighs heavily on some minds; people want to maintain their quality of life, and at present there are not many promising prospects for filling the gap that will be left in the absence of farming. An interest in developing an ecotourism industry associated with the Hatchie River watershed has been mentioned by some, but no related action seems to have taken place in Richland Creek at this time.

Past Collective Action

Residents of Richland Creek watershed have had a relatively limited history of collective action. Many of the existing examples of working together are related to accomplishing things that are clearly understood by the community to be “the right thing” to do. For example, there is a natural and easy agreement on the benefits and appropriateness of working together to raise funds for the volunteer fire department and American Cancer Society, as has taken place regularly in the area. Likewise, neighbors frequently come together to help one another out in times of hardship, including illnesses, natural disasters, and after a death in one’s family.

Examples of more formal and organized collective action are less frequent, and have had varying degrees of success. A small group of citizens of Whiteville successfully organized themselves in opposition to the construction of a chemical drum incinerator in the community. Although local government officials actually supported the construction, the community members who were involved were unified by their concerns about health and safety.

There are examples of collective action related to natural resources, but because natural resources are generally associated with a broad range of values, the attempts seem to be more complex and more slowly developing than the previous examples. These initiatives related to natural resources include opposition to (and support for) formation of the Hatchie National Wildlife Refuge, and attempts to organize two groups-- Hatchie Pride and Friends of the Hatchie. Though it was intended to be a community-based and inclusive initiative, Hatchie Pride did not develop beyond agency involvement. Likewise, interviewees gave the impression that the Friends of the Hatchie group never really got off the ground. The restoration work being done by The Nature Conservancy is also an example of collective action, but it is distinguishable because of its coordination by a single existing organization and involves few local citizens in decision-making processes.

Focus Group Findings

Introduction

Table 5 provides a summary of the general composition of the two focus groups conducted. The first group, made up of owners of 10-75 acres of land within the Richland Creek watershed had six participants. Five of the six participants were elderly, though they were not asked to give their exact ages. The youngest participant, who was in his 30s, indicated that he was representing his mother. One participant in this group was a retired farmer, while another was the widow of a farmer. Not surprisingly, the eight participants in the 75 or more acres focus group were younger (Table 5) and indicated more active involvement with their properties at the present time. Three of these participants were currently farming within and beyond the Richland Creek

Table 5. Summary of focus group participant characteristics

<i>10-75 acre group</i>	<i>75+ acre group</i>
6 participants 3 women, 3 men 5 senior citizens All Caucasian 2 retired farmers/spouses of	8 participants 2 women, 6 men Ages 45-65 All Caucasian 4 farmers/spouses of

watershed, on their own properties as well as on rented land. One participant was the wife of a farmer who was also present.

The descriptive coding analysis of the focus group transcriptions yielded thirteen themes within the following seven general categories: views/values of natural resources, concerns for private lands, ecological understanding, attitudes toward collaboration, trust, attitude toward government programs, and problem-solving. Most of the themes that emerged from the data were common to both groups, and are illustrated by representative quotes that show the range of sentiments wherever applicable. In cases where there were differences in the discussion of each group, a note is made to distinguish these different views and elaborate upon them.

Views/Value of Natural Resources

1) Pride in farmland, wildlife, and timber

In discussing the natural resources of the community, farmland, wildlife, and timber were three resources common to both groups' discussion. The two groups, as indicated in the quotes below, discussed timber in different ways. Likewise, discussions of wildlife

included some distinction between different species of wildlife viewed as favorable and unfavorable. Views and values of farmland, wildlife, and timber are illustrated below:

- *Natural resources? That's dirt – want to keep it there.*
- *Good, rich farmland.*
- *There is some good tilling land up and down the creek. Got just enough sand to make it work good.*
- - We've got some fine deer.*
 - Too fine.*
 - Yes, [they are] becoming a problem.*
 - We do a lot of deer hunting on mine. I don't care how many deer come over there.*
 - We have turkeys coming back in.*
 - Lots of coyotes*
 - [They are a] problem.*
 - The coyotes are good as ecology, the system, but kind of as numerous as the deer right now.*
 - Probably beavers are our worst wildlife.*
 - Beavers—do they kill timber? (Yes)*
 - They cause streams to back up...*
 - Too many skunks. [laughter] They're healthy!*
- *On my particular place, I have got a rather abundance of most of our native wildlife.*
- *And there has been some good timber too—a lot of it has been cut.*
 - I'm toying with that idea myself.*
- *The trees—so much are being cut down.*
- *The Hatchie River is one of best hardwood forests we have left in west TN.*
- *That's the richest hardwood strip in TN.*

2) Balance of utilitarianism and conservationism

The first theme—particularly in relation to timber and forestland—is connected to the second theme of valuing both utilitarian use of natural resource and conservation of these resources. While concern about the quantity and quality of timber was discussed in both groups, there was also discussion about timber harvesting being planned or

already having taken place on some landowners properties. The theme of a balance of utilitarianism and conservationism, while supported by the above quotes and some quotes to follow in discussions of other themes, is an emergent theme and is derived from the overall sentiment of the focus group discussions. No quotes are provided here, as the theme was not directly expressed, but references to other supporting quotes are noted when applicable.

3) Concerns about erosion, deposition, flooding, and forest health

Both groups of landowners discussed concerns about changes and effects they have observed relating to the rates of erosion, deposition, and flooding. The impacts of these effects on the health of forestland in the Hatchie River watershed were also a concern common to both groups of landowners. Supporting quotes relating to these concerns include:

- *The erosion is the biggest problem—with the erosion of the roads and farmland. Get a good wet spring and you could lose an awful lot. We've had whole fence lines just fall in, fall over the side. They weren't put up against the edge, either.*
- *Well, the creek itself is really posing a major problem to the Hatchie River itself, due to the amount of sand and other debris—it deposits a great amount of sand and debris in Hatchie River. The Hatchie River is—poor thing, I feel sorry for it—because when I was a young man, 50 years ago, you could find 20, 25 foot water in Hatchie River. Anybody that tells me right now to find a ten foot hole, it's almost hard to do, as far as actual depth. So it is definitely over the past 50 years, filled up quite a lot.*
- *...the more water and sand that's dumped in the Hatchie River has such—Hatchie River has a large forested bottomland, and as water continues to get over this at the drop of a hat... I mean sometimes it rains, you hear it rained up there in Mississippi somewhere, it rained a half inch, and in six hours, down in the bottom here, the water starts pouring out over the trees. If that continues and gets worse...the bottomland trees will live in a certain amount of water, but as it gets worse and worse and worse...it's going to wind up, as you said, just destroying it. The Hatchie River is one of best hardwood forests we have left in west TN.*
- *We moved there in '66 and every time it would rain, it would wash the bridge away. And we'd have to wait and rebuild it and we'd have to keep one car on one side, and one car on the other side for us to go to work, you know, for a while until they'd get the bridge*

fixed and then would come a rain and do the same thing. So we're very pleased with the bridge.

- *About give or take 50 years ago, you'd only get high water around Hatchie River in the early spring, like February and March. It hardly would ever get out of its banks in the summertime. Nowadays, there come any decent rain anywhere (3-4 inches) it's all over the bottom.*

While many views and values of natural resources were shared between the 10-75 acre group and the 75+ acre group of landowners, there were some notable differences. The 75+ acre group's discussion of natural resources was more extensive than the discussion by the 10-75 acre group, and included references to sand, recreation, and the community itself as valued resources. The Hatchie River itself and its tributaries were not specifically mentioned by either group as natural resources, but were included in the 75+ acre group's discussion of recreation. Quotes from the 75+ acre group's discussion about recreation hints at concern for the river as well as a loss in recreational opportunities:

I don't think there's as much recreation since the Wildlife took over down there...become a reserve. There's not as much fishing down off the Big Eddy as there used to be.

Just before the Wildlife [Refuge] came in, the Big Eddy—where the Richland Creek cuts into the Hatchie River—was a campsite for a lot of people. ...It was something to see when I was a kid.

Another notable distinction between the discussions of natural resources by the two groups, particularly in relation to the Concerns theme, is the scale of observation. The observations noted by participants of the 10-75 acre group tended to be in reference to day-to-day life close to or on their own property. The participants of the 75+ acre group noted more detailed observations, at a broader geographic scale. The 10-75 acre group discussed two concerns that were not expressed by the 75+ acre group. These concerns are not directly related to views and values of natural resources, though they

emerged during the natural resources segment of the discussion. First, participants expressed concern for the quality of life within the geographic region of the Hatchie River watershed, illustrated by the following quote:

It's a case of where big cities are expanded out into the area. I've made the statement, several times, that in twenty years Jackson will be another Memphis. People laugh at me, but I have seen it—in twenty years—grow from Jackson being a little bitty town to being a major metropolitan area now.

Lastly, participants of the 10-75 acre group expressed concern about the ecological and financial scale of the problems caused by erosion and sedimentation throughout the watershed:

But, [TNC representative], I keep mentioning his name—he was one of the ones that came out there and initiated the start of this thing—told us that it's going to take a while, and he won't see it finished in his lifetime, probably. But he said that their intentions are to go from the start of the problem—which is right where we are—until it gets to the river. If they don't, they're not really going to make any sense out of it, because if they[already] put \$100,000, there ain't no telling how many millions of dollars they're going to spill, to spend, by the time they get to the Hatchie River, and that's three creeks, going into the Richland Creek area.

...what they've spent there, in the beginning is just a drop in the bucket.

Concerns for Private Lands

4) Desire to control and prevent damage

Both groups of landowners discussed their own efforts to control and prevent damage caused by erosion and sedimentation on their properties. Though the sentiment of wanting to be good stewards of the land was expressed by both groups of landowners, the control methods discussed by the 75+ acre group showed a greater degree of technical sophistication, as illustrated by the difference in the selected quotes. This difference may be related to the generational gap between the two groups'

participants. The first two quotes are from a participant of the 10-75 acre group, while the remaining quotes are taken from the 75+ acre group's discussion.

- *At the time, I was hauling excess plastic from a company here in Whiteville that produced the plastic for—I believe they said it was for lining coal mines. I was hauling it and dumping it in a ditch. Well, all the people that were coming down the road said it was an eyesore, so they made me quit. It hasn't helped any since then, and I dumped tons of that stuff in the ditch and I stopped the erosion. I mean, uh, they have fixed it now so that it won't happen again, but they had to dig all the plastic out.*
- *Everything I farmed I used minimum tillage—I didn't get into no-till because it was right at the beginning. They—minimum till and no-till—are definitely an asset because it stops erosion. Anytime I had an opportunity, I would rotate my crops, rather than just having cotton or corn or soybeans in the same fields year after year after year. When you do that, you're just taking the money that you earned and putting it back in the ground so that you grow more. If you rotate it, it will pretty well take care of itself.*
- *Well, in my case, I have the same problem as the Hatchie River does—I'm just trying to keep the sand off of me. I got in trouble doing it (laughter)—we put up a little barrier down, and I got in trouble, but I told one person, 'Look, I'm just...we're doing the same thing y'all are trying to do.' This sand isn't, wasn't going to lay there on my farm. ____ doing the same thing, coming down the creek just like, ____ getting in the river. All we were trying to do was keep the sand off my field. That's our problem with Richland Creek—other than that, we don't have a problem with it.*
- *That's what terracing is all about – trying not to lose your land. You try to conserve it as best you can. It's an overwhelming effort, but you're limited to what you're allowed to do. Your hands are tied. No one else is doing anything, but they won't let you do anything, either. Your hands are kind of tied, beyond terracing and trying to put a pond on here and there.*
- *Well, you know, I had ____ and ____ come over to the farm one day two or three weeks ago and they laid up a filter buffer about 60 feet from the creek, out in end of the field. We're not going to farm that—we're going to leave 50-60 feet from the creek not to put row crops in, where the grass strips will supposedly catch whatever might silt over that way and catch it before it gets into the creek. We built one this year, we'll probably build some more next year.*
- *Well, that helps, too. I've built two [silt basins] on this creek—to the south. I've got to build two more, one on each side of the creek.*

The strong desire to act that was expressed by both participants in both groups was evident in the ideas they had for control of the ecological problems throughout the

watershed. These ideas, which include economic benefit, also relate to the theme of a balance between utilitarianism and conservationism:

- *I think we all ought to get together and start us a sand mine. Every ton that you haul out is a ton that won't get in the Hatchie River.*
- *You could find a market [for the sand]. I talked to _____, some years ago (2 or 3), and he says for just rough general concrete work—if I could get him some clean sand, he'd buy every ton I could deliver. But then—you figure I've got about a mile of the creek, give or take a little—if I dig all the sand out of my mile of the creek and I ain't got no more sand because I've got to wait until it rains before I get any more. It might, we might have a long time. So then, you've got to go find another spot. It's a darned if you do, darned if you don't sort of situation.*
- *You could sell all the pea gravel you can get your hands on. If you had 50 tons, you could sell 50 tons. You could get tons and tons of it out of Richland Creek, but you could also get tons and tons of pretty good concrete sand out of it. It wouldn't be white—it'd be reddish...*

5) Concern for the resources and desire to act

The desire to control and prevent damage is also complimented by and closely related to a concern for aesthetic appearances. This theme of concern for aesthetics is also likely related to the first theme—especially to the aspect of pride in farmland. As these quotes suggest—the first being from the 10-75 acre group and the second being from the 75+ acre group—there is a difference in the perception of stewardship and in the types of stewardship activities pursued by members of the two groups:

- *I keep my side mowed and cleaned up and trimmed—and what have you. The other side, they've never done anything to it. It's hardly ever even had weeds cut off of it.*
- *Well, if the trees come up—which they probably will—we're not going to cut them down. But we're originally starting out as a grass filter strip. See the creek, on my place, prior to the tornado of '99 had a good 40-50 foot vegetation barrier between the edge of the creek and the fields, but when the tornado came along it just cleaned it almost as clean as this table. I wound up sowing my bluegrass after we got it cleaned up.*

In addition to the distinct differences in perceptions and applications of stewardship, the two groups exhibited differences in overtone of their discussions of control. While

not vocalized by every participant of the 10-75 acre group, there was agreement with one participant's sentiment of feeling a lack of control and a degree of hopelessness:

As far as our land goes, the damage has been done now, you know, and how much longer we got before we sell it or something like that? It's just a matter of, it's not hurting us right now—all the damage has been done.

The burden of cost was also discussed as a factor in not being able to control or prevent damage. One participant followed the above comment with a response that demonstrated a feeling of lack of control that was tempered with a feeling of perseverance:

Back in the 40s, we farmed the Richland Creek—I lived on it for a long time. It would just wash all our crops away, year after year. You just have to keep trying when you're a farmer.

The overtone of lack of control that was expressed by the participants of the 75+ acre group, on the other hand, was related to frustration at the limits to their own management efforts imposed by government restrictions:

It's an overwhelming effort, but when you're limited to what you're allowed to do. Your hands are tied. No one else is doing anything, but they won't let you do anything, either. Your hands are kind of tied, beyond terracing and trying to put a pond on here and there.

Well, they used to let farmers clear out jams and stuff, to keep it opened up. Nowadays, they won't let us do that.

Ecological Understanding

6) Human and non-human impacts on the system

An attempt to characterize the general level of ecological understanding of focus group participants was made in part by asking participants to describe and explain changes they had observed on their own land as well as throughout the watershed. Attention was given to the language used to describe and explain their observations and

to the extensiveness of each group's comments. The language and extent of the discussion by the 75+ acre group during these focus groups demonstrated a greater ecological understanding than the 10-75 acre group. The observations of changes discussed by the 10-75 acre group were primarily related to daily experiences on their own properties. The explanations given by participants of this group for these changes dealt primarily with human impacts on the system:

- *Overworking the land is the biggest problem—in other words, they're taking all vegetation off, farming, and pesticides and herbicides that they used previously now, they're pretty well in control of it, but previously, they were to the point that they killed everything that they didn't hoe, and it just washed away.*
- *Cutting all the trees, you know farmers now want all the land they can get and they cut right up to the bank, you know, taking trees off and that causes it to wash then.*
- *Most of the farmers utilize every square foot of land, and in a lot of cases, they have cut vegetation, timber, brush, everything away from the creeks to get down and work right up next to it. Now the federal government won't let them get that close to the creek with it.*
- *I think a lot in the area on my grandfather's farm, that the way Richland Creek's the way it is, it has no terraces on the property. That area up through there is real hilly, so when water runs, it takes all your topsoil and cuts everything out into the creek. So the creek is filling in and water has nowhere to go.*
- *But if the people who own property are not interested, they're going to lose it. It'll wash away, especially in this area. This area is very loose soil, and it don't take much of it running across the land for it to run off.*

The discussion by the 75+ acre group of ecological changes and their causes indicated an understanding of a complex of causes, as well as a degree of recognition of interconnectedness of the effects and actions within the tributary system. Their conversation included talk of human and non-human impacts, and of processes illustrated in the following selected quotes:

- *It gets a lot of water in it on occasions, and I presume that's when it does its biggest sand movement—is when it 's really got running a lot of water.*

- *I think it's getting faster because it's getting wider. It's more shallow—it used to be way down, so that it wouldn't get anywhere. It would carry the water that runs off into the creek, some of that sand is staying now.*
- *Well, the water probably runs off faster than I believe it has in the past because there's not quite as much forested land. The largest percentage of farmland in this particular county is terraced to assist in the water running off without carrying sand and silt with it. I don't know...*
- *The water is actually cleaner, which may make it carry more sand because it's hungry. If it's hungry, and not loaded with silt—*
- *The trees will slow it down, that's right.*
- *See, the sand is not coming from the farmland. It comes from cuts. It cuts through the topsoil, the first layer or two. That's where it gets the sand.*
- *Well, I imagine a lot of dredging and cleaning out used to go on, on Bear Creek, and Hickory...*
- *Some of the water that should have went down that is being forced on Richland Creek. They used to dredge.*
- *... people farming fencerow-to-fencerow, plowing, heavy tillage.*
- *Well, I would venture to say that none of the sand that concerns myself or Mr. ____ or you—it comes from back up yonder somewhere, more than likely. I don't have but just a very few spots of sandy soil on my property. Most of that is quite a ways away from the creek itself, although that's the reason, I think—it's an ongoing problem, more than likely, for the length of the creek.*
- *We just see the problem go by, it's the ones downstream who are hurting.*
- *Right now, whatever is going on back up through here affects us down here, from the bridge on down to the river.*
- *Well, just what they were talking about, with terracing land. Even with terracing, the water is cleaner but it gets to the creek quicker.*
- *Probably the velocity of the creek.*
- *It's probably a combination of several things that some of us won't be able to do anything about. The creek filling up, also a chance of the Hatchie River filling up, makes the creek fill up some more. It's an ongoing... I'm not sure that dredging the creek would do any good. It might make the water stay in the creek, but I think over a period of time it would fill up with sand again. There is a major amount of sand that comes down that creek, and it all gets into Hatchie River.*

- *You've had decades, now, since really the 70s, that put all the sediment down in the bottom of the river. And it's just been backing up since then.*

Attitudes Toward Collaboration

Attitudes toward collaboration were explored by asking focus group participants about their reaction to the hypothetical situation of someone introducing a community project to address some of the ecological problems of the Hatchie River and Richland Creek (See Appendix 2). Participants were also asked to describe what the leadership structure of the project should look like, who should be involved, what the focus of the project would need to be, and what types of incentives would be needed to encourage their participation. The following three themes arose from this discussion.

7) Willingness to participate if project perceived as fair and flexible

There was a general willingness to participate in a project such as the hypothetical proposal mentioned above. While there was not much discussion in either group about the particular focus of the project, the participants' discussions implied that some activities would logically take place on private lands. In both groups, there was some hesitation about the cost of such a project and the availability of funds. Asked to assume that funding was not a prohibitive factor, participants spoke positively but cautiously about participation in a community land management project:

- *1% of people are [feeling] affected by it right now. I mean, in this whole area, you see the people that are here.*
- *People that are being impacted by it are not working the land.*
- *I think it'd be a big job to get a bunch of landowners together for something like that—that's hundreds of acres of land.*

- *There are landowners that are interested in what they've got and they would like to it... nobody likes to see, after a hard rain, their property going down the creek. God just ain't making any more of it. When it's gone, it's gone.*
- *It would take someone to point out the problem, and somebody to fund it. Then we could decide if the community wanted it.*
- *Well, you know, I think several people—especially landowners—would be more interested in the impact that it would have on the land, of course, and I think everybody would be in favor...it's like everything else in this world...what Mr. ___ might want, I might not be interested in. It would have to be reasonably flexible because it ain't like a hat—one size won't fit all. I think the whole community would basically be interested in salvaging whatever could be salvaged in that particular situation. It's good for everyone, but it might impact some people more so than others.*
- *I think the incentives might have to be different for each person, because some property owners might be more heavily impacted—like the project they did there at Cedar Chapel. One property owner only had an acre or something and that basically took their whole acre out. There's nothing they could do—it could have been a house site, but there's nothing that could be done now. It was all part of the drainage. The other work they've done, too—I don't think you can say 'we'll give you \$3000 for one...' some people's places might be more impacted.*

8) Indistinct community leadership

When prompted several times to talk about what kind of leadership both groups of landowners would like or need to see in order to endorse a community-level project, discussion on the subject was still quite limited in its breadth. Participants in the 10-75 acre group talked primarily about involving younger people. Discussion of leadership by the 75+ acre group focused mainly on leadership by government natural resource agencies:

I would say that the heaviest leaning should be more towards agencies with the expertise, but I think you're going to have to have a certain percentage of community involvement in the leadership, so that the needs of the community are not left behind.

The greatest degree of pause in the conversation during either group came during this segment of the focus group. The potential interpretations and implications of this pause is will be explored more in the Chapter 5.

9) Caution about who initiates the process

The theme of caution about the initiation of a community project was more prevalent in the 75+ acre landowner group. Participants of the 10-75 acre group seemed, to some extent, to not see themselves as participating in such a project primarily because of the age of the majority of participants of that group. The participants of the 75+ acre group, who are more actively involved in land management at the present time, expressed some difference in project initiation that may be related to a wariness of “outsiders.”

- *I think your main focus is, maybe, is you want the main folks who the landowners and farmers trust—the people at the local NRCS office. I think that's who you would need to come up with an idea or the funding. That's the ones who the landowners would want to go to. ...to let them coordinate, get the community together, and tell them what was going on. ____ is the one who contacted me about the project at Cedar Chapel. I knew that ____ thought it was okay and that we needed to do it, and there was no question. If the Nature Conservancy called, I'd tell them we weren't interested.*
- *I feel more comfortable with the Nature Conservancy. From what I studied on them, they seem to be very good at looking at both sides of the problem and trying to come up with the most reasonable solution.*
- *Well, they're definitely better than some. They always seem to keep your economic interest in mind, and not all groups do.*
- *No—right. I don't want to go with somebody that's just out to save some insect I can't see. I'm a little leery about having a government agency oversee the whole thing because they don't tend to look too well. They don't look thoroughly at the problem and come up with a reasonable solution—they just go with where's the money and how fast can they get it. I'd be more comfortable with the Nature Conservancy.*
- *Although we have worked with the soil conservation service for a long time, and I feel like we have a pretty good relationship.*

Trust

10) Desire to draw on expert knowledge

The desire to obtain expert knowledge to assist in solving problems was expressed in both focus groups. However, as was illustrated in the previous theme,

individuals have varying opinions about who the experts are. The quotes associated with theme six indicate that some landowners in the 75+ acre group place more reliance and trust in representatives of natural resource agencies, while others place more trust in sources such as The Nature Conservancy. Participants of the 10-75 acre group seemed to have had more contact with representatives of The Nature Conservancy, and spoke more frequently of those interactions as a source of technical expertise than of the area natural resource agency representatives. The following selected quotes characterize the theme of reliance on expert knowledge:

- *I think you have to get the knowledgeable people. If you take the local sheriff's department or the county representative, I doubt seriously if they even know what day it is, as far as erosion goes, because they're not interested in it.*
- *Getting back to erosion, and what he mentioned about getting someone that knows the problems...have meetings with them people, because that's the people who can help you, not us poor guys that don't know nothing about it, you know.*
- *Somebody must know that we have a problem here.*

11) Local government trusted to varying degrees

This theme emerged partly due to the lack of mention of local government involvement in the discussion of leadership for the hypothetical project, and partly due to some brief comments made in each of the group discussions. There were no specific questions in the focus group protocol concerning local views of local government officials, but I found the absence of local government from discussion of leadership is noteworthy, as are the few comments that seemed to have negative connotations:

- *Now those people [farmers] know—they're the knowledgeable people and they're the kind of people that you need working for you out here. Not the mayor of Bolivar or the mayor of Brownsville or the local politicians.*
- *Local government is not interested in the landowner. The only thing they're interested in the landowner is how much money I can get out of them in taxes. He don't care how much land you use, or anything else, because the biggest majority of them are city dwellers and they just don't realize what's going on.*

- *—I don't know if this is naïve or not, but for the longest time, I've wondered if the community or county couldn't—as a cooperative effort—finance the reclaiming of that sand and selling it. And put that finance back into the county.*
--Count Hardeman County out. [Laughter]

Attitudes Toward Government Programs

12) Critiques of effectiveness/priorities of government programs

Participants of both focus groups discussed critiques of government programs.

While positive experiences with government agency representatives were also discussed, frustration with programs and policies were recurrent during the focus groups. In the 10-75 acre group, the critiques and frustration seem to be linked with misunderstandings about government participation and funding of projects around Richland Creek and with perceived poor communication about activities and available support, as well as the financial burden of participating in programs:

- *Soil conservation program...they would pay for 80% of the cost of terraces and stuff like that. The government has imposed the thing of you follow their set-aside programs or you're not in the government program. And most of the farmers will tell you that without the government program, they couldn't exist.*
- *Now back in the 80s, during the Reagan administration, they said to plant your crops from fencerow to fencerow. 'We want all the products you can use.' Well, we did that, and immediately, they took it away from this. They said, 'No, we're not going to let you have this.' So, we cleaned up fencerows and everything like that, and which they found out by cleaning up these fencerows, was causing soil erosion. Because you take it away, there's nothing to stop the water from taking away your land and putting it in Richland Creek.*
- *That involved those two acres, and when I moved here, the culvert ran the same direction as the ditch and the Hardeman County engineers designed it and put it straight across the road. The only thing it could do was just go in there and eat out two acres before it got back to the creek. And I dumped plastic in there to stop it (chuckles), and they told me that it was an eyesore so I've had to quit. I told them, I said, well I hope you're the first one that runs off that bridge.*
- *I think the biggest reason that most of the landowners don't get involved is the cost of it, because it costs you money to get out there to fix up the property or the land so that*

you can put this stuff out. The government says we'll give you the trees, but most of the people don't have equipment, or the know-how, or the time, to get out there and do it.

- I think that if the government would participate more with landowners, rather than Washington, they would get a whole lot more out of it. The funds that they have available run out real quick, and the majority of the people who do manage to use these funds are people like you who go over there and ask a question.*
- The federal government didn't invest a dollar in what was spent over there, according to what [TNC representative] and them said. It was done by local county government and the wildlife conservation people. All of their money that they used for building that area where we live, on that area there, came from wildlife people. Not the wildlife resources—not the government, but private funds, private money handled it. That's the reason it took so long—they had to get enough money together to get it done. There's enough people interested that they got it done. Now the federal government had to put something into it, because all the surveying and everything like that was done by the soil conservation people, which is the federal government. They're not idle, but they didn't invest any money in it from what I understand—now I could be wrong.*

The critiques of government programs and activities were more mildly stated by the 75+ acre group. Frustration expressed by participants of the 75+ acre group was related to the feeling of having one's hands tied in terms of managing private lands, as previous quotes indicate. Other critiques seem to be related to questioning the priorities and effectiveness of government conservation strategies, which included a critique of a structure put in by the Hatchie Alliance:

- When we cleaned the creek out at my place, they put up a log dam—about five feet high. They dug down in the creek, put some logs down, give them bracing on the sides so it wouldn't just pick up and wash away. They actually put it about five feet high. It has caught five feet of sand now. It caught five feet of sand, from the logs back up the creek, but now it runs, everything runs over the logs. So, although it's salvaged a lot of sand...they built using logs downed in the tornado, and they are eventually going to rot and that five feet is going to wind up in Hatchie River, too.*

Plus you've got a dam, or a falls situation, where the water drops down from that height. It's going to dig in even deeper...

Well, that's true but it still has all the sand behind it, but as it rots—and it will—it's been there about 4,5 years—it probably will go in the next couple of years and then the five foot of sand it's got behind it, is like falling off this table, is going to go on down the creek.

Temporary fix.

- *Same thing happened to the Mississippi River. You can find some sand bars in the MS River. Water goes around over here, sand builds up over here.*

That's what they're trying to stop. They don't want the sand to get into the Hatchie River.

Well, I think that's probably right. That's probably what they're trying to do, but it's not going to help farmers who own land back up the creek.

I had a government man tell me that their goal—they're willing to sacrifice 500 acres on the game reserve—to act like a filter for Bear Creek. And they didn't care if it killed every tree down there, as long as it stopped the sand from getting into the Hatchie.

- *The only thing I think went wrong on Mr.____'s place, they cleaned off four acres of woods to make that silt basin and now it's just covered with grass. Grass may be a better landholder than timber, but I wouldn't think so.*

Problem-Solving

13) They and Them

This last theme emerged in the 10-75 acre group, and was not evident in the discussion by the 75+ acre landowner group. The theme arose primarily from the frequency of the use of "they" in the discussion of both the problem and the solution, during the 10-75 acre group. "They" was used most frequently in reference to farmers, The Nature Conservancy, and the government to express various degrees of blame, reliance, and frustration. The frequency of the use of "they", while subtle, seems to reflect three sentiments: a reliance on experts (related to theme 10), disengagement from problem-solving, and distance from the effects of the problem.

- *I talked to the, uh it's not the wildlife resources, but the wildlife...I forget the name of it—in Brownsville, and they said they have intentions, over...it's not going to be done in say a year or ten years, but over a period of years. He said their intentions are that three creeks that are going into the Hatchie River down there, and they say that it's beginning to force the Hatchie River to change its direction, and they don't want it to do that. They said that the Hatchie River, is one of I think he said two rivers in the United States that has not had any kind of unnatural production to guide it. (Other participant*

agrees). And he said that over a period of years, their intentions are to go from their area right there, where it starts—now it starts up in Fayette County, but it's minor.

- But, [TNC representative], I keep mentioning his name—he was one of the ones that came out there and initiated the start of this thing—told us that it's going to take a while, and he won't see it finished in his lifetime, probably. But he said that their intentions are to go from the start of the problem—which is right where we are—until it gets to the river.
- It's the big farmers right that are making the land whether or not... they've got to get a crop...

Ends justify the means.

- They're going to have to depend on young people.

We've got to get on the shoulders of the young ones

They're the ones it's going to fall on in the future.

CHAPTER 5: *DISCUSSION AND RECOMMENDATIONS*

Introduction

This evaluation of community capacity within the Richland Creek watershed begins with an examination of the five indicators of social well-being that were discussed in Chapter 2: distributive justice, open communication, tolerance, collective action, and communion. The discussion then turns to an evaluation of the structural and social factors that exist in the community and contribute to the development of—or limitations to—*community* and social well-being. In particular, attention will be given to personal well-being (as indicated by demographic data), decision-making processes, awareness and perceptions of issues, access to and processing of information, trust, leadership, past-activeness, shared meanings, and disaffection. The sum of these elements, each of which may serve as impediments to or facilitators of social well-being, will help to shed light on the community's capacity to work collaboratively in solving the current natural resource-related problems. I assert that community does, in fact, exist in the Richland Creek watershed and the discussion herein will illustrate the ways in which community is both expressed and suppressed within the watershed. The chapter will conclude with key lessons and general recommendations for next steps in the Hatchie Alliance's collaborative restoration efforts, based on the findings and conclusions of this research.

Social Well-Being in the Richland Creek Watershed

The first of the five indicators of social well-being, which Wilkinson (1991) refers to as distributive justice, is essentially the same concept as social equity. Fundamentally, this means recognition of the "ultimate *fact* of human equality, a fact

underlying even the most uneven systems of distribution of access to such goods as material resources, life chances, and prestige” (Wilkinson 1991, p. 67). For distributive justice to be present, the belief in equality must be paired with intentional actions to remove the barriers to inequitable access to resources, chances, and prestige. Certainly distributive justice is not always a question of whether or not race and class tensions are present in a community, but the reality is that inequities often are felt along these lines of race and class.

In the Richland Creek watershed, a high percentage of residents are African American. Census data from 2000 show that 41% of Hardeman County’s population is African American, compared to 57% white, and 2% that were classified as “other”. Haywood County’s population is 51% African American, 47% white, and 2% other. A significant proportion of African Americans reside in the portions of Hardeman and Haywood Counties that correspond with the Richland Creek watershed (Figures 4 and 5). Almost 60% of the residents in the northwest corner of Hardeman County, where Richland Creek begins, are African American (Figure 4). African Americans comprise 54.3% of the residents of the southern portion of Haywood County, in the Richland Creek watershed.

The parcels of land smaller than ten acres represent 57% of the total number of land parcels in Richland Creek (Table 3, p. 42). Those properties are owned by 48% of Richland Creek landowners. As seen while driving through the Richland Creek area, many of the smallest property parcels within the watershed are owned or rented by African Americans. Telephone calls to the invitees of the focus group targeting owners of less

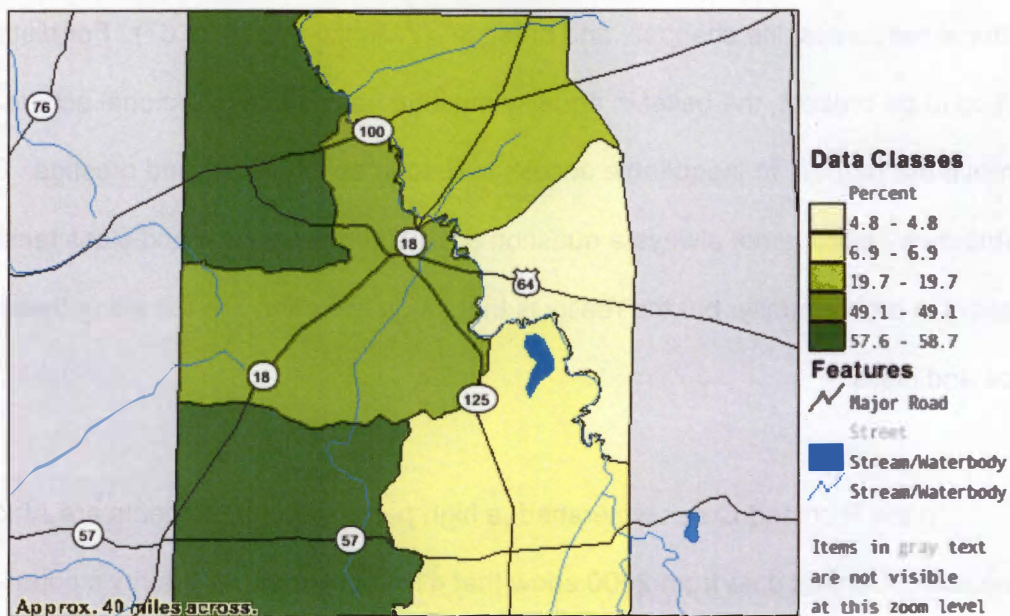


Figure 4. Percent of Hardeman County residents (per square mile) who are black or African American alone
Source: U.S. Bureau of the Census

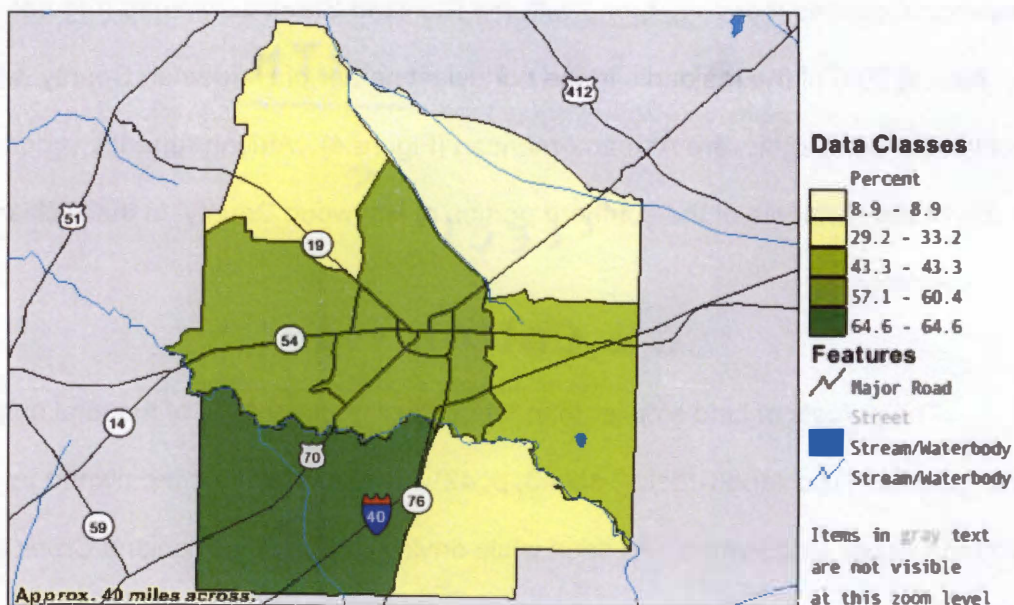


Figure 5. Percent of Haywood County residents (per square mile) who are black or African American alone
Source: U.S. Bureau of the Census

than 10 acres supported the expectation that these landowners would have been more representative of African Americans than the other focus groups. However, as indicated in Chapter 3, multiple efforts to attain participants for this focus group were unsuccessful—as were the attempts at arranging phone interviews. When reasons were given to explain an invitee's non-participation in the focus group, the responses were most commonly related to unfamiliarity with Richland Creek and conflicts with evening work schedules. The separate elements of racial composition, economic status (as suggested by land ownership), and the difficulty in gaining participation from individuals in this segment of the population in the Richland Creek watershed point to the overall disengagement of these residents from the community.

This discussion of distributive justice in the Richland Creek watershed is not intended to imply that there are intentional efforts within the community to discriminate against people of color or those of lower economic standing which have led to the disengagement of these residents. However, the fact that there are signs of disengagement among a large portion of the population is important for the Hatchie Alliance to consider. The owners of less than 10 acres make up a significant percentage of landowners within the Richland Creek watershed. While these residents may not be actively engaging in land management activities, their involvement will be important if restoration efforts are to be community-based.

The second indicator of social well-being examined is open communication. Open communication is reflected in both the flow of information within a community and the quality of that information—particularly in terms of honesty and transparency. The data from the key informant interviews and focus groups show that communication within

the watershed is somewhat limited, occurring primarily in churches and at the local farm cooperative. The technology transfer occurring between farmers, mentioned in the key informant findings, is evidence of the information channel aspect of open communication. On the other hand, the theme of critiques of government programs that was discussed in Chapter 4—particularly with regard to the 10-75 acre landowner group—were related to misunderstandings and poor communication about the goals and applications of some government-sponsored activities. Furthermore, the African American individual who was interviewed as a key informant felt that he had not received as much information about cost-share programs as had white landowners.

The data showed no indications of dishonest, incomplete, or unreliable information being communicated within the community. There were, however, many indications in the focus group discussions that misconceptions and confusion about various aspects of some natural resource-related projects. These misunderstandings seen to point mostly to problems with disseminating information, but may also be related to lack of adequate involvement of community members. The inadequate diffusion of information may be an easier impediment to address than the hindrance of dishonesty and misinformation that exists in some communities. As indicated in the key informant interviews, residents of the Richland Creek community are generally amicable toward one another—which would not be the case if there were undercurrents of deception within the community. Residents deliver forthright communication and expect the same of others, though individuals may still act with caution—especially in dealing with someone perceived as an outsider.

This assessment did not include any research objectives directly related to tolerance, the third indicator of social well-being. However, it is possible to make inferences about tolerance within the community based on the quality of various relationships that were explored in the key informant interviews. The interviews suggest that there are some constraints to tolerance in the community that are expressed as tensions between insiders and outsiders, between whites and blacks, and between blacks and Latinos. These tensions do not seem prevalent, as they were mentioned only by a small proportion of those interviewed, but it is important to recognize that such tensions exist. As Wilkinson notes, "tolerance as a shared normative standard of behavior is a social condition that supports well-being" (Wilkinson 1991, p. 67). If intolerance is rooted among a segment of Richland Creek community members, social well-being is not fully expressed and may hinder the community's ability to accomplish goals together.

There is limited evidence of the fourth indicator of social well-being, collective action, in the watershed. The collective action that was discussed by the key informants (and briefly by the 10-75 acre landowner group) involved examples of working together to raise funds for charitable causes. Some of the fundraising activities raised over \$5,000 within the community. These actions are significant, in that they represent a degree of community capacity to accomplish goals together. However, the focus of these projects was not aimed at the benefit of the entire community, but rather an organization or individuals. While there was likely benefit to the community as a result of individuals acting together, these activities differ from collective action as Wilkinson (1991) defines it, because the current collective activities of the community do not represent a broad range of community interests. The action represented by the

fundraising activities and helping neighbors in times of need are expressions of community interests and values that are clearly shared among community residents. As mentioned in the key informant interview findings, collective actions that express interests that may be shared but have involved more complex values have not been frequent or involved a high percentage of community members. The broader the range of collective actions that are representative of the community's interests, the more the well-being of the community will be enriched.

Communion, the final indicator of social well-being, refers to a celebration of community and the relationships that are inherent to community. In some ways, simply interacting with one another in places that are frequently visited can be viewed as a type of communion. There are few gathering places in the Richland Creek watershed. While the watershed may be absent of the gathering places of the past, such as general stores and post offices, churches represent an important part of residents' lives and facilitate the expression of communion. Several of the fundraising activities mentioned also involved celebrations on holidays and potlucks with local musicians as entertainment. Brownsville, the Haywood County seat, hosts an annual summer blues festival celebrating the region's musical heritage. Hardeman County hosts a Tennessee Forest Festival annually in October. It is not clear to what extent these celebrations are shared by the entire community, but there are likely to be additional forms of communion that were not discerned in this research, especially among the segment of the population that was not able to be reached (landowners with less than 10 acres).

Impediments and Aids to Community Capacity

The fact that there are some limitations to the five indicators discussed in the previous section suggests that some impediments to community capacity (and therefore social well-being) do exist. Structural, social, and ecological characteristics of the community are factors which contribute to the dynamics of community capacity.

Personal well-being, awareness and perceptions of issues, access to and processing of information, disaffection, shared meanings, past-activeness, decision-making processes, trust, and leadership are explored here in respect to the ways in which they aid or impede community capacity in the Richland Creek watershed. Insights into these factors as they relate to owners of 10 acres and more will be discussed first. The structural, social, and ecological characteristics listed above as they may relate to owners of less than 10 acres will be discussed separately. While acknowledging that the collective voice of this group is absent from the results of this research, inferences can be made based on demographic information and their non-participation, among other things.

Personal well-being. The high poverty rate of watershed residents is a clear example of a structural impediment to community capacity. As long as individuals are concerned with basic needs such as food and shelter, their willingness or ability to devote attention to community-wide concerns will be limited. Ultimately, however, ecological well-being and personal well-being are inseparable from social well-being. If community members are engaged in ways that help to improve personal well-being, their participation in activities focused on improving their ecological surroundings may be more likely.

The average time spent by community members in commuting to work may also serve as a structural impediment to community capacity. According to the 2000 U.S. Census, residents of Hardeman and Haywood Counties spend an average of 29.4 and 24 minutes, respectively, traveling to work. Although the commuting time of residents is not significantly different from the national average of 25.5 minutes, a drive of this length of time may be associated with greater distances in rural areas than in metropolitan areas. A long commute to and from work may affect an individual's likelihood of becoming involved in activities outside of the realm of home and family life.

Awareness. Structural impediments related to personal well-being may also be linked to the social factor of awareness and perception of issues. The impediments to community capacity that are imposed by limited personal well-being may in turn contribute to isolation and limited awareness of community issues, which further affects community capacity. Awareness of the ecological problems present in the Richland Creek watershed is most prevalent among the largest landowners—particularly those whose work is closely tied with the land. Ecological understanding and awareness of the ecological problems of the watershed generally decreased proportionally to the size of land parcels owned by individuals. This may be indicative of a degree of social isolation felt among smaller landowners and/or it may simply reflect a disconnect from the land that is felt among these owners. Another factor in the perception of issues related to natural resources is the placement of blame upon certain segments of the community. Some community members placed blame for resource-related problems on farming practices, while others place blame with the smaller sawmill operations. The current levels of awareness and perceptions of ecological problems among community

members as a whole may serve as an impediment to community capacity to address the problems, rather than as a motivation for action among those who are aware.

Information. The limitations to issue awareness could be compounded by limited access to information about natural resources that exists in the community. Although natural resource professionals use tools such as newsletters and field days to communicate with and educate community members, such outreach methods are geared toward owners of large acreage. These landowners logically show a greater degree of understanding of ecological problems within the watershed. Tools that may help other community members in accessing and processing information about resource-related issues are somewhat limited throughout the watershed. Some agency personnel distribute landowner newsletters, but these may only reach landowners who are actively involved in land management. Hardeman County and Haywood County each are home to one local newspaper—The Bulletin-Times and The Brownsville States-Graphic, respectively. Residents in both counties also have access to newspapers based in Jackson and Memphis. Brownsville has two local radio stations, and an additional local station that caters to the area's Latino population. There are no local television stations in Hardeman or Haywood County. The extent of ecological understanding that was demonstrated in the 75+ acre focus group, who are likely to have more access to information regarding natural resources, will serve as an aid to community capacity. However, in order to have a more significant contribution to community capacity, this understanding must also be fostered among owners of smaller properties through improved access to information to address such existing problems as misconceptions of government programs and of the ecology of the watershed.

Disaffection. Sufficient evidence exists in the findings of this research to suggest that disaffection is present to a certain degree in the community. While the sentiment of disaffection does not seem to be ubiquitous, the difficulty in organizing the focus group with owners of less than 10 acres is an indication that it may be most prominent among this segment of the watershed's population. One African American landowner of a larger property reported that he felt there was some favoritism in the outreach and administration of conservation programs. Disaffection may also be present in a non-distinguishable pattern among other members of the community, resulting from a feeling of anomie created by the influx of new residents from Memphis and the out-migration of the children of many long-term residents.

Shared Meanings. While there have been signs of decline of some aspects of community infrastructure in the Richland Creek watershed, nostalgia that is associated with some of the decline has contributed to a shared sense of place among residents. For example, now-defunct community structures such as the Cedar Chapel cotton gin and Hillville's country store still serve as symbols of community pride and shared history. The pride in the community's natural resources and rural quality of life also contribute to a shared sense of place. A shared sense of place is closely related to development of shared meanings, which are important in the context of community capacity and collaboration. The strength of community pride that exists in the Richland Creek watershed is a positive indicator of community's capacity to pursue goals that compliment that pride.

Past Activeness. The past-activeness of community residents has already been explored to some extent in the first section of this chapter. Despite indications in that

part of the discussion that there are limited signs of collective action within the community, it should be reiterated that even limited collective action is an indication of the community's potential to pursue further actions to benefit the community. The more experience a community has in working together, the stronger the capacity of the community to address shared concerns becomes. As residents of the Richland Creek watershed gain experience in collective action that addresses a broader range of concerns, their ability to contend with more complex issues such as those related to natural resource management on private lands will be enhanced.

Decision-making Processes. The strength of ability to make effective collaborative land management decisions is tied to the interrelated community characteristics identified by Poteete and Ostrom (2002) as critical motivators for collective action: salience, common understanding of the resource, trust and reciprocity, true local autonomy, and some degree of skill in leadership and organization. The insights into local decision-making processes regarding natural resource and land management within the watershed did not point to any significant social impediments. However, some of the other factors impeding or aiding community capacity that were discussed—most notably disaffection and access to information—affect decision-making processes in less direct ways. Furthermore, governance of land within the watershed is lacking in sufficient integrating mechanisms and incentives for people to think beyond management of their own land. Decision-making within the community can be improved by addressing the factors that have contributed to limited access to information and to disaffection. Further, efforts to build a common understanding of the resource (by giving community members the opportunity to talk with each other) and a purposeful strengthening of informal and

formal leadership within the watershed will improve collaborative decision-making capacity.

Trust. As indicated by the key informant interview findings, trust within the community is present to some degree, although there is still an element of initial caution when dealing with someone who is perceived as an outsider. Levels of suspicion that are present within the watershed do not compare to the mistrust that is often identified with rural areas—particularly in the Central Appalachian region (Nesbitt and Weiner 2001). As was evident during the data collection stages of this research, community members are open and trusting of “newcomers” until they are given reason not to be. This level of trust speaks to the degree to which open communication exists in the community. If there were many precedents of dishonesty in communication between different individuals or groups within the community, it would likely correspond with low levels of trust. The few instances of mistrust that were learned anecdotally and through the data collection seem to be relatively isolated experiences, which are resolved as individuals have more interaction with each other. This relates to one important lesson conveyed in the literature about collaboration: trust can be built by collaboration in situations where conflict and mistrust previously existed, largely due to people having the opportunity, through purposeful interactions with one another, to begin to see an individual who has values seemingly opposed to one’s own simply as a person. The assessment of community conditions in the Richland Creek watershed did not reveal the polarization that sometimes occurs in regard to natural resource use and management. The absence of significant polarized viewpoints within the community is an asset to community capacity. Furthermore, in the process of working together to accomplish

common goals, trust could be strengthened among those who currently feel some distrust of others in the community.

Leadership. Lastly, the theme of indistinct community leadership that emerged in the focus group findings is important to consider in relation to community capacity. The lack of much discussion around community leadership, even when prompted in several ways, may mean two things: 1) that no clear leadership structure exists within the community, or 2) that the individuals who essentially act as community leaders, through their interactions with others, are not referred to as leaders by themselves or others. It is not uncommon for an individual to be hesitant in being formally recognized as a community leader, and the act of identifying leaders within the context of a focus group is a formal acknowledgement of sorts. Also noteworthy in this discussion are the sporadic comments about local government that arose during the focus groups, which seemed to have a somewhat negative connotation. Without further investigation, the meaning(s) of these comments (and to which government officials the comments are directed) cannot be known with certainty. However, the occurrence of the comments seems to imply that there is limited respect for local government officials in general. This may be a result of community members feeling that their needs are poorly represented even at the level of town and county government or could be a reference to specific individuals or specific governmental organizations. The big picture of leadership in the Richland Creek watershed remains somewhat blurred. However, based on the interactions observed between focus group participants, it is my opinion that strong leadership does exist within the community, albeit among individuals who are not formally or traditionally recognized as leaders. The presence of informal leadership speaks a great deal about the existing potential for community capacity, and if the process of collaborative

restoration and ecosystem management attempted by the Hatchie Alliance engages these individuals in a meaningful and lasting way, the community's capacity will be strengthened even further.

Disengagement in Richland Creek Watershed

Some important inferences can be made about the residents of Richland Creek watershed who own less than 10 acres—particularly about African American residents, who were disproportionately underrepresented in the focus groups and key informant interviews, despite efforts to involve them. Demographic data referred to in the discussion of distributive justice—as well as the difficulty in gaining participation from landowners in this category—suggest that there are significant challenges to community capacity among this group. Overall, these challenges can be summarized as lack of, or inequitable access to, resources. Some of the impediments to community capacity that are shared by residents in this category are also shared by other community members. However, the high level of disengagement among owners of less than 10 acres implies that the impediments exist to a higher degree for them.

While poverty is felt by residents throughout the watershed, logically, the owners of the smallest sized land holdings are among the poorest community residents. The lack of participation by owners of less than 10 acres supports this belief that current limitations to their personal well-being make them unlikely to pursue goals related to natural resources. At the present time, I believe these community members are far more likely to pursue common goals to improve access to resources—thereby improving individual well-being—than to give broad community support to pursue goals related to land management.

Constraints on personal well-being are likely to work in conjunction with—and compound other existing impediments to—community capacity among these residents, including awareness, access to information, and disaffection. Natural resource professionals currently do not aim any outreach to landowners of smaller properties, due to shortages of funding and staffing, and perhaps also based on the assumption that owners of smaller properties do not have much effect in the big picture of management in the watershed. Although one may be correct in assuming that many owners of the smaller land parcels do not participate in active land management activities that owners of larger land holdings engage in, the lower degree of land management does not preclude the need for awareness and understanding of the problems and processes within the watershed. Lack of awareness and access to information among these landowners was evidenced by indications that some focus group invitees did not know where or what Richland Creek was.

Disaffection among landowners in the less than 10 acre category is represented well in the response by one of these invitees, who quickly gave his opinion on the ecological problems he had noticed in the watershed but declined to attend the focus group, saying that it did not matter whether or not he attended. The level of disaffection that appears to be present among the poorer residents of the watershed is likely the product of a sum of factors including some degree of racial tension, inequitable access to resources, and limited access to information regarding natural resources.

Not much is known about the elements of shared meanings, trust, and leadership among residents of the Richland Creek community. However, because church is an important part of life for residents of the watershed, it is likely that shared meanings do

exist for the poorest community members to the degree that they are expressed and developed through opportunities for communion such as church gatherings. Likewise, trust and strong leadership may be present within these relatively compartmentalized contexts. Since there does not appear to be a great deal of interaction between members of various races and economic classes, trust and shared meanings may be limited in scope simply due to the lack of opportunity to build trust and build meanings with other community members.

Key Lessons

The description of some of the factors that contribute to the suppression of community in the Richland Creek watershed is not intended to leave the reader with a negative view on the community's capacity to undertake such a challenge as collaborative ecosystem management. Many of the impediments mentioned in this discussion are reflective of trends seen not only in other rural communities, but in metropolitan communities as well. The general decline of civic engagement in American culture has been discussed by numerous authors (Harwood 2000; Putnam 2000; Yankelovich 1995). Yankelovich (1995) notes three destructive trends that are at work in our society. The first of these trends is the widening gap between rich and poor in the United States; even as the economy grows, many Americans are left behind. Second, Americans have had difficulty in identifying shared norms and values that have been characteristic of previous generations. Lastly, changing values and changing community structures have been met by a shift in the nation's psyche, from optimism to cynicism. This cynicism compounds the tendency to place blame on others and limit interactions

with others. Such trends are compounded by problems related to self-imposed isolation, poor communication, polarity, and disillusionment seen in American society today.

Contrary to the bleak outlook that some may interpret from the structural and social impediments present in the Richland Creek watershed and in the larger societal context, there are also numerous ways in which community is *expressed* within the watershed, such as a relatively high degree of trust, shared meanings related to community history, and non-resource related examples of collective action. The intent of this author, in assessing the impediments to and supports for community, is to help improve the chances of successful collaborative efforts by helping orient the partners of the Hatchie Alliance to challenges that may lie ahead in the process of collaboration. Gaining an understanding of the community context in which natural resource management efforts occur is simply one step in an ongoing process of trust-building, shared knowledge, and other characteristics vital to collaboration—but it is a necessary step, and at times an outside perspective is needed. Agencies and non-governmental organizations often may have the best intentions for involving the public in planning and respecting local culture and needs but have neither the time nor the staff to dedicate to an assessment such as this.

Technical capacity to address ecological problems that occur at a landscape level has been increasing. However beneficial this increased capacity may be, there are a growing number of lessons to indicate that technical capacity must be complimented by the development of a *civic capacity* to meet the technical challenges. One of the key steps in building this capacity is “committing to a process of mutual learning in which participants agree that they individually do not have all the answers” (Wondolleck and

Yaffee 2000). To develop the full ability to solve problems, agencies and organizations must continue the shift to a new paradigm that emphasizes not only technical knowledge, but also the active enrichment of community capacity. This includes meaningful involvement of the community, a commitment to learning *together*, ongoing and open communication, and attention to building relationships. In the end, the development of civic capacity is highly correlated to the power that learning through collaboration has in transforming people's interactions and leadership skills.

It is my hope that this research will contribute to existing knowledge about successful collaborative efforts, and that this information will be useful to landowners and stakeholders within the Hatchie River watershed as they embark on cross-boundary collaborative restoration efforts. Some recommended steps to help increase the chance of success of collaborative natural resource management by the Hatchie Alliance are:

1) *Outreach to Smaller Property Landowners*

Landowners and community members who own small land parcels represent a relatively large proportion of the total number of landowners within the watershed. Their involvement in landscape restoration efforts is essential. Although they are likely not to be actively managing smaller properties, their involvement may help paint a more complete picture of current problems and potential solutions. The problems of sedimentation, flooding, and erosion within the watershed are biophysical problems, but they are also social issues. To fully address the biophysical problems, attention must be made not only to technical solutions, but to engaging all community members so that the social issues can also be incorporated. Since the initial attempts to engage members of

this group have been unsuccessful, facilitators of collaborative efforts must strive to identify key individuals whose involvement may encourage others to become involved.

2) *Start Small*

The fact that there are some examples of collective action in the community is promising. However, the leap from charitable fundraising to collaborative management of private lands is a large one, to say the least. In order to build capacity of the community to engage in problem-solving that involves a broader complex of values, it may be necessary to start with relatively small projects—the value-related intricacy of which would increase as experience increases. The Hatchie Alliance is attempting to do this at the present time. However, evidence of misunderstandings about the purpose and support of some projects signifies, in part, that the project action may have preceded the community's identification of this type of action as a community priority.

3) *Cultivate increased awareness*

A broadened understanding of ecological processes and increased perception of the problem's salience will be necessary to further the goal of collaborative ecosystem management in the watershed. Though I provide specific ideas for cultivating increased awareness, a commitment to developing an on-going culture that fosters learning about the local landscape is critical. As a follow-up to the focus groups, the use of educational workshops can be of assistance in reaching this goal. The reactions of landowners who participated in focus groups included excitement at having the opportunity to talk with others about various aspects of living in the Richland Creek watershed. While no specific measures were taken to evaluate pre- and post- focus group levels of understanding among landowners, anecdotal evidence suggests that learning did occur

during the focus groups—whether related to understanding others' perspectives or enriching individuals' observations and understanding of ecological processes.

Making a special effort to involve children and adolescents may serve as an important tool to increase possibilities for future sustainability in the watershed. In cultivating awareness in youth, there is also likelihood that awareness will also be transferred to family members of youth who are exposed to projects and lessons pertaining to the Hatchie River ecosystem. In addition, ongoing and creative use of the news and radio media can help increase awareness of both natural resource problems and related restoration efforts. Through efforts for improved communication and awareness such as these, stewardship of individual properties and opportunities for coordinated management throughout the watershed may be enhanced.

4) *Empower community members*

Empowerment of community members entails a purposeful inclusiveness of citizens reflecting the diversity of the community and its interests, as well as a validation of their knowledge. Empowerment necessitates an effort to engage those who are currently disengaged. The involvement of community members in decision-making processes must also be meaningful, implying that the participatory nature of the process must allow community residents to be co-creators of solutions to problems and not just token representatives. If given this chance for meaningful involvement in the collaborative process, community leaders will naturally emerge. Furthermore, if the process is truly inclusive, these leaders will be representative of all community members—particularly of women and various ethnicities.

5) *Encourage holistic thinking*

The literature on ecosystem management, collaboration, and community well-being emphasize the importance of recognizing the interdependencies of social and ecological systems. As a society, however, we are more practiced at compartmentalized thinking. In order to facilitate thought processes that acknowledge relationships at the systems level, it may be necessary and beneficial to gear educational outreach efforts in this manner, and to involve educators who will help to explain the multiple facets of systems linkages. The intentional practice of dialogue and a commitment to allowing the time necessary for such interactions are both tools that will give rise to broadened thinking. In addition, engaging a diverse group of participants in the process will encourage holistic thinking by ensuring that multiple perspectives are represented.

6) *Utilize existing community forums and create new ones*

This recommendation refers to forums both in the sense of opportunities for dialogue and of gatherings in which communion occurs. By making a presence at existing forums of community celebration, the Hatchie Alliance can continue to build strong ties with community members and enhance awareness and dialogue among community members who might not otherwise become engaged in this way. Churches and community festivals are some examples of forums which might be utilized.

7) *Encourage innovation*

Innovation must be fostered at multiple levels in the community, and dedicated opportunities for group learning will help to ensure that a wider range of solutions are proposed. The ability to think creatively and arrive at innovative solutions will be strengthened by a diverse array of participants in the process. With a well-facilitated

collaborative process, it becomes possible to bring together a diversity of participants which may include local government representatives, natural resource professionals and business representatives, as well as a representative sample of community residents. Innovation may also be helped through the fostering of working relationships with local middle school, high school, and college students. Efforts to foster the already-existing connections between rural communities within the Hatchie River watershed and urban communities such as Jackson and Memphis may also be constructive.

Concluding Thoughts

Sustainability—the ultimate goal of collaborative ecosystem management—is a social *process* unified by innovation, the expansion of ideas based upon what we have learned from the past, the appreciation of change, and respect for differences. Recognizing that there are significant structural and social obstacles to the levels of innovation, flexibility, and personal commitment that are required by the process of collaboration, these challenges should not be viewed as barriers. Only through accepting these challenges can our capacity to effectively address the larger obstacles be strengthened. Yes, there are significant frustrations in the application of models which may seem idealistic to many. However, the effort must still occur.

In discussing the role of natural resource agencies and professionals in the context of the partnership paradigm, we must reexamine what the current reality is. The educational training that most professions are geared toward places an increasing emphasis on the need to develop a specialization. This specialized learning is juxtaposed with the notion that our educational institutions are producing individuals who

are savvy to the real world context in which they will be working. We have the intention of producing new professionals who are skilled at their own discipline, *and* are able to discern how actions and decisions within that discipline may be affected by the social and economic nuances that are the focus of other professionals. Instead, the culture that has been fostered is one that discourages critique of knowledge and lessons set forth by disciplines not related to one's own. Likewise, professionalism and the technical presentation of information perpetuate the assumption that there is always a single, best solution to a particular problem. These specialized and solely technical approaches to ecological problem-solving reflect an allegiance to past technocratic models of management that is hard to break. Furthermore, specialization and technocratic professionalism are contrary to the growing body of lessons which speak of the need to seek out various types of knowledge in order to pursue ecosystem management.

The legacy of professionals working *in service to* and not *working with* people has led to the transformation of citizens into clients and consumers. American society has come to accept that professionals create and produce, while all others consume these "products" (Mathews 1994). In this way, professionals have enabled citizens to withdraw from civic responsibilities and enabled their reduction to *clients*. People can deny responsibility when they have no part in decision-making and agenda setting.

Community-based management of natural resources is purposefully attentive to the restructuring of roles, in order for citizens to become citizens again. We face more challenges in this restructuring of roles than a disengaged citizenry, however. Cortner and Moote (1999) note that agencies are not naturally receptive to this restructuring, either. In some cases, there may be conflicts and territoriality over the management of

some types of natural resources. Natural resource agencies can find themselves in the midst of turf wars, attempting to protect the justification for the agency they represent. There also is a great deal of doubt and cynicism that has become the culture of some agencies—often because their primary interactions with the public have found citizens to be either apathetic or adversarial. Looking through another lens, one can see that there are not many existing mechanisms that would help the interagency coordination required in collaborative efforts, and the necessary philosophical shift has not yet occurred within most agencies. In addition to a shift in the philosophies of some agencies and institutions, the governance of natural resources in the United States must include changes in policy that would support and facilitate increased collaboration among various agencies, local government, and other community stakeholders.

In order to reduce these paradoxes in applicability of ecosystem management, however, it is necessary to simply press on and engage others along the way. The title of a book by popular educators and community developers Miles Horton and Paulo Friere expresses this intention well: *"We Make the Road by Walking."* Community-based natural resource management is both a response to the failure of past approaches, and a rallying cry to *create* the new roles that are being outlined for citizens and professionals. If linkages and opportunities for new and continuing ways of interacting are provided, trust and a shared understanding will follow. The richness of understanding that emerges is also a factor in retraining citizens in the skills of everyday problem-solving. The challenge ahead of us is well summarized in this way:

"The challenge in politics is not so much to generate larger numbers of experts, to find moral consensus, or to develop capacities for emotional self-revelation, as it is to develop a vocabulary and cultivate the political

skills that allow people to work productively with others, whether or not they like or agree with one another” (Boyte 1994).

In the face of all these challenges, I believe it becomes necessary to be proactive—to begin to engage in collaboration regardless of what the current context is (but with an awareness of that context). We must look for the interrelated roots of the problem and begin by addressing them in new ways. The capacity of agencies and communities to practice new management approaches will only come into being and become strengthened if there is a demonstrated need and opportunity for their development. The natural resource professional plays a unique role, in that he or she may be able to bring agency resources to the process. This involvement must be balanced with an acceptance that science and professionalism alone cannot answer all questions or address all problems. In giving up a protectiveness of professional and formal knowledge, other participants can move into positions of greater leadership and responsibility, not discrediting their own abilities for lack of formal training. The professional must embrace a bit of amateurism in order to allow the “amateur” to grow into a new and necessary role.

Natural resource managers and other professionals who have the desire and energy to be a part of a collaborative effort will have to maintain a high level of patience, optimism, openness, dedication, and humility. A resource assistant, who was interviewed in *Making Collaboration Work* about his efforts with the Beartree Challenge, described his personal response to the lack of support received by his supervisor in this way: “I just did it. Just showed results. Built partnerships. Put myself in a position that they couldn’t say no” (Wondolleck and Yaffee 2000, p. 180).

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APPENDICES

APPENDIX 1:
FORM B CONSENT FORMS
FOR INTERVIEWS AND FOCUS GROUPS

Appendix B: Consent Form
Key Informant Interviews of the Hatchie Watershed of Tennessee.

You are invited to participate in a research project whose purpose is to gain a better understanding of forest issues and activities in the Hatchie watershed region. The study also seeks information about communities in the watershed and their relation to area forests.

You are being asked to engage in the following activity: Respond to structured questions to elicit information regarding forests, forest land use and community characteristics in the Hatchie region.

The interview will be recorded through field notes and is anticipated to take no more than two hours.

Any and all information you provide will be kept in confidence. Neither your name nor any identifying information will be used in any reports, although your words may be used to support the interpretation and analysis. At no time will your words be linked or traceable to you.

You are being asked to voluntarily participate and you are free to withdraw from participation at any time. If you choose to terminate your participation in the study after the interview is held, please do so by notifying the principal investigator as designated below and your interview form will be destroyed.

You may affirm your agreement to participate in this research study by signing below.

Signature_____

Date_____

Questions or comments regarding this invitation may be directed to:

David Ostermeier
The University of Tennessee
Department of Forestry, Wildlife & Fisheries
274 Ellington Hall
Knoxville, TN 37996
Phone: 865-974-8843
Fax: 865-974-4714

Appendix C: Consent Form

Focus Groups with Private Forest and Agricultural Landowners and other community members in Hardeman, Haywood, and Madison Counties, Tennessee

You are invited to participate in a research project. The purpose of this study is to gain information about the natural resources-related values, concerns, activities of, and potential for collaboration among private landowners and other community members in Hardeman, Haywood, and Madison Counties. As a private landowner or a resident of a community within the Hatchie River watershed, you are being asked to answer a series of questions based on your personal experiences. The information gathered in these focus groups will be used to help us initiate collaborative working groups to strengthen stewardship of natural resources in the local area.

Under no circumstances will any concealment or deception be used in this research. On the contrary, the researcher's approach to focus groups is to create an open forum for discussion that is non-threatening and non-manipulative.

Confidentiality of all focus group participants will be maintained to the best of our ability, but cannot be guaranteed due to the nature of the focus group setting. The session is being tape recorded to ensure accuracy in writing reports. Your name will not be linked with specific responses in any way. If the tapes are transcribed, your name will not be included in the written transcript. Copies of notes and transcripts will be shared only with research team members for analysis purposes. All members of the research team will be asked to sign letters of confidentiality. If transcribed, the original tapes will be destroyed immediately following transcription. If not transcribed, the original tapes will be stored for three years after completion of the study and then destroyed. No incentives are offered to you for your time and effort in participating; however, you may personally benefit by thinking and talking with the research team and other focus group members about your forests or the forests in your community.

Your signed consent form will be retained for three years after completion of the study and then destroyed. If you feel uncomfortable during the session, you may discontinue your participation by notifying the moderator and exiting the room. If you choose to discontinue your participation at a later date, notify the principal investigator below and, to the best of our ability, your comments will be excluded from all transcripts and reports. You are free to choose not to participate in this study.

Neither your name nor any identifying information will be used in any reports, although your words may be used to support the interpretation and analysis. At no time will your words be linked or traceable to you.

You may affirm your agreement to voluntarily participate in this research study by signing below.

Signature_____

Date_____

APPENDIX 2:

KEY INFORMANT INTERVIEW AND FOCUS GROUP PROTOCOLS

*HATCHIE RIVER WATERSHED
KEY INFORMANT PROTOCOL*

Date _____ Time _____

Place (city and county) _____

Name _____ Phone _____

Title _____

Tributary most familiar with _____

Length of time in position/ connected to watershed _____

Interviewers _____

- 1) How do residents of the _____ Creek watershed(s) define where they live? (i.e. Is there a single town they identify with?) Are there other distinctions within the community? (Do people identify or classify themselves in other ways?)

- 2) What do residents of the community feel is important or special about the community? (not just NR-related)

- 3) Describe a time (or times) at which people in this community [or watershed] have worked together to accomplish a common goal.

a. What prompted the initiative/action?

b. Who was involved and what roles did they play? Did local government play a role?

c. Were there any changes in how people interacted with each other?

d. Did people feel like the joint effort was successful?

e. [Prompt: If not already expressed, ask about resource-related efforts.]

4) Based on your experiences in the community / watershed, tell us about the relationships between the following (in general), including how much trust is present:

a. Landowners and other landowners

b. Landowners and resource agency personnel (Does it differ between agencies?)

c. Landowners and government in general (differences between Federal/State/Local levels?)

d. Landowners to the larger community, including other stakeholders (such as environmental groups, recreation interests, etc.)

i. Are there strong bonds between certain groups/individuals?

ii. Are there tensions between certain groups/individuals?

5) Describe current land use patterns in the watershed. Have there been any significant changes in land use patterns in the recent past (5-10 years)? To what do you attribute these changes?

a. Describe any specific events or trends that stand out to you about historical land use patterns in the watershed.

6) What about ownership patterns? How have these changed in the past 5-10 years? To what do you attribute these changes?

7) When people make decisions regarding their land and how they use it, how much do you think each of the following has influence: (Significant influence, Some influence, Little influence, No influence, Not sure)

a. Gov't. policies or regulations *Sig Some Little No NS*

b. Money or market incentives *Sig Some Little No NS*

c. Family traditions and history *Sig Some Little No NS*

d. Stewardship values *Sig Some Little No NS*

e. How it may impact the community / neighbors
Sig Some Little No NS

f. Cultural norms *Sig Some Little No NS*

8) In your opinion, do landowners in the community have a good understanding of how different land uses and management practices affect the ecology of the Hatchie River system? What has given you this impression?

9) What are some important current issues, trends, or concerns regarding natural resources in the community?

a. Describe any other concerns people currently have, whether related to natural resources or not. (Economic, social, etc.)

10) Let's talk about participation in incentive programs for natural resource management.

AGENCY
ONLY

- a. Briefly describe the programs that are available through your agency.

- b. Describe any trends you've noticed in terms of funding for the programs and enrollment or interest in them over the last 5- 10 years.

NON-AGENCY
ONLY

- c. What government-sponsored incentive programs have you heard of and have you or anyone you know participated in any?

FOR ALL

- d. In terms of developing good land stewardship, what are some successes of these programs? Some shortcomings?

- e. Do you have any general suggestions for ways the programs can be improved? (outreach, types of incentives, quality of interactions, etc.) (Pretend that you're not limited by resources, bureaucracy, etc....)

- 11) Are you aware of any financial incentives available from private companies or non-governmental organizations to private landowners? (e.g. seedling programs by timber industry, recreational uses such as hunting)

Have these incentives influenced land management in the area?

Have there been any unintended outcomes?

- 12) Do you feel the current property tax structure influences stewardship of natural resources? Why or why not?

a. How could it be improved to better promote stewardship?

13) Between Piney Creek, Richland Creek, and Clover/Dry Creeks, which do you think has the most potential for a successful ecological restoration based on collaboration?

a. Why did you rank them in that order?

b. In your opinion, what types of barriers would be faced in that effort?
Would they be the same or different in other tributaries of the Hatchie?

c. Who do you think should be included in such an effort? (in general, and specific people, if you think of any)

d. Can you think of any particular groups of people or individuals who should be approached with extra sensitivity or who might be hard to involve in a restoration effort?

e. What advice would you have for someone trying to initiate collaborative restoration project, or what characteristics do you think would need to be present in such an effort?

14) What do you perceive to be the prominent vision or primary hopes that people in the area have about the future of the watershed and its natural resources?

15) What do you perceive to be some of the fears that people in the area have about the future of the watershed and its natural resources?

16) Given what we've discussed today, can you think of anyone else in the watershed that we should talk with about these topics?

RICHLAND CREEK

FOCUS GROUP QUESTIONS

LAND AND NATURAL RESOURCES

What are the natural resources in the Richland Creek area that are important to you? Why?

What is your biggest concern about these resources? Why?

What is the relation of these concerns to your own land (or to the land you farm)?

ECOLOGICAL UNDERSTANDING

What kinds of ecological changes have you seen in the Hatchie River and in Richland Creek?

Why do you think these changes are occurring?

What are the impacts of these changes (present and future)?

ATTITUDES TOWARD COLLABORATION

What kinds of government and other programs are you aware of that have been developed to address the changes in the land and the concerns we've talked about?

Have these approaches been useful, effective, involved all of the people who need to be involved?

If someone were to introduce a community project to address some of the ecological problems of the Hatchie River and Richland Creek, what would be your reaction?

Under what conditions would you participate?

Prompts: What would the leadership look like?
 Who is involved?
 What is the project's focus?
 What types of incentives should be offered for landowners?

INTERACTIONS

Think about a positive experience you have had working with others to achieve a goal or to complete a project (neighbors, natural resource agency folks, local government, other community members). What was positive about that/those experience(s)? What was not positive? Why?

How would describe interactions between residents of the Richland Creek area? (frequency, quality, types of interactions...)

APPENDIX 3: FOCUS GROUP INVITATION LETTER

March 19, 2004

Dear Mr. and Mrs. _____,

I'm writing to invite you to get together with some of your neighbors on April 6, to talk about the land and community life in the Richland Creek area. This is an opportunity for you to share a meal with others in the community, voice your thoughts and concerns about Richland Creek's natural resources, and better understand your neighbors' views. By participating, you will be helping a University of Tennessee research effort to develop an understanding of the Richland Creek area from the view of the community.

There are three main purposes for the discussion:

- to get an idea of what kinds of changes you've seen in the land around where you live
- to learn about some of the concerns you and others living in the area have about the land and your way of life
- to see how you feel about working with others in the community to address the concerns that you have in common with your neighbors

Regardless of your occupation, whether you're retired or not, or how long you've lived in the Richland Creek area, your observations and input are important to this discussion. I hope it might also be something that you will enjoy—a new opportunity to talk with your neighbors about old times and new issues in your community. Also, a representative from the Hatchie River Partnership will join us after our discussion to briefly chat about some of the Partnership's stream restoration efforts.

We'll be getting together at the **Community Center in Whiteville** (across the street from Union Planters Bank and the Whiteville City Hall), at **6:00pm**. As mentioned, **we'll have dinner for you**. Plan on staying for about 1½ to 2 hours.

I'll be in touch with you by phone in the near future to answer any questions you might have. Please feel free to call me during the day at 865-974-1955 or in the evening at 865-521-5695. I look forward to meeting you and talking with you!

Best regards,

Leslie Horner
Graduate Research Assistant
University of Tennessee
Department of Forestry, Wildlife, & Fisheries

APPENDIX 4:
FOCUS GROUP INTRODUCTORY COMMENTS

FOCUS GROUP OPENING

- Welcome and thanks for taking time (hope they enjoy it also)
- Who we are
- Food and bathrooms
- Purpose of the discussion
 - Help understand concerns of residents of the community
 - Will be used to help figure out ways to address these concerns that will identify all the people who are affected by those concerns
- You've been invited as landowners/farmers/residents
- Overview
 - Questions to stimulate discussion
 - Some questions related to land, some to community
 - Know that everyone here has something to offer to the discussion
 - Not everyone has to answer each question, but should feel welcome to
 - No right or wrong answers
 - Okay to express different opinions
- Taping to ensure accuracy when we write our report
 - May use quotes, but never associated with names
 - Confidential
 - Consent forms

VITA

Leslie A. Horner was born November 26, 1974 in Bellevue, Nebraska, the fourth of five children. The Horner Family then spent four years in England before returning to the family roots in Springfield, Ohio, where I attended St. Bernard School and Catholic Central High School before beginning college in Cincinnati.

Upon graduating from the College of Mount Saint Joseph with a B.S. in Natural Sciences (concentration in Biology) in 1996, my life path took me in an unexpected direction. Rather than going to graduate school immediately in a conservation-related field, as I had been preparing to do, I began a position with a non-profit organization called ReSTOC. ReSTOC's work focuses on housing development and advocacy for residents of an inner city neighborhood in Cincinnati—a neighborhood with the city's highest poverty rate. Our work was closely tied with the work of a homeless shelter, and a network of social justice organizations in the neighborhood. This was my first exposure to the raw reality of socio-economic stratification and the difficulties faced in overcoming such disparity. One of the strongest values of this experience, despite being an unexpected career path for me, is that I saw the power and challenges of working to become a truly participatory community, and what it means to *be* a community.

In the following years, I held a job with a membership-based forest advocacy group, two positions as an environmental educator, and served on the board of two organizations working toward various kinds of social change. Through this work, I had the opportunity to hear the voices of a broad range of people from urban and rural areas, and from a range of economic backgrounds. Working with this variety of non-profits, I gained exposure to community development philosophies, received training in organizing and strategic planning, and got a firsthand look at things that work and do not work in community development attempts.

These experiences have significantly shaped the goals I have for my career today. It has becoming increasingly important to me to seek practical skills to encourage groups to engage in dialogue, rather than to accept and perpetuate the adversarial interactions that often emerge when communities face difficult issues. I have been fortunate to pursue the development of these skills through the Master's program in Forestry at University of Tennessee.

