New Jersey Future

Assessment of Municipal Performance in Resource Conservation

March, 2001

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I. Introduction and Summary

This project reviews local government policy regarding natural resource conservation in a sampling of New Jersey towns. To make this assessment, New Jersey Future surveyed 44 towns, within which lie some of New Jersey's most valued and sensitive natural resources and landscapes: prime farmland, pristine ground and surface water, wetlands and estuaries, woodlands and wildlife habitats, scenic terrain. The towns spread across New Jersey from the Ridge and Valley Region along the upper Delaware, southeast to the Barnegat Bay Shore. Towns in the Pinelands, the Highlands, and the mid-state Farmbelt were likewise included.

The first step in completing the municipal survey was to identify and document the environmental resources (such as steep slopes, wildlife habitat, stream quality, etc) within each region. Next, it was necessary to visit each town and review its master plan and land development provisions with those natural resources in mind. The finished survey compares the regional resources to the efforts in place locally to protect those resources. Each town was rated as to how it regulates its land, water, biota, and settlement patterns with respect to environmental resource conservation. The following are the primary conclusions and recommendations stemming from the research.

Conclusions

Municipal policies are disconnected from regional and statewide environmental conservation goals. Municipal land-use regulations and practices are, for the most part, sharply at odds with regional environmental conservation imperatives – and even with local conservation goals as expressed in master plans. There is often a tension within municipalities between the fiscal realities faced by the governing body and environmental preservation. Municipal behavior is rational given the current land-use and tax system. This constitutes a massive contradiction in public policy between state goals, and local actions.

All privately held land in New Jersey is zoned for development – often at densities that do not reflect the actual carrying capacity of the land. The stated policy of New Jersey municipalities – as expressed in zoning and related local land-use regulations – is full "build out," with lot sizes that usually range between 1 and 3 acres.

There is a "checkerboard" of environmental commitment among municipalities. There is a sharply drawn "checkerboard" of commitment to environmental conservation: activist towns bordering uncommitted towns. One town's initiatives may be undermined swiftly by development approvals or other conservation lapses by its neighbors.

Conservation policy lacks an ecosystems approach. Municipal conservation policy is rarely based on an ecosystems or water-cycle approach to environmental conservation, i.e. virtually no towns – outside the Pinelands – call for habitat conservation, or preservation of endangered species.

Many towns wish to close the conservation gap, but lack the tools to do so. A growing number of New Jersey towns are increasingly aware of the disconnect between zoning and conservation imperatives, and are acting to close the gap through downzoning and other means.

But because statewide tax and land-use policies often drive this disconnect, no municipality can overcome these obstacles alone.

Recommendations

Provide better support to municipalities through natural resource data and technical assistance. Sound data is the indispensable basis for defensible land-use regulation. Data regarding natural resource preservation is available now from state agencies, educational institutions and nonprofit sources, but it needs to be more accessible. State agencies and nonprofits must step up their efforts to provide municipalities with "best practices" from other places, technical assistance and information exchange on smart-growth measures.

Enact stronger municipal tools for conservation. The *Municipal Land Use Law* should be amended to clarify and to strengthen existing provisions regarding the powers of towns to adopt resource conservation measures; such measures should include stronger master plan elements, increased use of cluster development options, improved capital facilities planning and management and transfer of development rights.

Defend municipal actions that are consistent with the State Plan. The State of New Jersey should defend all municipalities that adopt master plans and enact zoning ordinances consistent with, and serving to implement, the *State Development and Redevelopment Plan*. This defense could take the form of legal support from the State Attorney General's Office, or full financial indemnification by the State against landowner or builder lawsuits.

Streamline the administrative process for endorsement of municipal plans by the State Planning Commission. The State should adopt a straightforward, effective administrative process for State Planning Commission (SPC) endorsement of municipal plans, particularly when endorsement involves issues of larger-than-local concern such as effective environmental conservation.

Consider differing regimes of land-use governance for differing regions. There may be greater political feasibility in adopting differing models of land-use governance appropriate to differing regions of the state, than in taking a "one size fits all" approach. The growth management system within the Pinelands is a successful example of how regional planning, public investments, land use regulation and mandatory municipal conformance can be linked to environmental conservation. In other parts of New Jersey, counties may be in a good position to lead a regional planning processes.

Integrate watershed and wastewater planning with growth management at both the state and local levels. Watershed and wastewater treatment planning and management should be coordinated by NJDEP rule with the *State Plan*. Through amendments to the *Municipal Land Use Law*, the *County Planning Enabling Act,* and related statutes, watershed and wastewater planning and management should also be integrated with institutional land use decision-making at the local level.

Make State land-acquisition funds an inducement for local land-preservation initiatives. While the number of acres being saved may sound impressive; however, preserved areas are not effective if they are simply isolated fragments in the larger mosaic of urbanization. We need land regulations that will secure the necessary "critical mass" of a region's farmland, forest ecosystem, or critical watershed. Municipalities should be rewarded for plans and regulations that protect the larger areas. Sewerage should be restricted to areas where growth is planned – proscribed where it is not.

II. Highlights of Analysis

Land use regulations adopted by municipal governing bodies are the primary determinant of local policy regarding resource conservation. While this study does take into consideration planning documents, these plans do not determine land use outcomes directly – or often even at all – which is why our analysis concentrates on zoning and land development ordinances. It is important to note that this project does not assess actual outcomes either in the project files of planning and zoning boards, or on the ground. In other words, we did not count the number of variances or wavers granted by planning and zoning boards, or visit development sites to review what was actually built. See Appendix I for a complete description of our analytical methods.

Our analysis shows there are few towns in New Jersey implementing exemplary resource protection measures. In addition, the degree to which attention is given to these matters ranges widely from municipality to municipality. For instance, in the Ridge and Valley region alone, there are four towns that have taken "Significant Action" toward the preservation of steep slopes. This contrasts greatly with the six towns where steep slope issues are rated as "Not Addressed" or simply "Attention Given." The same trend is apparent in the Highlands region with regard to stream corridor and wetlands protection.

Along the Barnegat Bay Shore, a region with particularly sensitive water and biotic resources, municipal protection for these resources is lacking. Only one town, Stafford Township (Ocean County) has taken "Significant Action" toward managing stream corridors and wetlands. (Note that Stafford has also received awards from county and state agencies for its stormwater management ordinance.) The land development ordinances in the Barnegat Bay Shore tend to be older, with small residential lot sizes and few flexibility provisions.

Many of the towns within the Barnegat Bay Shore region also fall partially – in many cases halfway – within the Pinelands Management Areas and so under state and federal conservation regulations (See the Pinelands section of Part III below for a more full discussion.) Municipalities, or portion of municipalities, within the Pinelands Management Area meet the highest standard through compliance with the Pinelands Comprehensive Management Plan. Elsewhere, the degree of sophistication in planning and regulating environmental resources at the local level varies. Municipal activity (if any) in environmental protection tends to be autonomous, without regional cooperation for the conservation of these "larger than local" resources.

Refer to Appendix II for a comparison of municipal performance by region.

III. Findings of Towns by Region

New Jersey is a state of great variety in physiography, landscape ecology, settlement patterns, degree of urbanization, and socio-economic conditions. Regional variations find their counterparts in the attitudes of local government toward resource conservation, and in municipal responses to resource management challenges. Increasingly, civic initiatives and public policy appear to relate to particular regions of the state: Pinelands, Highlands, Delaware and Barnegat Bay Shores, for example. We can also speculate that people may identify more readily with their particular region of the state, than with remote regions they know little about. (Note: such is not the case with the Pinelands.)

For this project we grouped study towns into five regions based on the factors above. These are: (1) Barnegat Bay Shore, (2) The Pinelands, (3) The Farmbelt, (4) The Highlands, and (5) The Ridge and Valley. Each is discussed briefly below.

(1) The Ridge and Valley

This is a province of parallel, alternating ridges and valleys aligned Northeast-Southwest in northwestern New Jersey, west of the Highlands. The rugged, often steep ridges are formed by hard igneous or metamorphic rocks (gneiss, schist and granite) that are highly resistant to weathering. The valley floors are underlain by shale and limestone.

Where limestone underlies the valley floors, it is a highly productive aquifer of pristine water quality. The aquifer is in close hydrologic connection with the surface rivers and streams. For the streams to remain pure, so must the aquifer, and vice versa.

Though they are restricted in extent, the valley floor soils that are formed on limestone bedrock are often highly productive for agricultural purposes. The limestone-rich soils also support an extraordinarily diverse array of vegetation along streams, in wetlands, "sinkhole ponds," and limestone "fens." According to The Nature Conservancy, "the biological diversity of the Ridge and Valley province makes it one of New Jersey's richest areas of natural resources…"

Many areas in the Ridge and Valley province, especially but not exclusively the ridges and hillsides, are suited only for low average development densities. There are extensive areas of steep slopes, soils that are likely to be highly restrictive for on-site waste disposal, and well yields that may be very low.

The limestone valley floors, on the other hand, have the best farmland. Since these are also the areas best suited for development, and those where development has historically occurred, new land development competes with agriculture. The limestone substrate, as noted, represents a vast source of fresh, pure water, and through its interconnection with the rivers and streams, is responsible for their purity as well. Preservation of surface and groundwater quality, then, is a major public issue.

The Warren County Planning Board recommends that new development be concentrated in clusters or centers, and served only by centralized sewers in recognition of these natural resources. In 1999, the county adopted an Open Space Plan; its Environmental Resource Inventory was completed in 1998. The situation is different in Sussex County. The Sussex County Master Plan dates back to the 1970s; however, the county is currently assembling a Strategic Growth Management Plan that strives to "find a balance between economic development and environmental protection." The Ridge and Valley Conservancy and The Nature Conservancy are both active in this region, as is the North Jersey Resources Conservation and Development Organization.

Despite the fact that Warren and Sussex Counties are among the least densely populated in New Jersey, the region does face development pressure. As a whole, Warren County's population grew by 11.8 percent (the 5th highest of New Jersey's 21 counties) and Sussex by 10.1 percent (ranking it 11th); as compared to an 8.6 percent growth rate for the state as a whole. In fact, both counties have exceeded the statewide growth rate for the past three decades. Slowly the region is attracting new residents, placing increasing pressure upon its natural resources.

The survey of towns within the Ridge and Valley region reveals no municipalities with "Exemplary" ratings (with the exception of Newton's Regional Center planning.) Even where "Significant Action" has been taken to protect a given resource, that attention usually fails to be applied evenly across other resources Land, Water, Biota, and Settlement. Overall, the limestone geology and steep slopes that characterize much of the region are rarely given municipal protection; likewise with the underlying aquifers.

(2) The Highlands

The Highlands area is delineated based on physiographic features and socio-economic trends; it comprises 13 percent of the state's land area – 640,000 acres – and includes all or parts of some 90 municipalities, spreading over seven counties, from Phillipsburg on the Delaware River, north to the New York State line. The larger Highlands region is approximately 2 million acres and stretches from northwestern Connecticut into east-central Pennsylvania.

With the adoption of the new *State Plan* on March 1, 2001, the New Jersey State Planning Commission officially recognized the Highlands region as a "Special Resource Area." According to the Office of State Planning (OSP), "the location and function of the Highlands means that individual decisions here may have greater extra-regional impacts than most other areas of the state." The headwater regions of Highlands streams are the principal source of potable drinking water for New Jersey's urban regions to the east, and New York City. Four reservoir systems, fed by the headwaters of Highlands streams, supply water to 4.1 million New Jerseyans, about 45 percent of New Jersey's population.

The OSP classifies a full 80 percent of the Highlands either as "environmentally sensitive," or as water or parks. The reasons for this classification are as follows: watersheds of pristine streams, many offering potable water supplies; habitats of endangered and threatened plant and animal species; freshwater wetlands; physical features such as steep slopes, ridgelines, gorges and ravines; and large unfragmented northern hardwood forest areas. The woodlands in the Highlands provide a natural filter against encroaching land development for surface and groundwater systems.

The Highlands is valued as a greenbelt to the greater New York metropolitan region. Yet this greenbelt has come under strong development pressure. The population in the Highlands increased by 20 percent between 1970 and 1990, as compared to 7.8 percent for the state as a whole. By the year 2020, the region's population is expected to grow from the 1998 level of 731,780 to more than one million. Population densities are expected to increase from 524 people per square mile in 1990 to more 1,000 people per square mile in 2020. Population growth is beginning to result in environmental degradation. Surface waters show signs of development impacts. The onset of suburbanization has accelerated the loss of forest and farmland, and has fragmented forest cover.

The Highlands Coalition, formed in 1988, has been an active advocate for the preservation of the Highlands. The New Jersey Conservation Foundation, Environmental Defense and The Regional Plan Association have been active in assembling data and pressing for better land-use management in this region.

As discovered in the assessment of towns within the Ridge and Valley region, municipal performance with regard to resource protection varies widely within the Highlands. There is clearly more "Significant Action" taken with regard to streams and wetlands protection; however, on

matters concerning woodlands and animal habitat, Highlands municipalities have implemented few if any protective measures.

Steep slopes also characterize much of the Highlands, and towns in the region range widely from "No performance" to "Significant Action" on this issue. In Passaic County, three of six municipalities surveyed – Ringwood, Wanaque, Wayne – have ordinances that adjust the area open to development based on the percent of land with steep slopes (among other constraining factors).

(3) The Farmbelt

The soils of New Jersey's Inner Coastal Plain, combined with abundant rainfall and proximity to markets, endow this region of New Jersey with one of the best agricultural conditions in the world. The "Farmbelt" begins in southwestern Monmouth County, touches southeastern Mercer and northwestern Ocean counties, and continues southward along the Delaware Bay Shore through Burlington, Gloucester, Salem, and Cumberland counties. The State Planning Commission locates virtually all the remaining farmland areas in New Jersey's "Farmbelt" within Planning Area 4, or *Rural Planning Area.*

The region is within a two-hour truck drive of markets serving more than 25 million people, about 10 percent of the nation's population. According to a study by the American Farmland Trust (AFT), most of the nation's productive farmland is in locations at the suburban fringe. Farmland in such regions tends to be far more productive than land in more rural locations.

Farmland in this region is subject to extreme outward development pressure from the Philadelphia metropolitan region. Between 1954 and 1992, total farmland in Burlington County dropped by more than half, from 207,618 acres to 97,186 acres. If this rate of loss were to continue, Burlington County would lose all its farmland in 44 years, according to the Burlington County Office of Land Use Planning.

Burlington County, through its Office of Land Use Planning, has been an aggressive leader in farmland preservation, committing large sums from county sources and providing state-of-the-art technical assistance to towns. Since its inception in 1986, Burlington County has had New Jersey's most successful farmland preservation program, as evidenced by number of acres preserved. Aggressive land acquisition program does not necessitate aggressive local planning and regulation, however. The Department writes: "The perception that open space is just land in an undeveloped state is deceiving and antiquated. Open space must be considered to be a viable terminal use of land, not simply a temporary state of the land which awaits the eventual conversion to a developed use."

Through the combined efforts of the state, the county, and many of its municipalities, Burlington County has preserved about 8,000 acres of farmland in seven towns. Towns in adjoining counties have likewise targeted large, contiguous tracts of land of 1,000 acres or more for preservation. These include Upper Freehold (Monmouth) 5,795 acres preserved, Upper Pittsgrove (Salem) 3,076 acres; and Plumsted (Ocean) 1,777 acres.

In 1989, the New Jersey Legislature adopted the *Burlington County Transfer of Development Rights Demonstration Act*. Municipalities within the County are thereby able to designate preservation areas where growth is restricted, and development areas where growth is encouraged. Property owners in the preservation areas can sell development rights to developers that wish to build in the growth

area at higher densities than allowed by the zoning. In one of the first instances of the actual use of this provision, owners of 640 acres of farm property in Chesterfield announced (March, 2001) their intention to restrict this property from development, and to sell their right to develop 150 housing units to the developer-owners of 56 acres in an area of the town better situated for building. This measure suggests again the Legislature's apparent willingness in some instances to enact special measures for specific regions of the state.

It is interesting to note that while Burlington County represents the state's most aggressive easement purchase programs for farmland, its municipalities did not rank well in terms of other farmland protection measures, namely zoning and flexibility provisions. Out of the three Burlington County municipalities studied, none had minimum residential lot size greater than 3 acres, and none had opted to use transfer of development rights (allowed only within Burlington County). Within the Farmbelt region, only Plumsted Township (Ocean County) received an "Exemplary" rating.

(4) The Pinelands

The Pine Barrens ecosystem, said by some to be one of the most rare in the United States, extends over 1.4 million acres, or nearly 30 percent, of New Jersey. The ecosystem is characterized by very sandy soils underlaid by unconsolidated sedimentary layers. The porosity of the soils allows water to sink readily into the aquifers below; the Kirkwood-Cohansey aquifer being one of the continent's largest. The underground water feeds most of the region's streams. Toward the east, the flow of ground and surface water maintains the ecological balance of the estuaries in New Jersey's coastal zone. The Pinelands ecosystem includes some 13,000 species of which 54 plants and 39 animals are listed as either endangered or threatened.

Within the larger Pine Barrens ecosystem (1.4 million acres), there is a 1.1 million-acre region that is publicly owned or otherwise protected by federal and state law and is referred to as the Pinelands or the Federal Pinelands National Reserve (PNR). Approximately 40 percent of the Pinelands is publicly owned by state or national government. More than 78 percent of the ecosystem is under state or federal regulation. The PNR, as defined by state legislation, includes extensive areas east of the Garden State Parkway and to the south bordering Delaware Bay. This area also falls under the jurisdiction of the NJ Department of Environmental Protection through the Coastal Areas Facility Review Act (CAFRA) regulations.

Within the Pinelands National Reserve is the 927,000-acre State Pinelands Area, which is under the jurisdiction of The Pinelands Commission. The Commission was created by the NJ State Legislature as part of the *Pinelands Protection Act* that was adopted in 1979; a measure that is regarded as the strongest land use law in the United States. The *Pinelands Comprehensive Management Plan* (CMP), originally adopted in 1981, sets forth a strategy, standards and regulatory mechanisms to govern land use throughout the Pinelands region.

The CMP divides the region into eight Pinelands Management Areas (PMAs): preservation, rural development, forest, regional growth, agricultural production, Pinelands villages/towns, special agricultural production and military/federal installation. Each area permits a different kind and intensity of land use. County and municipal master plans and land use ordinances must be brought into conformance with the CMP.

The Pinelands Preservation Alliance, an independent non-profit, monitors the actions of the Pinelands Commission and undertakes other preservation-related initiatives. The Trust for Public

Land, The Nature Conservancy and the New Jersey Conservation Foundation are all actively engaged in Pinelands land conservation projects.

Because of the compliance requirement in the *Comprehensive Management Plan*, the land development regulations for municipalities within the Pinelands Management Areas takes into consideration the four categories: Land, Water, Biota, and Settlement. As mentioned previously, the CMP links planning, land development regulations and infrastructure provision in a way that respects the natural resources found in the region. Outside the PMA, there is a strong contrast. The local land use ordinances of municipalities outside of the management area (but still inside the greater ecosystem) reveal little to no emphasis on land conservation, water protection or habitat protection.

(5) The Barnegat Bay Shore

An estuary is a partially enclosed body of coastal water where fresh water from rivers, streams, and groundwater flows to the ocean, mixing along the way with tidal salty seawater. The Barnegat Bay estuary is roughly 40 miles long, one to four miles wide, 75 square miles in all. The far greater watershed that is tributary to the Bay extends to 660 square miles.)

The watershed is now home to more than a half-million people, a number that doubles in the summer months. Most of the watershed lies in Ocean County. Ocean has been New Jersey's fastest growing county for three decades, showing a population increase since 1970 of 145 percent. Between 1990 and 2000 alone, the county added 62,177 people, an increase of 11 percent. The population now stands at 615,301 and is still growing rapidly. Individual townships post significant gains: Stafford, an increase of 69 percent or 9,207 between 1990 and 2000, for a total of 22,532. Jackson reports 3,300 new building permits, and 9,583 new residents for a total population of 43,000.

The impact of this large and growing population on the Barnegat Bay is severe. A recently published study conducted by the Barnegat Bay Estuary Program concludes: "The magnitude and intensity of different land uses in the Barnegat Bay are having significant, and often degrading, effects." Among these are the loss of wildlife habitat and the degradation of surface and groundwater from non-point sources of pollution.

In 1972, the Legislature created the *Coastal Area Facility Review Act* (CAFRA.) This act directed the NJDEP to create a permitting process for proposed developments in the New Jersey coastal zone, including Barnegat Bay. Amendments in 1993 were intended to strengthen the permitting process. Regulations pursuant to these amendments were adopted in 2000. These purport to introduce state planning principles into the CAFRA permitting process.

In 1987, the New Jersey Legislature created the Barnegat Bay Study Group. Its final report led to Federal inclusion of the Bay in the National Estuary Program, engendering yet another study published in 2000. Both studies make clear that the degradation of the Bay and its surrounding watershed are attributable to the cumulative impact of land development. Thirty-three municipalities in Ocean County, and four in Monmouth, share responsibility for land use in the Barnegat Bay watershed. The estuary study pinpoints municipal land use plans and regulations as responsible authorities for land use. But recommendations are vague in the extreme, and there are no environmental standards for municipal performance.

New Jersey Future's municipal survey reveals that few towns within the Barnegat Bay Shore have measures in place to protect the water resources shared by the region. Only three towns have any type of ordinance in place to protect stream corridors; likewise with aquifers, wildlife and woodland protection. These results are surprising considering the fact that the NJDEP classifies much of the region as an area of Critical Water Supply Concern (N.J.A.C. 7:19-8), and that there are extensive wildlife management areas (Edwin B. Forsythe National Wildlife Refuge and others).

The environmental significance of the region is also illustrated by the extensive land acquisition efforts underway in the Barnegat Bay Shore. In 1995, the Trust for Public Land published *The Century Plan: A Study of One Hundred Conservation Sites in the Barnegat Bay Watershed* that details important acquisition sites by municipality.

IV. Land Use Governance: Discussion and Conclusions

The *Municipal Land Use Law* (N.J.S.A. 40:55D-1 et.seq.), or MLUL, spells out the rules under which municipalities may plan for and regulate the use of land. The law, originally adopted in 1975, is generally regarded as one of the nation's most progressive. It should be noted that, among the "Purposes" of the MLUL are:

> *g. To provide sufficient space in appropriate locations for a variety of agricultural, residential, recreational, commercial, industrial, uses and open space, both public and private, according to their respective environmental requirements in order to meet the needs of all New Jersey citizens.* And,
>
> *j. To promote the conservation of historic sites and districts, open space, energy resources, and valuable natural resources in the State and to prevent urban sprawl and degradation of the environment through improper use of land.*

The provisions for master plans specify 14 elements, of which only four are mandatory: (1) a statement of objectives and principles, (2) a land-use element, (3) a housing element, and (4) a policy statement relating the town's plan to those of the surrounding region and state and county plans. The optional elements are a more than ample planning basis for virtually any aspect of resource conservation. These include:

> *(8) A conservation plan element providing for the preservation, conservation and utilization of natural resources, including, to the extent appropriate, energy, open space, water supply, forests, soil, marshes, wetlands, harbors, rivers and other waters, fisheries, endangered or threatened species, wildlife and other resources, and which systematically analyses the impact of each other component and element of the master plan on the present and future preservation, conservation, and utilization of these resources.*
>
> *(9) A farmland preservation plan element, which shall include: an inventory of farm properties and a map illustrating significant areas of agricultural land: a statement showing that municipal ordinances support and promote agriculture as a business; and a plan for preserving as much farmland as possible in the short term….*

In addition, there are important provisions for capital facilities planning and programming.

> *(5) A utilities service plan element analyzing the need for and showing the future general location of water supply and distribution facilities, drainage and flood control facilities, sewerage and waste treatment, solid waste disposal and provision for related utilities and including any storm water management plan…*

A complementary provision of the MLUL permits the municipal governing body to authorize the planning board to prepare a program of municipal capital improvements, and to review capital projects with respect to the plan.

Although most municipal master plans have general statements in support of resource protection – some with very detailed maps – these documents are seldom fully implemented in the form of regulation. For example, among the environmental goals within Andover Township's (Sussex County) Master Plan are "to identify and protect environmentally sensitive areas" and "to require larger lot sizes on environmentally sensitive properties." A look at the land use regulations in place in Andover reveals 1-acre minimum lot sizes throughout with no special environmental ordinances (stream corridors, steep slopes) in place – efforts insufficient if the town is to achieve the aforementioned goals.

Article 8 of the *Municipal Land Use Law* states that "the governing body may adopt or amend a zoning ordinance relating to the nature and extent of the land and of the buildings and structures thereon…" However, the provisions of the ordinances we have examined are, in general, not commensurate with the need. Our survey shows that virtually no town has a base zoning even close to the low densities essential in protecting environmental values; say an average of 1 unit per 20 acres. A few towns have downzoned to the 3-5 acre range, with various clustering provisions. Most exurban zoning remains in the 1-3 acre range. Furthermore, the stated policy of all these municipalities – as expressed in their land use regulations – is full "build-out," typically at market densities. In other words, all privately held land is slated for development – typically between 1 and 3 acres, not adequate for resource protection.

In addition to the zoning provisions, many towns have development regulations intended to protect one or more of the following: steep slopes, aquifers, floodplains, freshwater wetlands, stream corridors, woodlands, and right to farm. But these vary dramatically in their intended strength, some with a presumption against, but many more with a presumption for development. Habitat conservation, endangered species, and biodiversity are barely mentioned in only in a handful of towns. Our survey shows that municipalities generally do not regulate land with this purpose.

The Association of New Jersey Environmental Commissions (ANJEC) in its Fall 2000 *Report* writes:

> *Without clear ordinances imposing strict environmental standards, the planning board will find it difficult to exact requirements from a developer during site plan review. Good ordinances articulate the type of development the municipality wants, allowing it to be pro-active, rather than reacting to applications developers bring to the town.*

Finally, there is a sharply drawn checkerboard of commitment to environmental conservation: committed towns bordering uncommitted towns. One town's initiatives may be undermined swiftly by development approvals or other conservation lapses by its neighbors. For instance, the municipal survey revealed how Stafford Township (Ocean County) with an innovative stormwater

management ordinance can often lie adjacent to a place such as Eagleswood with no such provision in place. Likewise, Allamuchy Township's (Warren County) open space planning and acquisition stands in contrast to its neighbor Frelinghuysen, which has a less aggressive approach. The discrepancies between municipal environmental policies can cause one town's efforts to be undermined by its neighbor.

V. Recommendations for Land Use Reform

Municipal Assistance
Access to reliable sources of data is essential in order for municipalities to make the necessary changes to their land use regulations. Data regarding natural resource preservation is available now in a variety of formats from a multitude of sources: state agencies, educational institutions, and non-profit sources to name a few. State agencies and non-profits must step up their efforts to provide "best practices," technical assistance, and information exchange on smart-growth measures to municipalities. To change land use on the ground, New Jersey municipalities need education about existing tools and alternatives that are available in order to achieve new outcomes.

Expand Municipal Tools with Legislation
The municipal master plan is the indispensable basis for enacting resource conservation regulations, and for sustaining them in court should they be challenged.

Under the MLUL, municipalities are only required to have two elements in their Master Plan: (1) a statement of objectives, and (2) a land use plan element. All other elements, including conservation plans are optional to be created by municipalities "where appropriate." The conservation plan element **s**hould be required as a prerequisite for expenditure of public open space funds, and the farmland preservation element as a prerequisite for farmland funds. (Note that the Planning Incentive Grant (PIG) program now offers a financial incentive to municipalities adopting a farmland element, though the element is not required.) The utility service plan element should also be required.

And, finally, the regional relationships element (40:55D-28(d)), which requires municipalities to include a specific policy statement that relates the planned development of the municipality to "(1) the master plans of contiguous municipalities, (2) the master plan of the county in which the municipality is located, (3) the (adopted) State Development and Redevelopment Plan… and (4) the district solid waste management plan" should be strengthened to be more than the pro forma exercise that it is in many towns.

The regulatory provisions of the MLUL regarding resource and open space conservation also deserve review. These include the provisions that authorize municipalities to adopt cluster development provisions: do these allow for mandatory clustering, lot averaging, and other similar tools? For example, a mandatory cluster subdivision would require houses to be sited on smaller parcels of land, thus saving the remaining land for open space and perhaps wildlife habitat.

Likewise, municipal authority in the creation subdivision and site plan review provisions lacks clarity. The *Manalapan Builders Alliance v Manalapan* decision in 1992 is one such example; it disallowed a municipality from eliminating ecologically sensitive areas from lot and floor area calculations in order to preserve certain land features from development and promote environmental protection.

Jefferson Township (Morris County) is one of several that refer to the decision in its Master Plan with a sense of caution regarding development regulations on environmentally sensitive lands.

New Jersey Future also advocates legislation that would allow all New Jersey municipalities to transfer development rights from farmland and conservation areas to other places better suited for development, enabling the private market to advance conservation goals. Right now, TDR is restricted to the Pinelands, and to Burlington County in a so-called "demonstration project." Transfers should be consistent with the State Plan. Roads and sewers should be made available in growth areas. A statewide "bank" should be available to make a market in development rights, should this be necessary to assure fairness and market success.

Support Municipalities with Legal Defense

"Downzoning" refers to the practice of reducing the number of building units allowed on a piece of property. For example, if a municipality changes its zoning from one house per acre, as is traditional, to one house per 3, 5 or 20 acres, they would be said to be downzoning.

While downzoning can help preserve the rural character of a community, contribute to the preservation of open space, and reduce the overall level of development in rural and suburban areas, it is not a panacea for curbing sprawl. Downzoning should be accompanied by "flexibility" provisions to assure location of the permissible units on the best sites, so that large lots do not simply consume increasing amounts of residential land. In addition, zoning is a legislative act, and so impermanent. Zoning is only one of the elements of growth management; the others include infrastructure policy and public acquisition of open space. Development should be encouraged in or near towns, thus easing development pressure in open spaces.

Downzoning limits the amount of development on a given piece of land. The development potential of land affects its value. Fearing a reduction in their property values, it is not uncommon for property-owners to challenge the legality of downzoning. The New Jersey courts, however, have consistently upheld recent downzoning decisions of municipalities. For example:

- In June 2000, the courts upheld a Bedminster Township (Somerset County) ordinance that downzoned from one residence for every 3 acres to one residence for every ten acres. The courts ruled that the landowner's challenges were without merit.
- Also in 2000, the court upheld a zoning ordinance in the Township of Franklin that established a rural conservation zone that increased lot sizes on a particular property from 1.5 acres to five acres.
- In December 1996, the courts upheld downzoning in Springfield Township, Burlington County. The Township undertook a number of actions to preserve the rural atmosphere and promote agriculture, including increasing the minimum lot size to three acres. Again the court upheld the Township. The court noted that, among other factors, the Townships designation in the State Plan as a "Rural Planning Area" strongly buttresses its conclusion that preserving and maintaining agricultural lands is a valid zoning initiative.

Interviews with mayors and planning board chairs reveal that most are reluctant to take proactive zoning measures because they fear being sued by developers. They complain they lack the resources, staff and money for a court fight – even when the current zoning is inconsistent with

their vision for their community. New Jersey Future proposes that the State of New Jersey defend all municipalities that adopt master plans and zoning ordinances consistent with the State Plan. This could take the form of legal support from the State Attorney General's Office, or full financial indemnification by the state against landowner or builder lawsuits.

Such defense offers three significant benefits: it would accelerate local implementation of the Plan and so the rebuilding of New Jersey communities and the protection of regional open lands; it would empower municipalities to make the best land-use decisions for their community, without fear of having to defend themselves in court; and it would present a more efficient and less costly way of resolving development disputes.

Similar systems already operate in other states. For instance, New York defends the county of Suffolk and municipalities within the Central Pine Barrens area of Long Island from suits brought against those entities for land use measures that are consistent with the regional management of that area. Other states provide monetary compensation schemes. Maine created a fund designed specifically to compensate municipalities for legal expenses incurred in the enforcement of local land use laws and ordinances affecting designated "great ponds."

The State Development and Redevelopment Plan

On environmental matters of larger than local concern, local plans must be mandated to effect environmental and other "smart growth" goals. The Pinelands regime (a success) requires municipal conformance to regional values, the CAFRA regime (a failure) does not.

The State Plan's central vision epitomizes smart growth: the rebuilding of New Jersey's communities and the preservation of its remaining open land. Yet its effectiveness in shaping and coordinating New Jersey's land use has been constrained in large part because local zoning and master plans are often at odds with the Plan's larger picture of New Jersey's regional needs.

Other states have the jump on New Jersey in resolving this disconnect between state and local planning. They include Oregon, considered a national leader in the smart growth movement. Oregon set specific, statewide goals for saving open lands and existing communities 27 years ago, and required every city and county to prepare or amend its comprehensive plans to satisfy state goals. Today, the City of Portland is frequently hailed as one of the most livable communities in the country for its thriving downtown and surrounding natural spaces.

Mayors and local planning board chairs interviewed by New Jersey Future in November 2000, asked for a stronger state plan to help them resist development pressures. Builders, too, have asked for clear and consistent rules about where growth is encouraged. Aligning municipal master plans, regulations, and zoning with the State Plan would serve the interests of both groups, while raising daily quality of life across regions.

Even if all municipalities have zoning and master plans in conformance with the State Plan, they cannot make all local development decisions independently. The effects of local development often have impact beyond a municipalities' borders – the result of 566 towns and townships crowded into the fifth smallest state – and for these times, regional coordination is essential.

A streamlined, effective administrative process for State Planning Commission (SPC) endorsement of municipal plans on issues of larger than local concern is an important first step towards effective

environmental conservation. The State Planning Commission has adopted a new process, called plan endorsement, that the Commission hopes will spur implementation of the State Plan. Municipalities, counties and regional agencies may take their plans to the State Planning Commission. If the State Planning Commission finds that the plan is consistent with the State Plan, the Commission will endorse that Plan.

Municipalities with endorsed plans get a higher priority for discretionary state funds for infrastructure improvements; more money from the state to expand roads and intersections, improve sewers, etc. On top of that, municipalities with endorsed plans may be able to apply for "sector permits" from DEP. Sector permits authorize all development in an area that complies with the terms of the permit without forcing developers to undergo the usual rigorous DEP review. Moreover, municipalities with endorsed plans can qualify for planning assistance. In sum, municipalities with endorsed plans will receive money and may be able to qualify an expedited permitting process.

New Jersey Future helped the Office of State Planning develop an effective plan endorsement process. For example, we were persistent in asking the Office of State Planning to provide a simple process that will make the changes on the ground that New Jersey so desperately needs. In the end, plan endorsement is not perfect, but it is a significant step in the right direction.

Effective growth management entails more effective balance between regulatory "sticks" and financial "carrots." Examples include: restricting sewerage to growth areas and government purchase of farmland development rights where complementary growth management measures are in place.

Regional Governance

As previously noted, New Jersey is a state of great variety in physiography, landscape ecology, settlement patterns, degree of urbanization, and socio-economic conditions. These regional variations find their counterparts in the attitudes of local government toward resource conservation, and in their legislative responses to resource management challenges. Differing regimes of land use governance are appropriate to different regions of the state. (See the discussion in Section II.)

Pinelands Model

Land use governance in The Pinelands successfully links regional planning, public investments, land use regulation, and mandatory municipal conformance in a growth management system in order to protect an ecological resource.

These linkages among the powers of government are critical to effective land use governance. The *Pinelands Comprehensive Management Plan* designates areas for growth and areas for conservation. The Pinelands Infrastructure Bank funds sewerage and other infrastructure improvements to foster growth in locations so designated in the plan. A transfer of development rights (TDR) program provides some compensation for property owners in areas designated for preservation, while requiring those in areas slated for growth to purchase credits for increased residential or non-residential densities. The Pinelands Development Credit Bank creates a market for development rights.

The Pinelands *Comprehensive Management Plan* (N.J.A.C. 13:18A-1) was adopted in its entirety as a rule. Conformance of municipal and county plans and land use ordinances to the Pinelands Plan is mandatory. Under the Pinelands CMP, management areas are delineated on a map and there are minimum standards for land use distribution and intensities for each of these zones. In addition, there are very specific "Management Programs and Standards" for specific resource areas: wetlands, vegetation, fish and wildlife, forestry, agriculture, resource extraction, waste management, water quality, air quality, scenic resources, fire management, housing and recreation. Some of these standards stipulate a strong presumption against development. An example from the CMP is cited above in Section II.

County Role

New Jersey should also strengthen role of counties in regional planning. Counties are the logical focus for increasing regional decision making, in New Jersey as in other states. New Jersey voters surveyed in May 2000 gave their county governments the edge when it came to voter confidence for making the best land-use decisions, ranking counties at the top of the list with 63 percent voter confidence and edging a 62 percent voter confidence in city/town decisions.

To streamline this shift of focus, many regulatory responsibilities presently handled by the state could be decentralized and given to county government. State agencies would continue to set standards, as they do now, and would provide the counties with strict timetables for action and oversight.

New Jersey Future also proposes that the state strengthen the ability of counties to plan for and manage regional growth by updating the *County Planning Enabling Act.* Adopted in 1968, it does not begin to provide adequate support for the emerging role of the counties in several areas of government. New legislation is needed that will mandate county plans conform to the State Plan, and update today's provisions for project review.

Watershed Planning and Management

Water Quality Management Plans (WQMPs) are prepared by listed Water Quality Agencies pursuant to Sections 208 and 303 of the federal *Clean Water Act* (33 U.S.C Section 1251 et.seq.) and New Jersey's *Water Quality Planning Act* (N.J.S.A.58:11A et.seq.)

The WQMPs are to provide a broad strategy for the management of water resources, and they are to delineate sewer service areas. The Water Quality Agencies, many of which are in fact county board of freeholders, review proposed modifications and are responsible for preparing relevant analyses and submitting them to DEP for final approval.

Watershed Management Area Plans (WMA Plans) are developed and adopted by DEP with a formal public advisory process. WMA Plans are to be adopted as substantive modifications to WQMPs. They are to be used to identify actions to protect water resources in watershed areas. Finally, Wastewater Management Plans (WMPs) contain existing, planned and anticipated wastewater management needs and demands. They are created and submitted by Wastewater Management Plan Agencies (government units or agencies with wastewater planning responsibilities) as substantive amendments to WQMPs.

New Jersey Future has strongly supported a new NJDEP rule that would have - before it was withdrawn - strengthened both watershed planning and wastewater planning, as well as conformed

them both with land use planning under the *State Development and* R*edevelopment Plan.* This rule amendment would have restricted development to areas of the State suitable for development under the criteria of the State Plan. It would also have established the criteria for listing impaired water bodies (thus determining total maximum daily loads - TMDLs), created modifications to water quality management plans, and restricted building with septic systems.

Watershed and wastewater treatment planning and management should be coordinated by NJDEP rule with the *State Development and Redevelopment Plan*. Through amendments to the *Municipal Land Use Law*, the *County Planning Enabling Act*, and related statutes, these critical elements should also be integrated with the institutional structure of land use decision-making under these enabling laws.

Public Land Acquisition Funds as "Leverage"

Individual land acquisition projects are not fully effective in achieving natural resource protection unless they contribute to a larger pattern of preservation. While the numbers of acres being saved may sound impressive, public acquisition funds are of very limited effect if they simply preserve isolated fragments in the larger mosaic of urbanization.

For example, the NJ Division of Fish and Wildlife, through its Landscape Project, advocates a strategy of identifying and protecting critical habitats in proximity to already conserved areas and regulated wetlands. Large, contiguous blocks, unfragmented by suburbanization, are held essential to the preservation of forest ecosystems, wildlife, and endangered species. These areas have now been identified in the Division's landscape mapping project (2000).

Likewise, a watershed approach is necessary for adequate protection of both ground and surface water. For example, there is a hydrological connection between ground and surface water; degradation of one will of necessity degrade the other. Streams, stream corridors, and wetlands are likewise connected. For many, if not most of New Jersey, maps and accompanying data are available. The same concept applies to farmland: a "critical mass," unintruded by suburban development, is desirable. Burlington County, for example, seeks "project areas" of 1,000 acres or more.

State purchase of individual properties should be held out as an incentive for local adoption of plans that will identify, and land regulations that will protect, the necessary "critical mass" of a region's farmland, forest ecosystem or watershed. Likewise, sewage extensions should be restricted to areas where growth is planned – proscribed where it is not.

Appendix I - Explanation of Municipal Assessment Forms

For each township, the form "Assessment of Municipal Resource Measures," was completed. The completed chart for each municipality is in Appendix III. The concept behind this form is as follows:

First, critical natural resources were identified, based principally on sources at the state and regional levels. The "Resource" column identifies the resource, the "Documentation" column cites the source. These included such sources as:

The State Development and Redevelopment Plan
The Pinelands Plan
NJ Division of Fish and Wildlife, Landscape Project Maps
NJDEP Sole Source Aquifer Maps
Council on Affordable Housing, Municipal Status List

Where maps were the source, they were not overlaid in GIS format, though this would have been desirable, but were examined visually. A full list of these sources is available in Appendix III.

Resources were grouped in four categories: Land, Water, Biota, and Settlement. "Land" is generally limited to resources intrinsic to the earth itself; farmland, steep slopes, limestone terrain. "Water" includes aquifers and recharge areas, stream corridors, wetlands, fresh and saltwater. "Biota" includes woodlands, wildlife habitats, and critical ecosystems. "Settlement" includes factors not natural resources in themselves, but instrumental in protecting those resources; building of town centers, compliance with affordable housing mandates.

We recognize that our conception of the natural environment as interacting biophysical systems comprising land, water, biota, and human land use activities renders it almost arbitrary to place a natural resource in one of these categories or another. However, it seemed convenient to simplify our analysis by using this classification.

To the right of the double line there appear notes based on an examination of municipal planning documents. The "Measures," column lists items from land development regulations, and other related initiatives generally of a legislative nature; that is, involving an action by the municipal governing body. The online resource, *Ordinance.com,* was an important source. In addition to the examination of official documents, local representatives, county planning staffs, Office of State Planning Area Managers, and others were interviewed.

The principle behind the municipal assessment is that legislation matters; that is, the legislated acts of municipal government bodies determine that municipality's policy regarding resource conservation. Planning documents, while of interest, do not determine land use outcomes directly - or often even at all. The scope of our project was not sufficient to assess actual outcomes either in the project files of planning and zoning boards, or on the ground. In other words, it was not possible to see how many variances or wavers planning and zoning boards granted, or to research what was actually built. We should add, however, that the project staff visited each of these towns and came away with a good impression of the character of building and their commitment to conservation.

The final column, "Rating," assigns a value to the strength of the local initiative in protecting the resource stated at the left of the matrix, in the judgment of the project staff. These ratings are explained in the following section.

In assigning ratings, an important distinction was made between ordinance provisions with a presumption *for* and those with a presumption *against* development. Requirements for an Environmental Impact Statement (EIS) are generally discounted for they are virtually universal and do not necessarily have a regulatory impact. Statements regarding mitigation of impacts, or similar provisions, unless there is language to the contrary, are regarded as assuming a presumption *for* development. Many such ordinances simply require special permits; an assessment of the efficacy of their administration, though important, was beyond the scope of this project.

An example, from the *Pinelands Comprehensive Management Plan*, of a stipulation that embodies a strong presumption *against* development follows:

> *No development shall be carried out unless it is designed to avoid irreversible adverse impacts on habitats that are critical to the survival of any local populations of those threatened or endangered animal species designated by the Department of Environmental Protection pursuant to N.J.S.A. 23:2A-1 et.seq.* (PMP, 7:50-6.33)

A typical example of an ordinance provision with a presumption *for* development follows, from the Barnegat Township land development ordinance:

> *Natural features, such as trees, brooks, swamps, hilltops and views, shall be preserved wherever possible. On individual lots, care shall be taken to preserve selected trees to enhance soil stability and the landscape treatment of the area.*

Similarly, in Wantage Township (Ridge and Valley region), the regulation of steep slopes is permissive of development. This ordinance classifies slopes greater than 20 percent as "Critical Impact Areas." As a result, prior to development an impact statement is required along with environmental protection measures, necessary licenses, and "a listing of all adverse environmental impacts (especially irreversible damage) that cannot be avoided."

The following index was developed as this project progressed. Some of the items in the table were not researched, or are in other ways inapplicable. They are marked by an asterisk (*) and included here for completeness, as a point of departure for subsequent surveys.

Assessment Rating Index
The ratings for each resource ranged from lowest, "Not addressed" to highest, "Exemplary" as follows.

- ☐ Not Addressed
- ⊡ Attention Given
- ▣ Significant Action
- ■ Exemplary

Land:

Farmland Preservation

Zoning for Farmland Preservation; average lot size and flexibility provisions

☐ One acre or less
⊡ Between one and five acres.
▣ Five to less than twenty acres, including flexibility provisions such as cluster development, lot averaging, maximum lot sizes, transfer of development rights or credits
■ Twenty acres or more, with flexibility

Other farmland considerations:

- Number of farmland acres preserved by deed restriction. *(These acres may not in all cases been preserved by municipal initiative, or be in municipal ownership or under municipal restriction.)*
- Planning Incentive Grants (PIGs)

Steep Slope Protection

☐ None
⊡ Presumption for development
▣ Presumption against development
■ Prohibition

Limestone Terrain Protection

☐ None
⊡ Presumption for development
▣ Presumption against development
■ Prohibition

Water:

Stream Corridor Protection

☐ None
⊡ 50' from stream, presumption for development
▣ More than 50' to 100'from stream, presumption against development
■ Variable width, 100' from floodplain, presumption against development

***Watershed and/or Water Resource Management**

☐ None
⊡ Strong statement of purpose regarding watersheds and water resource protection
▣ Zoning: Five acres and above with flexibility provisions such as cluster development, lot averaging, maximum lot sizes, transfer of development rights or credits (plus statement of purpose)
■ Delineation and/or quantitative standards for headwaters, sensitive watersheds, aquifers, with a presumption against development in these areas.

Aquifers, Aquifer Recharge Areas

See above

Freshwater Wetlands Protection
Note: municipal protection preempted by state regulation

***Tidal Wetlands**
***Stormwater Management**
***Impervious Surface Limitations**
***Nitrate Dilution/Septic System Density**

Biota:
Woodland, Tree Preservation
☐ None
⊡ Tree cutting permit required
▣ Strong statement of ordinance purpose specific to woodlands
■ Identification (in ordinance or plan) of prime woodlands, combined with presumption against cutting prime woodlands and specimen trees

Other Woodland considerations:
Zoning for Woodland preservation; average lot size and flexibility provisions
☐ One acre or less
⊡ Between one and five acres.
▣ Five to less than twenty acres, including flexibility provisions such as cluster development, lot averaging, maximum lot sizes, transfer of development rights or credits
■ Twenty acres or more, with flexibility

Habitat, Biodiversity, Threatened and Endangered Species
The goal here is to protect extensive areas not intruded by housing, roads. This can be done with a combination of low-density zoning and flexibility provision, in combination with a public acquisition program. A statement of purpose is also essential.
☐ None
⊡ Strong statement of purpose specific to habitat, biodiversity, and endangered species
▣ Zoning: Five acres and above with flexibility provisions such as cluster development, lot averaging, maximum lot sizes, transfer of development rights or credits
■ Quantitative standards or delineation of habitats or ecosystems, with a presumption against development in habitats or ecosystems

Settlement:
Centers
☐ None (Note that centers may not be appropriate for all towns)
⊡ Proposed or designated by State Planning Commission

Other Settlement considerations:
- Planning Grant Received
- Zoning provision(s) for or under development
- Greenway planning (in municipal planning documents or in zoning ordinance)

Affordable Housing; Council on Affordable Housing Compliance (COAH)

This measure identifies whether or not a municipality has filed a plan and received subsequent certification from COAH. Lack of certification leaves municipalities open to builder's remedy lawsuits and consequently open to unforeseen development.

☐ No certification/petition or in court

☒ Certified/petition granted

Appendix II – Findings by Region

The findings from each of the five regions – Ridge and Valley, Highlands, Farmbelt, Pinelands, Barnegat Bay Shore – are summarized in Figures 1 through 5 that follow. These sheets compare the performance of each municipality by region based on the general categories established by this study: land, water, biota, and settlement. Detailed information regarding specific towns can be found on the individual assessment sheets provided in Appendix III.

Appendix III - Individual Municipal Assessment Forms

Refer to Appendix I for a complete explanation of the municipal assessment form and the rating system. The tables are organized by region, then county, then alphabetically by municipality.

The following is a key to some of the abbreviations and shorthand used in the municipal assessment forms.

AC – Atlantic County
ag – agriculture/al
BC – Bergen or Burlington County
COAH – Council on Affordable Housing
crit – critical
dev – development
EIS – Environmental Impact Statement
environ – environment/al
ERI – Environmental Resources Inventory
FPP – Farmland Preservation Program
fw – freshwater
GSP – Garden State Parkway
Hist Pres – Historic Preservation
MC – Monmouth or Morris County
mgmt - management
min – minimum
MP – Master Plan
muni – municipal
nat – natural
NJDEP – New Jersey Department of Environmental Protection
NJGS – New Jersey Geologic Survey
NRI – Natural Resources Inventory
OC – Ocean County
OSP – Office of State Planning
PC – Passaic County
RPMM – Resource Planning and Management Map
SC – Sussex County
SDRP – State Development and Redevelopment Plan
SPC – State Planning Commission
ss – steep slopes
stmwtr – stormwater
UEZ – Urban Enterprise Zone
WC – Warren County
WMA – Wildlife Management Area (state-owned)
wtlnds – wetlands

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