NATURAL RESOURCES AND OPEN SPACE ASSESSMENT

AND PLANNING RECOMMENDATIONS

FOR

MIAMI COUNTY, KANSAS

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Executive Summary

Like many dynamic areas, Miami County faces challenges associated with balancing growth and development with conservation of natural areas. This report draws on the results of a Kansas Biological Survey (KBS) inventory of high quality natural features in Miami County (Kindscher et al., 2005) and an analysis of the County's existing planning framework and socio-political climate to develop the foundation for a comprehensive land protection effort. We identify areas where more specific plans could benefit such an effort, and outline several regulatory and/or acquisition approaches that the County could use to implement those plans. Ultimately, the priorities of Miami County citizens must guide any land protection process, as citizen support will be the linchpin factor in its success.

Introduction

The Miami County Comprehensive Plan (2004) articulates a vision for a dynamic future. One key element of such a future is protection of the natural resources and open spaces that are a significant part of the County's heritage. Given the rapid development and urbanization of some parts of the County in recent years, specific conservation strategies are essential. This report draws on the results of a Kansas Biological Survey (KBS) inventory of high quality natural features in Miami County (Kindscher et al., 2005) and the County's current planning framework in order to assess potential opportunities and to recommend a series of steps the County could follow should it choose to pursue a specific open space plan in the future.

Throughout this report, we frequently use terms such as "natural resources" and "open space." While the two terms have a degree of overlap, it seems important to clarify their distinctions at the outset. Natural resources are those landscape features, such as streams, prairies, wetlands, and forests, which meet human and other species' needs and which provide essential services such as water purification, air purification, flood control, and so on. Open spaces, while they also often provide environmental services due to the natural resources located within them, are those lands that are free from development and that create opportunities for outdoor recreation, scenic views, and protection of natural and historic areas. In this report, we suggest that planning to protect open spaces will in turn protect natural resources. The specifics of such protection, however, must be determined by the County with respect to its priorities.

Why protect natural resources and open space?

As the Kansas Natural Resources Legacy Alliance (2003, p. i.) observed in its report to the Governor, "Kansas natural resources are the backbone of our heritage, economy, and overall quality of life." When the KNRLA evaluated the status of natural resource protection efforts across the state, one key concern it identified was the need for proper planning related to the conversion of natural landscapes to other uses. Among its specific recommendations related to this issue were: incorporation of natural resource management into land use decision-making and promotion of the use of conservation easements.

Because it is experiencing considerable growth, Miami County is at an important crossroads with respect to its natural resources. Although the County's Comprehensive Plan recognizes the importance of natural resource and open space protection in the face of this growth, a more detailed and specific plan focused exclusively on these issues will help to ensure that they receive the attention necessary to address them. As discussed further below, recent conflicts over development proposals suggest that quality of life issues are paramount for many County residents. It is important to recognize that the rural heritage so many people value is largely a function of ample open spaces. Proactive planning to address and maintain the County's rural heritage requires attention to the natural resources and open spaces that are an essential element of this quality of life.

In addition to being an important aspect of Miami County's rural heritage, natural resources and open spaces provide many of the critical functions noted above, including habitat, pollution mitigation, and scenic and economic value. In many cases, these benefits occur simultaneously. Farmland that is protected as open space, for example,

absorbs floodwaters, buffers the impacts of polluted stormwater from urbanizing areas, may protect the habitat of a sensitive species, and may increase surrounding property values. These concurrent benefits also contribute to the high quality of life Miami County seeks to maintain.

Although many local governments throughout the United States have addressed similar issues and developed specific open space plans, Miami County must consider its own unique circumstances in choosing its future path. The County's land use history, for instance, should help guide the direction it takes in the future. In addition, the choice of what areas to protect is different in a landscape where the vast majority of land is in private ownership and where natural features are more subtle than mountains and valleys. The elements of a successful local open space plan must furthermore consider the socio-political context and pursue strategies that best fit local preferences and interests. In short, a County must plan for itself. The following sections of this report therefore:

1) Address the land use history of Miami County;
2) Summarize results of a recent ecological inventory of its natural resources;
3) Review the County's planning documents;
4) Assess the local socio-political climate; and
5) Offer a planning foundation as well as specific recommendations that the County could pursue.

Miami County Land Use History and Growth Trends

Miami County is part of the area formerly inhabited by Native American tribes including the Kansa. Land surveys conducted after Euro-American settlement found that

roughly 90% of Miami County was prairie, a total of 332,214 acres (Kansas State Board of Agriculture, 1877). The fact that the County contained only 0.03% (941 acres) of high-quality prairie in 2005 (Kindscher et al., 2005) is indicative of the significant land use changes that have occurred there in the last 150 years.

Although urbanization is a key part of land use change in Miami County, agriculture has been its dominant feature since Euro-American settlement. In 2000, 286,000 acres (75.8%) of the County were in farms of an average 233 acres in size (Miami County Planning Department, 2004). Although updated figures are available from the 2002 Census of Agriculture, the earlier numbers are probably more accurate, due to a methodological change the USDA National Agricultural Statistics Service (NASS) implemented recently.[1]

The population of Miami County reflects its largely rural character as well as its growth trends. In 1860, five years after the County was officially established, Miami County's population was 4,980. The estimated 2004 County population was 29,712 (Kansas Statistical Abstract, 2004). The five percent growth the County experienced between 2000 and 2004 was the fourth fastest county growth in the state of Kansas (Ibid).

Of the total 2003 County population, an estimated 46 percent (13,347 persons) lived in the five cities within Miami County, with the remaining 54 percent (15,840 persons) in the unincorporated area (Miami County, 2004). While the growth of these cities, particularly Spring Hill (located partially in Johnson County) and Louisburg, is substantial, and while planning efforts direct growth to designated areas, Miami County

[1] Figures for 2002 indicate that 86.7% of the County is now farmland, a total of 320,010 acres (Kansas Statistical Abstract, 2004). According to Mr. Eldon Thiessen, Director of Kansas Agricultural Statistics for NASS, a new calibration method used to generate more accurate farm data at the state level has in fact created less accurate figures at the county level. Miami County should therefore assume a steady or slightly decreasing numbers of farms since 2000.

is also experiencing growth and development in its rural areas. As discussed further below, these changes have significant implications for the protection of the remaining high quality natural areas.

County Ecological Resources

The Kansas Biological Survey (KBS) recently conducted an ecosystem inventory of northeast Kansas prairies, forests, and wetlands to identify the remaining high-quality prairies, forests, and other natural areas in Douglas, Johnson, Leavenworth, Miami, and Wyandotte Counties (Kindscher et al., 2005). Here, high-quality natural areas are "those places on the landscape that support plant communities that closely approximate the native vegetation (e.g. native tallgrass prairie or oak-hickory forest) that existed prior to Euro-American settlement" (Ibid., p. 1). To conduct the inventory, a crew of two to three fieldworkers used aerial photography, historical maps, and sites previously mapped in the Kansas Natural Heritage Inventory database to identify potential natural areas. With these maps in hand, they then drove all county roads to find all potential sites. Landowner permission was received to inventory observed sites in more detail, resulting in a thorough inventory of the natural features remaining in Miami County. For each site, researchers compiled a thorough plant species list and took other biological notes. They presented landowners with a list of the plants on their parcels and encouraged continued good management of these remaining natural areas.

Prairie Sites

In Miami County, the KBS team visited a total of 77 prairie sites during the 2004-2005 survey. All of these were identified as the unglaciated tallgrass prairie community

type. Thirty-six of the sites were new; that is, they had not been documented previously. The remaining 41 sites were "revisits," which the team examined to determine whether they still exist as native habitat (originally identified in the late 1980s or 1990s) and to reevaluate their condition.

The KBS team also assessed the condition of each prairie site in Miami County. These evaluations reflect the degree of human disturbance that a site has experienced. Site rankings range from A to D, "with A being the best (least affected by human disturbance) and D being the worst (severely affected by human disturbance)" (Kindscher et al. 2005, p. 12). Sites rated as "X" are those that have been extirpated – converted to cropland, housing, or some other use – since their last visit. The numbers of sites of each type are listed in Table 1.

Table 1: Numbers, Acres, and Rankings of Prairie Sites in Miami County

Miami County	**A Sites**	**B Sites**	**C Sites**	**D Sites**	**X Sites**
Number of Sites	0	20	32	9	7
Acres	0	331.66	609.58	120.33	57.8

While surveying the prairie sites in Miami County, the KBS team identified those sites that supported significant plant species, in particular, Mead's milkweed (*Asclepias meadii*) and the Western prairie fringed orchid (*Platanthera praeclara*). Both of these species are listed as threatened under the U.S. Endangered Species Act, and thus receive federal protection. That KBS study identified 40 Mead's milkweed populations in Miami

County, the largest number of the five counties surveyed (Ibid.). No populations of the Western prairie fringed orchid were discovered, however.

In addition to rare plants, the KBS study also sought data on the Regal fritillary (*Speyeria idalia*). This large orangish butterfly's numbers have steadily declined throughout the Midwest due to habitat loss, especially tallgrass prairie habitats which contain its main food source, prairie violets (*Viola pedatifia*). As this butterfly species also relies on native tall- and mixed-grass prairies, the KBS team sought to determine its presence on and around the documented prairie sites. Researchers detected Regal fritillaries on 20 of the high-quality prairie sites in Miami County. These included 5 "B" grade sites, 14 "C" grade sites, and 1 "D" grade site. Interestingly, the densities of these butterflies were considerably lower than in the other two counties (Douglas and Leavenworth) that supported them at the time of this study. This may reflect annual variation in the butterfly's populations, but the study could not determine this definitively.

Forest Sites

In addition to its remaining prairie sites, Miami County has a total of five high-quality forest plant community sites. These include one Ash-Elm-Hackberry Floodplain Forest, one Maple-Basswood Forest, and three Oak-Hickory Forests, with a total size of 517 acres. One of these sites (266.62 acres) received a "B" grade, while the remaining four forest sites received a "C" grade. Because of their large size, their linear shapes, and the fact that they usually have multiple ownership, the high quality forest sites are more difficult to inventory. Miami County thus has some additional forest sites that have not yet been examined. Furthermore, the list of five sites KBS has identified does not include

forests that have developed over the last several decades through fire suppression and the spread of brush and trees. Although such forests provide important wildlife habitat, they do not tend to support rare species and are not comprised of high-quality plant communities.

Study Implications

The results of the KBS Natural Areas Inventory show that northeast Kansas, including Miami County, has lost the vast majority of its high-quality native prairies and forests. Nevertheless, these high-quality areas do still exist and are worthy of protection. A map showing the location of these prairie and forest sites is included as Appendix B. Since most of these remaining areas are in private ownership, protection efforts must focus on ways to encourage continued good stewardship.

Of course, protecting the most ecologically significant, high-quality areas of the County is only one part (albeit a critical part) of the broader effort to protect open spaces. The KBS data is extremely helpful in that it has identified those areas where protection is a priority. Yet, other natural resources and open spaces are also important. Additional efforts are therefore necessary to determine the full scope of land protection activities the County desires to undertake. A review of Miami County's existing land use planning framework provides further information useful for crafting a specific plan to this effect.

Miami County Planning Framework

The primary Miami County planning document is its 2004 Comprehensive Plan. Appendix A contains the plan's future land use map. This plan provides a clear description of the County's vision for its future growth and development as well as a

policy guide for achieving that vision through goals and objectives. Although the plan is long-range, designed to address an approximately 20-year time period, County planners view it as a flexible guide, more so than a rigid policy document (Miami County 2004, p. 2). As such the Comprehensive Plan can be adjusted to meet the dynamic needs of the County.

Several aspects of the Miami County Comprehensive Plan are consistent with the goal of natural resources and open space protection. At the same time, the plan does not provide many specific details as to how the County's natural areas might best be preserved, or even what areas most merit protection. The following subsections take a natural resources and open space protection perspective in reviewing both the strengths and potential areas for improvement of both the plan itself and the overall County planning framework.

Planning Strengths

From a land conservation perspective, the first apparent strength of Miami County's planning efforts is the fact that the County's vision for its future includes natural resource and open space protection. The vision statement in the 2004 Comprehensive Plan identifies "protecting our unique natural resources" as a priority (Miami County 2004, p. 1). This vision is articulated in various parts of the plan, including its projected vision for the year 2025, where planners foresee that "the landscape is serene because clustered housing has maintained ample open space to enjoy" (Ibid., p. 22).

The goals that make up the core of the comprehensive plan present the specific ways that the County intends to bring about its future vision. Among the plan's goals that

best support natural resource and/or open space conservation are the following (listed under the section of the plan in which they appear):

1. Rural Residential and Agricultural Goals
    a. Strive for agricultural uses that do not detrimentally affect the environment.
2. Residential Goals
    a. Residential development should enhance the County's unique rural character and be responsible in its design relative to the natural environment.
3. Parks and Recreation Goals
    a. New development should create a balance between natural and manmade environments to preserve and protect natural features while at the same time allowing new development, thus creating unique neighborhoods and living environments.

Overall, then, the Miami County Comprehensive Plan articulates a vision of a landscape where natural resources are a key component of the desired rural character.

A second strength of the Miami County plan from a natural resources perspective is the emphasis on residential clustering. Clustered development, in that it limits the percentage of a parcel that can be built upon, has the potential to set aside considerable land for open space or other conservation purposes. While clustering alone may not be sufficient to maintain strong agriculture (Daniels 1997), it can be important to protecting rural character (Arendt 1997). Miami County addresses clustering through objectives that fulfill its larger goals for residential and rural residential land use. Through its

requirements for 30% open space to be set aside in rural residential development, the County also recognizes that natural resource protection can occur through clustering.

A third strength of the plan is that it has begun to address the types of landscape features that are most worthy of protection. For example, in addition to the 30% set-aside requirement for clustered development, the County has established criteria to determine "the amount, quality, and location of permanent open space as part of land subdivision in the County" (Miami County 2004, p. 19).[2] In addition, the plan encourages suitability analyses to precede development. The Parks and Recreation section of the Goals and Objectives chapter further elaborates on the County's intention to "encourage the preservation and restoration of significant stands of trees, grasslands, wetlands, stream banks, and environmentally sensitive areas" as new development occurs (Ibid., p. 44). Understanding the specific landscape features that merit protection is an essential part of conservation efforts; Miami County has initiated this process in its comprehensive plan.

A fourth strength of this plan is perhaps its most specific discussion of existing conservation efforts. The section on Hillsdale Lake describes the Hillsdale Water Quality Project, Inc. and the Watershed Restoration and Protection Strategy (WRAPS) that have developed extensive programs for watershed and water quality protection. Although these efforts are not directly related to the comprehensive plan, Miami County planners have established a goal of supporting them. As such, they have created a bridge for linking land development to conservation.

Fifth and finally, the inter-local cooperation between Miami County and its cities is very important. The County and the cities of Osawatomie, Paola, Spring Hill, and

[2] These criteria are: wetlands; ponds, lakes, creeks; land within the 100-year floodplain; slopes exceeding 25 percent; recreation and environmental resource areas; mature woodlands; and wildlife habitat areas of sufficient size.

Louisburg have mutually established Community Growth Areas, which provide clear signposts for the location of the most high-density development, make efficient use of existing infrastructure, and lessen the likelihood of unplanned growth in the unincorporated rural areas. Village Expansion Areas serve a similar purpose, but on a much less intensive scale. As discussed further below, cooperation among these local governments also sets an important precedent for considering more specific land protection efforts.

Planning Challenges

Despite the strengths of Miami County's plan described above, other elements could be improved upon, primarily through more specificity. Most notably, although the plan suggests that natural resources are an important component of the County's vision for its future, no specific part of the plan is devoted to this topic. Instead, references to natural resource conservation are scattered throughout the document. Without a more focused effort to set goals and objectives specific to land protection, such protection is likely to occur only by accident, if at all.

Related to this point, the plan does little to prioritize those natural resources it wishes to protect, although, as noted above, it does contain helpful initial efforts to identify sensitive landscape features. These features should receive additional attention, so as to clarify their degree of importance. Assigning the highest degree of priority to protection of particularly fragile features, such as native prairie or mature forest, would help to guide development appropriately.

A third element of the plan that could benefit from more specificity is the clustering requirement. While the plan recommends that permanent open spaces should

be connected “where possible,” this is unlikely to occur in the absence of more specific guidance or requirements to that effect. From a conservation perspective, contiguity of open space is critical for ecosystem health, since certain species depend on such spaces as travel corridors and a means of genetic exchange. As discussed in more detail below, the County’s ability to take the KBS natural areas data and apply them to these open space requirements is important.

Another potentially problematic aspect of the open space requirements concerns their permanence. The “Open Space” section in Chapter 2 (Factors Affecting Development) states: “Some open space may be temporary in nature and set aside for future urban or higher-density development. Open space that is maintained for either recreational or agricultural purposes at this time creates future opportunity for higher density development as the cities bring sewers and other infrastructure to an area” (p. 18). It is of course important that communities be able to grow in an orderly, sequential manner. Nevertheless, some natural features should not be developed under any circumstances; the plan does not specify such features.

Overall, the challenges Miami County faces to its efforts to plan for natural resource protection stem from a lack of specificity. Because the existing planning framework provides a firm foundation, it is highly possible to develop and implement a more specific resource protection plan. The County has the components of a land protection “toolbox” in place. What remains is to determine the proper arrangement of those components.

Physical and technical considerations, such as the location and species composition of sensitive natural areas, are perhaps the most critical piece of this effort.

Nevertheless, various socio-political considerations must also be taken into account when planning for natural resources and open space protection. Local governments must consider the "fit" a land protection plan is likely to have within their communities, lest political controversy doom such efforts from the outset. For this reason, we offer a brief assessment of Miami County's social and political climate as an additional preface to our planning recommendations.

Miami County Political Climate and Citizen Interests

Determining what the public might best support in terms of land conservation planning in Miami County is a difficult and complex question. Because our study permitted only a few visits to the County and very limited discussions with its citizens, we relied primarily on the local newspaper, the *Miami County Republic*, to develop an understanding of citizen interests and priorities.[3] Of the various available sources of information about an area's preferences and priorities, no single one captures local flavor as well as the local newspaper.

An abundantly clear message to emerge in our review of recent (September 2005 – February 2006) issues of the local newspaper is that Miami County citizens are concerned about growth. This concern is manifest in numerous examples encompassing both the rural parts of the County and its cities. Examples include the controversy over the proposed motor-sports track near Louisburg (Carder, 2005) and the Townsend, Inc. proposal (subsequently withdrawn) to build a 124-acre subdivision in Paola (McCauley, 2006). Public meetings concerning new development proposals are frequently well-

[3] In addition, our research assistant, Derek Hanson, interviewed Brian McCauley, the newspaper's editor. Further efforts to gauge citizen interests would be helpful here, but are beyond the scope of this study.

attended and at times heated. Although residents have not coalesced around specific environmental protection issues, they do demonstrate an interest in maintaining the open space that permits the rural and small-town character of the County. They also recognize that water is a scarce resource, necessitating careful planning of future development to match available services and infrastructure. The public costs associated with development are an additional concern.

This analysis, albeit very brief, is helpful in thinking about the type of land protection plan most likely to succeed in Miami County. On one hand, citizens appear to support planning and are comfortable with the idea of certain limitations on development. On the other hand, there does not appear to be a significant "anti-growth" sentiment that would facilitate the use of strong regulatory measures for keeping development at bay. Instead of strictly opposing growth, citizens seem to hope the County will grow in a way that is consistent with its rural heritage. One unknown factor is the extent to which citizens might support efforts to raise revenues for natural resource and open space protection. Additional investigation of the revenue mechanisms available to the County and the possibilities of working cooperatively with the cities on these issues would be helpful in this regard.

The Foundation of a Plan for Protecting Miami County's Natural Heritage

Miami County envisions a future where growth and development blend seamlessly into the rural character of the landscape. As discussed above, however, protecting the County's rural heritage involves protecting its natural heritage. Protecting sensitive natural resources and open spaces will be difficult without a concerted and

specific planning effort. Like any local government that seeks to conserve its natural heritage, Miami County must choose to emphasize one or a variety of planning techniques that stem from one of two overarching conservation approaches: regulation or acquisition. A County's land protection toolbox may contain techniques from each of these approaches, but it is important to distinguish between them.

Regulatory approaches

As the words suggest, regulatory approaches typically use local government authority to control land use. Zoning is clearly the most common of such regulatory efforts across the United States. As such, zoning enjoys broad usage and a broad level of support from the public, at least in a general sense. There are many different types of zoning, of course, and applications other than the standard Euclidean zoning (for example, cluster zoning and performance zoning) may meet more resistance, in part because they are less familiar. Other regulatory approaches include such measures as conservation practice ordinances, for instance, stream buffer ordinances, that limit the activities detrimental to a particular resource. Transfer of development rights, discussed further below, may be a regulatory approach if it makes use of the zoning power. Overall, regulatory approaches have the advantages of consistent application and comparatively low cost. On the other hand, the past two decades have seen a rise in landowner resistance to certain regulations as an unfair violation of their property rights. Moreover, regulatory approaches may not provide permanent protection to sensitive lands, as they can be changed fairly readily.

Acquisition approaches

Unlike the regulatory approaches discussed above, acquisition approaches seek to own open spaces outright or else control the future development of private property by acquiring its development rights. Public and/or private, non-profit entities can both be involved in such efforts. Land trusts, for example, pursue conservation easements on private property. Such easements, which a property owner may donate or sell, restrict the activities that can take place on that property, generally in perpetuity. When public entities, such as local governments, buy easements, it is typically known as the "purchase of development rights," (PDR) discussed in more detail below. With respect to fee simple acquisition, local governments could be assisted by the financial assistance of the state or federal government. While easements and PDR are voluntary programs, fee simple acquisition could be either voluntary, or, in extremely rare and limited circumstances, required through the eminent domain process. One large advantage of the acquisition approach, however, is its typically voluntary nature. The permanent nature of this approach is also an advantage from an environmental perspective. The primary disadvantage, of course, is cost. Because the efforts of a land trust alone are unlikely to protect sufficient amounts of open space, local governments would almost certainly need to explore a mechanism to generate revenue for acquisition of land or development rights.[4]

Filling the Toolbox

Miami County will ultimately need to decide for itself whether regulatory, acquisition, or some combination of those two general approaches is most appropriate to

[4] While this may seem daunting, voter support for land conservation ballot measures is quite high. The Land Trust Alliance, for example, reports that voters approved 79% of such measures in the November, 2005 elections. See: http://www.lta.org/publicpolicy/landvote2005.htm. Douglas County, Kansas is currently exploring the possibilities for funding its own land conservation efforts through an innovative program called ECO2, which would acquire both open space and industrial lands.

help meet the goal of protecting its natural heritage through natural resource and open space conservation. A single tool is unlikely to accomplish this goal; instead, the County should seek to develop a versatile "toolbox" of techniques that it can use to address different issues. Some of these tools, such as cluster development, are already in place.

With respect to the high quality natural areas the KBS study has identified in its research, we would urge the County to pursue a strategy to acquire a substantial percentage of those lands in perpetuity. These rare landscape elements, such as native tallgrass prairie, are too few in number to risk eventual conversion to other uses. We should strive to protect these gems permanently through purchase of the land or use of conservation easements.

With respect to more general open space uses, which may conserve natural resources while simultaneously protecting habitat, water quality, and so on, we would again recommend that the County investigate its options for permanent protection. As discussed above, cluster zoning, while it can be extremely useful in minimizing the overall impact of residential development on the landscape, may be only a preliminary step. Having clear criteria for which lands to set aside and which to develop is critical, as is the effort to pursue contiguity of those open spaces. In addition, the County should look for ways to protect at least some open spaces permanently, rather than allowing the possibility of their future development.

Two potential tools that could aid Miami County in its open space protection efforts are Purchase and Transfer of Development Rights. We suggest these not as the only possibilities for success in the County, but as tools that have a number of advantages we feel are worth considering in the pursuit of a goal of open space protection. PDR and

TDR work from the idea that a property owner in fact owns a "bundle of rights," one of which is the right to develop that property in accordance with local regulations.[5] Each avoids the concerns about takings that so often plague a strictly regulatory approach to conservation. Each also has a proven track record, and allows the more permanent approach that we recommend. Finally, these tools are consistent with Miami County's socio-political climate, where public sentiment very strongly favors maintaining rural heritage, but where no specific proposals for or means of achieving this have emerged. The analysis below briefly describes each tool with respect to how it works, its legal status in the state of Kansas, and its potential applicability in Miami County.

Purchase of Development Rights (PDR)

As noted above, PDR is a tool that local governments can use to restrict the future development of both particular parcels of land or larger land areas. By paying a landowner for the value of his or her development rights, local (or state) governments can be assured that the land will be protected against the impacts of development in perpetuity. In turn, a landowner who agrees to sell his or her development rights to a local government maintains all the rights and responsibilities that accompany land ownership, with the exception of the right to develop the land further (Daniels and Bowers 1997).

From a legal perspective, PDR appears to be a very feasible tool for Kansas local governments to explore, though few have yet to do so. [6] The Kansas Uniform Conservation Easement Act (KSA §58-3810) explicitly permits use of such easements,

[5] Other rights in the bundle include the right to access the property, to sell the property, and so on.

[6] In order to determine the legal applicability of PDR and TDR in Kansas, we reviewed state statutes (Kansas Statutes Annotated, KSA), case law, and available legal analyses. Because we are not attorneys, we urge the County to conduct a more thorough review of these tools should it decide to pursue them. In light of the growth agreements Miami County maintains with its cities, the County should also consider the statutes that deal with zoning in the three-mile extra-territorial jurisdictions surrounding those cities.

which are defined as non-possessory interest in real property imposing limitations (negative restrictions) or affirmative obligations (KSA §58-3810(a)). The limitations that a particular easement would impose on a landowner vary, but include activities deemed harmful to the natural, scenic, or open-space values of the property in question. As an example, a property owner who develops a conservation easement on his or her property may be limited in the future development of that property, including subdivision, building new structures, and the like. A conservation easement's duration is limited to the lifetime of the grantor unless either the original agreement stipulates otherwise (KSA §58-3811(d)) or a court of law modifies or terminates the easement (KSA § 58-3812(b)).

Conservation easements are entirely voluntary. As noted above, development rights may be donated or sold and easement restrictions can be tailored to meet specific needs. While charitable organizations, such as land trusts, often hold easements, Kansas state law permits governmental bodies to hold them as well (§58-3810(b)(1)). In addition, governmental bodies may serve as third-party enforcers of the terms of a conservation easement, even when they are not the holder of the easement (KSA § 58-3810(b)(3)). Miami County could thus pursue either an independent program of securing conservation easements, or it could investigate a partnership with an entity such as the Kansas Land Trust. Kansas state law appears to allow either scenario.

Although Kansas local governments have yet to embrace PDR, its use among both state and local governments across the U.S. has grown in recent years, particularly with respect to farmland protection. One county-level example of PDR is in Lexington-Fayette County, Kentucky. In 2000, voters approved a $25 million bond issue to support purchase of development rights on agricultural, rural, and natural lands (Boone County

Planning Commission, 2001). Similar voter support occurred in the Town of Dunn, Wisconsin, where citizens approved a property tax increase to fund a PDR program. In place since 1996, this program has already protected over 2,500 acres (Town of Dunn, 2005).

As mentioned above, PDR's popularity stems in large part from its non-regulatory and voluntary approaches. An additionally important benefit is the permanent or long-term nature of PDR.[7] Unlike regulatory measures such as conservation zoning, PDR cannot easily be changed. Finally, landowners can benefit from the cash asset that sale of their development rights provides.

While PDR has many benefits, its biggest drawback is cost. Local governments must find a way to finance a PDR program, including funds for any necessary staff, for the work of professional, independent appraisers who determine the value of the development rights, and for the actual purchase of those rights.[8] In addition, the voluntary nature of PDR, while a benefit, can also work against a program if no one opts to participate, or if critical acreage goes unprotected. If Miami County is interested in such a program, it would also need to build public support through efforts to educate and involve citizens. Yet, should it choose to pursue these efforts, Miami County could make large strides in its quest to sustain a healthy landscape.

Transfer of Development Rights (TDR)

TDR is another potential land policy tool that could gain a foothold among Kansas local governments. Like PDR, TDR works from the concept of removing the rights to develop a parcel of land without affecting a landowner's other rights and

[7] While many PDR programs work with permanent easements, others stipulate a certain time frame for the easement or a potential "buy back" clause.
[8] See Daniels and Bowers, 1997, for a thorough discussion of different funding options.

responsibilities. Where TDR differs is in the use of those rights. Instead of being retired, the rights are transferred from a parcel that merits protection to one where development is to occur. At its simplest, TDR is a transaction between two private landowners.

The most common iteration of TDR is in what is known as a "dual zone" program. Here, a local government would identify a "sending zone" and a "receiving zone." The sending zone is the area where development will be restricted in order to protect natural resources and open space, including farmland. Through use of the zoning power, uses are restricted (downzoned) in ways that best meet conservation goals. The receiving zone, then, is the area where development is to occur. Typically, property owners in receiving zones purchase the transferable rights in order to develop at higher densities than what zoning would normally permit. For example, if the existing zoning allowed 2 dwelling units per acre, use of TDRs could increase that to 4 dwelling units per acre.

Single zone TDR is another possibility. In this approach, landowners whose uses were restricted on a portion of their property, for example, through a stream buffer ordinance, could receive density bonuses or otherwise to "compensate" them for those restrictions. In fact, the City of Lenexa, Kansas established a small single zone TDR program in 2002 to mitigate the property rights impacts of its stream setback provisions.[9] Lenexa's appears to be the only such TDR program in the state of Kansas.

With respect to the legal status of TDR in Kansas, state law indicates that governing bodies may adopt zoning regulations which include provisions permitting the transfer of development rights (KSA §12-755(a)(2)). Because TDR typically involves use

[9] Mike Beezhold, Watershed Manager for the City of Lenexa, provided us with this information. Additional information on Lenexa's TDR ordinance is available at: http://www.raintorecreation.org/DevelopRights.html.

of the zoning power to limit development in certain locations by transferring the right to develop to other locations, this statutory language permitting such actions is important. Despite its extremely limited use in Kansas to date, then, state law does not seem to an obstacle in this regard.

TDR has become a popular tool among other local governments across the United States. The American Farmland Trust found 50 such programs in place in 2000 (American Farmland Trust, 2001). The most prominent and active program is that in Montgomery County, Maryland. Established in 1980, this TDR program had protected 40,583 acres of agricultural land by 2001 (Ibid.).

As a land protection planning tool, TDR has a number of important benefits. Like PDR, TDR can protect land permanently, by removing development rights from important and/or sensitive parcels. When compared to PDR, another apparent benefit of TDR is its lower cost. It is private actors, rather than government entities, which acquire these development rights, so public costs are limited to those associated with a certain level of staffing and coordination. In addition, TDR programs allow for careful, well-planned growth, since receiving areas would be those most easily serviced by public infrastructure. Finally, the use of regulatory power to establish the zones of a TDR program can assure that the most important lands are being protected.

This use of regulation, of course, may also prove to be a drawback to TDR. It is possible that the public may disagree with the sending and receiving zone designations and the use of the zoning power to achieve those. All in all, building public support for TDR may be more challenging, in that it is more complex and involves a degree of uncertainty. A strong market for development is vital for success of TDR. In some cases,

however, governments have set up TDR "banks," which can serve as the buyer of last resort if the market to purchase the transferable rights is soft. Should it opt to investigate TDR further, Miami County would need to consider the robustness of its development, and whether it is ripe for an active TDR market at this time.

Recommendations

While this analysis has provided a foundation with which Miami County can consider development of an open space plan, the County itself must take the next important steps. The first logical step would be some sort of community visioning process, whereby the issues identified in this report could be discussed in a public forum. A clearer understanding of citizen priorities is vital to the County's choice of tools to fill its toolbox. One key issue that a visioning process could help clarify is willingness to support funding for programs such as PDR and TDR.

As noted above, we believe the high quality natural areas the KBS study identified in Miami County should be conservation priorities, and acquisition of those areas or their development rights is likely the best approach. Further information on other important landscape features, for example, riparian areas, is also essential. No matter what methods are chosen to pursue conservation objectives, understanding the features most in need of protection should be the basis of those choices.

A regional effort to identify targets for natural resource planning is underway at the Mid-America Regional Council (MARC).[10] This Natural Resources Inventory project (NRI) has identified the following features across the metropolitan area: grasslands, woodlands, forests, lowland forests, wetlands, and water features. The goal of this

[10] Descriptions of this and other MARC environmental initiatives are available at: http://www.marc.org/environment/.

inventory is to provide data to inform environmental planning efforts. While the study does not extend to Miami County (it includes Johnson County, KS and Cass County, MO), it could provide helpful background for developing Miami County's plan. Because regional efforts are essential in the larger pursuit of a sustainable landscape, it is important to build connections among the local components of such efforts.

Conclusion

Miami County foresees a future landscape similar to that which exists currently, namely a rural environment with protected natural resources and open spaces, and with carefully planned and vibrant population centers. Given the rapid growth and development within the County, ensuring the future of its rural heritage will require concerted efforts. The analysis in this report shows that while Miami County has several key elements of an open space strategy in place, more specific efforts are important to achieve its goals. A key first step is probably a community visioning process that further probes what seem to be strong community sentiments in favor of landscape protection. Whatever course the County opts to pursue, public support is critical. With such support, the only limits to the County's planning efforts are those it imposes on itself.

Acknowledgements

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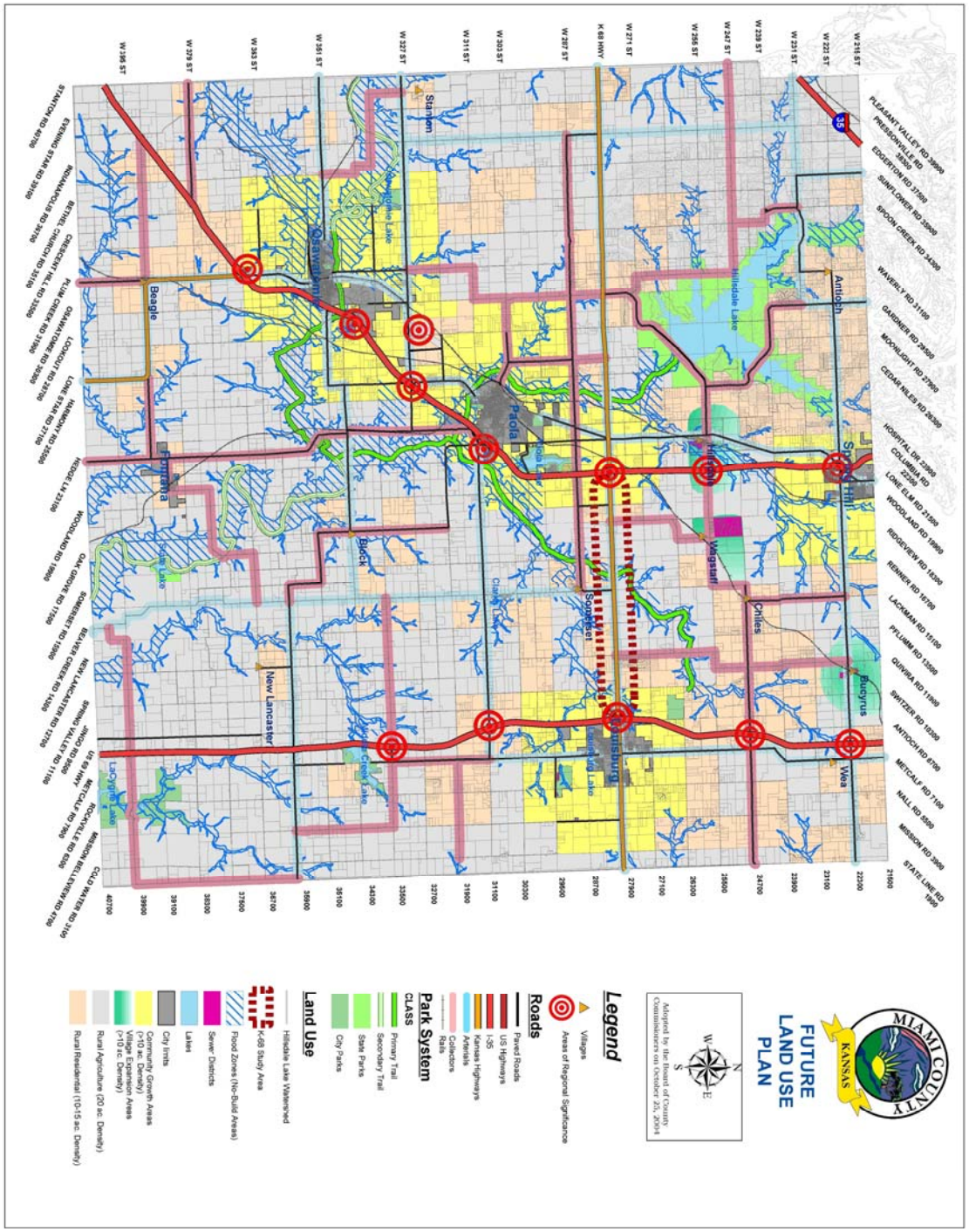
Appendix A: Miami County Future Land Use Plan (Miami County, 2004)



Appendix B: Miami County Prairie and Forest Sites, 2005 (Kindscher et al., 2005)