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Rebecca J. Romsdahl
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**CROSSING BOUNDARIES IN LAND MANAGEMENT:
A CASE STUDY OF THE BROOKS TOWNSHIP LAND USE VISION**

By

Rebecca J. Romsdahl

A THESIS

**Submitted to
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ABSTRACT

CROSSING BOUNDARIES IN LAND MANAGEMENT: A CASE STUDY OF THE BROOKS TOWNSHIP LAND USE VISION

By

Rebecca J. Romsdahl

In recognizing that human relationships with land use are constantly changing, this study seeks to understand an emerging strategy in land management. The practice of traditional land management done by specific people for specific areas of land has produced many serious problems, such as land fragmentation from suburban expansion. However, as more people realize that individual and group actions do not always remain on specific properties, land management strategies are slowly adapting to encompass more landowners in voluntary partnerships that can cross all kinds of boundaries, including those less tangible boundaries of social and ecological natures.

The observed case is a township in western Michigan that is applying this new land management strategy to its landscape. Through observations, interviews, and a mail survey, 76 individuals took part in the study. Although no statistically significant relationships were indicated by the SPSS computer program analysis, several important conclusions can be shown from the interviews and observations. With the formation of partnerships and the proactive stand that has been taken through this cross-boundary management strategy, there is great potential for prevention, or control of, some suburban expansion issues. However, creating the right incentives for voluntary participation presents a significant challenge for adopting cross-boundary strategies.

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Chapter 1: INTRODUCTION

Background

Human relationships with land have been evolving and changing constantly throughout time. From the ancient movements of nomadic people through the development of settled agriculture, to our modern urban areas, humans have been influencing their environment as much as they have been influenced by it. In more recent times, we have often become concerned with trends and situations that many people concluded were problems significant enough to warrant extreme changes in American relationships with land and its use. These changes run throughout our history from the colonial myth of unlimited natural resources and the age of their unlimited exploitation, into the era of the conservation movement and its influence on the emergence of land management and planning. Our relationships with land continue to change and each new concern influences how we manage these relationships. Recent influences have prompted the emergence of new land management strategies that hold the potential for alleviating some of our most pressing land use concerns, including the trend in suburban expansion.

Across the US, increases in land conversion, poor land-use planning, and the sprawl of urban development are threatening many ecosystems and their wildlife. Once large, continuous habitat areas are now fragmented into small patches of woodlots, parks, and refuges, with further development encroaching on many sides. As Darren Bender argues:

Human activities, such as forest clear-cutting or the expansions of agricultural land, have exacerbated the natural fragmentation of landscapes. For many organisms, new habitat patches are interspersed in an unfamiliar and hostile environment. (Bender et. al. 1998, p. 517)

The break-up of large tracts of continuous habitat into smaller units interspersed with human development creates a patchwork of land units with many boundaries which exacerbate land management concerns. Ecosystem health becomes more difficult to

maintain as more boundaries are created in a region. Each landowner has his or her own relationship with the land and makes choices based on that relationship. However, because more people are realizing that individual actions do not always remain on individual properties, land management strategies are slowly adapting to encompass more landowners in collaborative partnerships that can cross all kinds of boundaries, including those less tangible boundaries of social and ecological natures. This study is an examination of one project which is using these efforts in crossing social, political, and ecological boundaries to promote greater efforts in conservation and land management.

Brooks Township

Amid the soft, fresh hues of spring green foliage that line the highway on either side, I caught a glimpse of a farmhouse here and there. The trees were just beginning to bud all along the rolling hillsides and I began to better understand why this area of Michigan has for so long been called 'the gateway to the north country' by its residents (*Brooks Township Land Use Vision*, 1999, p. 5). I was just twenty minutes outside of the last remnants of the Grand Rapids city limits and it already seemed hours behind me. The landscape I entered was impressive in its seeming simplicity; the boundaries of small towns blended quickly with the quiet rural atmosphere which is surrounded by thickets of young trees interspersed with lakes, meadows, farm fields, and old marshes, and traversed by winding streams. However, the neon orange Detour sign on the road in front of me was only the first indication that this area was not as quiet as it first appeared.

The ten minute detour took me around a section of highway 37 that is receiving a face lift of resurfacing. I had heard rumors that this obstacle would soon arise on the route between Grand Rapids and my destination of Brooks Township. The two-lane highway, that I traveled, has seen a significant increase in daily use in the past 10-15 years. That is the time frame in which I was told this area north of Grand Rapids had become a series of bedroom communities for the growing metro region. As the former residents move their

families further away from the boundaries of the city limits, the very characteristics of the crowded urban areas which they are attempting to escape seem to follow at their heels. The road repairs brought on by the increase in commuter traffic is only a first hint of the impacts of suburban expansion on these small communities and their natural resources (*Brooks Township Land Use Vision*, 1999). Like the blurred boundaries between the old small communities and their surroundings, the national trend in suburban community growth is rapidly crossing many forms of political and social boundaries.

As I entered the decreased speed zone of the small commercial district, I passed the inconspicuous sign that announced I had crossed another boundary and reached my destination. Brooks Township is a unique area in Newaygo county, Michigan and its development of a unique vision project for land use is another indication that the quiet rural character of this landscape has more complexity than its first impression suggests. This community has a long history of natural resource enjoyment and its residents have thrived on the high quality of life built into the landscape.

Brooks Township's natural resources and recreational opportunities are a draw for outdoors enthusiasts, a weekend and summer retreat (both secondary homes and vacations), and an attraction for new permanent residents seeking rural living. Because [these are so attractive] to many people, residents are concerned about the impacts on the natural qualities that make this place special. (*Brooks Township Land Use Vision*, 1999, p. 5)

The primary expression used in the local government to describe the community concern on this issue is that Brooks Township wants to "control the development before it controls us." From this starting point, the *Brook Township Land Use Vision* was developed. The goal of the *Vision* project is to identify various means through which the township can manage its expected community growth and protect its natural resources at the same time (*Brooks Township Land Use Vision*, 1999, p. 3). The significance of the *Vision* is that it is the product of a series of partnerships that crossed notable political,

social, and ecological boundaries, but what is more surprising is that the people involved in the project did not intend to be trailblazers; in addition, this township is in a unique location for the discussion of boundaries. Brooks Township is encompassed, but also broken up, by State and National Forest boundaries. Many of the social, political, and ecological boundaries involve the Manistee National Forest as a primary land owner, economic stakeholder, and political influence in the township.

The Manistee National Forest (MNF), managed by the United States Department of Agriculture Forest Service, is the western portion of the Huron-Manistee National Forest (HMNF) system and covers approximately five-hundred-thousand acres of Michigan's northern lower peninsula, including all of Brooks Township (HMNF Forests' Plan Amendment No. 22, 1993, p. I-5). The constant processes of social and ecological change present in this region of the state necessitate adaptive land management strategies for public lands in order to meet the changing needs of the human communities and the Forest ecosystems. In addition, the public land ownership in the region is so pervasive, that most of the policy and management changes have the potential to impact hundreds of communities and their residents. Because of this integral relationship, partnerships, like the one between Brooks Township and the MNF, could have wide reaching influence in their potential to change how humans relate to land and its use in the region. Many uses that occur on private lands, which include hunting, residential (second) homes, commercial and industrial development, and agriculture, are also present within the MNF because of private inholdings. These islands of private property within the public domain of the National Forest have the effect of creating land fragmentation as human-land use relationships and management strategies vary from owner to owner.

A 1992 study, conducted by the Michigan Department of Natural Resources (MDNR), determined that one of Michigan's greatest environmental concerns was the lack of integrated land use planning. In addition, a growing realization that the MDNR, the MNF, and The Nature Conservancy (TNC) often manage lands in the same

ecosystems and even share some boundaries, led to the formation of a collaborative planning team which led to the partnership with Brooks Township. The different demands for land use within Brooks Township create a great deal of stress on the ecosystem. Through the *Land Use Vision* project, efforts are being made to resolve competing land use demands within a context of cooperation and partnership through the crossing of social, political, and ecological boundaries.

The purpose of this study is to explore this emerging approach to land management planning and implementation in order to increase our understanding of its implications for use and extension to other communities. For the extent of this paper, I will refer to this new approach as a 'boundary crossing strategy' and as 'cross-boundary management.' The primary difference between this new strategy and those of traditional natural resource management approaches is implied in the terminology and stems from the new paradigm of Ecosystem Management; the goals involve crossing political, social, legal, organizational, educational, communication, ecological, age, and participation boundaries (Grumbine, 1994). Ecosystem and landscape level environmental management strategies have been gaining support over the past decade, however, extensive cooperation across boundaries, especially involving the public-private sector, is still unique (Stevens et. al., 1999).

Experiences from some planning projects . . . indicate that conflicts between environmental protection . . . and "development" can be addressed effectively if government [and community] intervention recognizes not only conventional political boundaries and frameworks, but the "soft" regions of ecosystems and social groups. Learning to see the softness of cultural and ecological regions can eliminate at least some of the problems inherent to the politics of boundaries. (Briggs, 1993, pp. 487, 490)

The *Brooks Township Land Use Vision* project has been a learning experience of this very nature; the people involved have attempted to soften the traditional boundaries associated with land management so that they can see the larger picture more clearly. Through an

examination of the *Vision* project, this researcher has attempted to gain a better understanding of how one approach to cross-boundary management can demonstrate the positive influences gained from crossing political, social, and ecological boundaries.

The Problem

Across the United States, it has become clear that lands are influenced by factors outside of their boundaries and that management decisions have impacts on the surrounding landscape. But despite this rising level of awareness, land management problems persist. Specialized management within legal boundaries contributes to the negative impacts of suburban expansion and land fragmentation, and can negate the positive roles of protected land areas such as National Forests and Nature Conservancy reserves. We know that the affects of pollution do not remain within certain age, education, or economic levels; nor do they obey the bounds of legal property lines anymore than wildlife follow these lines, but land managers are still struggling to communicate and coordinate across all of these superficial boundaries.

In response to the increasing demands made in land uses and the threats to ecosystem processes and wildlife, many public agencies and private organizations are in the process of developing cross-boundary management strategies with their neighbors. Although there are still many communication problems to be worked through, the process is in motion. Brooks Township is currently entering the implementation phase of an innovative cross-boundary management initiative which was developed through the cooperative partnerships of several public and private conservation groups. Because the complex and contentious process of land conservation and management in the U.S. is always changing, the unique cooperation and partnership characteristics employed in the Brooks Township project have provided an ideal situation in which to examine the emerging strategies of cross-boundary land management.

This study focuses on examining how the strategy of crossing political, social and

ecological boundaries in land management has impacted the planning process and initial implementation efforts of the *Brooks Township Land Use Vision*. I will also examine the relationship between landowners and land use in the township to determine how the inclusion of these, through the boundary crossing strategy, has impacted the *Vision* project and how they might impact its implementation process.

Sub questions to this larger issue include: how can cross-boundary management strategies help control suburban expansion and the negative impacts of land fragmentation; and how can private landowner participation in crossing boundaries be increased through the use of incentives? In determining whether cross-boundary strategies will mature into effective land conservation and management programs, projects like the *Brooks Township Vision* will need to be followed for several years. The true success of this boundary crossing strategy will only be determined by how much of the *Vision* can be translated into land management practices in Brooks Township and by how much of the cross-boundary planning process can be transferred across further boundaries to be used by other communities in their land conservation and management efforts.

Structure of the Study:

Chapter 2 Literature Review

A discussion will be presented on the larger issues radiating out of this case and how they relate to other studies.

Chapter 3 Methodology and Analysis

A discussion of the qualitative research approach will be presented as well as the primary methods used to collect and analyze data for this study and the limitations therein involved.

Chapter 4 Results and Discussion

An extensive description of the case will be presented as well as a discussion of the data and this researcher's interpretations.

Chapter 5 Summary, Conclusions, and Recommendations

A summary of the findings from this case will be presented as well as conclusions from the data interpretations. Recommendations for further study will be given.

Chapter 2: LITERATURE REVIEW

The Changing Perspectives in Land Management

In this review of land management literature, I will focus on a few of the changing perspectives from the late 1800's through the present case but only those that best relate to this study. I will briefly trace the changes in land management from the conservation movement, through the emergence of intrinsic values toward nature, into the growth of concern over suburban expansion and its land fragmentation issues, and finally, toward the increasing interest in cross-boundary management strategies. Therefore, abbreviated histories of the National Forest Service and The Nature Conservancy will be examined as primary examples of the changes that have occurred in land management perspectives. In addition, an argument will be made for the necessary inclusion of human-land use relationships in land management and planning.

Utilitarian Conservation

A utilitarian approach to land use has dominated the American perspective for many generations. This view holds that natural resources are to be used wisely so that they may benefit the greatest number of people. Thus, management decisions are based on what will bring the best outcome for humans at the least expense. This is the perspective that produced the land management decisions to support the 'harvest' of National Forest timber, the construction of dams to control floods and produce irrigation, and the still present early American thinking that humans must overcome the 'whims' of nature. Utilitarian conservation followed in the footsteps of the frontier American spirit of conquest as it argued that the failure to seek out natural resources, wherever located, was just as wasteful as traditional abuses of them. (Runte, 1987, pp. 68-69)

Land management in colonial frontier America was primarily focused on the conquest of nature. As experience has shown us, 'value derives from scarcity' and most of the early

American colonists did not come to understand the meaning of scarcity for several centuries (Wellman, 1987, p.26).

In the late 1700's, settlers reaching a crest of the Wilderness Road in a notch of the Cumberlands stood blinking into the western light across the greatest deciduous forest that ever was. How do you make a cornfield out of a forest? How do you make a town? How do you clear away trees five feet through and towering one hundred and fifty feet? Forty acres, eighty, a section, a county--how do you "cut the top off" all the flat land between the Cumberlands and the Mississippi? Our minds [today] can only ache to comprehend. Like the first farmstead, towns of the frontier were built in stumpland meadows. The trees were gone. The civic landscapes sweltered in the sun. Never so quick an afterthought: fast growing black locust trees were imported and planted everywhere, from college campuses to courthouse squares, to provide a promise of shade. What irony--the sons of the world's most incredible axemen planting seedlings in the shadow of stumps five feet across. (Wellman, 1987, pp. 27-28)

This passage provides a vivid image of American's early relationship with land. Over the centuries, this relationship has evolved through our use of land and it has provided the impetus for many changes in land use and the development of land management. In localized areas of colonial America, policies and restrictions did develop to deal with real or potential natural resource shortages, but this was not widespread because overall, America was rich in land and resources while only limited in labor and capital. Therefore, it made no sense to expend the scarce labor and money that would have been required to carefully manage the abundant natural resources. This situation laid the path for America's history of carefree and wasteful natural resource use. However, after a century of this nearly unimpeded resource exploitation, prominent voices called for actions to change. (Wellman, 1987, pp. 29-30)

George Perkins Marsh was one of the first of those voices to protest the American treatment of nature. His book, *Man and Nature*, was written to reveal these abuses, explain some of the causes, and to promote solutions. Before *Man and Nature*, American land use policy was shaped by two major forces: agrarianism, based on Thomas

Jefferson's ideas about the importance (for democracy) of small independent farmers, and romanticism, which was a complex collection of aesthetic and religious ideas imported from Europe and modified to fit the American landscape (Wellman, 1987, p.38).

According to David Lowenthal, who edited Marsh's original book a century after its first publication, few other books on this subject have had more impact on the way people view and use land. *Man and Nature* appeared at the peak of the American belief in the inexhaustibility of natural resources; it was the first book to challenge the myth of such superabundance and to present the need for reform. Before Marsh wrote this book, few saw and fewer worried about how people were affecting the environment. *Man and Nature* showed how humans differed from the environment; it showed how the environment operated within itself; it showed precisely what happened when humans cleared and farmed and built on the land. Marsh's writing was truly the wellspring of the conservation movement and prompted the first tentative steps toward purposeful land management planning. (Lowenthal, 1965, p. ix)

Land management and planning, as we think of it today, began to emerge in the mid 1860's, after the publication of *Man and Nature*, as a slow realization grew that the nation's natural resources were not of endless supply and that the novel idea of conserving natural resources was of basic importance in determining human relationships with nature (Huth, 1957, p. 193). Through these realizations came the emergence of the conflict between the economic value and the intrinsic value of land, the use of natural resources versus the preservation of them. The problem arose in determining which of these should be the proper goal of conservation. After Marsh' book, the conservation movement grew quickly and eventually delineated itself into two factions, those who supported *use* of natural resources soon found a leader in Gifford Pinchot and those who supported *preservation* of natural resources followed Steven T. Mather. These men came to embody the use versus preservation conflict in the 1900's as Pinchot became the first chief of the National Forest Service, and Mather became the first director of the National

Park Service (Watkins; Sellars, 1992, pp. 12-19). Thus, from the early days of the 20th century, land management perspectives have been in constant conflict from the competition between these opposing ideologies. Throughout the years, this conflict has promoted the development of hundreds of environmental groups, and although the majority have been fostered independently, they have been working toward a policy of conservation in which the competition between use and preservation ideologies can gradually become more coordinated (Huth, 1957, p.185). However, this does not always happen through preconceived planning, rather, like the development of the *Brooks Township Land Use Vision*, it has been negotiated as each situation demands and has been the driving force behind the changing perspectives in land management throughout this century.

The National Forest Service: The Huron-Manistee National Forest

The national system of forest reserves was established in the early 1900's as a reaction to the increasing fear that excessive logging was damaging watersheds and depleting future supplies of timber (Wilkinson and Anderson, 1987, pp. 15-18). Although, the National Forest Service (NFS) was not officially established until 1905, the momentum behind its creation had been growing for nearly 25 years beforehand due to the poor forestry practices of the frontier timber industry (Clarke and McCool, 1996, p. 50). Even though large portions of U.S. land have been held in public ownership by the federal government since the nation's beginning, it was anticipated that much of this public land would pass into private ownership. People expected farming practices to follow in the footsteps of the logging industry. However, in the 1890's two factors changed this expectation. A growing public interest in the need for forestry and land resource conservation prompted presidential decisions creating 192 million acres of preserved lands. Added to this was the failed efforts of thousands of settlers who attempted to cultivate lifestyles on lands not suited for agricultural developments. These factors

finally convinced many Americans that those remaining public lands were not best used for private endeavors. This change in attitude brought about a reorientation of the federally owned lands and a new outlook for use of those lands. With the recognition that those lands were no longer considered temporary government holdings, emphasis was given to the development of long range management programs and thus agencies were also created to implement and maintain those programs. Through the decades of policy changes and land use changes, the current agencies are faced with an ironic twist of fate. These lands that no one wanted a century ago, are now lands that everyone wants to own, use, and enjoy. This ironic situation is another factor which has led to the growing need for cooperation across boundaries in land management. (Barlowe, 1996, pp. 516-517)

In the case of National Forests, the original land management strategies were prime examples of utilitarian conservation concerned primarily with timber and watershed management and their protection for economic use. Throughout the 20th century, this emphasis has been challenged and has required adaptive changes as public demands changed. As more people became concerned with the possibility of overharvest of natural resources and an increasing number of people used the forests for recreation purposes, demands rose for greater emphasis of these uses within forest planning and management. The Forest Service complied by creating policy which required the forests to give 'equal consideration' to wildlife and recreation when conducting planning and management adjustments. (Wilkinson and Anderson, 1987, p. 30)

The continued increasing demands made on public lands will require that management agencies have adaptive plans and strategies to be capable of meeting both the human and ecosystem needs of an area. "As the impact of public policies affecting private lands increases, so does the demand for public services and scarce resources" (Cubbage et. al., 1993, p. 4). Necessary changes thus require communication and cooperation across boundaries and between stakeholder groups. As A.W. Bolle states: "Major alterations in the operation of a federal agency are accomplished only by continuing and unrelenting

effort, both within the agency and by concerned citizen's groups" (Wilkinson and Anderson, 1987, p. 1).

As the NFS lands grew throughout the early 20th century and their management was controlled under a plant and harvest perspective, many people became concerned that this approach would not satisfy the growing public interest in preservation and recreation.

[As early as the mid 1940's] the intensive and steadily growing demand for recreational sites could not be overlooked by the administrators of the national forest. The U.S. Forest Service, therefore, which had originally centered its attention on problems of economy and maintenance, established the Division of Recreation and Lands, which was to give attention to the needs of visitors and invite the public to seek recreation in the national forests. [As visitation increased and as foresters came to trust that the majority of the public would not make careless mistakes harming habitats and wildlife,] it was [eventually] recognized not only that under certain conditions a forest would yield profits when maintained as a smoothly running, sustained-yield project, but also that a fine stand of trees had, beyond its commercial value, a beauty value which attracted visitors and therefore might in time acquire added commercial value of a new kind. (Huth, 1957, pp. 200-201)

The public's rising interest in recreation, therefore, brought the conflicts between use and preservation closer to a harmonious existence, but changes to national forest land management have been accomplished through generally slow processes.

The most recent alterations to the planning and management strategies of the NFS came in the form of federal legislation in 1974 which enacted the Forest and Rangeland Renewable Resources Planning Act (RPA). This act requires all national forests to develop and use a Forest Plan for the management of their lands. In 1976, the RPA was amended by the National Forest Management Act, so that each Forest Plan provides for multiple-use and sustained-yield of goods and services from the NFS lands in an environmentally sound manner. The Forest Plans are to be revised every ten years but can be revised sooner if conditions or demands change significantly. (United States Department of Agriculture, Forest Service, 1986, p. 1)

The HMNF is two distinct forest areas in the state of Michigan with the Huron forest

on the eastern side of the state and the Manistee Forest in the west. The combined management of these two National Forests is a good example of the emergence of cooperation between public agencies in land management and eventually between public and private organizations. The HMNF is currently in the process of revising its Forest Plan, but elements from its mid 1980's Plan can show the changes which citizen and employee influence have generated.

The commitment of the Forest Service is to care for the land and serve the people.

This commitment includes:

- A balanced consideration of all forest resources in meeting present and future needs.
- Application of scientific knowledge.
- Management in partnership with other agencies.
- Responsiveness to people. (United States Department of Agriculture, Forest Service, 1986, p. 5)

The mere mention of partnerships between agencies and of a willingness to respond to the concerns of people outside of the organization, shows how much the NFS has shifted its land management perspectives from its early days when it was believed that only professional foresters knew how to best care for the lands. Other components of the HMNF Forest Plan provide further examples of the development of the NFS perspective on land management: the Forests will remain an essential part of our communities by providing jobs, recreation, goods, and services; public involvement and interdisciplinary resource management will keep the Forests responsive to public needs; one of the major reasons for selecting a proposed course of action is how well it responds to public issues and management concerns; it is important to consider the plans of others so that unnecessary duplication and potential conflicts can be minimized; cooperative ventures with many state and local organizations have been integral components in the management of the Forests; and, the plan provides a summary list of activities which are compatible with the land management plans of other organizations (United States Department of Agriculture, Forest Service, 1986, pp. 13-37). In addition, through its current

partnerships and policy updates and revisions, the MNF is attempting to adapt its land management policies to align closer to an ecosystem level perspective. The NFS has made significant shifts in its land management perspective throughout the 20th century from a strictly 'resource protection for economic use' approach toward a realization that decisions and trends cross boundaries. This has led the NFS to begin looking beyond its legal boundaries in order to cooperate with state and local organizations; and the agency continues to shift its land management perspective as it becomes more involved in partnership projects, like the *Brooks Township Vision*, that involve cross-boundary management strategies. The most recent shift has come through these types of projects and has helped the NFS begin to gain a better understanding of the issues involved in true cooperation and partnerships with private landowners. (Brandenburg and Carroll, 1995)

The Nature Conservancy

The origin and development of TNC marked the emergence of a new perspective in the conservation movement, the rise of intrinsic values toward land. TNC has thus provided the necessary vehicle through which a significant growth in the support of preservation could be accomplished. The organization was founded with a unique goal which has always been to protect biological diversity, by preserving land that is endangered by human use. TNC's other unique characteristics stem from the fact that it is a private non-profit environmental organization that specializes in preserving species and habitats by buying the land and waters needed for their survival. TNC owns and manages the largest private system of nature preserves in the world. It owns more than 1,500 preserves in the United States alone, covering over 10.5 million acres. Some of these preserves are only the size of a backyard garden while others cover thousands of acres, but all of them are considered safe havens for imperiled species of plants and animals. In addition to creating nature preserves in the U.S., TNC has also helped develop preserves in 22 other countries. This long tradition of land preservation began in

1955 with the purchase of a small 60 acre plot of land in New York state. However, the history of the organization itself is even older. (The Nature Conservancy, <http://www.tnc.org>)

In 1915, 50 members of the American Association for the Advancement of Sciences voted to form a group titled the Ecological Society of America (ESA). This group proceeded toward their goal of gathering and publishing information about the original biota of America. Their desire was to make available for study as much North American biotic information as possible. However, this goal produced a division in the group's members as to whether they should restrict their efforts to scholarship only or adopt an additional strategy, namely active ecological protection. By the mid 1940's the dispute over this proposal led 158 members to break away from the ESA to form the independent Ecologists Union which would pursue strategies for direct action when natural areas became threatened. Then, in 1950, after the defeat of a legislative proposal to form a government sponsored nature conservancy organization, the members of the Ecologists Union officially adopted the name 'The Nature Conservancy.' Within five years of adopting their new title, TNC had created its first preserve and launched its grant based process of financing its future actions to protect threatened lands. (The Nature Conservancy, <http://www.tnc.org>)

Through the decades, the organization has come under attack from many different groups and persuasions, including private rights advocates and other environmental organizations. Many people feel that TNC's efforts to protect threatened habitats and species are tainted by their fundraising efforts, especially from the money they solicit from energy and chemical companies and other free enterprise corporations. Other complaints revolve around the issue of private property rights. TNC is often seen as an enemy of private landowners because of its land purchases; many people feel that TNC is interfering with private land use because it buys lands to set them aside in protection, which seems to show that the argument between use and preservation is still running

rampant today. However, as its history shows, private land rights have been the organization's traditional vehicle for preservation. (Bartlett, 1995, pp. 4-5)

In the past ten years, TNC has come to realize that biological diversity cannot be preserved without the support and participation of private landowners. Nearly 60 percent of all endangered species in the U.S. are found on nonfederal lands. Through trial and error, TNC has developed many strategies to work with private landowners to create positive interactions and purchases. In fostering positive relationships with private landowners, TNC has been contributing to the shift toward cross-boundary management. Some of TNC's strategies include simple but important considerations, such as the purchase of private lands from willing sellers, the purchase of private lands from willing sellers through a cooperative agreement with state or federal agencies, registry programs for private landowners who voluntarily work to preserve endangered species on their land, habitat conservation plans that function under requirements of the Endangered Species Act, and large landscape conservation projects. (Bartlett, 1995, p. 10)

In addition to these strategies, TNC has developed strong principles that govern its work with private landowners.

- The Conservancy respects the rights of private property owners and encourages private landowners to accept the responsibility of preserving biological diversity by managing their own lands wisely.
- The Conservancy believes that public policy should seek to make the presence of endangered species an asset to a landowner instead of a liability by providing incentives that make it easier and economically advantageous for private property owners to manage or convey their lands for conservation purposes.
- The Conservancy promotes a policy of willing buyer-willing seller in its dealings with landowners.
- As a landowner itself, the Conservancy supports the rights of landowners to protect their communities from irresponsible neighbors and incompatible uses. (Bartlett, 1995, p. 11)

These strategies have worked extremely well for TNC as its acreage record indicates but in the early 1990's, the organization made a significant change in the way it approached its

conservation efforts and in the way it measured its own success. When John Sawhill took over as TNC president, he began to guide the organization through a major shift in thinking. He believed that changes were necessary in order for TNC to successfully achieve its mission over the long term. Up to that point no significant problems had been detected, but as the organization began to review its scientific data, many problems were brought to light. (Howard and Magretta, 1995, p. 110)

For over forty years, TNC has been focused on buying endangered habitats and setting them aside under protection from human use. The organization can be proud of its collection of preserved lands but in reviewing its efforts, it found that many of the preserves were not really being protected through this traditional strategy. Actually, TNC found that populations of rare species were declining in some of their preserves. The organization slowly came to realize that its traditional strategy did not work because forces and actions outside of their legal boundaries were often harming the lands and species they were trying to protect. This called for action and a new strategy. (Howard and Magretta, 1995, pp. 110-111)

In planning the new strategy, TNC began by forming a task force and promoting one of necessary components for the new strategy within this group: active stakeholder participation. Through this approach, the staff felt a greater sense of involvement and ownership of the organization's mission, which in turn promoted their best efforts in achieving the necessary changes. In addition to creating a positive planning environment, this is also a key component for cross-boundary land management in the field. The most crucial change in TNC strategy crossed a significant social boundary in the organization's way of thinking. The new strategy was described by Sawhill as *the* conservation issue of the 1990's, integrating economic growth with environmental protection (Howard and Magretta, 1995, p. 111). Besides being an innovative change in land management perspective, this approach also involved a certain level of risk for TNC.

The risk comes from our getting deeply involved in places where people live and work, because people are as much a part of the landscape as the plants and animals we're trying to protect. So we have to find ways to work with communities and businesses as partners; and that won't happen if conservation means throwing people out of work or driving companies out of business. Promoting compatible economic development has therefore become a strategic imperative for us. [So, now,] if an oil company wants to drill in an environmentally sensitive area, we won't say, Don't drill. Instead we ask, Is there any way you can drill and not harm the area's ecological integrity? Let's try to develop a drilling plan that won't disturb the wildlife habitat. We believe in partnerships. (Howard and Magretta, 1995, p. 111-114)

In addition to the *Brooks Township Vision* project, TNC is also working on a cross-boundary management project in the Upper Peninsula where they have formed partnerships with private and public landowners. One of the main goals in this project is for TNC to continue to learn how the strategy of crossing boundaries can best benefit all of the partners.

Our challenge is to conserve these [rare species and habitats] within an environment of multiple forest landholders with different management objectives. [The project's] mission is "to facilitate complementary management of public and private lands (across ownership boundaries) for all appropriate land uses (to meet various landholder goals) through a multiple scale (landscape-based) approach to maintain and enhance sustainable representative ecosystems in the eastern Upper Peninsula of Michigan." The mission recognizes ecological and economic interests, and works to strike a balance between the two. (Beyer et. al., 1997, pp. 199-211)

This new approach has helped TNC become one of the leaders in ecosystem level conservation and one of the trailblazers in the emerging strategy of crossing boundaries in land management.

Development Pressures and Problems Leading to the Shift Toward Crossing Boundaries

Many of the significant changes in land management perspectives over the past 30 years have been influenced by the general U.S. trend in suburban expansion. In fact, the influence of urban density, complexity, and congestion were strong forces even as early as

1916, with the introduction of zoning regulations to provide better control over the use of private property. One source describes these early zoning regulations as innovations to resolve a conflict between two private rights, the personal right of every individual property owner to use her property as she wishes versus the collective right of residents in a community to have the type of community atmosphere they desire. Therefore, community zoning should be viewed as a reassertion of the importance of private property's contributions to a collective region. (Nelson, 1977, p. 112)

However, these community level zoning regulations have been cited as one of the major contributing factors in the suburban expansion trend as one community's zoning actions direct new development away from itself and toward a community that is more willing to accept it. In this view, if projects like the *Brooks Township Land Use Vision* remain isolated within the boundaries of the township, then it could be seen as an unsuccessful attempt to promote cross-boundary management. The problems lie with the lack of regional control of zoning regulations and coordination of new development patterns. This has led to broad development patterns that tend to be haphazard and unpredictable, which have given rise to the trend of suburban expansion or sprawl. (Nelson, 1977, p. 55; Cullingworth, 1993, p. 123)

This trend has been prevalent in American culture since the early 1960's when urban residential populations began to shift out of the cities and into the suburbs (Nelson, 1977, p. 158; Cullingworth, 1993, pp. 124-132). However, some experts feel that this trend has been prevalent throughout American history and that today's suburban sprawl is simply the new frontier of expansion. Accordingly, this frontier American 'prairie psychology' has strongly influenced the U.S. system of master planning, zoning and subdivision controls. One expert explains U.S. urban development patterns as characterized by the following:

- a supply of land which is viewed as virtually unlimited;
- land that is open to all and property ownership rights that are encouraged and protected by the U.S. Constitution;
- economic forces that are barely understood and should not be tampered with;
- development professionals who prepare land for development and do not question whether the land should be developed (i.e., they make sure utilities are in place and feeder roads have been planned for); and
- a basic distrust of elected and appointed officials, so that all procedures are codified and development that qualifies under these procedures does so "as of right," with minimal public review. (Burchell et. al., 1998, p. 5)

From the influence of these factors we find many varied definitions of sprawl but a combination of these seems most relevant to the concerns of Brooks Township residents: low density residential development in rural and undeveloped areas which is spread out, skipping over some properties while utilizing others, and is seen as an inevitable consequence of urbanization that will occur under any system of private or even public ownership, since undeveloped land next to developed lands may not be appropriate or desirable properties for use at a particular time. (Burchell et. al., 1998, p.5)

Despite the seemingly negative factors associated with suburban sprawl and the concerns expressed by many citizens, most experts have concluded that this form of land use reflects the desires of the majority of the American public. They base this conclusion not only on the widespread nature of this trend but also on the ideas that sprawl:

- dilutes congestion while accommodating unlimited use of the automobile;
- distances new development from the fiscal and social problems of older core areas;
- provides a heterogeneous economic mix;
- fosters neighborhoods in which housing will appreciate;
- fosters neighborhoods in which schools provide both education and appropriate socialization for youth; and
- requires lower property taxes to pay for local and school district operation expenses than locations closer in. (Burchell et. al., 1998, p. 2)

However attractive these factors may be to American citizens, many people have also argued that sprawl has unattractive, negative impacts on a community's quality of life,

including that it is aesthetically displeasing, it creates a weakened sense of community, it creates greater stress, contributes to higher energy consumption and air pollution, and lessens historical preservation (Burchell et. al., 1998, p. 83). In addition, some experts argue that the greatest failing in this land use trend is its cost. They state that American citizens can no longer afford to pay for the infrastructure required to build further and further away from metropolitan areas. (Burchell et. al., 1998, p. 3)

These and other concerns have led to an increasing awareness of sprawl in the past decade. In part, this is because most Americans now live in metropolitan and suburban areas; but few efforts to slow or stop sprawl have been presented and fewer still have been implemented. Despite criticisms that studies of the negative impacts of suburban sprawl have produced only ambiguous and contradictory results, many planners, researchers, and residents of Brooks Township are convinced that this type of urban growth must be changed. (Stoel, 1999)

Dispersed forms of development are considered to result in inefficiencies, misuses of land, underutilization of existing infrastructure, diseconomies of overextended social services provision, and detriment of local environmental and ecological systems [especially in terms of land fragmentation resulting in losses of species and habitats]. Dispersed suburbs also exact higher out-of-pocket costs and adjustments to household schedules that are neither efficient nor equitable in terms of social welfare and quality of life. The automobile dependency that accompanies dispersed development is also objectionable to some planners. (Weitz and Moore, 1998, p. 431)

Most efforts to change the situation have been aimed at alleviating the symptoms, traffic congestion, water and air pollution, etc., rather than eliminating the problem itself. In addition, efforts aimed at preventing the problem have only recently been presented outside of the state of Oregon or countries in Europe (Stoel, 1999, pp. 8-10). The needed changes require a great deal of cross-boundary planning and management but many challenges lie ahead of these efforts.

During the process of land development each step ideally ought to be closely coordinated with other steps. But the piecemeal nature of land development, the very large number of participants involved, the competitive relationship among private (and also to some extent public) participants, the frequently poor understanding of the workings of social and economic forces in land markets, and various other factors have often resulted in a lack of coordination. The desirability of improvement in this regard has long been perceived, and public land-use planning has been widely proposed to provide the coordination needed for land development. (Nelson, 1977, p. 52)

This type of planning would examine patterns of land use within regions or even across nations by using social and economic ties to identify their geographical boundaries, in contrast to the politically determined boundaries of most communities which cut arbitrarily across social and economic interrelationships (Nelson, 1977, pp. 52-53). Despite the challenges that this type of planning would involve, the promotion of these factors as a way to determine regional areas for cooperative land planning and management shows a significant move toward cross-boundary strategies. However, actual attempts to implement cross-boundary strategies have been very slow to emerge.

One of the most significant obstacles in this slow development has been our inability to create the right incentives to get people involved in crossing boundaries. These incentives must come through one of two pathways or a combination of both: government regulations and rewards or community-based structures like lake associations or neighborhood groups. The combined approach, such as the *Brooks Township Vision*, may provide the incentives needed to control suburban expansion problems.

In addition to the concerns in Brooks Township, the pressures and problems of suburban expansion are prevalent in many areas of Michigan. Many communities are concerned about the trends in high population growth patterns and loss of open space which have been so prevalent in the past decade, for example:

Southeast Michigan is expected to grow by 426,000 people between 1995 and 2020, with 95 percent of the growth in 32 rural communities. That will eat up 251,000 acres of open space, equal to 10 townships, the Southeast Michigan Council of

Governments estimates. Suburban communities sprout on the edge of Metro Detroit, reflecting a nationwide trend of sprawl. It's an issue that is gaining attention among state and national power brokers. Now, residents, developers and local governments are working together to find solutions in Detroit and elsewhere. (Hoover, 1999)

The *Brooks Township Land Use Vision* project is an example of the type of cooperation needed to address the issue of suburban expansion.

The *Vision* project is considered a 'pilot' and a learning process for everyone involved because none of the officials have worked on anything like this in the past. The MNF officials could only compare this project to the public input they seek for National Forest Service management plans but the *Vision* project is different because it is looking at a landscape view. An official from the MDNR compared the *Brooks Vision* project to the Northern Lower Michigan Ecosystem Management project (NLM). He stated that the *Brooks Township Land Use Vision* was a smaller, more manageable version of the type of guidelines which the NLM project is trying to develop. The NLM project encompasses 31 counties in the northern lower peninsula of Michigan (Mang and Ruswick, 1997, pp. 2-3). The DNR would like to take helpful points from the *Vision* project and translate them into the NLM project if possible. The difficulty lies in the great size difference. The agencies and people involved with the NLM project will not be able to sit down with each township throughout the 31 counties to develop a vision; however, Brooks Township could serve as a model case for counties and townships to follow on their own initiative. The DNR commented that through the *Brooks Vision* project it was interesting to actually see and find out how to do the things they have been talking about in the NLM project. In addition, when asked to expand on what the agency had learned in the *Brooks Vision* project, the DNR replied that it wants to make sure that people involved in the NLM project or similar projects understand that the agencies and the government are not trying to tell them how to do anything, they are only making suggestions. The DNR would like to try getting small groups of local people to carry forth suggestions to

their communities in the NLM and possibly other similar landscape size projects. This may stem from the high number of recommendations for public education in the Brooks *Vision* project. Recommendations for increased education encompassed a number of significant topics for each category (rivers, lakes, and streams; forests and prairies, and illegal trash dumping). The growing numbers of people moving into Brooks Township will continue to add to the problems associated with suburban expansion.

Another significant concern for the township is the fragmentation of land that accompanies suburban expansion, leading to losses of wildlife habitat, rare plant and animal species, recreation areas, and aesthetic qualities. Land fragmentation or habitat fragmentation has two components and both can contribute to loss of plant and animal species. Habitat loss is a reduction in the total area of an ecosystem such as when a wetland is drained and covered by a parking lot. Habitat insularization increases as more habitat is lost. This occurs as the remaining fragments of ecosystems become more isolated from each other, for example, as they are interspersed by suburban homes. Habitat loss destroys, reduces, and subdivides populations of plant and animals which increases their vulnerability to extinction from the area. Insularization adds to this vulnerability by restricting or preventing plant and animal species from moving between fragments of habitat, thus, reducing their reproductive success (Grumbine, 1992, p. 48). However, a growing realization that fragmentation issues are not just a concern for science has helped shift land management perspectives toward ecosystem management.

Ecosystem Management

Ecosystem Management (EM) has emerged in many different areas and through many different management approaches in the past fifteen years; it is increasingly being viewed as a new 'paradigm' of public land management (Freemuth, 1996, p. 411). In the mid 1980's, managers throughout many levels, in biological and social sciences, and conservation groups began to see the need for changes in their approach to public land

management. In 1987, a group of managers, scientists, and planners met to develop a new approach, a cooperative ecosystem management approach, which would recognize that most ecological problems, whether biological, social, or both, are often unconstrained by boundaries (Agee and Johnson, 1988, p. vii). Most land managers, whether they own a small farm or supervise a National Forest, have begun to realize that their land is part of a larger ecosystem impacted by the management strategies of areas surrounding them. J.A. McNeely observes that significant strides have been made within the past decade toward the recognition of protected land areas as parts of regional landscapes, leading to new partnerships with institutions responsible for managing adjacent lands (McNeely, 1995, p. 169). Accepting this realization has helped usher in EM as one approach to cross-boundary land management. However, because EM has been in practice for less than a decade, there is much remaining controversy over defining and implementing it (Maser, 1994, p. 303-340; Lackey, 1998; Rudzitis, 1995, p. 35-52).

Edward Grumbine (1994) has identified ten common themes that land managers have found to be significant in the past ten years.

1. Hierarchical Context. A focus on any one level of the biodiversity hierarchy (genes, species, populations, ecosystems, landscapes) is not sufficient. When working on a problem at any one level or scale, managers must seek the connections between all levels.
2. Ecological Boundaries. Management requires working across administrative/political boundaries (i.e., national forests, national parks) and defining ecological boundaries at appropriate scales.
3. Ecological Integrity. Most authors discuss this as conservation of viable populations of native species, maintaining natural disturbance regimes, reintroduction of native, extirpated species, representation of ecosystems across natural ranges of variation, etc.
4. Data Collection. [EM] requires more research and data collection (i.e., habitat inventory/classification, disturbance regime dynamics, baseline species and population assessment) as well as better management and use of existing data.
5. Monitoring. Managers must track the results of their actions so that success or failure may be evaluated quantitatively. Monitoring creates an ongoing feedback loop of useful information.

6. **Adaptive Management.** [This] assumes that scientific knowledge is provisional and focuses on management as a learning process or continuous experiment where incorporating the results of previous actions allows managers to remain flexible and adapt to uncertainty.
 7. **Interagency Cooperation.** Using ecological boundaries requires cooperation between federal, state, and local management agencies as well as private parties. Managers must learn to work together and integrate conflicting legal mandates and management goals.
 8. **Organizational Change.** Implementing ecosystem management requires changes in the structure of land management agencies and the way they operate.
 9. **Humans Embedded in Nature.** People cannot be separated from nature. Humans are fundamental influences on ecological patterns and processes and are in turn affected by them.
 10. **Values.** Regardless of the role of scientific knowledge, human values play a dominant role in ecosystem management goals.
- These ten goals form the basis of a working definition: [EM] *integrates scientific knowledge of ecological relationships within a complex sociopolitical and values framework toward the general goal of protecting native ecosystem integrity over the long term.*¹

Grumbine later argues that the full combination of these themes is essential for EM to be a successful management strategy and, although managers have had problems implementing different themes of EM in different land regions, communication and cooperation across legal boundaries appears to be the greatest obstacle to this and other strategies (Grumbine, 1997, p. 41-47; Yaffee et al., 1996, p. 36). Therefore, landscape size projects like the *Brooks Township Land Use Vision* are valuable steps forward and can be used to evaluate what components of EM can best promote the crossing of boundaries. The combination of various management approaches using EM themes as guidelines holds great potential in assisting public and private land managers' engagement in boundary crossing efforts. However, EM has been focused almost exclusively on cooperation between public agencies and their neighboring stakeholders. The strategies this study is promoting would not only engage this realm of public land managers and their neighbors, but like the *Brooks Township Vision*, cross-boundary land management

¹ Italics original, p. 29-31.

strategies promote cooperation and partnerships between private landowners with or without the involvement of other organizations; TNC sees this as one of the ideal outcomes of the *Vision*, that neighbors would openly discuss their land management strategies with each other. With the rising concerns over losses in biodiversity, there is an increasing need for private landowners to become active partners in conservation efforts and although this has been accomplished to some degree through public initiatives such as conservation easements and hunting and fishing organizations, private-private cross-boundary management could increase landowner involvement significantly. (Dickenson, 1995, pp. 33-52)

The inclusion of the private-private realm in cross-boundary management has the potential to overcome factors not directly mentioned in Grumbine's assessments of EM. Primarily these include lack of funding for public agencies, accessibility, land costs, levels of protection, owner attitudes, and proximity to urban areas. For example, in regions that have already been impacted by land fragmentation from suburban sprawl, homes on large lots, some urban parks, county fishing reservoirs, certain resorts, and even golf courses can provide necessary habitat patches and corridors between patches for some plant and animal species (Schwartz, 1997, p. 362-363). However, the benefits of these habitat patches may not be realized or maximized without private landowners becoming interested in cross-boundary land management strategies.

Partnerships and Crossing Boundaries

A 'partnership' can be defined as "an on-going arrangement between two or more parties, based upon satisfying specifically identified, mutual needs" (James, 1999). Partnerships have been a popular trend in conservation and land management for many years and for many issues, from agriculture and rangelands to wetlands and energy conservation; the recent history of partnerships has struggled through controversies and issues of power control, but overall they have shown positive contributions (Guglielmino,

1999; Paulson, 1998; Endicot, 1993; Compton, 1992; Squires, 1989; Byers, 1988). In the past decade, calls for cooperation and partnerships have increased significantly as more people have become concerned over the scarcity of resources available for conservation (McNeely, 1995, p. xv). This rising interest in partnership opportunities holds great potential for crossing boundaries when goals and compromises can be determined. The partnership component has been the driving force behind the current level of success in the *Brooks Vision* project.

The majority of the calls for partnerships have come from public conservation agencies as they follow in the footsteps of TNC and other private organizations (Waterstradt, 1999; Daerr, 1998; Walsh, 1997; McNeely, 1995). In fact, TNC has been credited with pioneering the partnership approach to conservation which has certainly proved successful for the organization. TNC initiated its partnership programs by working with state agencies to build natural heritage database inventories of biological diversity in the 1970's. After successful use of one of these inventories to save an endangered swamp land in Mississippi, TNC has since established this program in every state as their classic example of partnership success (Bartlett, 1995, p. xiv-xv). As can be seen through the research in this study, TNC continues to use partnerships to achieve its goals and because of its successful history, many public agencies, local governments, community groups, and private landowners have become involved in partnership efforts for conservation and land management.

Partnership efforts are also helpful in EM projects and they may provide useful mediums through which cross-boundary strategies between private landowners could be achieved. However, because this area of land management has always been seen as taboo, so as not to interfere with the sacredness of private property rights and so that private landowners are not frightened away from working cooperatively with public agencies, there is a general lack of knowledge about private landowners' attitudes and preferences toward private-private partnerships and cooperation (Stevens et. al., 1999, p. 81). This

lack of knowledge is also problematic for public agencies in their attempts to form partnerships with private landowners; most agencies do not have enough yearly funding to accomplish their short-term goals; therefore, by establishing partnerships across boundaries, they could accomplish more with their limited funding if they could initiate successful private-private cross-boundary strategies instead of having their efforts reach a few private landowners and then stop when the funds run out. Attempts to promote self-sustaining cross-boundary strategies have been in motion throughout the 1990's but they still require a great deal of public initiative and funding; difficulties also stem from a lack of understanding of human relationships with land use in many areas (Lins, 1991; Briggs, 1993).

[B]oth ecological and social scientists and the public are only beginning to ask some fundamental questions about human relationships with ecosystems. For example, are there alternative, economically and socially viable ways to meet human needs without impairing the quality of life or the functioning of ecosystem processes? (Schmidt, www.nps.gov)

Through such difficult questions as these, many public agencies have begun to look toward the formation of partnerships to address many social, economic, political, and ecological boundary concerns in land management.

One of the largest scale examples of partnership efforts in the past decade was the Greater Yellowstone Vision. This cooperative venture began in 1989 with the creation of a 74 page draft document written by an interdisciplinary team from the U.S. Forest Service and the National Park Service.

Thanks to grizzly bears, seasonally migrating elk, trumpeter swans, natural fire, and countless other wilderness inhabitants that have no regard for agency boundaries, the parks and forests, often in cooperation with state management agencies, have developed dozens of efficiently functioning initiatives for cross-boundary cooperation. This effort continues today. (Barbee et. al., 1991, p. 81-82)

Through this cooperative history, the agencies felt the time had come to step up their efforts, so they released the Yellowstone Vision draft document for public comment in 1990. After a largely unprecedented, extensive, and explosively heated public comment period, the final Yellowstone Vision document emerged as a mere seven pages of a few main points that the agencies fought hard to retain. Through this process, and without intending to, the two agencies learned some significant points about human relationships with land use; mainly, that cooperation is difficult and compromise is nearly impossible if any key stakeholders feel that they have not been included in the process. Due to the significant level and pressure of the opposition and the resulting reductions of the document, many people still debate whether the project was a complete failure or an example that presented some important lessons for future efforts. (Barbee et. al., 1991, p. 84-85)

For cross-boundary strategies, this project does seem to provide lessons for future partnership efforts, most importantly it shows the risks involved in crossing boundaries and secondly it shows the significance of stakeholder inclusion. Since the Yellowstone Vision, the NPS has attempted other cooperative ventures and it is increasingly finding that the inclusion of community values is a key variable in forming working partnerships with communities. (Lins, 1991; Briggs, 1993)

Human Relationships with Land Use

There has been a growing awareness of the need to gain greater understandings of human-land use relationships in the field of protected area management.

Partnerships between protected areas and their neighbors are often hampered by substantive conflicts over natural resources In these cases adjacent land uses must be promoted that meet both conservation and development needs. These land uses can be more successfully promoted by better understanding how people . . . make land use and natural resource-use decisions. These decisions are influenced by socioeconomic factors . . . [which cross many social, political, and ecological boundaries]. (McNeely, 1995, p. 206)

The inclusion and understanding of community relationships within a landscape has become a critical component for regional planning efforts in the last ten years. However, there is much research and learning to be done yet on the process involved in doing this (Chambers and Ham 1995, p. 75-92). "Successfully incorporating the concerns of humans into ecosystem management means giving equal consideration to social as well as physical and biological concerns" (Elsner et. al., 1999, p. 9). Determining how people in an area or community value the land is a complex issue and has been contentious throughout American history (Grumbine, 1999, p. 237). However, many organizations have found that gaining this understanding is crucial for partnership formation, EM, and future cross-boundary management strategies.

American Forests is partnering with local groups seeking to integrate environmental and community wellbeing. In 1996, [they] began an ecosystem management program that helps forest-dependent communities gain a more meaningful voice in policy discussions and decisions affecting public and private forest management. (Enzer, 1998)

The NPS has also been using this strategy to develop working relationships with localized communities.

Park service managers, in cooperation with landowners, now oversee a few small communities. To do this best, the NPS exercises greater sensitivity to people's contemporary needs, as well as their cultural values and concerns. The people, in return, benefit by retaining their ancestors' lands and maintaining their connection to place. Cooperation is key to making a successful historic [or nature] reserve. Not only does the plan encourage private landowners to work with preservation efforts, but town and county governments are also asked to coordinate so that problems overlapping various jurisdictions are jointly addressed. (Lins, 1991, p. 7-10)

These boundary crossing efforts are becoming important aspects in many areas of land management where there is a growing realization that the inclusion of community participation at local levels of land management is crucial for long-term conservation

success at regional scales. There is now a prevailing belief in some circles that community based approaches to planning tend to be more effective because they incorporate the relevant knowledge and experience of those private landowners affected by the management decisions. This community interaction approach is being used in protected area management in many regions of the world and it relies on the concept of 'co-management' which provides a high level of community participation and greater community control over its own destiny.² In this view, a partnership is created where the rights, aspirations, knowledge, and skills of a community are enhanced, and in which the importance of human-nature relationships is recognized and valued. This provides strong encouragement for crossing social, political, and economic boundaries in addition to traditional natural resource boundaries and issues. However, there are still some significant challenges facing boundary crossing efforts; as shown by the recommendations in the *Brooks Township Vision*, effective participation by communities may require some bridge-building to cross educational boundaries. Perhaps the greatest challenge remains in the question of how to encourage communities and private landowners to engage in crossing boundaries for conservation and land management. (Chambers and Ham, 1995, p. 76-77)

Encouragement and Incentives

Encouragement for environmental conservation and protection has been focused primarily on economic incentives. These incentives have included pollution prevention, clean energy development, pollution clean-up, reforestation measures, and agriculture reserves for wildlife (Costello, 1999; Adams, 1998; Anonymous, 1998; Tønning, 1997). However, there appears to be a shortage of literature discussing incentives encouraging private landowners and communities to become involved in conservation and land

² "Co-management" is defined as a sharing of management authority and responsibilities by governments and communities.

management, outside of incentives to protect endangered species on private property (Anonymous, 1997 and Kennedy, 1996). The *Brooks Vision* project serves as a valuable addition to this limited discussion.

Conservation and protection measures can be categorized as institutional mechanisms, such as the NFS or MDNR agencies, research programs from universities or government, laws and regulations, and incentives, which motivate desired actions, or disincentives, which discourage undesired actions. Incentives and disincentives have become more attractive measures to use in pursuing conservation and protection efforts because of a general attitude that institutional, research, and regulation measures have not provided adequate means for achieving desired goals through the past few decades. Due to shortages of funding and personnel, many government agencies and efforts have not been able to reach their conservation goals which has also contributed to the rising interest in incentives programs. (McNeely, 1988, p. 37-39)

Incentives options are a desirable approach because they have the potential to offer immediate rewards to individuals who take appropriate environmental actions. If this positive feedback can be created so that individual rewards are immediate, as opposed to others that require an initial period of sacrifice followed by a long waiting period for a reward, or those that might reward people who have done nothing to help the environment, in theory, individuals would take better care of the environment because by doing so they would be taking better care of themselves. However, creating the right incentive program for a desired goal has proved uniquely challenging. (Gardner and Stern, 1996, p. 95-124)

It is unrealistic to ask people to make voluntary contributions to preserve the environment because of the "free rider problem": any individual is better off by letting other people make the contributions because no one can keep a noncontributor from enjoying the benefits. (Gardner and Stern, 1996, p. 100)

This factor presents a significant challenge to projects like the *Brooks Township Vision*.

Other challenges that must be overcome for incentives options to have greater chances for success include evasion, barriers, and convenience factors.

In certain situations, incentives can be counterproductive and lead to evasion tactics. Evasion of an incentive can often occur when people perceive it as a punishment instead of a benefit. This attitude tends to surface whenever an incentive places limits on individuals' freedom to act or decide as they prefer. One example is classic regulation efforts to protect the environment. Individuals, finding out that they could be restricted in the acts they may do on their property, such as harvesting a stand of trees, often rush to sell or cut the trees before anyone can determine the environmental impacts of the action. These individuals often see a government regulation as a punishment and a restriction of their freedoms, not as an incentive for environmental protection, so they rush to evade the incentive. Thus, habitat areas may be lost unnecessarily in the process of trying to conserve them. (Gardner and Stern, 1996, p. 95-124)

Other challenges are found in the form of external barriers. These can be anything that prevents actions that lead to pro-environmental behavior and they are different for each situation and for each person involved. For example, a tax break incentive may encourage housing developers to provide open space areas, but it may not encourage private landowners to set aside acreage for wildlife protection. In addition, the tax break incentive may work for one developer but another developer may prefer a different option. However, if the right options can be made available through various forms of incentives, barriers can be overcome. (Gardner and Stern, 1996, p. 95-124)

Overcoming the difficulties of evasive individuals and external societal or political barriers to the use of incentives can be challenging but factors involving convenience may be the most difficult. People have set priorities and habitual routines in their daily lives which are difficult to change. Often the difficulty arises because people do not have the information necessary to make decisions that would change their daily actions, thus it is easier to continue on a path that is familiar. This can be seen in the *Brooks Vision* project

as the number of residents' attending community meetings dropped off throughout the project. For some individuals, even if they tend to support conservation and environmental protection measures, if incentives do not fit conveniently into their daily lives or into a simple one time action, individuals may not make the effort to reach the goal. On the other side, for people who are generally not supportive of pro-environmental measures, an incentive that is simple and convenient may encourage these individuals to become involved in conservation efforts. One example from land conservation involves helping people understand all of the different available options so that they do not abandon the idea of conservation. This abandonment is often due to a perceived difficulty in gathering information and trying to use this information to make decisions. When this type of information and education boundary is bridged, people can make informed decisions with greater ease and they are more likely to become involved in other cross-boundary management efforts. But a crucial question remains; how to develop the right incentives to get people involved? (Gardner and Stern, 1996, p. 95-124)

A significant key to successful implementation of cross-boundary management strategies is the creation of community-based incentives that will encourage private landowners and residents to become actively involved in making necessary daily changes that will benefit their local environment and not cause significant inconveniences for them. One agency official, in my research, described this issue as the need for people to see the larger picture and how their decisions will impact it. Another official pointed out the difficulty involved in finding the right incentives for people to become proactively involved in crossing boundaries versus the more prevalent process where action comes only after direct impacts to peoples' lives. Two types of incentives, direct and indirect, are used to promote pro-environmental actions. (McNeely, 1988, p. 40-43)

Direct incentives are used to achieve specific objectives, such as reducing off-road vehicle use on non-designated lands, improving management of national forest lands, or restoring endangered species habitat. Direct incentives can be in one of two forms, either

in cash or in kind. For example, a direct cash incentive would provide subsidies that encourage landowners not to farm a wet lowland area and leave it as wildlife habitat instead. Not surprisingly, direct cash incentives are often the most accepted forms of incentives. Incentives in kind are generally exchanges of material goods for services or actions that help achieve a pro-environmental goal. For example, private individuals often donate used equipment, such as tractors or tools, to organizations who are trying to accomplish conservation goals. (McNeely, 1988, p. 40-43)

Indirect incentives encourage pro-environmental actions without any distribution of direct monetary benefits to do so. These incentives involve the application of fiscal, service, social, and natural resources policies to specific conservation problems.

-Fiscal measures. Fiscal incentives are a legal and statutory means of channeling funds toward conservation activities, involving such indirect measures as tax exemptions or allowances, insurance, guarantees, tariffs, and price supports.

-Provision of services. When a government has decided that certain biological resource areas are of outstanding value to the nation [county, or township] as a whole, it should consider what sorts of service it might be able to provide to communities most directly affected by any restraint on use. As incentives for changing their behavior . . . such communities can be provided with . . . [preferential development opportunities] in recognition of their contribution . . . [to conservation objectives].

-Social factors. Social incentives are designed to improve the quality of life of the community or nation, ensuring that benefits . . . are equitably distributed. They include a wide range of measures aimed at developing a harmonious and sustainable relationship between people and biological resources . . . (McNeely, 1988, p. 42-43).

These indirect incentives may also involve preferential treatment through such measures as trade agreements, price supports, or exchanges in land title. For example, Brooks Township, in conjunction with several of its partners in the *Vision*, is attempting to obtain a large tract of private land for conservation through a series of title and monetary exchanges. This round-about approach is more complicated but it provides benefits to all the stakeholders. The landowner can take advantage of the opportunity to exchange or

sell his property in a favorable time frame, the conservation supporters can obtain an ideally situated area of land that would otherwise be too expensive for any of the involved organizations to obtain on their own, the residents of the township can gain additional wildlife habitat to enjoy, and the ecology of the area is improved by preserving a large corridor area through which plant and animal species can travel undisturbed. Thus, the right incentives in the right situation can help people cross boundaries which would otherwise become barriers. (McNeely, 1988, p. 40-43; *The 1999 Parks, Recreation, and Natural Areas Master Plan for Brooks Township, Newaygo County*, p. 29)

One recommendation to help develop the best incentives for a particular situation has been demonstrated in the *Vision* project.

The most effective way to learn what incentives can work is often to involve some of the people who are the targets of behavior change in actually designing the program. Moreover, the process of public involvement can attract volunteer help in implementing a program and building a sense of community support for the program and its environmental goals. (Gardner and Stern, 1996, p. 119-120)

This method of combining public involvement with the right community-based incentives has produced a vision for land management in Brooks Township which has a great deal of the momentum needed to carry it through into full implementation. The remaining challenges revolve around those private landowners who have not yet participated in the *Vision* project: how can the township encourage the participation of those landowners who were too busy to become involved earlier; how can seasonal residents be encouraged to become involved when they have only a limited physical presence in the township; and, how can the township encourage newly arriving residents to become proactively involved as they build their new homes?

Conclusion

In tracing the changing perspectives in land management we can see the evolving trend that has led to the emergence cross-boundary management strategies. From the creation of land management agencies to the development of partnerships between those agencies and private landowners, we are crossing not only political boundaries but through efforts like the *Brooks Township Land Use Vision* project, we are now beginning to cross a wider variety of social and ecological boundaries in our attempts to improve and maintain healthy relationships with land. As we follow the spread of cross-boundary management to different communities and landscapes, we will learn more of its strengths and weaknesses and how to apply it best to each situation. However, the greatest present challenge is the difficulty involved in creating the right incentives to encourage more landowners to participate in crossing boundaries. The *Vision* project has recently entered its implementation phase and is now struggling with this challenge.

Chapter 3: METHODOLOGY AND ANALYSIS

The emerging nature of cross-boundary management and the varied character of human relationships with land use requires a subjective analysis for the purpose of this study. In addition, literature addressing possible connections between cross-boundary management and human relationships to land use is very limited. In light of these components, a qualitative approach is taken in this case study.

Qualitative Research

A qualitative study is defined as an inquiry process which attempts to understand a social or human problem. To accomplish this, qualitative research is concerned primarily with process, rather than outcomes or products, so that the researcher can grasp an understanding of the case being observed. The researcher is the primary instrument for data collection and analysis in a qualitative approach due to a belief in the existence of multiple individual realities which influence the world around us. This belief system promotes a high degree of researcher-participant interaction and predisposes the study to bias laden information. However, because the qualitative study seeks to understand the participants perceptions and experiences, and the way they make sense of their world, biased data is taken as part of the process of negotiating meanings and interpretations with the participants. Due to the evolving nature of most qualitative studies, the researcher generally uses an inductive approach to gathering and analyzing data; therefore, no predetermined assumptions or theories are brought into a new research study. Any assumptions or theories incorporated into the study develop throughout the research process. The characteristics of a qualitative study, thus, are significantly different than those of a traditional quantitative study which seeks to analyze a problem based on testing a predetermined theory. (Creswell, 1994, pp. 1, 145-170)

A qualitative research design is an important application in this study, as opposed to

a traditional quantitative approach, for the purpose of seeking a better understanding of the human experience within the domain of boundary interfaces and its potential for impacting land management planning and implementation. The specificity of the Brooks Township case, with its cooperative efforts between many public organizations and private landowners, also lent itself to a qualitative approach. Quantitative research regularly treats uniqueness of cases as 'error,' outside the system of explained science. Qualitative research, in contrast, treats the uniqueness of individual cases and contexts as important to understanding (Stake, 1995, pp. 35-45).

Limitations

The situations studied by qualitative researchers require extensive interaction and often involve long time frames in order to gain substantial levels of understanding. Within these lengthy research periods, new problems often arise before old questions are answered and the research process evolves throughout the study. Due to the unique situations studied in qualitative research, the findings are generally noncomparative and not repeatable; with the researcher as the primary vehicle for data collection and interpretation, there is a potential for misunderstanding, misinterpretation, and breach of privacy. In addition, qualitative research is subjective and is, therefore, predisposed to many criticisms. However, subjectivity is not viewed as a negative component of the qualitative approach. Subjective analysis of this case is an essential element in our attempt to gain a greater understanding of human relationships with land use. (Stake, 1995, pp. 45-46)

Gaining Access and Background

Case selection for this study was a lengthy process beginning at a national level. Many federal and state agencies, as well as many private organizations, are involved in land management partnerships but very few of these are, as yet, working intensively on

projects which cross social, political, and ecological boundaries with private landowners. The majority of land management approaches are only beginning to recognize the importance of these boundary interfaces. (Yaffee et. al., 1996)

To best accomplish the extensive interaction desired in a qualitative case study, selections were narrowed to be within the state of Michigan and then to be contained within the boundaries of the HMNF. After communicating with several HMNF officials to narrow the case selection down to a specific project, an off-hand suggestion pointed me toward the *Brooks Township Land Use Vision*. In speaking with the HMNF official who was the primary NFS representative involved with the project, I obtained contact information for two additional primary representatives and I proceeded to contact the township office.

My initial contact with Brooks Township was through the person most intimately involved in the *Vision* project, the township supervisor. He briefly described the history, goals, and upcoming events for the *Vision* project and invited me to observe and interact. His enthusiasm to share the experience of being involved in the *Vision* project was apparent from our first phone conversation and he proceeded to openly introduce me to key participants in the project and to provide me with all the documentation materials I would need to conduct my study. His openness and generosity in accommodating my interactions and learning were essential components to my successful entrance into the *Vision* project.

In approaching data collection for this study, my role was one of observer and interpreter. Because of the unique nature of this case, I did not construct initial assumptions or theories to be tested. Instead, the Brooks Township case has provided a unique opportunity for me to study how new developments in an ongoing relationship (between land management and human relationships with land use) may impact the stakeholders and the process of planning and management.

To begin to understand this ongoing relationship, I first interviewed a few of the key

Vision participants. These participants included officials from the HMNF, TNC and the Brooks Township Office. After establishing a basic idea of the history of the *Vision* project, I observed an all day workshop, in Brooks Township, facilitated by TNC. The workshop was aimed at recruiting volunteers for help in implementing some of the *Vision* recommendations. Additional observations include one regularly scheduled township Planning Commission meeting and several landscape tours via driving and walking.

Data Collection

The primary data collection method was a questionnaire administered to township landowners via interviews and a mailing. This two-pronged questionnaire method enabled me to gather data from a wider range of people than I could have done by using only interviews or by a survey alone. It also afforded the best potential replies from landowners who may not have been receptive to interviews, especially if they had not yet heard of the *Vision* project. This was also an important factor to consider due to the limited time frame of the study. In addition, this combined approach will aid my data triangulation to provide greater support to my conclusions.

The landowners who participated in my research were selected from two primary categories: *participants*, those landowners who had attended at least one of the public meetings for the *Vision* project (group 1); and, *non-participants*, comprised of landowners who had not attended any of the public meetings and may not have even heard of the project (group 2). The non-participant group was further categorized as landowners who were adjacent to National Forest property (group 2a) and those who were not adjacent (group 2b). These groups were established in order to search for any noticeable differences between them which might surface in analyzing the data results.

Approximately 40 interviews were conducted throughout the research process. The bulk of these were via telephone with participants from group 1. Despite the potential difficulties involved in using phone interviews, including possible annoyance toward the

researcher as a general negative response to telemarketing and phone survey bombardment, only three landowners declined to speak with me (Babbie, 1983, p. 235). I believe that the use of the phone interview method may have helped some of the participants feel more comfortable discussing the *Vision* project due to a greater sense of anonymity in contrast to a face to face interview. The phone interview method was also chosen as most convenient for the researcher and the participants. The initial list of phone interview participants was taken from a sign-in sheet for one of the first public meetings for the *Vision* project. This list was increased through a system of referrals. Each person who was interviewed was asked to recommend another person who might be interested in participating (Brandenburg and Carroll, 1995, p. 384). This referral process was continued until the participants' suggestions were exhausted; this entailed that the suggestions were people who had already been interviewed or the participants could not think of anyone to recommend. Other participants who were interviewed include officials from TNC, the Brooks Township Office, the MNF, the MDNR, and the Michigan Department of Environmental Quality (DEQ). In addition to the interviews, a two page questionnaire was mailed to 100 landowners in the township. Through these collection methods, a group of 76 participants was engaged in this study (70 landowners and 6 organization officials).

Semi-structured, open-ended questions were used to collect data during all of the interviews and they were derived from the questionnaire that was mailed to group 2 (see Appendix 1). The questionnaire was mailed to 50 landowners in group 2a and 50 landowners in group 2b. This sample of 100 landowners was chosen by locating 50 parcels of property, from a 1998 plat map, for each category of group 2. The parcels were chosen not only by location but by general size greater than 10 acres; these were names that could be identified from the map and matched with a correct address from the township record.

Analysis Procedures

Analysis and interpretation are ongoing processes in a qualitative study. There is no specific time frame when data analysis begins; it is a process of giving meaning to first impressions and collections of notes. Even in traditional quantitative research, analysis should not be viewed as separate from the ongoing efforts to make sense out of events. (Stake, 1995, pp. 71-72)

Qualitative research takes advantage of our everyday routines for making sense out of general encounters with strange objects and events. Each person has experience encountering and trying to understand new phenomena. We attempt to understand new things automatically in our daily lives and researchers do this in their work as well but with some help from analysis strategies. In a case study, two strategies assist the researcher in gaining new understandings: direct interpretation of an individual event and aggregation of events into meaningful groups. (Stake, 1995, pp. 72-77)

In using direct interpretation, I observed the *Vision* project's Implementation meeting and realized that I did not understand how some of the discussions fit into the larger idea of the *Vision* project. But I listened and noted many of the discussion topics and some of the specifics; in revisiting these notes later in my research, I found patterns amongst the topics while the specifics characterized individual's concerns or perceptions. But qualitative research, especially within the case study context, focuses on the single impression and tries to pull it apart before putting it into the larger whole (Stake, 1995, p. 77). So, I also found myself unconsciously questioning everything that happened during and after the implementation meeting. Many of the specific concerns surfaced again in the interview process and became components of larger topics; I found myself unconsciously categorizing them throughout the study so that when I did examine my data for statistically significant relationships, I already knew what many of the categories would look like.

Some of my data did require aggregation into groups and the quest for understanding is

often a search for patterns; so I made a conscious effort to detect relationships and I actively encouraged participants to discuss their feelings in specific contexts. Do Brooks Township landowners feel that natural resources in the township are being threatened by anything? Do landowners who live on the already crowded waterways see suburban expansion as a threat to land? Do landowners who are adjacent to MNF lands feel that suburban expansion is more of a threat currently or do they see it as something that is coming toward them in the near future? The resident responses to the question of what they felt was a threat to land in the township were widespread throughout several categories and each participant had their own way of describing what they felt was a threat. But when teasing specific categories out of people's descriptions, I found that their responses could be grouped into threatening land uses related to suburban expansion and those related to other activities (mostly recreational uses). However, this limits the objectivity of the groupings because I have still relied on my interpretation of people's descriptions to group their responses. (Stake, 1995, pp. 74-77)

To increase understanding and validation, necessary steps have been taken throughout this research project to reduce possible misunderstandings that may arise between the researcher and the potential research audience. In case study analysis, we assume that the meaning of an observation is one thing, but subsequent observations can give us grounds for revising our interpretation (Stake, 1995, p. 110). This is the process of triangulation. Triangulation is based on the assumption that biases in data sources, investigators, and methods can be eliminated when combinations of methodologies are used to study a phenomenon or case. Triangulation is used to seek convergence in data results, to peel the layers off complex issues, to develop greater understanding between the different analysis strategies used in a study, to introduce contradictions which can produce new perspectives on the data, and to add scope and breadth to the study. (Creswell, 1994, pp. 174-175) The collected data in this study was not only analyzed through interpretation but it was also triangulated with other outside research studies and with analysis through

the computer statistics program, SPSS. Through this mixed method approach to data analysis, potential biases in the study can be reduced; the SPSS analysis produced no significant statistical findings due to the small sample size and the relatively wide distribution of many of the responses, but this lack of significance is a result in itself as it is used to check other questions in the data. Additional triangulation was provided as interview notes were revisited either through summary analysis or interpretation for computer data entry into SPSS. Finally, follow up questions via email or phone contact provided clarification or additional information where necessary.

Chapter 4: RESULTS AND DISCUSSION

The Land and the Vision

Brooks Township is located approximately 30 miles north of Grand Rapids, Michigan in the south central region of Newaygo county (see Figure 1). This region of the northern lower peninsula (NLM) is characterized by glacially-formed features with the interior being composed of a sandy-soiled high plain surrounded by a lower elevation lake plain. Pre-settlement vegetation in the upland forests consisted of hardwood species such as, maple and oak, in moist areas, and oak-pine or pine forests in drier areas. Swamp and bog lowland habitat were also common (Yaffee, et. al., 1996, p. 217). More specifically, Brooks Township had an extremely unique habitat feature in its sand prairies surrounded by oak-pine barrens; however, only a few remnant patches can be found today.

Throughout the settlement and development of Michigan, many of its natural features have changed significantly. Historically, the lands of the NLM area have been logged repeatedly and often converted to agriculture or reforested through federal government efforts. Currently, approximately half of the region's timber is composed of maple, oak, and red pine. The remaining portions are made up of early successional tree species such as aspen, birch, and jack pine. Human relationships with land and its use have also changed as the state's population has grown and shifted; it has moved from predominant land use for forestry and farming to land use for expanding urban areas and increasing numbers of second homes.

The NLM area also includes state forests, parks, and public access sites which protect nearly two million acres of land (Mang and Ruswick, 1997, p. 3). These public lands provide protection for many endangered species and habitat communities. In addition, they often provide socio-economic stability to local communities through timber interests and tourist attraction (HMNF Need for Change Assessment, 1998, p. 40). Land

State of Michigan Map

Huron-Manistee National Forest Proximity Map -

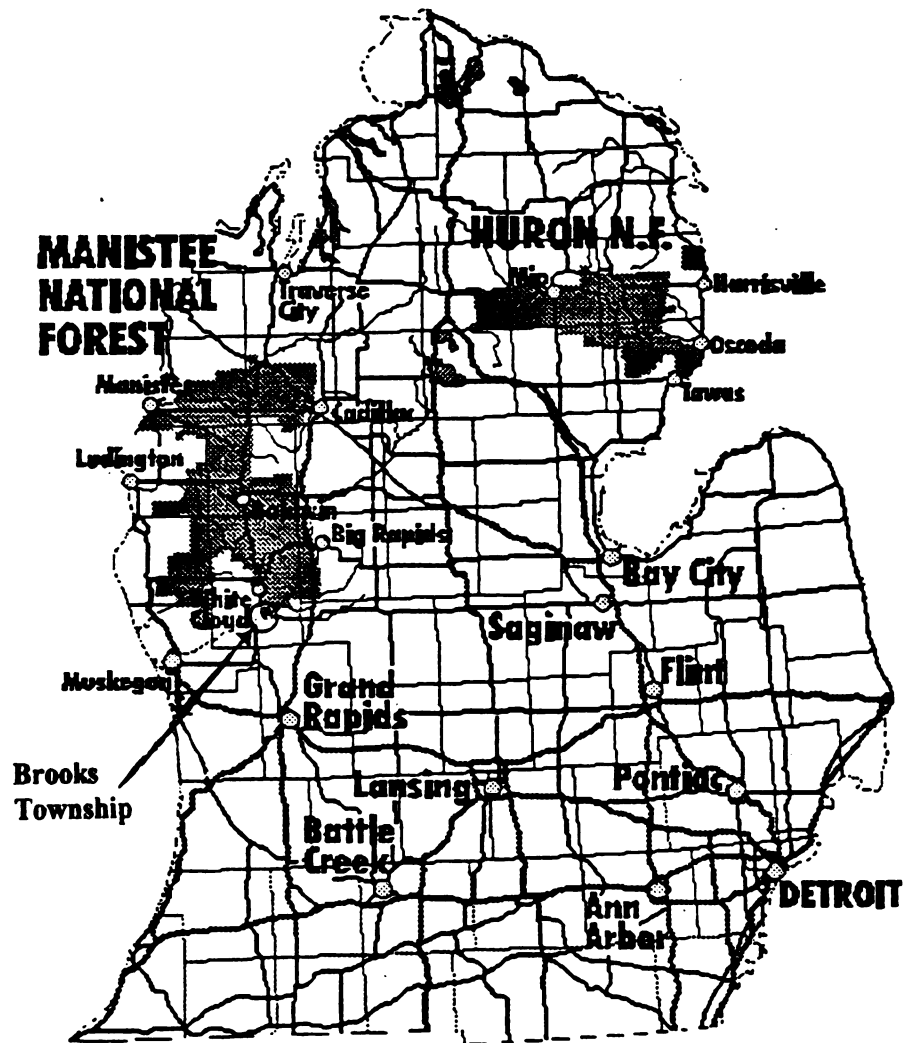


Figure 1

uses in the region which characterize both public and private lands include recreation, timber and wildlife management, and oil and gas development (Yaffee, et. al., 1996, p. 217). Due to the fact that historical and current land uses in NLM have changed and continue to change the landscape, the HMNF has identified several key issues which need to be addressed in their Forest Plan Revision. One of those issues, land adjustment, is pertinent to this study.

As more private land within the Forest boundary is being subdivided, developed and posted, the Forest Service and the public have come to recognize the importance of these isolated tracts. The objective of the land ownership program is to rearrange the ownership pattern into a more cost effective and usable form. Approximately 40,000 acres of small, scattered National Forest holdings will be made available for exchange for private tracts within large National Forest blocks. Priority will be given to acquisition of semiprimitive, wilderness, and high priority recreation areas, and for land with habitat required by endangered, threatened and sensitive species. (HMNF Need for Change Assessment, 1998, p. 20)

Potentials for land exchanges have surfaced through the *Brooks Township Land Use Vision* project and may provide further opportunities for cross-boundary management strategies to develop.

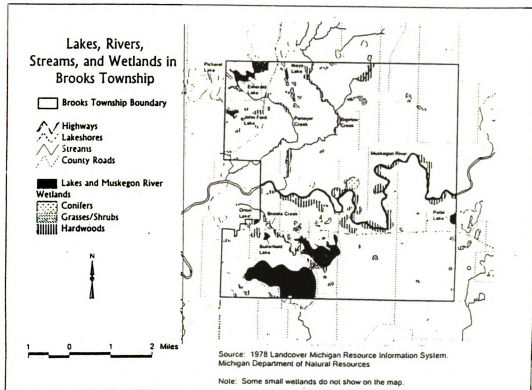
Although Brooks Township is completely within the boundaries of the MNF, the majority of the land is privately owned with the MNF having only approximately 3,000 acres (out of approximately 21,000 acres in the township). The township has attracted people who enjoy outdoor recreation and quiet rural living for nearly 100 years. Seasonal residents have found Brooks Township a welcome relief from the crowded cities dating back to the early 1900's; a few of the participants in this study have family ties reaching back into this time frame. Summer cottages were soon built around the four major lakes in the township and many of these cottages were eventually converted into permanent residences. However, even today, Brooks Township is very popular for seasonal residence with its 1990 population census reporting approximately 35% of all homes were for seasonal use (*The 1999 Parks, Recreation, and Natural Areas Master Plan for*

Brooks Township, Newaygo County, p. 13). Paralleling this high percentage of seasonal residence, the majority of the township's permanent residents are concentrated around the lakes or along the Muskegon River as it winds through the middle of the township (see Figure 2). With the high values placed on water, issues related to the lakes and streams have received a great deal of attention in the *Vision* project. Other than these heavily populated water courses, urban land uses, of residential and commercial nature, comprise less than 6% of the landscape (*The 1999 Parks, Recreation, and Natural Areas Master Plan for Brooks Township, Newaygo County*, p. 7). There is little to no agriculture in the township, a few small tree farms, and the city of Newaygo, which is on the west side and officially outside of the township boundaries, has only a small and struggling commercial district.

The primary land cover in Brooks Township is in the form of upland hardwood forest areas (*The 1999 Parks, Recreation, and Natural Areas Master Plan for Brooks Township, Newaygo County*, p. 7). This wooded landscape is interspersed with wetlands, park-like barrens, and remnant tracts of sand prairies. (see Figure 3) The presence of so much variety in such a small area, 33 miles square, attracted the attention of the Michigan chapter of TNC. Within a cooperative working group, this non-profit land conservation association took an active role in initiating the *Vision* project and has provided the ecological perspective throughout the process.

The *Vision* project began almost by accident. Several land conservation organizations had been using the Brooks Township hall as a centrally located place for meetings. After one of these meetings, someone forgot to lock the door which greatly concerned the township supervisor and prompted him to identify the organizations and their purpose for holding meetings in the township hall. This encounter resulted in the development of a partnership between two groups: the township officials and residents, and a working group of conservation practitioners interested in protecting the natural features of the Newaygo outwash plain (a geologically significant region stretching from Traverse Bay,

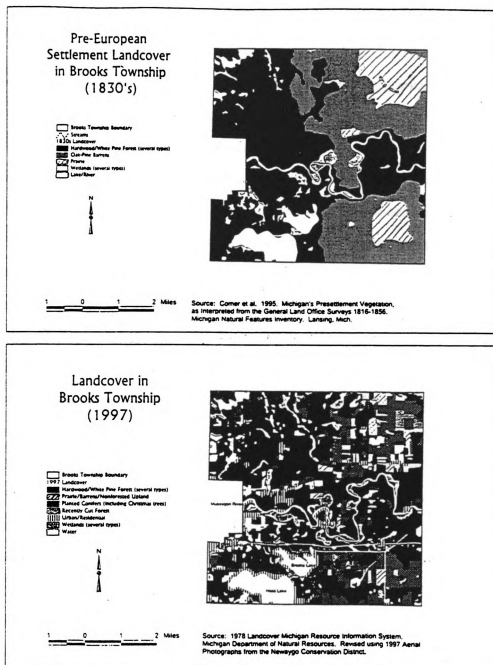
Lakes, Rivers, Streams and Wetlands in Brooks Township



-Source: Brooks Township Land Use Vision

Figure 2

Brooks Township Landcover 1830's and 1997



-Source: Brooks Township Land Use Vision

Figure 3

Michigan to just south of Brooks Township). The collection of organizations that comprised the working group identified themselves under the title of the Newaygo Conservation Effort (NCE) (*Brooks Township Land Use Vision*, 1999, p. 6). This partnership eventually grew offshoots to form a series of partnerships which crossed many organizational, political, and legal boundaries throughout the state. Then this series of partnerships led to the collaborative effort needed to cross many social and political boundaries in order to produce the 25 page document titled *Brooks Township Land Use Vision: Rivers, Lakes, Forests, Streams and Prairies*.

The document was developed through a series of four community meetings (beginning in March of 1998) held at the township hall and two field trips to sensitive habitat areas in the township. After the initial meetings (where the township's ecology and current land use trends were presented and residents identified specific concerns about water and land features, illegal trash dumping, and unmanaged motorized recreation), a group of residents volunteered to work on a steering committee with the conservation officials. This committee worked to focus the list of concerns in order to determine the greatest threats to the township's land and water resources. These efforts were instrumental in bridging the ecological and educational boundaries.

TNC assisted the township in listing many unique species of plants and animals found in the dry sand prairies and barrens and others that migrate through or depend on the clear, cold waters of the small streams (*Brooks Township Land Use Vision*, 1999, p. 17). Many difficulties have existed for these unique species; for example, Red pine plantations were established on many of the former prairie lands in the 1930's and more recently, many others were converted to Christmas tree farms (*Brooks Township Land Use Vision*, 1999, p. 15). Now, the potential for future difficulties comes in the form of suburban residential expansion (both primary and seasonal homes) as it crosses many legal, ecological, and social boundaries.

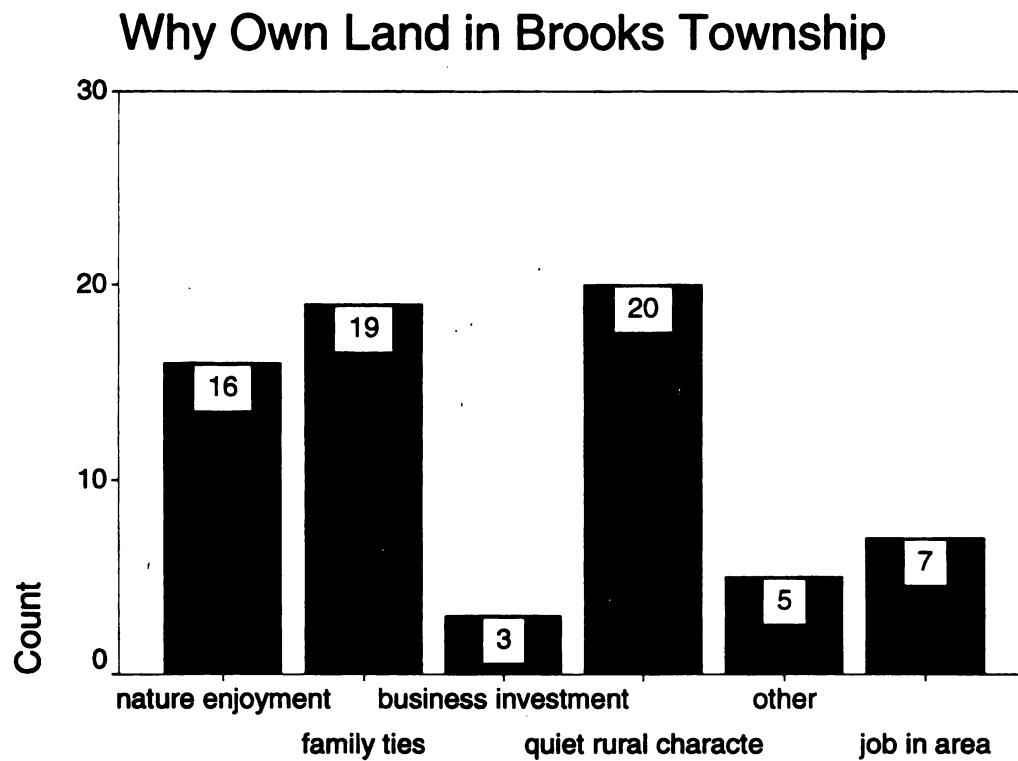
The Threat

Agency officials, MNF and DNR, involved in the *Vision* project described their views on the growth and development issue as follows: they expressed concerns over the impacts that come with housing development, i.e. poor sewer systems for the lake homes, residential development following major roads, and the conversion of land into smaller acres with more stakeholders to involve in management efforts. With the development issues, the officials described what one called the 'last pioneer syndrome.' People moved to Brooks Township in the past because they liked the rural character which continues to attract others; however, each newly arriving resident wants to be the last one to move in before the 'gate' closes behind them preventing further increases in the number of residents. This phenomena is perpetuating the urban sprawl from which people are so desperately trying to escape. One official also commented on how this shows that people are usually looking at their own individual interests while missing the larger picture and that this becomes a real problem when everyone does it. In addition, even though the residents do not appear to desire the continued development and arrival of new people, the officials do not believe that the residents would want a complete stop in development; this is because they value the right to decide how to use their land, their city, their township, their county, etc. These observations were also confirmed by many of the landowners.

Through many of the interviews with landowners, several described the growth and development issue to me in this way: what they most value about the township's natural resources is the diversity (from the many lakes, streams and wetlands, to the National Forest lands and the dry sand prairies with their cacti) and they believe that this brings diverse people to the area which can be a blessing and a curse because everyone wants to be the last person to move there and they don't want things to change afterward. Several of my interview questions attempted to draw out the participants' feelings on this issue in order to better understand the human-land use relationships in Brooks Township. All

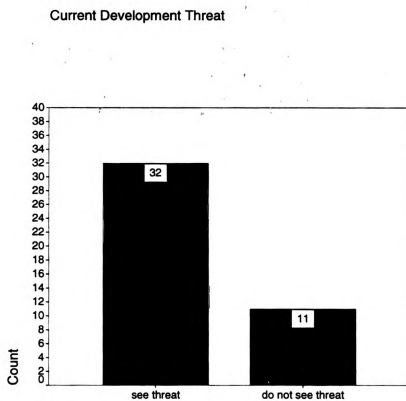
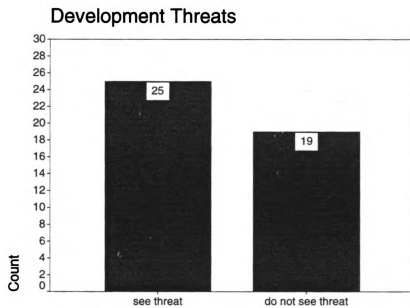
of the participants were asked what they most highly valued about land and natural resources in the township and why they owned land there. Out of 70 landowners, 21 most highly valued the beauty and naturalness of the township and 20 replied that they owned land there for the 'quiet rural character.' (see Figure 7 and Figure 4) In addition, when asked about the issue of fragmentation caused by development and whether they felt this was a serious current or future threat to land, 25 responded that it was a serious current threat and 32 felt that it would be a threat in the next 5-10 years (see Figure 5). These concerns translated into active participation in the *Vision* project (attendance at two or more of the community meetings in the past year) for 27 of the 70 landowners (see Figure 6). However, there were a number of residents who felt they might welcome growth and development in the township; at least they did not see it as a problem or a threat. The second highest number of responses to this question appeared as 19 out of the 70 landowners who did not see any current threats to land and 11 who did not see any future threats. This contrast is a good example of the difficulties involved in crossing the communication and education boundaries and has been readily observed throughout the *Vision* project. These opposing viewpoints have contributed to other contradictory outcomes during the project as well.

One township official commented that most residents do not see any of the issues raised at the community meetings as problems until those issues have a direct negative impact on their property or quality of life. Therefore, most of the residents who participated in the initial meetings had a grievance to voice either due to a situation they were already upset about or out of fear that the *Vision* project was a new attempt to add more restrictions to their property and lifestyles. These communication and education boundaries were fairly easy to bridge as the conservation and township officials explained the voluntary participation basis of the project and its goals for improving the township's land and water resources and their management. Unfortunately, once the residents were able to voice their grievances, have their concerns listed, and their fears eased, the



Why own land in Brooks

Figure 4



Future Development Threat

Figure 5

Future Development Threat and Vision Participation

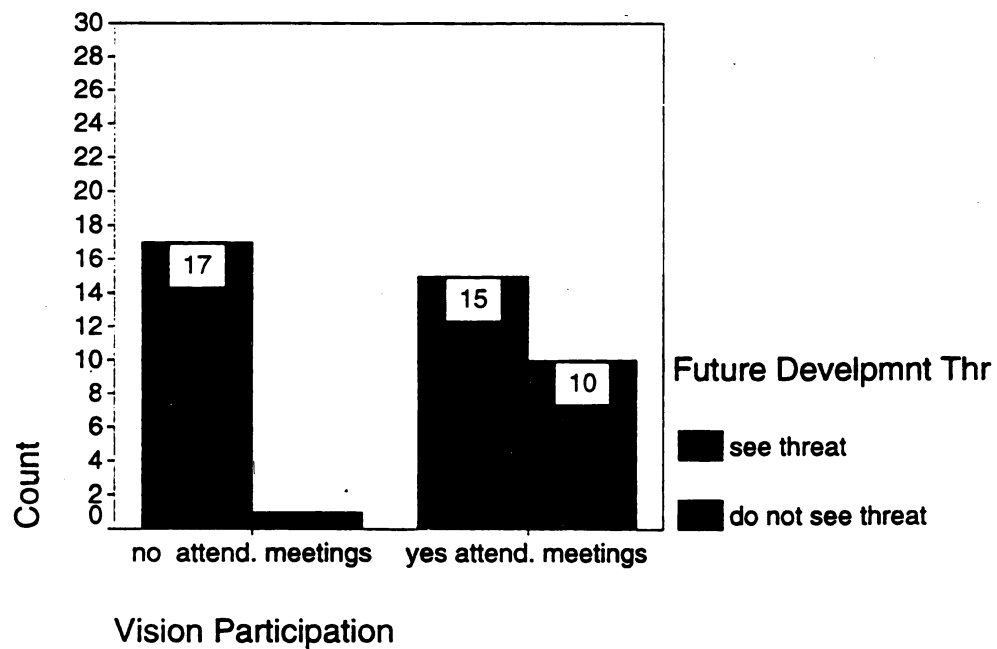


Figure 6

participation numbers dropped off significantly. By the time of the Implementation meeting in March 1999 (one year after the project began), the resident participation reflected the population concentration centers in the township. Approximately 20 people were present to discuss the water related issues and out of these a number of volunteers stepped forward to help implement different education efforts. However, the land related issues had little to no attendance with only three people interested in the prairies and forests and only one person in attendance to discuss options for dealing with the issue of illegal trash dumping. The lack of attendance for the issue of trash dumping was a surprise since it was a significant concern expressed by a large number of residents at the initial meetings. However, the lack of support for implementing solutions to a problem that is more of an eyesore to all of the community rather than a personal impact on a specific group or individual shows the difficulty involved in crossing the interface of social boundaries. In seeking to better understand this boundary interface, it is important to identify other barriers to participation.

When asked what they felt might be some barriers that may have prevented more residents and landowners from becoming involved in the *Vision* project, organization officials discussed several different issues. The DNR official suggested three possibilities: if the meetings could have been held in the evening more people might have been able to attend (some of the early meetings were held in the late afternoons which may have conflicted with work schedules); people may not feel that they can have any impact so they need to be made aware that they are welcome and that they can contribute valuable input; and the agencies involved are generally not used to working in this type of arena so they are out of their comfort zone and have to be willing to accept some things that may not be ideal. But there may also be situations involving organizational barriers where an organization's policies may prevent certain types of cooperation. This issue surfaced early in the *Vision* project and shows how important active boundary crossing can be.

One township official discussed her reaction to the realization that the many public

agencies active in Newaygo county have very little communication with each other despite the fact that many of their management boundaries and goals overlap. She was bewildered to see how little awareness there was as to what related agencies were doing and she felt that a much higher level of information exchange was needed. "Management activities have often been inefficient as agencies and other groups operated in ignorance of each other's efforts" (Yaffee et. al., 1996, p. 3). At an early meeting last year, a suggestion was made that the township needed to map out the location of its wetland areas. But in addition to the nods of approval, one official volunteered that his agency already had such a map for the township. This fact highlighted the lack of agency communication in surprising clarity. As one township official commented, "if the right hand knew what the left was doing, funds could be better used and they could go much further because it would cut down on so much unnecessary duplication." The awareness of this gap sparked a discussion of the need to cross these organization and communication boundaries so that collaboration efforts can produce management plans with greater ease and fewer time delays and so that these boundaries do not continue to be barriers to effective action. Other potential barriers to involvement in cross-boundary strategies dwell in the private landowner realm.

One MNF official felt that landowners still maintained a level of fear that their land will be taken because of endangered species, wetland protection, or other environmental protection measures. An explanation was given that in some cases, people may feel that if they don't know about the rare natural components on their land, then they won't need to fear for loss of their property, so they don't seek to learn how to protect their land. However, the fear element seems to be less of a factor in Brooks Township because of the information sharing at the various meetings throughout the past year. But concern was expressed that people may not realize that the *Brooks Township Land Use Vision* document is of no value if it cannot be implemented. Yes, bringing people together to talk about these issues (landscape level cooperation, cross-boundary land management and

conservation) is important but it is only the very beginning.

A second MNF official felt that time commitment was the primary barrier. People have many interests and responsibilities in their lives which they may prioritize higher than becoming involved in community activities such as the *Vision* project. Another suggestion was that there remains a general lack of understanding and the perception of "is there a problem?" This may signal that preventive land management strategies still have educational hurdles to overcome; many people do not see the need to make changes in many situations until they encounter a problem that touches their lives directly. Many people in Brooks Township are still unaware of the unique natural features, such as the sand prairies, present in the area.

A DEQ official echoed the DNR as she commented that people lead very busy lives today. An average family's time must be divided between two working parents who may spend the majority of their free time transporting their children from one extracurricular activity to the next. The interface of these different social boundaries (family responsibilities, community projects, etc.) are difficult to bridge and as the DEQ official remarked, it is often nearly impossible to bring an issue to people's attention before it becomes something that impacts their lives directly. This presents a challenge to any cross-boundary management strategy, the complexity of understanding the people, the stakeholders, who will be directly or indirectly involved in a project area.

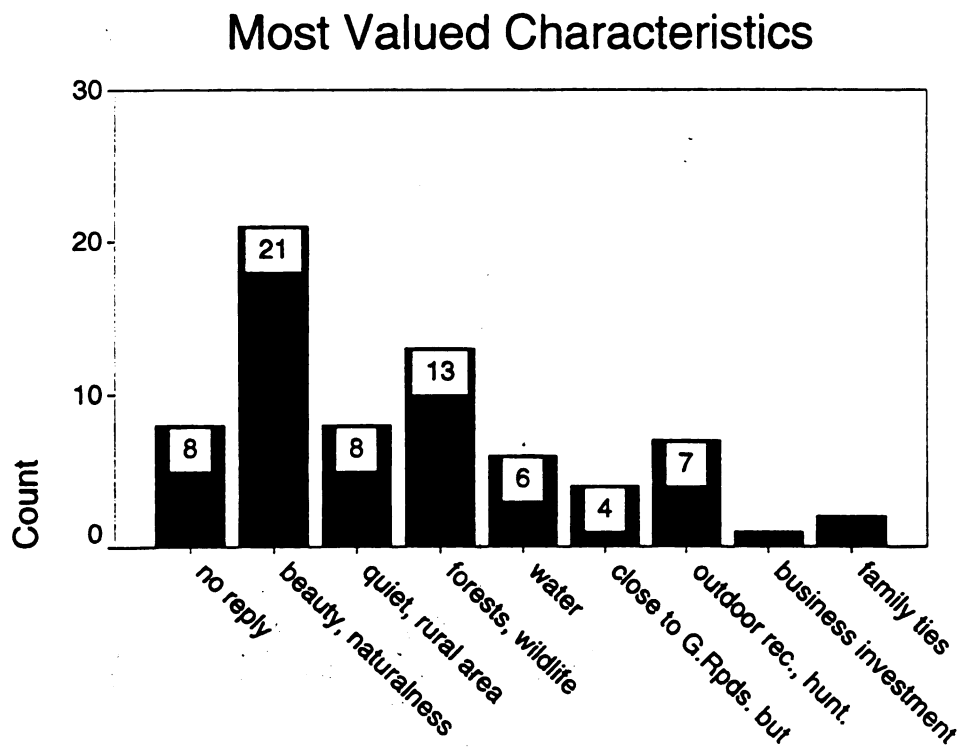
The People

All of the Brooks Township landowners with whom I spoke, expressed a strong emotional attachment to the natural resources of the township and their own land.

The same strong sense of place that motivates a wide variety of people to express an affinity for the land is also common to landowners and managers. They often identify closely with the tracts for which they have a stewardship responsibility, deriving both the satisfaction of a job well done and nature-based spiritual benefits. (Rey, 1999, p. 193)

All of the study participants were asked to discuss what they most valued about their land. Most replies fell into these categories: beauty and naturalness (30%), quiet rural area (11%), the forests and wildlife (19%), the water (9%), being close to Grand Rapids but in a quiet natural area (6%), the outdoor recreation or hunting opportunities (10%), and strong family ties through years of seasonal residence (3%). (see Figure 7) These landowners represented the long history of natural resource enjoyment present in the township, however, they did not constitute a general sample of the population. The majority (43%) were long-time landowners (20 years or more) in the township, while very few new landowners (less than 5 years) were represented (only 13%). However, when comparing the years of land ownership with attendance at the *Vision* meetings, the new landowners and the long-time landowners composed the greatest percentage of residents who participated. (see Figure 8) This shows one of the primary divisions within the population. According to many residents there is a significant age division in the township, and this surfaced not only in the data with 44 out of 70 respondents having owned their land for 11 years or more but also in my observations at the *Vision* Implementation meeting. The majority of residents in attendance appeared to be near or of retirement age with only a handful of residents appearing to be younger than 40 years of age. This observation was also confirmed by township officials who spoke of an age gap between the incoming young families and those landowners who have been seasonal for 20 years or more and are now retiring and converting their summer cottages into permanent homes. However, age is not the only variable creating a division in the township population.

Another factor involved in the township dynamics is the high concentration (80%) of the community population who live around and along the water courses. This variable was examined in the interviews and surveys to see if the location of people's property (divided as group 2a, adjacent to MNF property and group 2b, non-adjacent) noticeably



Most Valued Characts. and Use

Figure 7

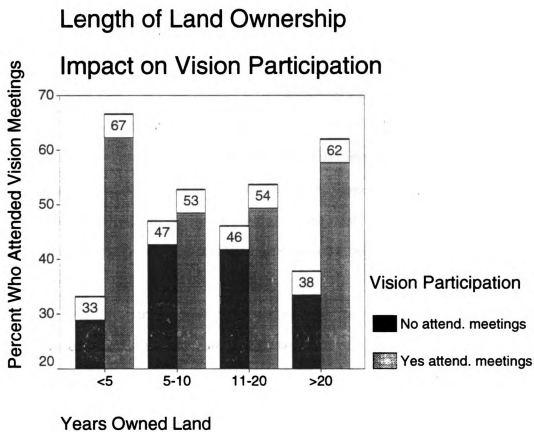


Figure 8

impacted other variables. One expectation, involved analyzing human relationships to land and its use through the variable of landowners being adjacent to MNF property. I suspected that adjacent landowners would be more likely (than landowners in the residential districts of the more crowded water course areas) to see suburban expansion as a threat to natural resources in the township and that they were more likely to see other human activities as threatening land in the township. This expectation was confirmed and surfaced as the only significant result (only minor statistical significance) in the SPSS data analysis. This factor of property location seems to heavily influence who and how many of the landowners have attended the *Vision* meetings. The most significant observation was the high number of non-adjacent landowners who composed the majority of the active involvement throughout the *Vision* project. In addition to their non-adjacency to public land, these actively involved residents were mostly lake shore or riverside landowners.

The level of resident participation in the *Vision* project has received mixed responses from the organization officials involved. The combined attendance of approximately 110 residents between the first two *Vision* community meetings produced completely opposite feelings. The township officials described their first impressions to the community turnout as very disappointing and cause for dismay. They were aware that many people were concerned about the suburban residential pressures migrating into the township and, thus, they expected the town hall to overflow with interested persons. However, those officials involved in the public sector of natural resource conservation, such as DNR and the MNF who have worked with many different levels of public meetings, were highly impressed. The MNF was surprised by the high level of attendance and participation at the early meetings. The DNR commented that anytime you can focus on something that people can readily relate to, you will get more involvement. The closer you get to a personal level, the more resident involvement you get, larger scale projects tend to have more philosophical aspects and, therefore, they tend

to have more organizations than residents involved. This project is probably on a fine line between these two levels; it is a landscape level effort but it is on the small side of that category.

Due to this fine line placement, another factor that may have influenced landowner participation in the *Vision* project is the issue of trust or power. A few landowners commented that their involvement in the project thus far had been a positive experience because they felt there was a certain level of honesty in the actions of the officials involved. This feeling led the residents to trust the officials and thus to support the *Vision* as a project. The trust variable was not examined in this study due to a limited time frame for research, however, its appearance in the interview and questionnaire data shows it to be an important factor for organizations involved in this type of public-private interface to consider when approaching cross-boundary strategies.

The Partners

The *Brooks Township Land Use Vision* has been a highly collaborative effort involving many different public and private organizations along with the local government, residents, and landowners. Due to the time constraints involved in this study and the need to collect detailed discourses, I have had a chance to interact with only a few of the individuals from these organizations who were key participants.

The Brooks Township supervisor is also a long time seasonal resident of the area. He established his permanent residence in the township just seven years ago, but in that time his concern for preserving the township's high quality of life has prompted him to become an active local official. He has been in office for three years, and in the course of this study, he has surfaced as the resident expert. When asked who they would contact with a question or concern about natural resources, 30 out of 70 residents replied that they would seek out a township official and 14 of those stated specifically the township supervisor. The organization officials involved in the *Vision* project have often stated

that without the supervisor's strong leadership and commitment to protecting the township's natural features, the *Vision* project would not have occurred. In addition, many felt that his continued support is crucial for this implementation phase.

Among the other partners, one of the most involved private organizations is TNC. TNC is an international organization comprised of many state and local chapters and it is dedicated to land conservation in order to protect rare plants and animals (*1998 Annual Report, The Nature Conservancy--Michigan Chapter*). TNC got involved with Brooks Township early in 1998 because they already own approximately 80 acres in the township and are interested in preserving the unique sand prairies and the threatened species found there, for example the Karner Blue Butterfly and the Prairie-smoke plant. These preservation goals have coincided well with the goals of the MNF which has brought these two organization together to collaborate on projects prior to the *Brooks Township Vision*.

The prairie habitat restoration project for the Karner Butterflies, has been a common goal between the MNF and TNC. In their field studies, TNC has not yet found Karner Butterflies on public MNF lands because these do not have any significant patches of remnant or restored prairie yet, so, the butterflies are mostly still seen on neighboring private lands where their necessary prairie habitat can be found. However, the organizations have not yet begun to contact key private landowners to discuss land management partnerships; although, the MNF officials plan to begin doing that soon. TNC has expressed great concern for preserving lands adjacent to critical species habitat areas in the township.

In working with the township, TNC has seen approximately 150-200 residents get involved during the first four community meetings. Through these meetings and through conversations with residents, they have found that many people feel disenfranchised with the MNF management in the township. Residents do not feel that the MNF office seeks their input in land management options or decisions. Many residents were upset about

the MNF management decision to clear-cut 200 acres of forest land for prairie restoration efforts. The residents felt that the MNF sought only after-the-fact input on this decision. One landowner bordering the clear-cut acreage found out that the MNF had notified the previous owner of the property two years prior to the actual clear-cut but the present landowner only found out when she came home and saw the downed trees. TNC has also observed that residents have a strong sense of the MNF as a landowner in the township but not as a presence in the township. Residents have confirmed this in stating that when the White Cloud MNF office (just nine miles north) was moved to the city of Baldwin (nearly 40 miles north), the MNF presence in the Brooks Township area all but disappeared (see Figure 1). Many residents have commented on how the public forest lands often suffer more current abuse which they feel stems from the lack of MNF presence.

The other public agency involved in managing a smaller amount of land in the township is the MDNR office. Because the state owns very little land in Brooks Township (approximately 300 acres), its presence is minimal. However, the level of organizational involvement in Brooks Township seems to vary between the MNF and the MDNR agencies and by season. With the MNF prairie restoration project in Brooks Township, personnel may visit the area as often as twice a week during the field seasons of spring, summer, and autumn. This was explained to be a high level of involvement when compared to other areas of the White Cloud Ranger district where Brooks Township is located. As far as direct communication with landowners in the township, the MNF has sent out written letters to inform people, especially adjacent landowners, of projects or actions that may be upcoming. In addition, a few of the Brooks township landowners have requested that the MNF give them personal phone calls before implementing projects or changes in management actions. Being that the *Brooks Township Vision* project is barely a year old, it may be too soon to determine if it has had

any impact on the level of communication between the MNF and landowners in the township.

Implications for Conservation and Management Policy

The *Vision* project has been and continues to be a learning experience for everyone involved. Within the changing perspectives of land conservation and management and the ever changing trends in human relationships with land use, the *Vision* project has emerged as a prime example of how organizations, policies, and individuals can adapt to change. Through cooperative partnerships, the *Vision* project has taken the necessary and significant first steps toward crossing social, political, and ecological boundaries for the purpose of improving human relationships with land use.

This study has attempted to gain a better understanding of these first steps so that the stakeholders involved in the *Vision* project can benefit from an outside perspective and so that other individuals, communities, and conservation and management organizations can learn of the benefits of crossing boundaries. To continue the learning process involved in the *Vision* project, several participants from Brooks Township have invited me to return to the township to discuss my observations, analysis, and findings with them; additional interest has been expressed by TNC. The Brooks Township participants and TNC have expressed a great interest in seeing the *Vision* project through my outside perspective, discussing the human-land use relationships explored through my data collection and analysis, hearing comments on the *Vision* project expressed by township landowners, and in gaining a greater understanding of their role in the emerging strategies of cross-boundary land management. Therefore, in addition to distributing copies of this study to the interested participants, I have met with the Brooks Township supervisor, and I will be meeting with a TNC official to share and discuss my research findings and their potential for local policy and conservation influences.

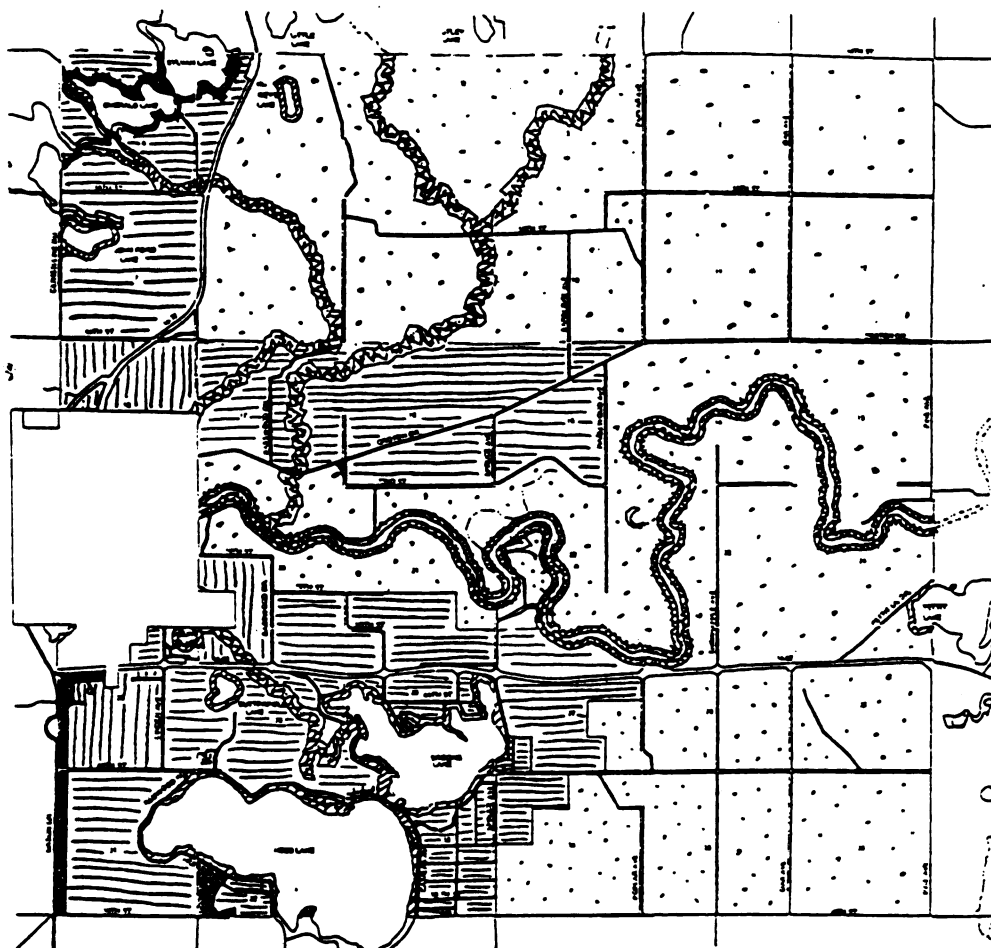
The policy implications stemming from widespread adoption of cross-boundary land

management partnerships and cooperation could greatly improve human relationships with land use and conservation by assisting policy makers in revising or creating new guidelines; one of Brooks Township's long-term goals is to create zoning guidelines based on political, social, and ecological factors (see Figure 9). In addition, the desire to understand and include the boundary interfaces between social, political, and ecological issues in the *Vision* project can provide a stimulus for other local governments to develop their own land use visions for planning and management and improve their communities' relationships with land. By sharing the experiences of those people involved in the process of developing and implementing the *Brooks Township Land Use Vision*, this study attempts to promote cross-boundary land management strategies to individual landowners as well as land conservation organizations.

Limitations to the Study

The unique nature of this case study presents many limitations to the research process. First, my entry into the *Vision* project at the implementation phase required me to do a great deal of 'catching-up' with the history and objectives of the project. Due to the limited time frame available for my study, this late entry may have reduced the amount of in-depth interaction I could accomplish with the stakeholders in the *Vision* project. If I had entered the *Vision* project at an earlier point in its one year development stage, I may have been able to learn more about individuals' relationships with land use and to examine specific issues more extensively, such as the importance of trust in crossing boundaries. Second, the survey used for a portion of the data collection may have produced misunderstandings between the researcher and the participants; therefore, it may not have drawn out the most detailed information possible. In addition, through the use of qualitative research, the observations and findings in this study are subjective interpretations which are partly unique to this researcher's experience. Although subjectivity is considered an essential component for gaining greater understanding in a

Brooks Township Zoning Map



- R-1 Low Density Single-Family Residential
- R-2 Medium Density Single-Family Residential
- R-3 High Density Residential
- RTO River and Tributary Overlay
* Includes all lands within 500 ft. of the established high water mark if not established, then water's edge.
- LO Lakefront Overlay
* Includes all lands within 500 ft. of the established high water mark if not established, then water's edge.
- MHP Mobile Home Park
- C-1 Commercial Business

THE ZONING MAP OF BROOKS TOWNSHIP NEWAYGO COUNTY, MICHIGAN

THIS IS TO CERTIFY THAT THIS IS THE
OFFICIAL ZONING MAP REFERRED TO IN THE
BROOKS TOWNSHIP ZONING ORDINANCE.

LORA L. JONES - TOWNSHIP CLERK

DATE



Ordinance No.: 98-17
Effective Date: June 1, 1998
Progressive
1011 S. 10th Street, N.E.
Grand Rapids, Michigan 49509-1102
P: 616.201.2000 F: 616.201.1102

Figure 9

case study and attempts are made to validate its findings as much as possible, it has the potential to produce misinterpretations that weaken the research findings and recommendations (Stake, 1995). Finally, although the *Brooks Township Land Use Vision* project has taken significant strides toward the successful development of a cross-boundary land management strategy, the project is still a great distance away from achieving its long-term goals. This study only examines a snapshot of time in the project's development. Further observation and interaction with the stakeholders could produce a great deal more information which would help us enhance our relationships with land use and our planning and policies for land conservation and management.

Chapter 5: SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS:

Throughout my interactions and observations in this case study, I have attempted to gain a better understanding of the benefits and challenges involved in one approach to the emerging strategy of cross-boundary land management. Through qualitative subjective analysis of surveys and interviews with 76 study participants, and through observations of the *Vision* project and the landscape it encompasses, I found a human-land use relationship based in a long history of high quality living through natural resource enjoyment in a quiet rural atmosphere. The value for this quality of life was shared by all the landowners in this study regardless of other factors, such as seasonal versus permanent residence. In addition, many landowners have expressed concerns over losing this quality due to the growing pressure of suburban expansion that is creeping toward the township from Grand Rapids. The perception of suburban growth as a threat to the township's natural resources and quality of life prompted the development of the *Vision* project and has generated a great deal of community participation and support. As more people move into the township, problems associated with suburban expansion, especially land fragmentation and the resulting loss of species' habitat, could become more prevalent. There is hope though, with the formation of partnerships and the proactive stand that has been taken through the *Vision* project, there is great potential for prevention, or at least control of, some of the suburban expansion issues. However, there are many challenges to be overcome before the *Vision* project can be judged a success.

Challenges Ahead in Crossing Boundaries

In an attempt to determine if the *Vision* had, thus far, produced any significant changes in peoples relationships with land and its use in the township, all landowners who had attended one or more of the public meetings were asked if their participation had resulted in any changes in the way they viewed land in the township or the way in which

they used their own land. The results fell far short of my original expectation. Out of 35 landowners who had attended at least one of the public meetings, only six responded that their participation had changed the way they view land in the township and influenced them to change the way they use their own land. However, 22 residents responded that participation had increased their knowledge of the unique natural features in the township. But just as many (24) residents responded that the *Vision* project had strengthened their original viewpoints that natural resources in the township were valuable and needed protection. These results present a common problem that is prevalent throughout environmental protection projects, namely that the people who become involved are generally those who already support the cause.

This brings us back to the question of how to create the right incentives to encourage the involvement of those not yet converted to the cause. In the case of Brooks Township, a high priority was given to water related issues because of the high level of interest by lake and river side landowners. This encouraged more involvement from the highest concentrated area of residents but many of the water related issues are already being tackled by many of the area's lake associations. The larger threats, those involving land fragmentation, are more closely associated with the forest and prairie landowners who are not yet converted to participating in the process of creating change, despite the fact that they more often saw suburban expansion as a threat to natural resources in the township. One challenge facing the implementation phase of the *Vision* project is how to encourage the participation of this group of landowners. If the *Vision* project cannot provide the right types of incentives to envelope these concerned but as yet unconverted landowners, the project will become more vulnerable to failure.

The *Brooks Township Land Use Vision* project has been described as one of a minority of community level programs in the state of Michigan that is attempting to devise planning efforts that preserve the natural resources of the area. Other communities along the Muskegon watershed are also working with state and federal agencies to protect

their natural features; however, Brooks Township is unique in that it is only on the verge of experiencing the rapid expansion of the Grand Rapids suburbs. Townships and communities closer to Grand Rapids are already being overwhelmed by population increases and the resulting boom in housing and commercial construction. Brooks Township has an advantage at this point where it can see the wave approaching and make the necessary plans to deal with its arrival. Despite the fact that the perception of what constitutes a threat to the quality of life in a community is different for each individual and each community, enough of a threat has been felt in Brooks Township to produce a planned response.

"The landscape of land management is changing, and changing rapidly. Widespread concern over ecological health is fomenting a revolution . . . [which is] by necessity viewing land management in a larger ecological context" (Grumbine, 1992, p. 175) Brooks Township, even though it had no intention of being a trailblazer, is now one of the leading examples in this forward thinking movement by not only looking at the larger picture of land management but also by taking a proactive approach that crosses social and political boundaries and hopes to provide locally effective incentives. However, the proactive stance of this project may be one of its greatest weaknesses as well as one of its most shining achievements.

In many of the townships closer to Grand Rapids, such as those in Kent County, a DEQ official described the fact that there is so much pressure from the suburban expansion that the local government can work with large scale developers to create compromises and partnerships that preserve open space and prevent extensive land fragmentation. Unfortunately or fortunately, Brooks Township is not enveloped in this amount of extensive pressure yet. This fact is unfortunate from the standpoint of finding incentives to promote the proactive planning involved in the *Vision*. In light of current trends, the most significant area for land fragmentation concern is at the interface of public and private lands, due to the fact that coordinated management to deal with the ecological,

legal, economic, and social boundaries involved is not currently effective when there are thousands of (mostly small) properties in various stages of development or use by private ownership (Warbach, 1995, p. 4-6). Various methods used to discourage land fragmentation are traditionally aimed at large scale developers who construct multi-home subdivisions (Cullingworth, 1993, p. 125-128). At present, the growing number of new residents in Brooks Township are arriving as single family units and at a pace which has not yet attracted the attention of large scale developers. Therefore, the greatest challenge facing the township is developing the right incentives to encourage these new arrivals to see the larger picture, prevent land fragmentation, and actively participate in crossing the boundaries involved in land management.

Such simple cross-boundary co-operation between private landowners is considered to be a necessary core for successfully applying a co-operative management paradigm in a fragmented landscape owned by non-industrial private individuals and families. If such co-operation will not work in its most elementary sense, then greater co-operation and management activities at a larger scale are certain to fail. (Stevens et. al., 1999, p. 83)

If the *Vision* project can accomplish this through continued support from its key participants thus far, it will undoubtedly be judged a successful endeavor. But finding solutions to the pressures and problems surrounding suburban expansion will require more efforts to better understand residents' relationships with land and its use, in order to continue the efforts in crossing boundaries, creating partnerships, finding community-based incentives and maintaining open lines of communication.

Cross-boundary land management strategies are growing in number across the U.S. under different titles and varied approaches; however, due to the intricacies of each case, there are many years of observation and study left before a judgment can truly be made of their general success or failure. In the present case of Brooks Township, the success of the *Vision* project will be determined by the ease at which the necessary recommendations

can cross the social and political boundaries involved and be incorporated into the daily lives of township residents, the actions of seasonal visitors and landowners, a new Master Plan, and future zoning ordinances

Recommendations for Future Study

During the course of interviewing landowners participating in this study, I found a pattern that with further research could be developed into a workable theory. In group 1, a pattern arose which suggested that landowners were more likely to participate in the *Vision* project if they were currently or formerly active members of a community-based organization. Many of the participants of group 1 were members of various lake associations in the township and others were members of the township government, both past and present.

Due to the late time frame in which this observation surfaced, this study was not able to examine it closely. A correspondence was sent to those five landowners of group 2 who had included address information for further questions. Three replies have been received and none of the respondents have been an active member of any community-based organization. Because the total number of participants in this study was only 76, few generalizations can be made from the observations and interpretations of the findings; much less can any generalization be taken from the few landowners in group 1 who were active members of other organizations and the three from group 2 who were not. However, for future implications in promoting proactive cross-boundary land management strategies, an examination of people's past behaviors could provide a guide as to who is more likely to participate in a cross-boundary strategy and what group of people may need more focused incentives to become involved. "For an efficient promotion of pro-environmental behavior, knowledge is essential about the underlying motives of both protective behaviors [i.e. being an active member of a lake association] and of risk behaviors [i.e. pollution of natural resources in the township through use or

abuse]" (Kals et. al., 1999, p. 178).

Another recommendation for study is to follow the promotion of cross-boundary management strategies using the *Vision* project as a demonstration model.

Little is known about non-industrial private forest landowners' attitudes and preferences toward co-operation with others to achieve management objectives [therefore], public programs which effectively promote co-operation have generally not been developed. Most [survey respondents want] to see a demonstration project before deciding whether to participate. (Stevens et. al., 1999, p. 81)

Not only is the *Brooks Township Land Use Vision* project a valuable learning experience for those who have been involved, but they should also be encouraged to transfer their new knowledge to other projects in progress, like the NLM Ecosystem Management project, and to other communities who may not have considered a cross-boundary approach to land management yet. This learning experience should be shared in a variety of different settings so that more organizations and communities can learn that crossing boundaries can be a viable option for land management and community planning. One suggestion raised by participants in the *Vision* project is for Brooks Township officials to make a presentation to the Michigan Association of Townships.

Further recommendations for research would include a follow-up study, one or two years from present, to examine if the project has had any noticeable impact on the level of communication between public and private landowners (especially between the MNF and private landowners). Another suggestion for follow-up would be to examine the success of the *Vision* project's implementation and to search for other communities that may have adopted this cross-boundary strategy. Success or failure, in this late stage, could be determined by the presence of any increased land fragmentation due to suburban expansion, the level of resident participation in cross-boundary land management and planning strategies, and another survey of landowners' relationships to land and its use.

Concluding Thoughts

As the gray sky hung low in the trees and heavy with rain, I walked through the slick, wet interface of last autumn's oak leaf litter and the damp spring greenery of the saplings all around me. Listening to the music of courting frogs and following the slope of the landscape, the township supervisor and I maneuvered a path through the second growth forest down to the edge of a swampy wetland. As we stood there amidst the chorus of frogs and birds, I had to remind myself that this quiet landscape is in the path of a national suburban expansion trend and many of its human inhabitants are already feeling the pressure.

Observing the changes that spring has brought to Brooks Township throughout the course of this study has been comparable to the changes that can occur through cross-boundary management strategies. The opening of communication lines, the creation of community-based incentives, and the development of partnerships are all complex and slow processes to set in motion. But once these are developing, positive actions tend to emerge as quickly as new spring foliage. Cross-boundary management strategies are emerging quickly through these cooperative processes and crossing boundaries may prove to be the most effective future means we have to control suburban expansion and prevent its impacts in further land fragmentation, and loss of rare species. But in order to insure the successful adoption of cross-boundary strategies we need to continue learning how to better understand human relationships with land and its use. This researcher's experience in examining human-land use relationships in Brooks Township has been a personal encounter with an emerging course of action in conservation and land management which I have attempted to better understand through the research process.

APPENDIX 1

Rebecca Romsdahl
Michigan State University
Dept. of Resource Development
Natural Resources Bld.
E. Lansing, MI 48823
Phone: 517-353-7982
email: romsdahl@pilot.msu.edu

March 25, 1999

Dear Brooks Township Landowner,

I am working on my Master's degree at Michigan State University and I am currently examining human relationships with land through land management techniques. I am interested in how people in Brooks township feel about land resources (in the sense of land, water, air, etc. the big picture of land). I am also interested in the Brooks Township Land Use Vision project; how residents are responding to it, how it may change their relationships with land, how those changes may impact the land, and how the Vision will be implemented. In addition, I am interested in examining how the Vision may provide opportunities for people to open their lines of communication and cooperation in land management.

I believe that you could teach me a great deal by sharing your land management experiences with me through this survey. Your participation is completely voluntary and you may refuse to answer certain questions if you prefer. Your responses will be kept completely anonymous and confidential. The survey should only take approximately 15 minutes of your time and it would be a great benefit to my Master's research paper.

If you proceed to complete the survey, please place it in the enclosed return-addressed, stamped envelop and drop it in the mail by Friday, April 16, 1999. Your participation in my survey study will be greatly appreciated.

In addition, if you would be willing to participate further in my study, you will find a place at the end of the survey where you can provide your phone number. I will be contacting interested residents for short phone interviews later in April. Again, your participation is completely voluntary.

Thank you.
Sincerely,
Rebecca Romsdahl

Instructions:

Please circle the letter of the response that best describes your reply to the question. If you select a response labeled 'other,' please write a brief explanation in the space provided. In addition, at the end of the questions, you will find a space for added comments, please feel free to comment on any of the questions or any of the Vision process—including any suggestions you feel might improve the process.

When you have finished the survey, please place it in the enclosed return-addressed, stamped envelop and drop it in the mail by Friday, April 16, 1999. Thank you.

Survey Questions:

1. How long have you owned your land?
 - a. less than 5 yrs
 - b. 5-10 yrs
 - c. 11-20 yrs
 - d. more than 20 yrs

2. How long have you lived on your land year round?
 - a. less than 5 yrs
 - b. 5-10 yrs
 - c. 11-20 yrs
 - d. more than 20 yrs
 - e. I only use it seasonally.

3. Which best describes the primary and secondary uses of your land? (please circle two letters and circle which is primary and which is secondary)
 - a. (primary or secondary) wildlife habitat with hunting, fishing, or recreation
 - b. (primary or secondary) seasonal home
 - c. (primary or secondary) forest production or timber harvest
 - d. (primary or secondary) home in a rural setting--permanent residence
 - e. (primary or secondary) other _____

4. Which best describes the location of your employment?
- a. I am employed in the Newaygo area.
 - b. I am employed in the Grand Rapids area.
 - c. I am retired.
 - d. other _____
5. Which best describes why you own land in Brooks township?
- a. high quality natural resource enjoyment
 - b. family ties--for example: handing down of family business or family property
 - c. business investment
 - d. quiet rural character
 - e. other _____
6. Which best describes, in your view, the most serious current disturbance or threat to undeveloped land in Brooks township?
- a. fragmentation of land--from subdivision of properties and urban development
 - b. lack of communication and cooperation in land use, management, or planning--between private owners and public owners (local government, state government, or National Forest Service)
 - c. pollution or erosion from poor land use
 - d. I do not see any serious current disturbance or threat to land in Brooks township.
 - e. other _____
7. Which best describes, in your view, the most serious Future disturbance or threat to undeveloped land in Brooks township--within the next 5-10 years?
- a. fragmentation of land--from subdivision of properties and urban development
 - b. lack of communication and cooperation in land use, management, or planning--between private owners and public owners (local government, state government, or National Forest Service)
 - c. spread of non-native plant and animal species--for example, spotted knapweed
 - d. pollution or erosion from poor land use
 - e. other _____

8. Which best describes, in your view, the importance of National Forest land in Brooks township?

- a. National Forest Service land is very important in Brooks township and the Forest Service should try to increase their acreage if possible by purchasing land that comes up for sale in the township.**
- b. National Forest Service land is important in Brooks township and at present, the Forest Service owns a good amount of land in the township and should maintain its current properties without adding or selling any of the parcels.**
- c. National Forest Service land is not important in Brooks township and the Forest Service should try to sell some of its current parcels.**
- d. other _____**

9. Which best describes, in your view, the National Forest Service's involvement in managing public land use in Brooks township?

- a. The National Forest Service should be more involved with land management in the township and should make changes in their current policies so that they could be more involved.**
- b. The Forest Service is adequately involved with land management in the township and is doing a good job at present.**
- c. The Forest Service is too involved with land management in the township and should make changes to be less involved.**
- d. other _____**

10. Which best describes your familiarity and/or involvement with the Brooks Township Land Use Vision?

- a. I have not heard of the Land Use Vision.**
- b. I have vaguely heard of the Land Use Vision.**
- c. I have been to one of the public meetings.**
- d. I have been to two or more of the public meetings.**
- e. I am planning to become involved.**

(If you have Not been involved with the Land Use Vision meetings, please skip to Question 13)

11. If you have been involved with the Land Use Vision, which best describes your overall reaction to the project? (you may circle more than one response to this question)

- a. After attending one or more of the public meetings, I now have a better understanding of the natural characteristics that other residents find valuable in Brooks township.**
- b. After attending one or more of the public meetings, I better understand the importance of working together as a community to promote land and water protection.**
- c. I support all of the efforts being made to take better care of land and water resources in Brooks township.**
- d. I support most of the efforts being made to take care of land and water resources, but some of them seem unnecessary.**
- e. I do not support the Land Use Vision project.**
- f. other _____**

12. If you have been involved with the Land Use Vision, which best describes how it will impact your life? (you may circle more than one response to this question)

- a. My involvement in the Land Use Vision project has led me to re-evaluate different things I do on my land and so I have been thinking about making changes in my land practices.**
- b. My involvement in the Land Use Vision project has led me to re-evaluate my viewpoint toward the public (federal or state) lands in Brooks township and I am now more interested in how they are used and managed.**
- c. My involvement in the Land Use Vision project has strengthened my original viewpoint that land and water resources in Brooks township are important and need protection.**
- d. My involvement in the Land Use Vision project has led me to believe that it will result in too many new regulations and restrictions of land and water use.**
- e. other _____**

13. In your own words, could you briefly describe what you most highly value about land in Brooks township and how that affects the ways you use land here?

14. If you had a question or concern about land or natural resources in Brooks township, who is the first person that comes to mind that you would take your question or concern to? (This person could be anyone and would not necessarily have to be someone in an official position.)

Their name and/or

title _____

Comments:

(If you desire, please attach an additional sheet of paper for comments.)

May I contact you with possible further questions for my study? ____ Yes ____ No

If Yes, please list your name, phone number, and/or email:

Thank you again for helping me in my research endeavor.

Rebecca Romsdahl

APPENDIX 2

Summary of Survey and Interview Responses

Years Owned Land

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid <5	9	12.9	12.9	12.9
5-10	17	24.3	24.3	37.1
11-20	14	20.0	20.0	57.1
>20	30	42.9	42.9	100.0
Total	70	100.0	100.0	

Years Permanent Resident

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid no reply	1	1.4	1.4	1.4
<5	11	15.7	15.7	17.1
5-10	14	20.0	20.0	37.1
11-20	15	21.4	21.4	58.6
>20	14	20.0	20.0	78.6
seasonal only	12	17.1	17.1	95.7
no buildings	3	4.3	4.3	100.0
Total	70	100.0	100.0	

Primary Use of Land

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid wildlife habitat, hunt, fish, recreate.	16	22.9	22.9	22.9
seasonal home	9	12.9	12.9	35.7
timber production/harvest	2	2.9	2.9	38.6
rural home	41	58.6	58.6	97.1
setting-permanent	2	2.9	2.9	100.0
other	2	2.9	2.9	
Total	70	100.0	100.0	

Secondary Use of Land

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	wildlife habitat, hunt, fish, recreate.	25	35.7	35.7	35.7
	seasonal home	4	5.7	5.7	41.4
	timber production/harvest	6	8.6	8.6	50.0
	rural home				
	setting-permanent	19	27.1	27.1	77.1
	other (camping)	5	7.1	7.1	84.3
	water enjoyment	11	15.7	15.7	100.0
	Total	70	100.0	100.0	

Employment Location

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	newaygo area	16	22.9	22.9	22.9
	grand rapids area	14	20.0	20.0	42.9
	retired	23	32.9	32.9	75.7
	other	17	24.3	24.3	100.0
	Total	70	100.0	100.0	

Why own land in Brooks

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	nature enjoyment	16	22.9	22.9	22.9
	family ties	19	27.1	27.1	50.0
	business investment	3	4.3	4.3	54.3
	quiet rural character	20	28.6	28.6	82.9
	other	5	7.1	7.1	90.0
	job in area	7	10.0	10.0	100.0
	Total	70	100.0	100.0	

Any Threat, current

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	see threat	51	72.9	72.9	72.9
	do not see threat	19	27.1	27.1	100.0
	Total	70	100.0	100.0	

Any Threat, future

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	see threat	58	82.9	84.1	84.1
	do not see threat	11	15.7	15.9	100.0
	Total	69	98.6	100.0	
Missing	System	1	1.4		
Total		70	100.0		

Current Developmnt Threat

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	see threat	25	35.7	56.8	56.8
	do not see threat	19	27.1	43.2	100.0
	Total	44	62.9	100.0	
Missing	System	26	37.1		
Total		70	100.0		

Future Developmnt Threat

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	see threat	32	45.7	74.4	74.4
	do not see threat	11	15.7	25.6	100.0
	Total	43	61.4	100.0	
Missing	System	27	38.6		
Total		70	100.0		

NFS Land Importance

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	no reply	2	2.9	2.9	2.9
	very, yes increase	24	34.3	34.3	37.1
	important, but enough	39	55.7	55.7	92.9
	other	5	7.1	7.1	100.0
	Total	70	100.0	100.0	

NFS Involvement

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid no reply	5	7.1	7.1	7.1
need improvement--ex. trash	19	27.1	27.1	34.3
doing well	32	45.7	45.7	80.0
too much already	1	1.4	1.4	81.4
indifference/don't know	12	17.1	17.1	98.6
other	1	1.4	1.4	100.0
Total	70	100.0	100.0	

Vision Participation

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid no attend. meetings	28	40.0	41.2	41.2
yes attend. meetings	40	57.1	58.8	100.0
Total	68	97.1	100.0	
Missing System	2	2.9		
Total	70	100.0		

Reaction: Increased knowledge

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid not circled	48	68.6	68.6	68.6
yes	22	31.4	31.4	100.0
Total	70	100.0	100.0	

Reaction: Community working together

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid not circled	45	64.3	64.3	64.3
yes	25	35.7	35.7	100.0
Total	70	100.0	100.0	

Reaction: Support all efforts

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid not circled	45	64.3	64.3	64.3
yes	25	35.7	35.7	100.0
Total	70	100.0	100.0	

Reaction: Support most, some unnecessary

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	not circled	62	88.6	88.6	88.6
	yes	8	11.4	11.4	100.0
	Total	70	100.0	100.0	

Reaction: Do not support efforts

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	not circled	69	98.6	98.6	98.6
	yes	1	1.4	1.4	100.0
	Total	70	100.0	100.0	

Reaction: other

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	not circled	66	94.3	94.3	94.3
	yes	4	5.7	5.7	100.0
	Total	70	100.0	100.0	

Reaction: indifference

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	not circled	69	98.6	98.6	98.6
	yes	1	1.4	1.4	100.0
	Total	70	100.0	100.0	

Influence: Change personal land use

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	not circled	64	91.4	91.4	91.4
	yes	6	8.6	8.6	100.0
	Total	70	100.0	100.0	

Influence: Interested in public land

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	not circled	66	94.3	94.3	94.3
	yes	4	5.7	5.7	100.0
	Total	70	100.0	100.0	

Influence: Strengthened original views

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid not circled	46	65.7	65.7	65.7
yes	24	34.3	34.3	100.0
Total	70	100.0	100.0	

Influence: Too many new regs.

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid not circled	65	92.9	92.9	92.9
yes	5	7.1	7.1	100.0
Total	70	100.0	100.0	

Influence: other

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid not circled	67	95.7	95.7	95.7
yes	3	4.3	4.3	100.0
Total	70	100.0	100.0	

Influence: New knowledge, no need more protection

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid not circled	65	92.9	92.9	92.9
yes	5	7.1	7.1	100.0
Total	70	100.0	100.0	

Most Valued Characts. and Use

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid no reply	8	11.4	11.4	11.4
beauty, naturalness	21	30.0	30.0	41.4
quiet, rural area	8	11.4	11.4	52.9
forests, wildlife	13	18.6	18.6	71.4
water	6	8.6	8.6	80.0
close to G.Rpds. but quiet, natural area	4	5.7	5.7	85.7
outdoor rec., hunt., oprts.	7	10.0	10.0	95.7
business investment	1	1.4	1.4	97.1
family ties	2	2.9	2.9	100.0
Total	70	100.0	100.0	

Resident Expert

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	township supervisor	27	38.6	71.1	71.1
	other	11	15.7	28.9	100.0
	Total	38	54.3	100.0	
Missing	System	32	45.7		
Total		70	100.0		

Adjacent to NFS Land

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	no	45	64.3	64.3	64.3
	yes	25	35.7	35.7	100.0
	Total	70	100.0	100.0	

APPENDIX 3

Selected Interview Notes

Interview 1

Q: How long have you owned land in Brooks Township?

-7 years.

Q: Are you employed in the Brooks Township area?

-Yes.

Q: What is the general location of your property?

-Emerald Lake.

Q: What do you use your land for?

-Our residence.

Q: Why do you own land in Brooks Township?

-I grew up here.

Q: Do you think that undeveloped land in the township is being threatened by anything?

-No. I see the controls on development that are already present and I see other options that could be used.

Q: Do you think that threats to undeveloped land will (increase / emerge) in the next 5-10 years?

-No. The township will have tools available to handle the problems. The lakes and rivers are threatened areas but creative plans are in progress to take control before development takes control.

Q: How do you feel about National Forest lands in the township?

-I would like to keep them regardless of whether they remain under the NFS. Those lands are wonderful areas for hunting and walking. They provide wonderful opportunities for everyone in the township.

Q: How do you feel about the National Forest Service management of their public lands in the township?

-They don't take an active stand or lead in management. There seems to be very little management in the township; they have little available. So, trash becomes a more of a problem. If it were possible, I would like to see them be more of a presence in the township. Actually, before the Vision project, we were not sure who were the NFS officials in the area.

Q: Do you think there is a good level of communication between the NFS and the township residents?

-No, there is very little communication between them.

Q: How many of the Land Use Vision meetings have you attended?

-Not very many, but I keep updated.

Q: How do you feel about the Vision project—what is your reaction so far?

-The Vision has been extremely positive. I have seen more community involvement in this than in anything else; even the negative comments have become positives in the end. The project has been able to inform people with negative concerns so that they can become positive participants.

Q: Has your participation in the Vision project changed how you feel about your land or how you use your land? Has it changed how you look at land in Brooks township as a whole?

-Yes, in many ways. It has been an eye-opening and educational experience.

Q: Do you think that the awareness (of the issues related to natural resources and development) has spread to a great deal of township residents?

-Yes. For example, I am on our Lake Board and they have handed out copies of the Vision document at our meetings.

Q: Can you think of 3 reasons why some people have not been involved?

-Well, one is a time factor—people don't have any available time. There has been some discouragement about the length of time it has taken to get things done in the project and in government work in general. In addition, some people may fear that they will be intimidated or overwhelmed by the project.

Q: Do you think that the Vision will be able to produce any tangible results for the township?

-Probably, but there is a fear that a change in leadership could cause a loss in the current momentum. The current township supervisor is great and if we can get a lot done in his term of office, then the momentum will survive; it will spread out and take on different faces as needed.

Q: Do you think that the Vision will translate well into new zoning ordinances and the Master Plan?

-It will be a good reference for the Master Plan and a major tool for the Planning Commission and the Township Board. The Vision will provide input on how to interpret zoning regulations. The Vision is a great blueprint for where the township is now.

Q: Do you think that the township is ready to take this step?

-Yes, they are looking for a consultant or planner to help them put the Vision into use.

Q: In your own words, could you briefly describe what you most highly value about land and natural resources in Brooks Township? How does that impact the way you use land in the township?

-The water. The rivers and lakes attracted me to come back here. I love the small town atmosphere and the closeness of neighbors.

Q: *If you had a question about land or natural resource use in the township, who would you take that question to?*

-The township supervisor.

Interview 2

Q: How long have you owned land in Brooks Township?

-Seasonally, since the 1970's, permanently, since 1992.

Q: Are you employed in the Brooks Township area?

-Yes.

Q: What is the general location of your property?

-The lake shore.

Q: What do you use your land for?

-My residence.

Q: Why do you own land in Brooks Township?

-It was a family tradition to spend our summers here.

Q: Do you think that undeveloped land in the township is being threatened by anything?

-Yes, by many things. It is threatened by residential development and by ignorant, destructive, and abusive land practices.

Q: Do you think that threats to undeveloped land will increase in the next 5-10 years?

-Yes, there is the potential for it, but the township is trying to control the situation before that happens.

Q: How many of the Land Use Vision meetings have you attended?

-All of them.

Q: How do you feel about the Vision project—what is your reaction so far?

-It has been a great learning experience and I am excited about the available tools and new ideas that the township may be able to use to accomplish its goal of controlling development.

Q: Why was Brooks Township selected for this type of pilot project?

-The various conservation groups involved, had been using the township hall as a convenient meeting place. They were concerned about conservation issues in the large area of the Newaygo Outwash region and they were interested in finding a smaller, localized area in which to try a new approach to land conservation and management.

Q: Has there been any significant opposition to the Vision project?

-Not really, some people expressed resentment or concern that the Vision would try to tell them how to use their land and what to do there. But mostly there have been positive responses from people.

Q: What has been your reaction to the level of citizen interest and involvement in the Vision project?

-I was dismayed by the number of residents who came to the first community meeting (over 70). I had expected many more, but officials with the NFS and TNC assured me that the numbers were amazingly high compared to what they are used to working with.

-Many of the Vision recommendations seem may seem obvious but they are important because they get people talking about all of the issues and increases the level of awareness in the township.

Q: Are more people concerned with the ecosystem perspective (the big picture) after being involved in the Vision project?

-Yes, but only those people who have participated. Not enough people know what's going on yet.

Q: Do you think that landowners are becoming more interested in cooperative land management strategies across boundaries--more than they were 5 years ago for example?

-Possibly, but the primary interest is that people who have lived here for a long time do not want to see things change.

Q: Can you think of any reasons why some people have not become involved in the Vision?

-Many people do not care; they do not see any problems.

Q: Do you see the recommendations in the Vision as an ongoing process of land management, or like goals to accomplish and move on from?

-There are elements of both involved. Everyone involved in the Vision has learned how to better communicate with groups and individuals which is an ongoing process in land management. But there are also many goals amongst the recommendations which the township would like to accomplish. In addition, there is the challenge to see how much of the Vision process is transferable to other areas for their land management.

Q: Have you worked with any type of similar land management program--one that has promoted as much citizen involvement, or developed recommendations or guidelines for crossing boundaries in land use and management such as the Vision has?

-No, this has been a learning process for everyone involved and it has improved communication aspects on many levels. The township has had problems in the past with some of the state agencies who have not been enforcing their own regulations in the township. But the Vision project has been a good medium for improving communication relations.

Q: Could you tell me about the goal of using the Vision as a guide in developing an "ecological map" for the township's planning and zoning?

-The township's Land Use Master Plan was newly approved in 1993. From that the township began to rewrite its zoning ordinances and finished those in 1998. Now the challenge is to take the Vision as a mold for the new Master Plan. The township would like to use the Vision to create an "ecological map" of Brooks Township. This would show, for example, where wetlands and other sensitive land areas are located so that the township could use that information to develop zoning and planning guidelines for controlled development. Knowing the locations of these features is important because uncontrolled development sprawls along major roads and decreases the level of connectivity in land which harms farmers and wildlife.

Q: Does the township have any plans yet for creating incentives toward getting more landowners involved in implementing the Vision recommendations?

-Yes, the township is looking into creating a resource library where people can come to get information about natural resources in the township, how to preserve land through easements and other options, etc. In addition, the township is thinking about putting together "kits" that would help interested landowners create conservation, preservation, and land management plans.

Q: In your own words, could you briefly describe what you most highly value about land and natural resources in Brooks Township? How does that impact the way you use land in the township?

-I value the natural beauty of the area.

Interview 3

Q: *How did your office become involved in the Brooks Vision project?*

-TNC called us to participate because of the high level of resident interest in water issues.

Q: *In your experience, how unique is the Brooks Land Use Vision project?*

-Brooks Township is in the minority but not totally alone. Other townships in the Muskegon River watershed have taken similar actions done planning to protect their water resources. Other townships have received federal grants to protect their watersheds. But other townships are already experiencing urban growth. The perception of what is a threat to natural resources and to a community's quality of life may be different in each case but many people in Brooks Township obviously already feel that these features are being threatened. In addition, Brooks Township seems to have a high level of commitment to the Vision project amongst all of its township officials; that is a unique and valuable characteristic.

Q: *What are some of the challenges facing the township in this implementation phase?*

-Brooks Township will need to provide incentives to single families who are moving into the area so that they can prevent land fragmentation. If possible, the township needs to encourage cluster developments. This type of strategy often works well when dealing with large scale developers but it has not proven successful at small, individual landowner, scales. Closer to Grand Rapids, in Kent County, there is so much sprawl pressure that you can work with developers to create and maintain open space, thus, preventing land fragmentation.

Q: *Do you see any potential for Brooks Township to use its unique species and habitats to its advantage in trying to achieve control over development?*

-Yes, if the township continues to develop good public relations for promoting their protection.

Interview 4

Q: *From your viewpoint, what are 3 land uses in Brooks Township that have significant negative impacts on the natural resources?*

- 1. development, housing (second and first homes)**
- 2. associations with development**
- 3. elimination of fire from the landscape**
- 4. a scattered land ownership pattern--more owners make it difficult to work on preservation while involving all of the stakeholders**

Q: *Do you foresee increasing problems with fragmentation in the township for the next 5-10 years?*

-Yes through development.

Q: *Do you perceive the above land uses as being valued by the residents of Brooks Township or more so by people outside of the township?*

-For the issue of development, you need to find a balance, you can't stop it and people generally don't want to stop it, but must do it wisely to preserve natural features.

Q: *Are other townships in Newaygo County, or in nearby counties, attempting any similar land use management programs (with high levels of community involvement and promoting recommendations and guidelines for cross boundary management)?*

-No, this is a pilot project to identify rare features in the area, plan for their protection, and implement a management plan through partnerships.

Q: *How does the level of community involvement in Brooks Township compare with other projects you have worked with or heard about?*

-The Brooks Township Vision has had a high level of citizen participation, which is unique in community level land management, and because this is a pilot project, it makes comparisons difficult. TNC has a partnership project in the Upper Peninsula and they have another project in northern lower Michigan, but otherwise, I can only compare the Vision project to our Forest Plan revision process which involves citizen comment and input. All of these projects are helping to create more awareness of the bigger picture in land management and how individual actions impact that picture.

Q: *Are landowners becoming more interested in cooperative land management strategies across boundaries, more than they were 5 years ago?*

-That's hard to say. A partnership occurred between the MNF and the Brooks Township residents but without the leadership of the township supervisor the project would not have occurred. This has been a learning opportunity for everyone involved. In general, landowners don't understand the value of land and resources.

Q: *Do you see any significant barriers that may prevent people's involvement, both individuals and organizations, in efforts like the Vision?*

-There is still an element of fear, especially for landowners, when we talk about endangered species, rare plants and animals, wetlands, etc. Landowners fear that their land will be taken from them. There is an economic fear that the government will step in and cause people to lose their rights to use their land as they want. Sometimes people feel that is they don't know about the rare species on their land then they don't have to fear, so they don't seek out ways to protect their land.

-Because of the partnerships in the Brooks Vision, there is not as much fear, but the recommendations are of no value if people do not implement them. Even though it is a big step to get people together, communicating, and agreeing on a course of action, the Vision and its recommendations are only the very beginning.

Interview 5

Q: From your viewpoint, what are 3 land uses in Brooks Township that have significant negative impacts on the natural resources?

1. housing development--Brooks Township has become a bedroom community for Grand Rapids employees since the mid 1980's
2. road management as development tends to follow paved roads
3. housing development and crowding on the lakes and the river--water quality is an important issue to the community

Q: Do you foresee increasing problems with any of these issues in the township for the next 5-10 years?

-Yes, the current zoning laws may not be adequate to manage the increasing development.

Q: Do you perceive the above land uses as being valued by the residents of Brooks Township or more so by people outside of the township?

-For long term residents, development could be good or bad, they may desire the accompanying higher land values if people are approaching retirement and ready to sell their land. But new residents, those who have moved there within the last 5 years, seem more opposed to development. People who are moving in like the rural character.

Q: Have you worked with any similar land management programs that promoted a high level of community involvement and recommendations or guidelines for cross boundary management?

-The MNF seeks public input for its Forest Plan and other land management actions, but the Brooks approach is new, from a landscape perspective. There are watershed approaches being used on the Muskegon River but they are in beginning phases so its too early for comparison. The Brooks project is a pilot, there are no others to compare it to in the HMNF. The only possibility would be the Upper Peninsula project with TNC where they are looking at finding sustainable levels of resource extraction by local residents.

Q: How involved would say your office is with land management in Brooks Township or how often does your office communicate with landowners?

-We have a Karner Blue Butterfly restoration project in the township so during the spring-summer field season, we may visit the township twice a week. This is very frequent when compared to other areas in the White Cloud district. We do not have a high level of communication with residents in the township; they may stop by to chat or see what we are doing when we are on site in the area.

Q: Does your office have any communication with adjacent private landowners?

-We notify adjacent landowners when we are planning a change in land management near them and some landowners have specifically requested that we call them whenever we make changes that might affect their neighboring land.

Q: *Are landowners becoming more interested in cooperative land management strategies across boundaries, more than they were 5 years ago?*

-From an overall perspective, yes, there is more interest in what the NFS is doing and how forestland are being managed. The Brooks Vision is an example of that and we will try to increase it through the implementation phase of the project.

Q: *Do you see any significant barriers that may prevent people's involvement, both individuals and organizations, in efforts like the Vision?*

-For the residents, there is always the issue of time commitments. They have many other interests. There is also the issue of perception which comes as the question "is there a problem?" Many people do not understand the issues and concerns that the Vision project has tried to present; many people are unaware that the township has such unique features as the prairies.

Interview 6

Q: From your viewpoint, what are 3 land uses in Brooks Township that have significant negative impacts on the natural resources?

1. second home development
2. conversion of land use--from large areas of forest land to smaller amounts of acreage for forestry now, the land is being divided into smaller units which are not manageable sizes
3. the amount of impact on natural resource use caused by increases in population, new homes around the lakes and other related issues such as the potential for new sewer systems there

Q: Do you foresee increasing problems with any of these issues in the township for the next 5-10 years?

-Yes, as the fragmentation of land continues, the affects of these issues will be enhanced, moving along a spectrum unless things change.

Q: Do you perceive the above land uses as being valued by the residents of Brooks Township or more so by people outside of the township?

-Yes. I see it as the "last pioneer syndrome." Everyone wants to be the last person to build in a locale with no one else coming after them. These people look at their individual interests and do not see the larger picture. When everyone does this, it is a problem.

Q: Have you worked with any similar land management programs that promoted a high level of community involvement and recommendations or guidelines for cross boundary management?

-I am currently working with the Northern Lower Michigan Ecosystem Management (NLM) project. It began in 1994 and is of a similar nature, but it is a much larger scale and more complex than the Brooks Vision, so it is more difficult. There are over 30 counties throughout northern Michigan that are involved in the NLM project.

Q: Being that the Brooks Vision project is similar to the NLM project, are there any lessons learned that could be transferred one to the other?

-MDNR is interested in exploring how it can get similar results in the NLM project without doing it on a township by township basis. I have learned a lot being involved in both of these projects. Through the Brooks Vision, it has been interesting to find out how to do the things we have been talking about in the NLM project--with recognizing and understanding ecosystems and trying to get people to do things that are complimentary to ecosystems when they move into a new area for example. We want to make sure that people understand that neither agencies nor the government are trying to tell them how to use their land or anything. We just want to develop suggestions with them and try to get local groups of people to carry those forth to other people. This is a similar stem to the Brooks project because most of the Vision recommendations are for education and they came jointly from the group of advisors which included residents.

Q: What has been your reaction to the level of community interest and involvement in Brooks Township?

-I have not been to all of the meetings yet, but I believe the involvement has been high compared to other public participation promotions. Anytime you can focus on something that people can readily relate to, you get more involvement. The closer you get to people, the more involvement you get. Large scale projects, like the NLM, have more philosophical aspects so more organizations get involved. On smaller scales, more individuals get involved.

Q: How involved would say your office is with land management in Brooks Township or how often does your office communicate with landowners?

-With only about 200 acres of state land in the township, we are not very involved. The Vision project was a learning experience and the timing was right in the township since they are in the process of rewriting their planning guide.

Q: Are landowners becoming more interested in cooperative land management strategies across boundaries, more than they were 5 years ago?

-Yes, people are hearing through the media and other means about what is going on with different issues and the timing is better than it was 5 or 10 years ago. People felt more threatened by government intervention because of property rights issues. But now, people are becoming more aware of things like urban sprawl so that awareness is a catalyst to become more involved in land management. Many land management options are very new, such as ecosystem management, and they have only recently become more feasible outside of academia through new technologies like GIS. These provide more opportunities for local people to apply different land management strategies.

Q: Do you see any significant barriers that may prevent people's involvement, both individuals and organizations, in efforts like the Vision?

-The timing of some of the meetings could have been a problem for some people. The township tried to hold them in the late afternoons or early evening so people could attend them after work, but many people's schedules are very busy.

-Some people may not feel that they can have an impact on the issues. They need to be made aware that they are welcome and that they can contribute. Sometimes, people with higher levels of education tend to become more involved than other people.

-With agencies, some are not used to working in this type of arena, it is out of their comfort zone. They have to be willing to accept some things that are not ideal. But there may also be situations where a particular organization's policies may prevent the type of cooperation seen in the Brooks project--different types of organizational barriers.

Interview 7

Q: *When did your organization become interested in the Brooks Township area?*

-We have been interested in the southern area of Newaygo County for many years, probably since the early 1980's. Many projects have been started in the area over the years but only the Vision project has come through as a significant long-term effort.

Q: *In your viewpoint, how unique is the Vision project as compared to other projects that your agency is working with in the state of Michigan?*

-The Vision project is unique; the partnerships and cooperation with local residents is similar to other projects we are working with. However, the Brooks Vision is unusual because we are working with local government and other partners, in addition to the local residents. In addition, we have turned control over to the township officials and residents without having one of our own staff in the area.

Q: *Has your organization previously worked on anything similar to the Vision project?*

-We have a couple of community participation and partnership projects in the Upper Peninsula but they have people from our local staff involved and there is little to no involvement of the local governments.

Q: *Could you comment on your reaction to the improved communication factors between and within the organizations that the Vision project has stimulated?*

-Improving communication is a goal for nearly every cooperative partnership project--and communication is often a problem even within organizations. I was not too surprised by the lack of prior communication between the organizations involved in the Vision; I may be more used to encountering that. But improving communication has been a goal for the project.

Q: *In your viewpoint, what do you feel might be some barriers that may prevent people from getting involved in projects like the Vision?*

-There seems to be a tendency for people, even those who are interested in a project, to rely on other people (who are already more committed and involved in a project) to take care of things. Other factors might include time constraints, communication problems, or issues of hostility toward a project.

Q: *Do you think that people who have been, or are currently, involved in an organization (like a lake association, neighborhood group, church group, etc.) are more likely to become involved with a project like the Vision?*

-Yes, this seemed to be true in the Vision project, those people who are most involved are already involved in outside organizations and projects, and this seems true in other projects we work with as well.

Q: What do you see as a couple of key factors in the Vision project which the township officials and residents will need to accomplish in order to feel that they have successfully implemented the Vision?

-Revising their Master Plan based on the Vision will be one key factor.

-But ideally, implementing the Vision should not be something that can be accomplished by doing a few key things and then saying its done. It should be an ongoing process that is always present in the township. It should look at long-term goals and have more influences on people's daily actions. It should influence the way people feel about the township and reflect how the residents want the township to look. The Vision should be something that neighbors talk to each other about and something that new residents are given information about.

Q: What do you feel are the chances for successfully implementing the Vision?

-I am optimistic that the township will be able to incorporate the Vision into their Master Plan rewrite. I am also optimistic that successful land exchanges and landowner contacts can be accomplished through the partnerships that have evolved.

-However, in an overall perspective of changing township attitudes, I am less optimistic. This will be more of a challenge; it is hard to say how likely it will be that they can maintain a sense of place in a culture that moves so often. This type of overall change will be much harder.

Interview 8

Q: *How long have you owned land in Brooks Township?*

-3 years

Q: *Are you employed in the Brooks Township area?*

-I'm not presently employed. I'm taking some time off from work.

Q: *What is the general location of your property?*

-On a lake shore.

Q: *What do you use your land for?*

-For our permanent residence.

Q: *Why do you own land in Brooks Township?*

-We wanted to live on the water and this area seemed quiet but we were wrong about that. This area has busy streets; the lake is very busy; the houses are too close together, etc.

Q: *Do you think that undeveloped land in the township is being threatened by anything?*

-Yes, there is increasing development pressure.

Q: *Do you think that threats to undeveloped land will increase in the next 5-10 years?*

-Yes.

Q: *Is it correct that you served on the Planning Commission recently?*

-Yes, I resigned last year. I had 20 years of experience seeing another township become too crowded and it put too much pressure on the local infrastructure so when I got to Brooks and saw the beginning of development pressure here, I wanted to help prevent it.

Q: *Were you involved in the initial efforts to develop the Land Use Vision project?*

-Yes, I have been a long time member of The Nature Conservancy so when I heard that TNC had been in the township hall, I jumped to get them involved in the township. I found out that Brooks Township is on the southern end of the Newaygo Outwash Plain, which would make it a good site for a TNC project. So, I petitioned TNC's involvement. I felt that if we could develop an "ecological map" of the township we could avoid the problems I have seen in other townships. An "ecological map" would consist of ecological overlays that could be layered onto zoning maps. We would have separate maps for each natural feature category in the township and a location of all the plots being considered for development in the township. We would then overlay the natural feature maps on each other and on the zoning maps so we could see the best areas for development. We would use GIS (Geographic Information System) and the Land Use Vision to develop this "ecological map."

Q: How do you feel about National Forest lands in the township?

-We like to walk and cross country ski in the Forest lands and we like knowing that NFS lands are there.

Q: If it were possible, would you like to see the NFS increase the amount of land it owns in the township?

-It would depend on what was given up, for example if private owners would want to give up land for management, then maybe I would support an increase. But there are a lot of "ifs." On a side note, in working with the state and federal people during the Vision project, I got a sense that they are stretched too thin with funds anyway.

Q: How do you feel about the National Forest Service management of their public lands in the township?

-In reference to the people I worked with on the Vision, they are dedicated, creative and doing well for what they have available to them.

Q: How many of the Land Use Vision meetings have you attended?

-All of them from February to September of 1998.

Q: How do you feel about the Vision project--what is your reaction so far?

-I was dismayed to see how much overlap there is and how little awareness there was on what other agencies were doing! I felt there needed to be much more information exchange. But it happens in many other fields as well--if the right hand knew what the left hand was doing, funds could be better used and go much farther! It would also cut down on unnecessary duplication.

Q: How strong do you feel are the township's chances for success in implementing the Vision recommendations?

-It depends on whether the township can produce strong enough leadership to carry things out. It needs dedicated leaders, with a small nucleus of dedicated people (maybe 5 people), it can work. It will also take education, for example, as to why we need more taxes for land purchases, the township is very mixed with including low income people and retirees, etc. Some people bought land here 40 years ago to sell it for their retirement fund and now if someone tries to tell them they cannot sell it to a developer, it will require education.

-Many people do not think that the Vision issues are a problem now so it won't be seriously implemented until development increases. Then people may backtrack to use the Vision. I hope it won't be too late then. The township will need much education to produce proactive support to prevent the suburban sprawl that people don't want.

-If I ever worked on a project like this in the future I would seek community funding first. If people in Brooks Township had approved a budget for this type of project, it would have allowed much more freedom for the project leaders to promote the idea to people through extensive mailings etc. For all of the effort that went into promoting the initial idea of the Vision project to the community, the township officials were very

disappointed in the public attendance at the first meeting (75 people) despite the professionals' assurances that it was a great turnout.

Q: Has your participation in the Vision project changed how you feel about your land or how you use you land? Has it changed how you look at land in Brooks township as a whole?

-Yes, we thought we would buy land here and then sell it to a developer for their retirement fund, but now they would never do that! Other people are free to do what they like, but I have a changed view for my property.

Q: In your own words, could you briefly describe what you most highly value about land and natural resources in Brooks Township? How does that impact the way you use land in the township?

-The resilient nature of this area. It has recovered from the logging era and from many floods; the landscape and the people have always come back to life. It is also a very unique area with so much water in such a small region (they have 9 lakes and 30 miles of the Muskegon River). If I could create a dream world, I would see the township soundly developed.

Interview 9

Q: *How long have you owned land in Brooks Township?*

-3 years.

Q: *Are you employed in the Brooks Township area?*

-No, I work in Grand Rapids.

Q: *What is the general location of your property?*

-We have some prairie land adjacent to NFS property.

Q: *What do you use your land for?*

-We have our permanent residence here and we like to ride horses and hunt on our land.

Q: *Why do you own land in Brooks Township?*

-We were looking for quite a bit of acreage. We found this land in Brooks Township and thought it was perfect with the NFS as our neighbor so we would not have to worry about development on those sides.

-But we were surprised by significant changes a few months after we moved here. The NFS clear-cut much of the land next to our property. After calling the NFS to complain, we found out that they are trying to restore prairie habitat for endangered Karner Blue Butterflies. This was the beginning of a significant learning experience for us. We did not know how unique our land was--there are cacti and no mosquitoes on our prairie land. So, we became involved in the Vision to understand more.

Q: *Do you think that undeveloped land in the township is being threatened by anything?*

-Yes, development can split up large pieces of land to make money.

Q: *Do you think that threats to undeveloped land will increase in the next 5-10 years?*

-Definitely. The township is already trying to push a new school millage for a new high school because of growth.

Q: *Can you tell that growth is happening since you moved to the township?*

-Yes, we have watched many houses built and those new homes now want paved roads and other things. It is not safe with so many people driving fast on the roads; when you are on a horse, it can be easily scared by the cars.

Q: *How do you feel about National Forest lands in the township?*

-I want to help with them. They are abused lands with people dumping trash illegally; it is a huge problem. It will take a long time to educate people on how important the township's natural resources are.

-I called the NFS, when they began clear-cutting for the butterflies, to find out why they were cutting all the trees down. I was very upset. I found out that they had contacted the previous owner 2 years before we bought the property to tell him that they were planning to clear-cut; they are supposed to contact property neighbors before projects like this occur. But they did not contact us.

Q: If it were possible, would you like to see the NFS increase the amount of land it owns in the township?

-Yes.

Q: How do you feel about the National Forest Service management of their public lands in the township?

-They are understaffed, overworked, and under budgeted. Closing the White Cloud office has had negative impacts on the NFS communications with the township because they are not around.

Q: How many of the Land Use Vision meetings have you attended?

-Probably 6. We have been very involved.

Q: How do you feel about the Vision project—what is your reaction so far?

-I was very disappointed in the resident turnout at the implementation meeting! I volunteered to take the lead on one of the citizen efforts. I think people were originally fearful that the Vision would be forced on them like new ordinances so there was a lot of public turn out for the first few meetings; people wanted to make sure they weren't going to get burned. (Then when they found out that it was not going to be new rules and regulations, they felt better and lost interest.)

Q: Has your participation in the Vision project changed how you feel about your land or how you use your land? Has it changed how you look at land in Brooks township as a whole?

-Yes. I had never looked at a plat map; I did not realize how large our section of land was in comparison to the majority of parcels in the township. I see more value in our land than when we originally bought it.

-When the NFS began clear-cutting, we wanted to plant all of our land in new trees. Now, after being involved in the Vision, we appreciate how unique our land is and we are actually going to cut some of our trees to help restore more of the prairie! We have done a complete 180 degree turn around!

-In looking at the township as a whole, I don't understand why more young people, in their 30's and 40's, aren't interested in preserving the natural resources for the children. There is a significant split between age groups in the township—there are young people and retirees.

Q: In your own words, could you briefly describe what you most highly value about land and natural resources in Brooks Township? How does that impact the way you use land in the township?

-It is so unique, very hilly; there are sections of the township that are just gorgeous, you can't find anything like them in the surrounding area. Most people have 10 acres so there is not much crowding, and yet, we are conveniently close to Grand Rapids. But now it is creeping toward us.

Interview 10

Q: *How long have you owned land in Brooks Township?*

-16 years. But we have only lived here permanently since 1993.

Q: *Are you employed in the Brooks Township area?*

-No, I am employed in Grand Rapids.

Q: *What is the general location of your property?*

-We live on Hess Lake.

Q: *What do you use your land for?*

-It is our residence.

Q: *Why do you own land in Brooks Township?*

-It was my childhood dream. My neighbors had property on Hess Lake and I learned to water ski there when I was a kid.

Q: *Do you think that undeveloped land in the township is being threatened by anything?*

-Not necessarily at present, but in the future, development pressure will increase. I believe that Brooks Township is enlightened on land management issues; we changed the zoning ordinances recently to maintain the "myth of Brooks Township," that is to say the myth of few people and lots of woods and water. The newer zoning ordinances help encourage landowners to split long 10 acre parcels in half instead of creating long narrow strips. The ordinances also encourage small lots in cluster developments. I see two forces at work in the township. One wants to preserve sparse development and the bedroom community atmosphere, while the other wants to bring industry and businesses into the area.

Q: *Do you think that threats to undeveloped land will increase in the next 5-10 years?*

-Other than the shifting population trend with people continuing to move out of the cities, no.

Q: *How do you feel about National Forest lands in the township?*

-They are a boon. I like to use them, to wander around on foot or drive through and I like to hunt deer. I see them as a blessing to the state. But there is a lot of illegal trash dumping. Its odd, a lot of people are ecologically minded but things such as increases in landfill fees force people to dump trash illegally because they cannot afford the fees.

Q: *If it were possible, would you like to see the NFS increase the amount of land it owns in the township?*

-Part of me says yes, but I am a fierce supporter of private property rights.

Q: How do you feel about the National Forest Service management of their public lands in the township?

-I don't have much of an impression. I am aware that they have limited funding. I would support more money for the NFS if I knew it was going to be spent for the right things.

Q: Do you feel there is a good level of communication between the NFS and the township residents?

-No, but what vehicle do you use to get that kind of information out to people. I would like to start a project working with the school newsletter to get information to people.

You need to talk to people about boundaries, about how to cross those communication barriers. I think that through something like the school newsletters, we could cover more information than just school news, like political information or learning about the NFS.

Q: How many of the Land Use Vision meetings have you attended?

-None, but I am an active member of my Lake Association and Lake Board.

Q: How do you feel about the Vision project—what is your reaction so far?

-I read the Vision document and I think it is great except that not a lot of people will read it nor do anything because that is human nature. If the township can energize lake associations and organize river groups, maybe some of the Vision recommendations can be accomplished but it all needs to be decentralized.

Q: Do you feel that the Vision recommendations will be implemented successfully?

-Realistically, probably not, unless the township keeps their thumb on it and keeps the groups going and influences the developers.

-The Vision can be useful and an effective tool for rewriting the Master Plan; designing the township around the Vision will not be a bad thing. Some people won't like the Vision, especially large landowners, and some people won't care. But they also live in Brooks Township so they will have to give a little.

Q: In your own words, could you briefly describe what you most highly value about land and natural resources in Brooks Township? How does that impact the way you use land in the township?

-All I have to do is look around. This is a beautiful place with its dirt roads, creeks, swamps, rivers, lakes, people and animals! In fact, a recent road millage was defeated and I think that happened because people want to keep the dirt roads, they give the township a rural feel and they discourage development.

Q: If you had a question about land or natural resource use in the township, who would you take that question to?

-I would take it to the zoning administrator.

Interview 11

Q: How long have you owned land in Brooks Township?

-7 years.

Q: Are you employed in the Brooks Township area?

-No.

Q: What is the general location of your property?

-Rural forest land with sandy areas and lots of oaks and scrub pines.

Q: What do you use your land for?

-My residence and I enjoy riding horses here.

Q: Why do you own land in Brooks Township?

-I found this to be the kind of location I was looking for. I can fish, hunt, ride horse, and live in a beautiful setting.

Q: Do you think that undeveloped land in the township is being threatened by anything?

-Yes, there are too many people littering, dumping trash illegally, and motorcycles are tearing things up. Plus, the NFS has cut a lot of trees for the Karner Butterflies but they have not restored the habitat correctly and they are not sure if the strategy they have chosen is going to work at all.

Q: Do you think that threats to undeveloped land will increase in the next 5-10 years?

-It is already getting worse with people moving up from Grand Rapids.

Q: How do you feel about National Forest lands in the township?

-My land adjoins them on two sides. I like to ride horse through the NFS lands and I catch a lot of people dumping trash. This upsets me a great deal; I thought that with the money from timber sales, the NFS was supposed to clean up trash. As soon as the Ranger station moved to White Cloud, I saw much more problems with trash and other abuses because of the lack of NFS presence.

Q: How do you feel about the National Forest Service management of their public lands in the township?

-I am upset about the large acreage of trees they cut for the butterfly habitat; a wind storm came through here shortly afterward and knocked more trees down, it looks terrible. Then they didn't leave enough brush for a good controlled burn to help restore the prairie grasses so the habitat is still no good for the butterflies. Other than this Karner Butterfly project, the NFS usually has fairly good communications and relations with neighboring landowners.

Q: How many of the Land Use Vision meetings have you attended?

-Most of them.

Q: How do you feel about the Vision project--what is your reaction so far?

-Good. Everyone involved seems to have different views of what they want to see come out of the project. My preference is to clean up and take care of the lands we have, especially with the trash dumping. But I don't know if the Vision recommendations are accomplishable because there are so many different things included; its a good start though.

-For the trash issue, my suggestion is that people should be given a permit if they are cleaning up public lands in the township (NFS, state, or township lands) so that they don't have to pay the landfill fees for other people's trash.

Q: Has your participation in the Vision project changed how you feel about your land or how you use you land? Has it changed how you look at land in Brooks township as a whole?

-No, not much can be done on my land (as far as farming or other land uses), so I feel that I have been a natural conservationist. I am frustrated with many of the agencies and officials, though, for not doing anything when I call in concerns, such as littering or abuse by ATV's.

Q: In your own words, could you briefly describe what you most highly value about land and natural resources in Brooks Township? How does that impact the way you use land in the township?

-The unique natural features, the diverse plants, and the natural areas. The more the township can control small parcel land sales and development, the better chance they have of retaining natural areas here.

Q: If you had a question about land or natural resource use in the township, who would you take that question to?

-The township supervisor.

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