



2.9 LAND USE AND POPULATION

2.9.1 HISTORY AND BACKGROUND

The Inland Bays/Atlantic Ocean Basin has been contained in a rural county with an agricultural economy. It initially developed into isolated municipalities surrounded by farmlands inland to the west. Small crossroads and beachfront rural communities developed along connecting roads and the oceanfront. The Basin's resources, including water-based recreation and moderate climate, stimulated the growth of recreational home development and a significant tourist industry. In more recent times, with the completion of the Chesapeake Bay Bridge and the north-south highway system, the Inland Bays/Atlantic Ocean Basin became readily accessible by automobile and growth has continued to accelerate over the past 50 years.

The pattern of development in the Basin has been influenced by many factors. The recreational opportunities along the oceanfront and Inland Bays have encouraged a concentration of population, both seasonal and permanent, in the coastal area. As a consequence, an increase in commercial and retail uses has occurred, particularly along U.S. Route 1. A relatively recent impact on land use is the influx of retirees from areas outside of the county who are enticed by the low tax rate and natural amenities.

The high growth rate and development pattern of the past 20 years in the Basin has affected the quality of life of citizens for several reasons. First, the provision of adequate public infrastructure, such as roadways, water, and wastewater systems, has not kept pace with development, resulting in seasonal traffic congestion and the overall environmental degradation of the Basin. Second, scattered development throughout the agricultural area has caused conflicts between residential uses and farming activities. This scattered development, primarily stripped along public roadways, has decreased roadway capacity and increased safety hazards. Lastly, this Basin contains environmentally sensitive areas that are susceptible to impacts from uncontrolled development. Both the state and Sussex County have enacted regulations to better protect these resources.

2.9.2 POPULATION DISTRIBUTION AND DENSITY

Until the 1960s, the Inland Bays/Atlantic Ocean Basin's development pattern resembled a series of villages of concentrated settlements with proportionately larger areas of farmlands and open space. The concentration of development and relatively large household per acre size resulted in smaller per capita environmental costs.

In 1958, the permanent, year-round population of Rehoboth Beach was 2,350, with an increase to 13,500 in the summer months. An estimated 700,000 persons visited

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Rehoboth Beach each summer. Accordingly, the permanent population represented 17.4 percent of the summer residential population and 0.34 percent of the total number of beach visitors. From a count of the structural residences in the Rehoboth area from an aerial photograph, it was estimated that an approximate number of 6 persons per home was in place. In addition, for estimating land-use changes resulting from growth, developing businesses, streets, and other related uses, an estimate of 4 homes per acre was thought reasonable. It was estimated that the existing development pattern of mixed uses and interconnected grid with village-style setbacks and proportions would be extended about 3 miles from the 1959 town limits.

Between 1974 and 1984, the permanent population in Sussex County’s unincorporated areas grew from 87,400 to 103,800 (18.8 percent). The *1988 Coastal Sussex Land Use Plan* estimated an average of 2.9 to 3.9 persons per dwelling unit (Whitman, Requardt and Associates, 1988). Examining this development pattern shows that the number of housing units needed to accommodate this 18.8 percent increase about doubled. Correspondingly, 6,614 acres of land were converted into residential uses to accommodate this increase (Mackenzie, 1989). Using these examples, approximately 0.64 to 0.85 dwelling units were accommodated for every acre.

A more thorough analysis of the 1974 to 1984 time frame indicates that for a net one-acre gain in residential land, 6.43 acres of land underwent a change in use in Sussex County (Mackenzie, 1989). Changes in land use over time were measured using the Anderson Land Use Classification System. A suburban sprawl development pattern can be inferred from analyzing the changes in land uses for each of the years in this time span. Sprawl is evidenced in that developing residential land required development of commercial and industrial facilities, transportation needs, and utility infrastructure. Interestingly, the displaced agricultural land actually experienced a 1.71 percent net increase. Agricultural land gained 4,809 net acres by clearing forests — a 23,647 net decrease — and converting wetlands (non-coastal wetlands were recognized as forests during this time). These land conversions contributed to the watershed’s loss of ability to assimilate nonpoint source pollution, and provide habitat. The study concludes that, “[t]his analysis suggests that the losses of forest and wetland acreage, and the loss of the watershed, wildlife and other environmental amenities which they support, deserves just as serious attention from planners and policy-makers as the loss of farmland and its environmental amenities” (Mackenzie, 1989).

The Delaware Population Consortium has projected population and number of households within Sussex County through the year 2020. According to these projections, the 1995 population of Sussex County was 127,679, and the 2000 population was 143,009 (Delaware Population Consortium, 2000). Refer to *Table 2.9-1* to see population projection trends from 1990 through 2020.

Population projections may be used to estimate the amount of land needed for development under the current, predominant development pattern.

This projected increase of 36,318 total households (from 45,054 to 81,372) in this 30-year period represents an increase of 81 percent. The projected total acreage for all land that may change uses to accommodate this increase in residential usage is estimated at 23,244 acres at 0.64 dwelling units per acre, and 30,870 acres at 0.85 dwelling units per acre. The results from the *Agricultural Experiment Station Bulletin #483: Land Use Transitions in Delaware, 1974–1984* show that for every net one-acre gain in residential land, 6.43 acres of land underwent a change in use from 1974 to 1984. Put in other terms, future acres that may be disturbed by land clearing, grubbing, grading, and construction range from 149,459 to 198,494 acres, or 25 to 33 percent of the county.

Projections may also be made from the changes seen in the 1992 and 1997 land-use and land-cover data. These data show that urban uses accounted for 26,158 acres, or 14 percent of the Basin’s land area in 1992. By 1997, there was an increase to 30,899 acres utilized in urban uses, or 17 percent of the Basin’s land area. The land consumption rate for these 5 years is 3 percent. If that figure is extended to the year 2020, approximately 29 percent of the Basin, excluding water, will be in urban uses. Using the *Agricultural Experiment Station Bulletin’s* 1:6.43 ratio for net acre gain in residential land, 22,219 acres (12 percent) of new urban land will result in 142,866 acres (77 percent) of the Basin that may be disturbed by land clearing, grubbing, grading, and construction.

If these projections are indicative of the future, runoff from increases in impervious area and construction activity may result in greater nonpoint source impacts to the Inland Bays. Pollution contributions per acre are much greater for urban land than they are for agricultural land. Sussex County has, however, attempted to create a meaningful dialogue for dramatically improving this development pattern since 1993.

In 1993, Randall Arendt of the Natural Lands Trust in Media, Pennsylvania, prepared *Designing Open Space Developments in Sussex County, Delaware: A Practical Handbook for Those Involved in Land Development*.

Table 2.9-1
SUSSEX COUNTY POPULATION PROJECTIONS

| | 1990 | 1995 | 2000 | 2005 | 2010 | 2015 | 2020 |
|------------|---------|---------|---------|---------|---------|---------|---------|
| Population | 113,863 | 127,679 | 143,009 | 153,459 | 163,817 | 170,313 | 176,744 |
| Households | 45,054 | 51,793 | 58,858 | 64,196 | 69,346 | 73,030 | 76,971 |

Delaware Population Consortium, 2000

This handbook cites numerous studies that indicate that property values appreciate more rapidly, and to a greater level, for land developments that preserve open space through conservation of primary and secondary conservation areas. The handbook illustrates design guidelines from traditional human settlements in Delaware that have competed well in the market for real estate and produced lower per capita environmental impacts and government services costs than other currently used land-use patterns. It was published and released to the general public in 1999.

2.9.3 LAND USE/LAND COVER

As may be seen from *Map 2.9-1 1992 Land Use/Land Cover* and *Map 2.9-2 1997 Land Use/Land Cover*, the urban areas in the Inland Bays/Atlantic Ocean Basin are centered around Rehoboth Beach, Ocean View, Bethany, and South Bethany. Scattered pockets of urban areas also surround the Inland Bays. The greatest single block of urban concentration in the Basin is the Route 1 corridor from the Lewes area southbound through Dewey Beach. Agriculture, forests, or wetlands cover most of the land use north of Route 24 and west of Route 1. Similar land cover occurs south of Route 26, except for the coastal towns of Bethany, South Bethany, and Fenwick Island.

The Basin's land use/land cover has changed considerably in just the past five years. A comparison between 1992 and 1997 land use/land cover reveals the change in use is focused toward urban uses. In these five years, urban or built-up acreage jumped from about 26,000 acres to almost 31,000 acres, while forestland decreased from about 43,500 acres to 40,300 acres. Simultaneously, barren land coverage decreased from about 5,000 acres to 4,000 acres; agricultural land use decreased from approximately 74,500 acres to 72,200 acres; and wetland acreage was nearly unchanged.

Most of the new urban or attendant commercial build-up seen in *Map 2.9-2* occurred in the eastern portion of the Basin, particularly in the urban investment areas depicted on *Map 2.9-3 State Investment Strategy*. Little of this new growth was in manufacturing facilities. Nearly all of the new growth was in general commercial, retail, and single-family land uses.

2.9.4 STATE LAND-USE PLANNING AUTHORITY

The State of Delaware has no direct planning and zoning power for most land uses. This power has been given to the municipal and county governments throughout Delaware. Recognizing that most of the same land-use or growth concerns exist statewide, the State Legislature adopted a statute entitled the Quality of Life Act in 1988. The Act mandates that a Comprehensive Plan be developed and adopted for each county and that the plan contain specific elements, such as transportation and conservation.

To facilitate land-use and infrastructure planning, Governor Thomas R. Carper activated the Cabinet Committee for State Planning Issues. This committee is a multi-agency group of Cabinet-level State officials responsible for coordinating planning and capital improvement programming among State agencies. The Cabinet Committee also sends comments to local zoning authorities regarding particular proposed land-use changes that seem especially troublesome from the state's perspective regarding its infrastructure integrity.

Aside from the Quality of Life Act, there are only two other laws that the state may use to directly influence changes in land uses in this Basin — the Land Use Planning Act and the Coastal Zone Act. The Land Use Planning Act (LUPA) is a state law requiring a review and commentary process between the local jurisdiction and the state for development projects of more than local concern. The state's comments on proposed land-use changes become part of the official record at public hearings. All state comments are coordinated through the Office of State Planning Coordination. Such comments may be influential in the local jurisdiction's decision making process.

The state's Coastal Zone Act (CZA) prohibits new heavy industry uses within the coastal zone, which encompasses much of the Basin. In effect, the state has a veto power over local planning and zoning land-use decisions regarding heavy industry uses in the coastal zone. Additionally, all new light manufacturing facilities require a state permit prior to construction, again, regardless of whether local planning and zoning approval has been received.

2.9.4.1 Shaping Delaware's Future

In early 1994, Governor Carper activated the Cabinet Committee for State Planning Issues as authorized under the LUPA. This committee is a multi-agency group of state officials responsible for coordinating planning and capital programming functions among state agencies. This committee is chaired by the Chief of Staff and includes cabinet Secretaries representing the Department of Transportation, Natural Resources and Environmental Control, Agriculture, Health and Social Services, Education, and the Directors of the Economic Development Office and Budget Office.

The committee is charged with making growth and development recommendations that will ensure effective and coordinated planning throughout Delaware. The committee addresses issues including land-use changes and developing Delaware's transportation, water, and wastewater systems. The Office of State Planning Coordination provides staffing for this committee.

The committee's first activity was to work with the citizens of Delaware to develop a shared vision of what Delawareans want the state to look like in the next several decades. When the effort was complete, the committee

published a report entitled, “Shaping Delaware’s Future.” It is the blueprint of the future and a guide for the committee, state and county agencies in their planning activities.

Highlights of “Shaping Delaware’s Future” that affect the Inland Bays/Atlantic Ocean Basin are summarized below. General findings are presented first, followed by particular goals that are designed to move Delaware toward the future. General findings include the following:

- ◆ Delawareans prefer housing and business development to be focused in existing communities and in clearly defined “growth” areas, with limited development occurring outside of these areas;
- ◆ Delawareans want communities where they have options to using their automobiles for getting to work, shopping, and recreational activities;
- ◆ New housing and business developments are preferred to be designed as visually appealing as possible, and to minimize the negative impacts on the environment;
- ◆ Delawareans want a wide variety of good-paying jobs that match the abilities of Inland Bays/Atlantic Ocean Basin residents;
- ◆ Agriculture and tourism remain a major part of the state’s economy;
- ◆ The cost of roads, water, sewage, and other public facilities and services be minimized by focusing these investments in existing or planned communities; and,
- ◆ Delawareans want to see that environmental and cultural amenities of the state are protected and enhanced.

Specific goals were developed by the Committee on State Planning Issues to achieve the findings above. These goals include:

Goal 1: Direct state investment and future development to existing communities, urban concentrations, and designated growth areas. This can be implemented in part by committing state funds to improve the economic, cultural, historic, and recreational health of Delaware’s communities, and by giving priority to those projects that create partnerships among private sector, community-based organizations, and local residents. This would include creating an industrial park development strategy for southern Delaware to attract high-quality jobs to existing communities and designated growth areas. The state should actively target infrastructure investments to support concentrated, efficient development patterns and strengthen existing communities.

Goal 2: Protect important farmlands from ill-advised development. This can be implemented by using state funds to support the existing Aglands Preservation

Foundation and by preserving quality farmland to ensure the continued viability of Delaware’s agricultural industry. The state should also create a mechanism for a State Purchase of Development Rights Program and propose legislation empowering the county to create Transfer of Development Rights as a method of protecting farmlands by guiding development into desired areas. Furthermore, the state should strongly discourage the extension of public water and sewer services that promote development in agricultural areas. The state should also design policies and locate public facilities that foster more compact development and minimize the impact on farmland and the environment.

Goal 3: Protect critical natural areas from ill-advised development. Implementation of this principle can be achieved by using state funds to continue the purchase of land and conservation easements. Also, the state can work in partnership with local governments and organizations to create trails, bike paths, and other open-space connectors by way of local grants and the Greenways Program. The state should create a Parks Endowment Fund to improve the quality of the Basin’s parks and other outdoor recreation facilities. The state, in conjunction with the Open Space Council, should conduct an inventory of the Basin to revise, as needed, the natural characteristics and features that are meritorious of protection. The state should protect the Basin’s valuable natural resources, especially wetlands, through the replacement of areas needed for transportation projects at a 2 to 1 ratio. The Inland Bays Council should review and revise, as needed, the “Comprehensive Coastal Management Program for the Inland Bays” and strengthen it to better implement needed changes and new policies related to the Committee on State Planning Issues and DNREC. And finally, the state should discourage the extension of public water and sewer services that promote development in open spaces and natural areas.

Goal 4: Delaware should encourage redevelopment and improve the livability of existing communities. The state should develop a program of incentives and regulatory approaches that foster redevelopment, revitalization, and preservation of the “as built” community. The committee and state should support existing and new zoning techniques that encourage community-appropriate shopping, employment centers, neighborhood cultural amenities, and cultural activities. State government should support municipalities of the Inland Bays/Atlantic Ocean Basin with planning information and financial assistance to address long-term community development issues, particularly if included as part of a new, or updated, municipal comprehensive plan. The state should work with local governments to encourage innovative zoning and site development

ordinances that encourage cluster housing and mixed-use zoning to support neighborhood identity and preserve open space.

Goal 5: Delaware should protect the water supplies, open space, farmlands, and communities of the Inland Bays/Atlantic Ocean Basin by encouraging revitalization of existing water and wastewater systems. The state should provide funding to ensure adequate supplies of clean water through the Wastewater Facilities Advisory Council and to work with counties and municipalities to develop solutions to address their water and wastewater priorities on a long-term basis. The state should revise regulations concerning the design, installation, and operation of on-site wastewater treatment and disposal systems to encourage more compact development, encourage the provision of public wastewater systems, and protect ground water.

2.9.4.2 State Land-Use Initiatives

State actions influence in a myriad of ways the manner in which development occurs throughout the state. The state is in a position to help direct development that more efficiently uses existing and planned infrastructure, enhances community character, protects important state resources, and provides a better quality of life in Delaware. However, unfocused and scattered growth in the Inland Bays/Atlantic Basin is causing problems — loss of farmland and open space, traffic congestion, and pollution. The state does not have veto power over where growth occurs, but it can influence land-use patterns by carefully controlling where it spends its money and how it manages the resources over which it has direct or indirect control.

Over the last several decades, growth in this Basin has been enormous outside of the incorporated towns. As an example, between 1990 and 1996, while the state's population grew by almost 9 percent overall, the population that lives in Delaware's cities and towns grew by less than 4 percent. During the same period, the population in the unincorporated areas grew by over 11 percent. Unfortunately, no similar data exist for the Inland Bays/Atlantic Ocean Basin. However, the Basin's population has grown due to the influx of retirees and immigrants (related to the agricultural industry). As a result, Delaware has turned more and more farmland and open space into suburbs. Between 1984 and 1992, according to a study of land-use change by the University of Delaware, Delaware has lost more than 6 percent of its agricultural land and just over 13 percent of its forest land. That's a combined loss of "natural resource" uses (farms and forests) of more than 19 percent.

Meanwhile, "developed" uses in Delaware (residential, commercial, and industrial, and recreational) have increased by almost 50 percent. Residential areas alone grew by just over 49 percent. Commercial and industrial

uses, including the shopping and office areas, spawned by increased residential growth, increased by over 60 percent, and recreational uses increased by nearly 10 percent. Again, no specific data exist for this Basin; however, the trend is likely similar.

Land-use decisions in Delaware are local, but state infrastructure investments can have a significant impact on development patterns. Given the state's limited input, the state should target investments to encourage the most efficient uses of land and public investment. State investments should promote development and redevelopment in places where adequate infrastructure exists or is planned. They should enhance community character, integrity, and identity. Wise investments should protect important state resources, both natural and man-made, and they should discourage sprawl.

The job of the Governor's Cabinet Committee on State Planning Issues is that of ensuring orderly growth and development and making sure Delaware achieves the most desirable land-use pattern. The committee is also charged with helping find the best locations for public facilities such as roads, schools, and water systems. The committee does its job by coordinating and guiding state spending decisions, state resource management responsibilities, and state interaction and cooperation with county and local governments.

The Investment and Resource Management Strategy (refer to *Map 2.9-3*) provides a guiding framework for future state actions to meet those goals. The strategy is not intended to replace local land-use plans. It does not determine where counties and municipalities should allow development. Nor does it restrict property owners' rights to use or develop their lands. It does, however, create a framework within which the state will most likely allocate its resources and focus its programs.

The State Bond Bill directs state agencies to spend money on specific projects such as the Farmland Preservation Program in accordance with the strategy. State planners use the strategy in land-use proposal reviews under the Land Use Planning Act. *Map 2.9-3* provides a picture of state goals; it also serves as a valuable communication tool as the state works closely with county and local governments on planning issues.

The State Investment Strategy map was created using a Geographic Information System (GIS) to combine informational maps that depict policies in areas such as agriculture, natural resources, transportation, wastewater disposal, and education. Different areas throughout the state were analyzed to determine whether the state should spend money in targeted areas either to preserve as undeveloped as possible, be targeted for growth, or be considered a "transition" area. In any case, the map will only guide state investment and resource management decisions.

In those areas targeted for development — “Urban Investment Areas” — the state will invest and manage its resources to:

- ◆ Meet existing economic, social, and other needs;
- ◆ Find opportunities for infill and redevelopment;
- ◆ Handle expected growth;
- ◆ Enhance transportation opportunities;
- ◆ Provide public services and infrastructure;
- ◆ Ensure community identity, integrity, and viability; and,
- ◆ Meet economic development objectives.

In “Transition Investment Areas,” state actions will be targeted to:

- ◆ Linking growth to available infrastructure;
- ◆ Provide a variety of densities and promote efficient development;
- ◆ Manage existing infrastructure investments;
- ◆ Provide a transition between urban and rural areas; and,
- ◆ Ensure community character and integrity.

In “Preservation Investment Areas,” the state will strive to:

- ◆ Meet the infrastructure needs of existing development, with no new capacity;
- ◆ Respond to health, safety, or environmental risks;
- ◆ Preserve existing housing stock; and,
- ◆ Protect and preserve critical natural resources and open spaces, important farmlands, and the state’s rural landscape and character.

The Investment and Resource Management Strategy will serve Delaware best if it is continually refined. The State Investment Strategy map presents a composite picture of current state agency policies as they appear “on the ground.” In creating that picture, the state has found some conflicts and discrepancies among different agency policies. As those are resolved, the picture will change. The strategy will also be changed in response to comprehensive planning and decisions by local governments. The strategy will also be updated, as new sources of data, such as new maps of existing land-use and new soils maps, become available.

Using a carefully thought-out strategy, the state will be able to influence where growth might occur. County governments will be able to plan for growth with a clear understanding of where state resources will be most readily available. Municipal governments will be able to plan for the growth of their cities and towns with a clear knowledge of how the state and county governments see the areas around their borders.

2.9.5 COUNTY LAND-USE POLICY

In December 1997, Sussex County adopted its comprehensive plan update. A major concern of the Sussex County Comprehensive Plan is that of intergovernmental land-use coordination. Successful land-use coordination will ensure that all state, county, and municipal programs, policies, and laws are developed and administered in a manner that is in the region’s best interest. A primary objective of the state and county is to establish and maintain complete communications and cooperation between all parties.

Good community design favors directing growth to existing municipalities and developing areas where central wastewater systems exist. Conversely, the preservation of the agricultural industry is considered essential to the future of Sussex County; therefore, controlling growth in rural areas is critical. New zoning or subdivision regulations implemented to accomplish these goals must consider the demands for development and the property rights of landowners.

The Sussex County Comprehensive Plan emphasizes that existing municipalities and adjacent areas offer the greatest opportunities for development with the least impact on the Basin’s environment, living standards, agricultural industry, and transportation network. Centralization of public infrastructure and services is the stipulated growth pattern for future development within the Basin. The plan suggests that because the municipalities provide the location, infrastructure, and service requirements for development, they should be considered the primary development zones for immediate expansion, and designated Growth Areas should provide for future growth. Additionally, many of the municipalities have excess wastewater treatment capacity that could be used to serve contiguous areas.

The goal of the county is to have at least two-thirds of future growth occur around existing towns and in designated development districts. Since central wastewater facilities exist, or are planned, higher densities are appropriate, thus reducing the pressure for the conversion of farmland to residential use.

The Comprehensive Plan divides the county into eight Growth Management Districts in addition to the existing municipalities. These districts include:

- ◆ Town Center District;
- ◆ Development District;
- ◆ Rural Community District;
- ◆ Industrial District;
- ◆ Commercial District;
- ◆ Agricultural Residential District;
- ◆ Conservation District; and
- ◆ Public and Private Resource District.

Also, there is one Growth Management Area that is the Ag-Lands Preservation Foundation Area.

In addition to the Growth Management Districts and Area, there are two overlay zones that modify the underlying districts. They are the Corridor Preservation Zone and Intergovernmental Coordination Zone. The districts and area are grouped into three related categories including Growth Area, Agricultural Area, and Natural Resource Protection Area. The purpose of the Growth Management Districts and Area is to provide a basis for future public and private investments and to preserve agricultural land and fragile natural resources. The districts and area will serve as the basis for Sussex County to update its zoning and subdivision regulation and plan for future development of public infrastructure and services. Unfortunately, the county's Growth Management Areas and the State Investment Strategy map are not consistent. This fact makes review of proposed development in the Basin more difficult.

The primary districts that will serve as the planning areas for the future are the Development and Town Center Districts. The Development District is purposely much larger than required to accommodate growth over the next several decades in order to control land speculation activities which may hinder efforts to provide economic development and affordable housing opportunities. In addition, the Development District defines potential growth areas where central wastewater systems either exist or are planned. The Comprehensive Plan was developed with the highest residential densities in the Town Center District. Densities decrease as development moves further away from the centers.

2.9.5.1 Transportation Issues

The Inland Bays/Atlantic Ocean Basin is covered by the Sussex County Long-Range Transportation Plan, a component of DelDOT's statewide planning effort. This statewide plan includes many modes of passenger and freight transportation, such as automobiles, bicycles, buses, ferries, planes, ships, trains, trucks, and walking, all of which represents an effort to rely less on automobiles, constituting an important shift in policy.

Segments of Sussex County's roadway system are currently anticipated to attract more traffic in the future than they can support during peak travel times. Specific locations along busy routes already experience more severe congestion due to a variety of circumstances including roadway alignment, density of development, and local popular destinations. This indicates that traffic may experience congestion in some areas, but travel relatively freely elsewhere along the same roadway.

The Inland Bays/Atlantic Ocean Basin experiences a high tourist population from May through September, which comprises most of the hurricane season. Accord-

ingly, it is essential that a system of highways exist to accommodate the sudden evacuation of these tourists, as well as local residents, in the event that dangerous weather conditions arise.

The primary evacuation routes for Sussex County have been designated by the U.S. Army Corps of Engineers. These routes include State Routes 54, 26, 24, and 1; U.S. Highway 9; and local roads. However, many roads, such as state Routes 26 and 54, are insufficient to accommodate the high volumes of traffic associated with an emergency evacuation.

2.9.5.2 Land-Use Growth Management Strategies

During the development of the 1997 Sussex County Comprehensive Plan, residents attending the public workshops and general planning process voiced many issues. In response to these concerns, and in addition to the guidelines described for each Land Use District, county officials felt that specific Land Use Growth Management Strategies should include the following provisions:

- ◆ Establish a five-year time frame for sun-setting recorded subdivisions that are not developed;
- ◆ Revise the subdivision regulations to correlate with the Comprehensive Plan. The revisions should incorporate innovative concepts for addressing key issues such as sustainable mixed-use developments with multimodal transportation alternatives, visual quality, functional efficiency, and environmental sensitivity;
- ◆ Determine property assessments and taxes directly on zoning category rather than land use to discourage speculation and premature approvals, and to encourage property owners to rezone in a manner compatible with the Comprehensive Plan's growth management strategies;
- ◆ Encourage linking enterprise initiatives to the strategies of the Comprehensive Plan, which targets sites and/or structures served by public infrastructure and services that are clearly underutilized;
- ◆ Encourage the state to create a retail, commercial, and industrial land preservation program to prevent potentially valuable business sites, particularly underutilized or vacant sites, from being redeveloped into less productive or incompatible uses;
- ◆ While the Delaware Agricultural Lands Preservation Foundation will continue to be an important tool for protecting farmland, the criteria for district eligibility requiring a minimum of 200 contiguous acres precludes some properties from entering the program. The county should undertake a study to determine the feasibility of creating a County Agricultural District Program to supplement the efforts of the state;

- ◆ Transfer of Development Rights (TDRs) is another tool in the preservation of farmland and open space, which has been used with mixed success in counties across the nation. Sussex County should undertake a study to determine the feasibility of such a program; and
- ◆ The county should continue to support the Delaware Agricultural Lands Preservation Foundation and request the state to modify and/or expand the program to include farmland which is not eligible under the existing program.

2.9.5.3 Economic Development Growth Management Strategies

The Sussex County Land-Use Plan's Growth Management Districts suggest that the municipalities, and the Town Center, Development, and Rural Community Districts offer the most potential for economic development. These Districts contain large populations, as well as the amenities necessary to sustain a healthy economy. Municipalities, and the Town Center and Development Districts also provide, or are intending to provide, the public infrastructure and services necessary to support a variety of businesses. The Rural Community District offers economic development opportunities for appropriately scaled neighborhood businesses.

These Districts concentrate both on economic development recruiting efforts, as well as public infrastructure and services investment. In addition, through concentrating commercial and industrial development, the county's agricultural and recreational resource base are preserved.

Specific Economic Development Growth Management Strategies include:

- ◆ Coordinate state, county, and municipal operating and capital budget priorities to growth management policies that will foster the redevelopment of existing municipalities and rural communities, while at the same time will ensure sound public infrastructure and services investment;
- ◆ Create more jobs and more higher-quality jobs by providing the necessary public infrastructure and services which will diversify the Basin's employment base and overall economy, which previously has been highly dependent on agriculture and tourism;
- ◆ Coordinate efforts to enhance resident and visitor access to recreation and open space, while ensuring that resident mobility needs are maintained, and Sussex County's quality of life is protected;
- ◆ Promote ecotourism;
- ◆ Establish an intergovernmental planning program to evaluate municipalities and rural communities for their potential to stimulate economic growth; and
- ◆ Encourage mixed-use developments, which include on-site services such as convenience stores, restaurants, banks, child care facilities, recreational opportunities, etc., which foster sustainable communities.

2.9.5.4 Conservation Growth Management Strategies

The Sussex County Land-Use Plan's Growth Management Districts support maintaining and enhancing the Basin's natural amenities. The plan's Growth Areas act to concentrate development in and adjacent to existing municipalities and rural communities, and away from the majority of the county's Natural Resource Protection and Agricultural Areas. The Growth Area guidelines provide some of the necessary infrastructure to protect the sensitive natural areas within their purview. The Natural Resource Protection and Agricultural Areas preserve the integrity of sensitive natural areas and farmland through overall low-density development guidelines and are intended to maintain a high percentage of open space.

Specific Conservation Growth Management Strategies currently include:

- ◆ Continue to ensure the Conservation Zone in the Zoning Ordinance to require a minimum lot size of 2 acres for on-site septic systems in the areas adjacent to tidal waters (i.e., the Inland Bays);
- ◆ The state should continue to fund the acquisition of designated Resource Areas;
- ◆ The County should review all development proposals for consistency with the goals, strategies, and action plans of the Delaware Inland Bays Comprehensive Conservation and Management Plan;
- ◆ All development proposals should conform to the Conservation District criteria;
- ◆ Encourage environmentally sensitive development and economic growth in designated Growth Areas through the use of flexible and innovative development regulations. Simultaneously, random-pattern development should be discouraged in order to enhance sensitive areas and other environmental resource protection programs in rural areas. Further, direct development away from sensitive areas, thus minimizing impacts;
- ◆ Utilize the natural amenities of Sussex County for appropriate recreational uses that stimulate economic development in an environmentally sensitive manner (i.e., ecotourism);
- ◆ Preserve and protect sensitive environmental areas in land-use decisions, particularly concerning the placement of roads, sewers, and other major infrastructure that can pose serious negative environmental consequences;

- ◆ Support the establishment of a greenways system that uses schools, parks, wildlife habitat areas, river and stream corridors, wetlands, floodplains, historic sites, business parks, urban sidewalks, abandoned rail lines, roads, beach areas, and vacant land;
- ◆ Support state water resource conservation initiatives through land-use controls and programs to include ground-water aquifer recharge area protection and water-saving plumbing devices in new buildings and in those being rehabilitated; improve programs to monitor and control toxic chemicals; and assure availability of water through public centralized water systems where feasible; and,
- ◆ Develop a conceptual plan for the future of the Inland Bays/Atlantic Ocean Basin using the resources of the Center for the Inland Bays and the Department while incorporating public participation.

2.9.6 HOUSE RESOLUTION 32

In June 1999, the General Assembly passed House Resolution 32, establishing a working committee comprised of Sussex County Council, the Department of Natural Resources and Environmental Control, the Office of State Planning Coordination, the Department of Agriculture, the Sussex County Association of Towns, and the Center for the Inland Bays. As part of its discussions, the committee assessed progress toward implementation of the Land-Use Action Plan of the Inland Bays Comprehensive Conservation Management Plan (CCMP) and a number of potential initiatives that could assist in meeting total maximum daily load targets established for the Inland Bays to reduce nutrient loadings. These included requirements for enhanced nutrient removal from septic systems, development impact statements for projects over a certain size, buffers for developing lands, and impact fees for new septic systems to help defray the costs of providing central wastewater treatment at a later date.

Deliberations of the committee resulted in two pieces of legislation being introduced during the 2000 session of the General Assembly. Representative Shirley Price was primary sponsor of both measures. The first, House Bill 626, would establish the Inland Bays Watershed as a critical area under the Land-Use Planning Act and require development impact statements for large residential and commercial projects. House Bill 653 would establish a buffer program in the Inland Bays Watershed. Under the legislation, buffers would be required for development projects adjacent to state-regulated subaqueous lands and tidal wetlands and valuable freshwater wetlands. Specific regulations for the program would be developed by a committee of stakeholders.

While the two pieces of legislation introduced in 2000 did not move forward, they are expected to be reintroduced during the 2001 legislative session.

2.9.7 DATA GAPS AND RECOMMENDATIONS

1. The Department should encourage Sussex County to have a (two or three year) sunset time of rezoned and subdivided land in the non-urban growth areas of this Basin. Land in urban growth areas should have a longer time span for initiating new construction on rezoned land.
2. Encourage update of town plans. DNREC, in conjunction with the Office of State Planning Coordination and the Sussex County Planning Department.
3. When and where construction is needed, encourage infill to existing developed areas rather than development of "green" spaces. Continue to work with communities to encourage the protection of stream corridors.
4. Restrict placement of docks, piers, and ramps in dead-end canals.
5. Develop model zoning ordinance favoring riparian protection.
6. Require buffers in urban and agricultural areas to provide habitat, improve the aquatic environment, and filter run off. *Lead Agencies: Sussex County and Municipalities & Nutrient Management Commission.*
7. Encourage waterway management that incorporates wide buffers of natural vegetation, including stands of woody species when possible.
8. The Department should work with Sussex County and the Basin's municipal governments to develop open-space ordinances that provide for recreation areas and buffer streams and other water bodies. *Lead Agency: Sussex County and Municipalities.*
9. The Department needs to assess the cumulative impacts of the development of individual parcels of property. Currently there is no coordination of the numerous permitting processes for well construction, sewage disposal, storm-water runoff, wetlands construction, subaqueous lands construction, coastal zone consistency, and others. A developer may be able to comply with all of the requirements of these individual programs, but when looked at as a whole, the impacts may be unacceptable.
10. Open a dialogue with the Office of State Planning Coordination on better definition of "critical area" in the Land-Use Planning Act. Develop a critical areas map that includes vital natural, cultural, and economic resources. This map could include category I wetlands, rare species, riparian corridors, shellfish beds, spawning areas, and other locations with vital natural resources.
11. The Department should more actively seek agreement with the Office of State Planning Coordination on the definition of what is "more than local concern" and therefore trigger reviews under LUPA to protect open space.

12. Development of lands within State Resource Areas, Natural Heritage Sites, Natural Areas Inventory, and Old Growth Forests should be discouraged.
13. Sensitive areas should be accorded special status and given special attention when a development is proposed on or adjacent to such an area. It is recommended that state and local governments care for these areas. Their actions and decisions should reflect a major commitment toward protecting and conserving these resources.
14. Implement requirements for buffer zones along streams to protect prehistoric and early historic period archaeological sites.
15. Develop a program to require offsets for economic development projects that have adverse impacts on the environment. *Lead Agency: Cabinet Committee on State Planning Issues.*
16. Prepare for climate change and sea-level rise by practicing retreat. Setback requirements should be increased along the shoreline. *Lead Agency: Sussex County.*
17. Require environmental impact statement or LUPA review of new golf courses. *Lead Agency: Office of State Planning Coordination*
18. Establish historic review boards, such as the one in New Castle County, which will result in proactive measures to preserve historic buildings and efforts to record important features of those that cannot be preserved.
19. The department should continue to participate in any sub-regional planning effort to incorporate the big environmental picture.
20. A dedicated effort to improve and enforce county comprehensive plans must be made in the future to prevent further degradation of natural resources in the state.
21. The Office of State Planning Coordination and Sussex County, with the towns of the Basin, should develop a "growth issue" database to monitor development issues. A GIS type system should be considered. Such a database could track building permits, zoning changes and other growth issues. *Lead Agency: Office of State Planning Coordination*
22. Install road signs along major highways announcing that you are entering the Inland Bays Basin.
23. Promote the establishment of forested wetlands and upland forest to supplement and/or restore natural riparian buffers.
24. Sussex County should enact an ordinance, similar to that of New Castle County, that gives Natural Areas special consideration in the land development process.
25. Widely distribute and encourage the use of Randall Arendt's *Designing Open Space Developments in Sussex County, Delaware: A Practical Handbook for Those Involved in Land Development.*

26. Using the Department's GIS complete a build-out map to show what the landscape will look like and project water quality using existing population projections, zoning, and subdivision regulations.

2.9.8 REFERENCES

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