

MONROE COUNTY COMPREHENSIVE PLAN



ADOPTED: FEBRUARY 14, 2012

EFFECTIVE: MARCH 20, 2012

*Maps Adjusted for Accuracy June 2013

TABLE OF CONTENTS

- 1. Acknowledgements 1**
- 2. Introduction 3**
 - 2.1 Purpose 3
 - 2.2 Incorporated Documents 3
 - 2.3 Necessity for Revision 4
- 3. Vision 5**
 - 3.1 Economic Development 5
 - 3.2 Residential Development 5
 - 3.3 Transportation, Infrastructure & Public Services 5
 - 3.4 Environmental Conservation & Natural Resources 6
 - 3.5 Intergovernmental Cooperation 6
- 4. Existing Conditions 7**
 - 4.1 Natural Resources 7
 - 4.1.1 Climate 7
 - 4.1.2 Geology 8
 - 4.1.3 Watersheds 14
 - 4.1.4 Floodplains 18
 - 4.1.5 Soils 20



4.1.6 Steep Slopes	21
4.1.7 Wetlands	23
4.1.8 Endangered Species	24
4.1.9 Agriculture	24
4.1.10 Forestry	28
4.2 Demographics	30
4.2.1 Population	30
4.2.2 Economic Indicators	36
4.2.3 Housing	43
4.3 Transportation	45
4.3.1 Roads	45
4.3.2 Transit	47
4.3.3 Alternative Transportation	47
4.3.4 Airport	48
4.3.5 Railroads	50
4.4 Utilities and Services	50
4.4.1 Energy Service	50
4.4.2 On-Site Sewage Disposal Systems	50
4.4.3 Sanitary Sewer Service	51
4.4.4 Water Service	53
4.5 Community Facilities	54
4.5.1 Parks and Recreation	54
4.5.2 Police and Fire Protection	54



4.5.3 Schools	55
4.5.4 Libraries	55
4.5.5 Social Service Delivery	56
4.6 Development Patterns	56
5. Planning Policy	59
5.1 Policy Assumptions	59
5.2 Policy Statement	59
6. Goals	61
6.1 Economic Development	61
6.2 Residential Development	63
6.3 Transportation, Infrastructure and Public Services	65
6.4 Environmental Conservation	67
6.5 Governmental Cooperation	69
7. Land Use Framework	71
7.1 Principles	71
7.1.1 Residential Choices	71
7.1.2 Focused Development in Designated Communities	72
7.1.3 Environmental Protection	72
7.1.4 Planned Infrastructure Improvements	72
7.1.5 Distinguish Land from Property	73
7.2 Framework	73
7.2.1 Vulnerable Land Forms	73
7.2.2 Resilient Land Forms	73



7.2.3 Urban Property	73
7.2.4 Rural Property	74
8. Land Use Policies	75
8.1 Property Uses on Vulnerable Land	75
8.1.1 Undisturbed Land	77
8.1.2 Public Open Space	77
8.1.3 Private Holdings	78
8.2 Property Use on Resilient Land	80
8.3 Employment Property Use	80
8.3.1 Retail and Commercial Uses	81
8.3.2 Industrial Manufacturers and Wholesale Businesses	81
8.3.3 Government and Education	81
8.3.4 Mineral Resources	82
8.3.5 Agriculture	82
8.3.6 Tourism	83
8.3.7 Home Based Business	83
8.4 Residential Property Use	83
8.4.1 Rural Property	84
8.4.2 Urban Property	87
8.5 Special Considerations for Manufactured Housing	91
8.6 Property Use Plan	91

9.	Ordinance Development Considerations	93
	9.1 Urban Property	93
	9.2 Rural Property	93
	9.2.1 Residential	93
	9.2.2 Non-Residential	94
	9.3 Vulnerable and Protected Lands	94
	9.4 Unified Development Code	95
10.	Annex	96
	10.1 References	96
	10.2 Designated Community Plans	99
	Harrodsburg Rural Community Land Use Plan	100
	Ellettsville Rural Community Land Use Plan	102
	Smithville - Sanders Area Rural Community Plan	104
	Stinesville Area Rural Community Plan	106
	Bloomington Urbanizing Area	108
	10.3 On-Site Sewage Disposal Systems	110
	Subsurface Gravity System	110
	Pump-Assisted Distribution	110
	Elevated Sand Mound System	111
	Presby Septic Systems	111
	10.4 Resolution Adopting March 2012 Comprehensive Plan	

1

ACKNOWLEDGEMENTS

Monroe County would like to thank all the people who participated in this comprehensive plan update process:

The Monroe County residents who participated in the community meetings and surveys.

Monroe County Plan Commission

Kevin Enright

Doug Horn

John Irvine

Lee Jones

Richard Martin

Jerry Pittsford, President

Mark Stoops

Julie Thomas, Vice-President

Amy Thompson

Past Members

Bill Montgomery

John Newlin

Jim Tolen

Sophia Travis

Monroe County Plan Review Committee

Ed Deckard

John Irvine

Richard Martin

Cheryl Munson

Julie Thomas

Mark Stoops

Past Members

Doug Horn

Jerry Pittsford

Joseph Rudyanski

Kellye Serna

Jim Tolen

Monroe County Board of Commissioners

Iris Kiesling, Vice-President

Patrick Stoffers, President

Mark Stoops, Member

Monroe County Council

Sam Allison

Marty Hawk

Warren Henegar

Vic Kelson, Vice-President

Ryan Langley

Geoff McKim

Julie Thomas, President

Monroe County Planning Department

Larry Wilson, AICP, Director

Jason Eakin, AICP, Assistant Director

Erin Shane, AICP, Senior Planner

Katie Waldman, Planner-GIS Specialist

Shirley Yates, Office Manager

Former Staff

Robert S. Cowell, Jr., AICP

Matthew Lepke, AICP

Heidi Russell Wagner

Mark Yates

Gregg Zody, AICP

Monroe County Highway Department

Bill Williams, County Engineer

Todd Stevenson, Drainage Engineer

Monroe County Legal Department

David Schilling, County Attorney

Kevin Dogan, County Attorney



2

INTRODUCTION

2.1 PURPOSE

The American Planning Association identifies the following concepts as critical elements of an effective comprehensive plan:

- ✦ a comprehensive plan is a statement of community policy or intent as to the future growth and development of the community;
- ✦ a comprehensive plan should strive to balance quality of life and livability, economic health and prosperity, private property needs, and public fiscal responsibility; and,
- ✦ a comprehensive plan is fundamentally concerned with the physical development of the community and most specifically with property use, transportation, public facilities, infrastructure, natural and environmental features, and housing.

This Comprehensive Plan was prepared and adopted in accordance with the 500 series of Indiana Code Chapter 36-7-4, and reflects the foregoing concepts. It establishes property use policies for the Monroe County Planning and Zoning Jurisdictional Area (County Jurisdictional Area), which may be implemented through ordinances and administrative procedures. It is not intended to be used as a primary property use and development guide by landowners and residents.

2.2 INCORPORATED DOCUMENTS

The following documents are incorporated into this Plan by reference:

- ✦ The Monroe County Thoroughfare Plan, 1995;
- ✦ The Harrodsburg Rural Community Land Use Plan, 2003;
- ✦ The Ellettsville Rural Community Land Use Plan, 2003;
- ✦ The Smithville-Sanders Rural Community Land Use Plan, 2005;
- ✦ The Monroe County Alternative Transportation Plan, 2006;
- ✦ The Stinesville Rural Community Land Use Plan, as amended 2010;
- ✦ The State Road 37 Corridor Study, 2010; and
- ✦ The Monroe County Parks & Recreation Plan, 2008-2012.

2.3 NECESSITY FOR REVISION

The previous Comprehensive Plan was adopted in 1996. Former projections, issues and strategies have become outdated. Demographics have changed and technologies used in planning, such as GIS, have become commonplace. The housing market experienced a huge boom in the early to mid 2000's followed by the recent housing slump that has contributed to our current economic contraction. Clean Water Act implementation responsibilities have devolved to the County since 1996. Wind and solar technologies have become mainstream, available to individual homeowners in some instances. Sustainability concepts have infused most every industry, including the planning arena with smart growth policies and the building industry with LEED standards. Finally, attitudes and perceptions about community goals and issues change over time.

For these reasons and more, the Comprehensive Plan must be updated to ensure that new issues are addressed and projections made to create an effective future property use plan. The goals of the 1996 plan are still desirable; however, it is necessary to adjust the policies in light of new data and responsibilities.



3

VISION

Through a series of community exercises, residents and key stakeholders have developed this vision of future property use in Monroe County. This vision recognizes the interdependence of social equity, economic vitality and environmental integrity to provide a sustainable future for Monroe County.

This Comprehensive Plan retains the 1996 Plan's five broad goal areas that involve future property use policies, further described below:

3.1 ECONOMIC DEVELOPMENT

Monroe County shall support the development and expansion of an inventory of relatively constraint-free property for business use and growth coupled with sufficient infrastructure to sustain that use and growth. Much of this growth will occur on underdeveloped or brownfield properties, or properties in targeted business corridors. Quarrying, agriculture, and tourism, are recognized as important segments of our economy and heritage, and are encouraged and supported, subject to sustainable, environmental protections. Monroe County shall continue to be a strong regional employment base in a culturally diverse community that offers a full range of recreation options.

3.2 RESIDENTIAL DEVELOPMENT

Monroe County shall continue to promote safety, diversity, and creativity of housing designs as essential components of the local quality of life (e.g., connecting neighborhoods with a combination of streets, sidewalks, and alternative transportation routes that unify the community). Monroe County shall discourage isolated development that does not foster the design standards of cohesive neighborhoods while encouraging sustainable residential design elements through the use of incentives. Monroe County shall provide a variety of density options, specifically in the Designated Communities, to support multi-family developments where supported by services and infrastructure.

3.3 TRANSPORTATION, INFRASTRUCTURE & PUBLIC SERVICES

Monroe County shall promote mass transit and alternative modes of transportation in order to reduce our local reliance on fossil fuels, increase transportation efficiency, and improve community health.

Monroe County shall encourage the provision of sanitary sewers to our Designated Communities to permit increased housing densities, potential business locations, and vital community services while reducing land consumption resulting from the use of septic systems.

Monroe County shall discourage low density, single-lot-of-record residential development outside of the Designated Communities in order to minimize reductions in the level of service ratings of county roadways, and to facilitate the provision of public services, such as police, fire and emergency response.

3.4 ENVIRONMENTAL CONSERVATION & NATURAL RESOURCES

Monroe County shall enhance protection of our existing natural resources and open spaces while discouraging development activities that jeopardize the prosperity, integrity, and sustainability of the natural environment and associated recreational opportunities which make our community unique.

3.5 INTERGOVERNMENTAL COOPERATION

Establish and employ interlocal and inter-agency agreements and practices to ensure that public resources allocated to federal, state, and local governments and agencies are invested in transportation facilities, parks, water resources, and economic development programs in the most cost effective and efficient manner.



4

EXISTING CONDITIONS

The Existing Conditions report serves as a broad benchmark for the current natural and man-made resources in Monroe County. By evaluating the most current and historical data, trends can be established to guide residents, planners, Plan Commission members, and County Commissioners in making property use decisions that will enhance and protect the character of the area for future generations.

The total land area of Monroe County is approximately 394 square miles and according to 2010 Census population counts, contains 137,974 residents. However, because the County Planning jurisdiction does not include incorporated areas (such as Bloomington and Ellettsville), the planning jurisdiction of the County is approximately 370 square miles with a population of 50,993.

This section of the Comprehensive Plan is divided into several categories: Natural Resources, Demographics, Transportation, Utilities and Services, Community Services, and Development Patterns.

4.1 NATURAL RESOURCES

Monroe County is the gateway to beautiful southern Indiana, where the flat farmland of northern and central Indiana gives way to hills and forests. The environment is highly prized by residents and non-residents alike, and its maintenance for economic and ecological values is a central theme of this Plan.

Monroe County contains natural features that are impacted by existing residential, commercial, and industrial development. The impact of existing development on the environment was recognized by County leaders and, as a result, several Zoning Ordinance chapters were created to protect these unique environmental features which contribute to the character and economy of Monroe County. Examples include protection of limestone deposits, floodplains, karst features, steep slopes, and water quality, especially in the Monroe Reservoir and Lake Griffy watersheds.

4.1.1 Climate

Monroe County has a continental temperate climate. It is typically hot and humid during July and August with daily average high temperatures of 85°F and occasional readings approaching 105°F, but rarely to 110°F. The weather during mid-winter can be cool with some cold periods and daily average low temperatures of 23°F. January and February temperatures can, on occasion, drop below 0°F. The spring and fall are generally comfortable, but the weather is subject to extreme fluctuations throughout the year. The average annual precipitation is about 44 inches, which is spread relatively evenly throughout the year. However, some intense concentrations of precipitation occur from time to time.

4.1.2 Geology

The land forms of Monroe County are generally grouped into three physiographic regions (see Figure 2). These are parts of larger areas of Indiana that were described as early as 1922 in the Handbook of Indiana Geology by C.A Malott. The northern and eastern parts of the County are part of the Norman Upland, an area of steep, rocky hills, abundant streams and narrow ridge tops. A central belt about six miles wide, extending from the northwest corner of the County trending toward the southeast through Bloomington and Harrodsburg, is part of the Mitchell Plateau. The Mitchell Plateau is characterized by sinkholes and moderate slopes. Along large streams, such as Clear Creek, deep valleys have cut into the underlying limestone. In southwestern Monroe County, hills that have broad ridge tops and relatively moderate slopes are part of the Crawford Upland.

The Bedrock Geology map (see Figure 3) illustrates the geological formations contained in Monroe County. The main bedrock formations in Monroe County are Borden, Blue River and Sanders. The oldest of the three formations, Borden, can be found at depths of up to 600 feet. It is composed primarily of siltstone and shale, although sandstone can also be found. This bedrock formation is located in the central and eastern parts of the County containing protected steep slopes. Note that Lake Lemon, Lake Griffy, and Monroe Reservoir are all located in the Borden formations.

The Blue River and Sanders bedrock groups are found in shallower depths than the Borden, typically reaching depths of around 325 feet. Both the limestone bedrock and karst formations are contained in these geological formations.

While limestone bedrock underlies approximately half of Monroe County (see Figure 3), it is most prevalent in the central, western, southern, and southwestern sections of the County. Large deposits of Salem Limestone make Monroe County one of the primary building stone sources in the United States. Limestone quarrying, first established in the County in 1826, is one of the State's oldest industries. With the arrival of a railroad link in 1854, locally extracted limestone became a popular building medium, which contributed significantly to the local economy. Indiana limestone continues to be utilized in churches, government facilities, and other major buildings throughout the country, including such well known edifices as the Empire State Building, the National Cathedral, and the Pentagon.

Limestone Reserves

While local suppliers expect to meet the demand for the foreseeable future, the demand for Indiana limestone as a building product is not expected to end. Many local quarries that appear abandoned may actually lay idle for many years and resume operations in the future. Likewise, what appear to be new operations are often extensions of existing quarries.



Figure 1: Limestone Bedrock Example

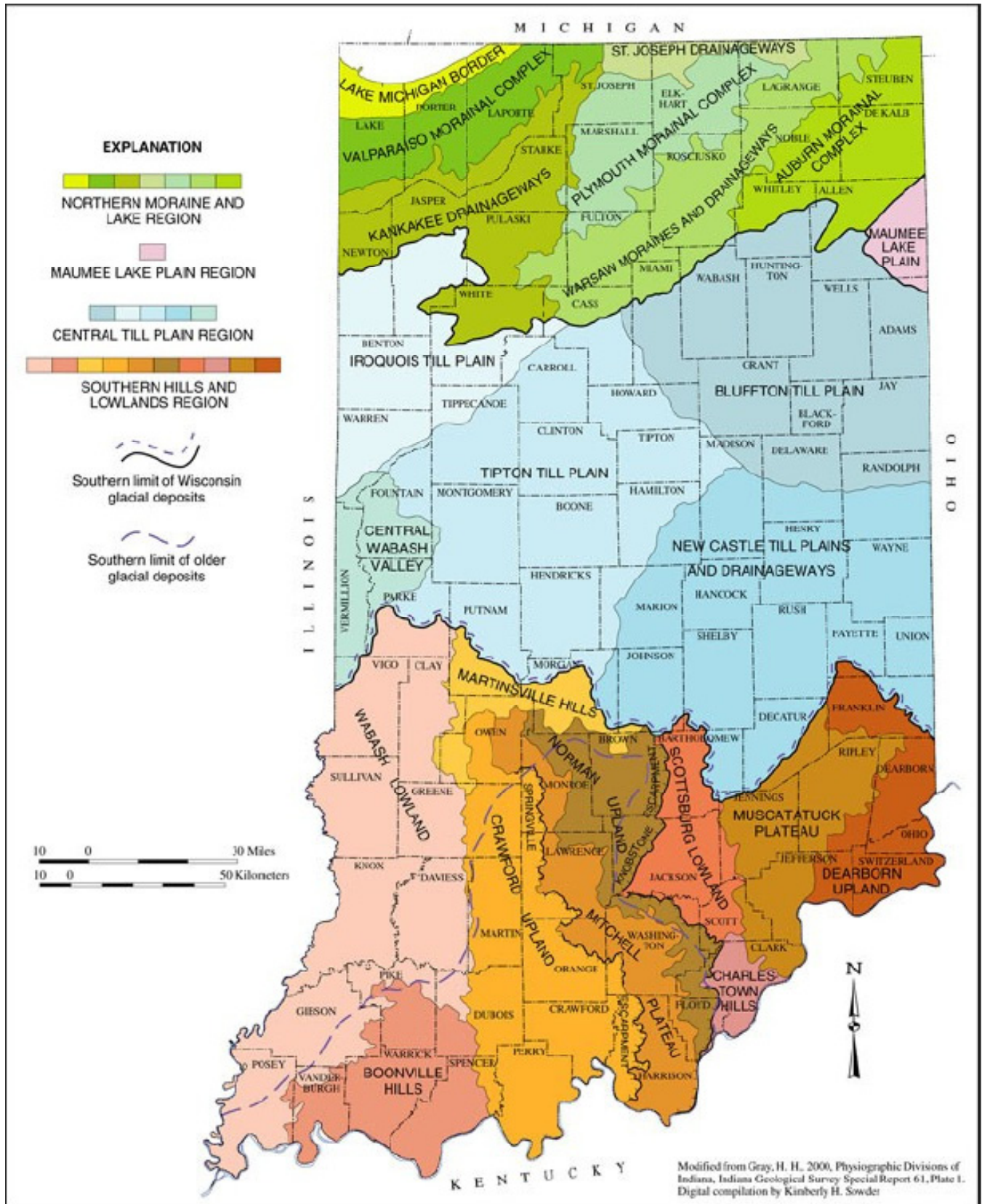


Figure 2: Indiana Physiographic Divisions Map

Karst Features

Karst landscapes usually occur where carbonate rocks (limestone and dolomite) underlie the surface. Limestone and dolomite in particular, are soluble in water. Freely circulating slightly acidic rainwater and the water in the soil slowly dissolve the fractures in the limestone and create sinkholes, caves, underground streams, and other features that characterize karst landscapes.

Groundwater has slowly enlarged openings to form a subsurface drainage system. A mild carbonic acid produced from carbon dioxide in the atmosphere, particularly the soil atmosphere, is primarily responsible for the dissolving of the carbonate rocks. Karst landscapes dominate most of western and southwestern Monroe County in a well-developed area of karst landscape called the Mitchell Plateau, a broad limestone karst plateau. This Plain developed on Mississippian limestone and extends from the eastern part of Owen County southward to the Ohio River in Harrison County.⁸ Karst features also occur in the lower density Crawford Upland.

Karst is recognized as a highly valuable, non-renewable resource that can be especially vulnerable to disturbance, more so than many other land resources. The primary reason for this higher level of sensitivity is the three-dimensional nature of karst. Karst can provide benefits such as a source of drinking water in rural areas, tourism and recreational opportunities (i.e. Karst Farm Park), and opportunities for scientific and educational research.⁵ The intricate relationship between karst's unique surface characteristics and the subsurface caves and hydrology make for a delicately balanced system. Industrial activities, such as rock quarrying or forestry, if not properly conducted, can lead to excessive soil erosion, destruction of surface and subsurface karst features, changes in groundwater flows, and the contamination, sedimentation, or clogging of underground and surface streams.¹

Sinkholes are a common karst-related feature and are defined as closed depressions in the land surface formed by dissolution of near-surface rocks or by the collapse of the roofs of underground channels and caverns in the limestone or dolostone located below. The major karst areas of Indiana are estimated to contain 300,000 sinkholes.¹⁴

Under natural conditions, sinkholes form slowly and expand gradually. However, activities such as dredging, constructing reservoirs, diverting surface water, and pumping groundwater can accelerate the rate of sinkhole expansions, resulting in the abrupt formation of collapse-type sinkholes, some of which are spectacular. It is reported that as a general rule, karst terrains in the humid eastern United States are far more active. This is due to the fact that sinkhole formation is more prevalent where groundwater tables fluctuate. Fluctuation occurs in and around mining and quarrying operations and where surface water drainage is changed by construction.¹⁸

Ground water in karst terrains is contaminated easily because the surface waters are channeled rapidly into the subsurface at sinkholes and swallow holes. These waters then flow underground without the benefit of filtration or exposure to sunlight, which might remove or kill some organic contaminants. Eventually, the ground water exits at springs.

Potential NonPoint Source (NPS) pollution is a problem in karst regions because karst aquifers are poor filters, and therefore, are highly susceptible to contamination. As is typical in karst terrain, the drainage divides are poorly defined and almost all runoff is diverted to subsurface channels. These pollutants include excess pesticides from agricultural lands and residential areas; oil, grease, and toxic chemicals from urban runoff; sediment from improperly managed construction sites, crop and forest lands, and eroding stream banks; salt from roads; and bacteria and nutrients from animal wastes and faulty septic systems.

Bedrock Geology - Monroe County, Indiana

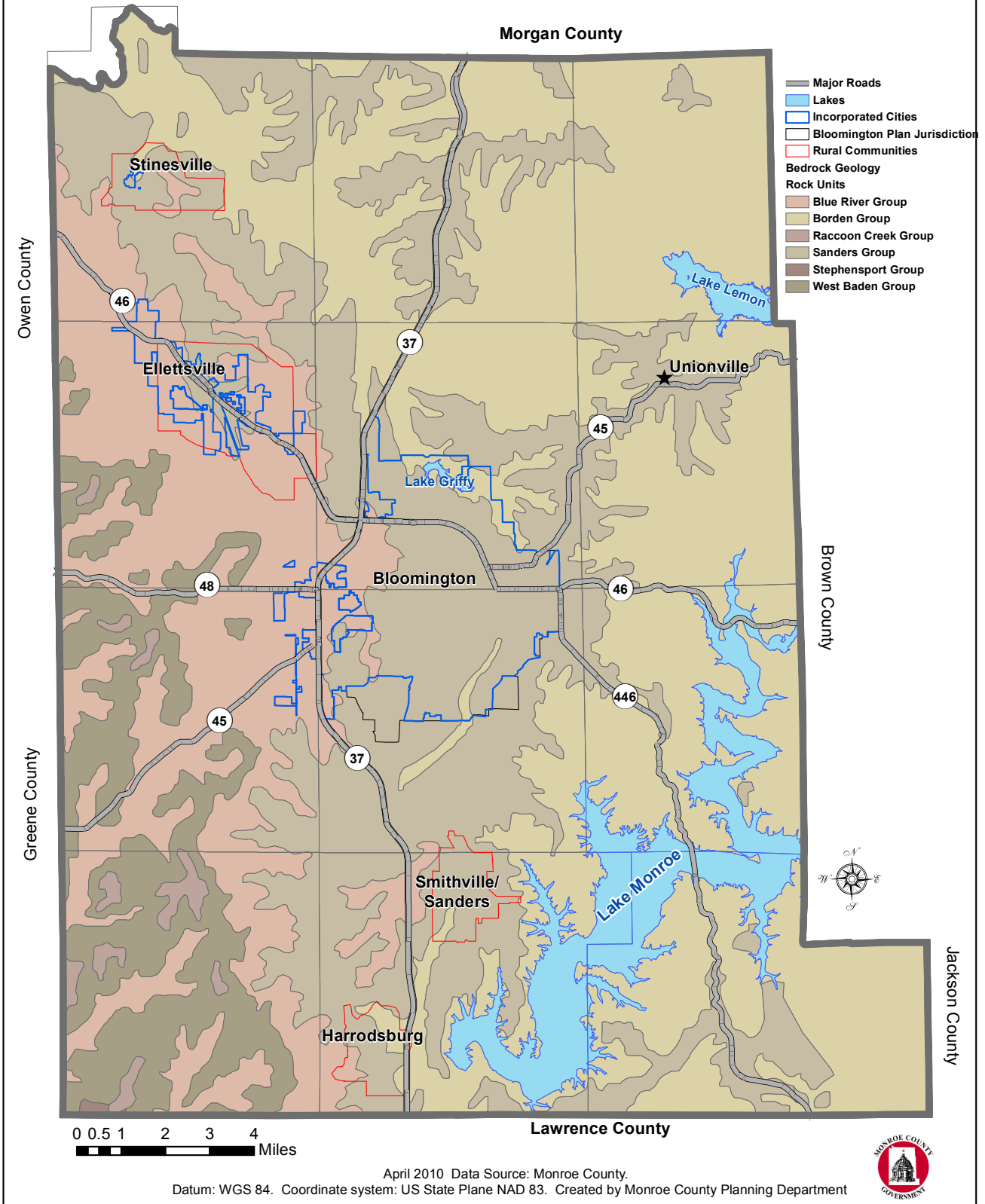


Figure 3: Bedrock Geology Map

Contaminants from livestock feeder lots, agricultural pesticides, poorly managed industrial plants, leaking gasoline tanks or spills, septic fields, and sewage plants may be discharged at these springs without being adequately diluted. Wastes located in sinkholes, including dead livestock, discarded chemical containers, waste oil, and batteries also can be washed into the underground conduit and cavern systems.⁸ Any pollutant, including septic effluent introduced into a sinkhole or bedrock crevice, contaminates the subsurface drainage, thus contaminating the groundwater.

Three distinct consequences of karst features limit development and make the use of septic wastewater disposal systems undesirable:

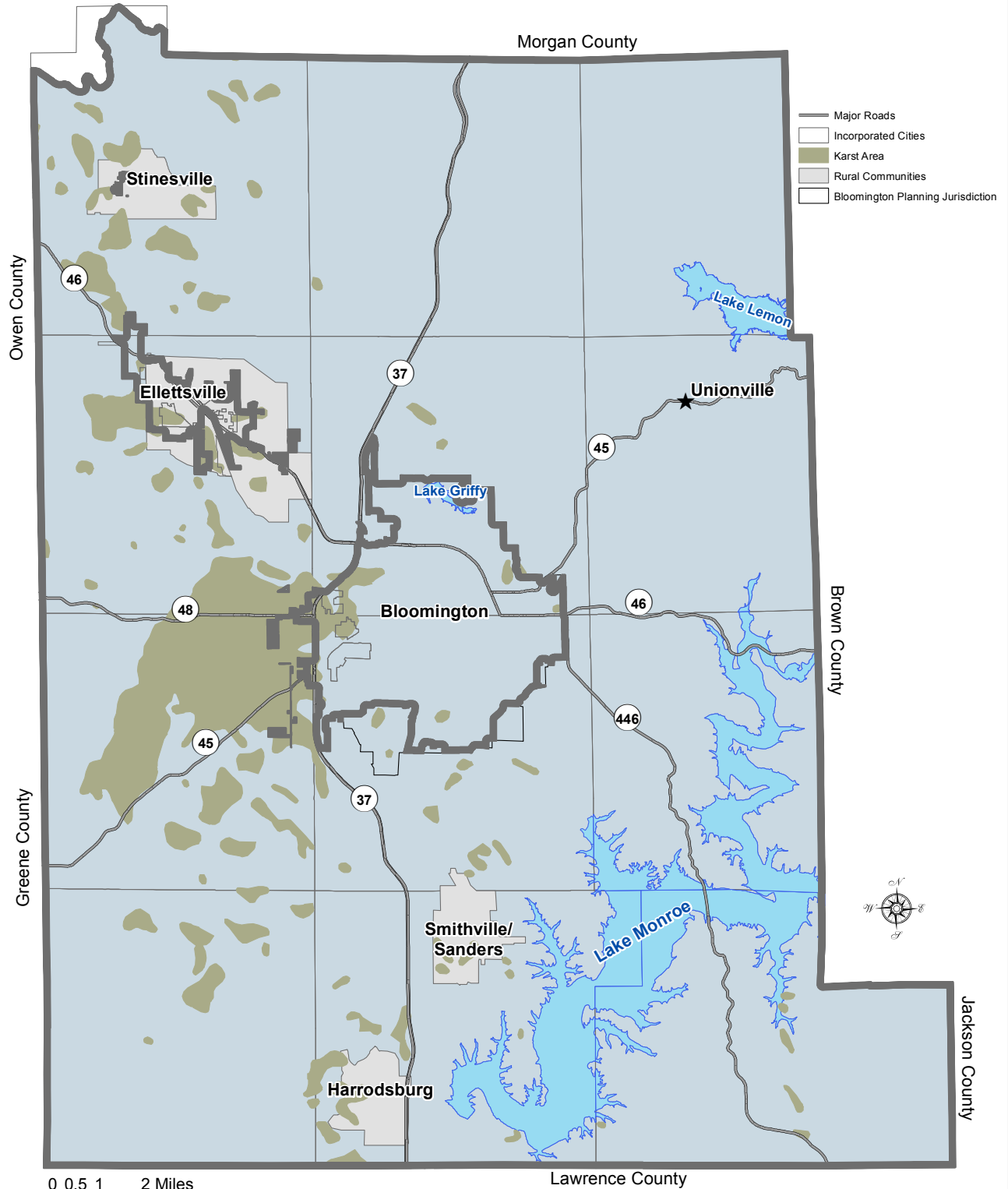
- ✦ the unpredictable flooding potential;
- ✦ groundwater pollution from surface sources; and
- ✦ the instability of the surface and subsurface areas surrounding sinkholes.

Flooding may happen when sinkholes or passages and constrictions within the cavernous system become filled or plugged with sediment, collapsed rock material, trash or illegally dumped waste, such as refrigerators, cars, and bedsprings. Flooding potential is also heightened by the increased volume of runoff resulting from the impervious surfaces of residential, commercial, and industrial development.

Therefore, to protect the health and welfare of the people and natural environment in Monroe County, special regulations apply in sensitive areas around sinkholes. Since 60% of the County has potential for exhibiting karst-related constraints, specific development plans must assess their impact to karst-sensitive areas to protect groundwater quality, health and welfare of residents, their homes, and future development in karst-prone areas.

The Known Karst Areas map illustrates two of the most common types of karst features, sinking stream basins and sinkhole areas and their locations (see Figure 4). Note the location of the karst features compared with the geological formations contained in the Bedrock Geology map (see Figure 3).

Known Karst Areas - Monroe County, Indiana



September 2009 Data Source: Monroe County.
 Datum: WGS 84. Coordinate system: US State Plane NAD 83. Created by Monroe County Planning Department



Figure 4: Known Karst Areas Map

4.1.3 Watersheds

A watershed generally consists of three key ecosystem elements (stream channel, floodplain, upland areas) that act as crossroads for the interaction of water, energy, and organisms to provide a critical function in the environment. Watersheds affect both public and private entities by requiring the careful consideration of ecological and socioeconomic issues and the impact development and human expansion will play around them.⁴

Watershed protection is vital to the well-being of the residents in Monroe County since the Monroe Reservoir Watershed provides the majority of the drinkable/usable water. Efforts to limit pollution, increase awareness, and the adoption of “best-management practices” related to watershed protection are taking place around the country at the local and federal levels.²⁹ Improvement of the data and resources related to our three man-made reservoirs will further the abilities of County officials to make educated and informed decisions related to growth and development in the area. The three major water bodies in the County account for approximately 21 square miles of area: Monroe Reservoir, Lake Griffy, and Lake Lemon.

Monroe Reservoir

The Monroe Reservoir watershed is one of the largest in Indiana. According to the Monroe Reservoir Diagnostic and Feasibility Study completed in 1997, approximately 21% of the total Monroe Reservoir drainage basin lies within Monroe County, even though 88% of the lake’s surface area lies in Monroe County. The remaining drainage basin area is spread among 4 other surrounding counties (Brown ~ 56.1%; Bartholomew ~ 1.9%; Jackson County ~ 20.7%; and Lawrence County ~ 0.3%).

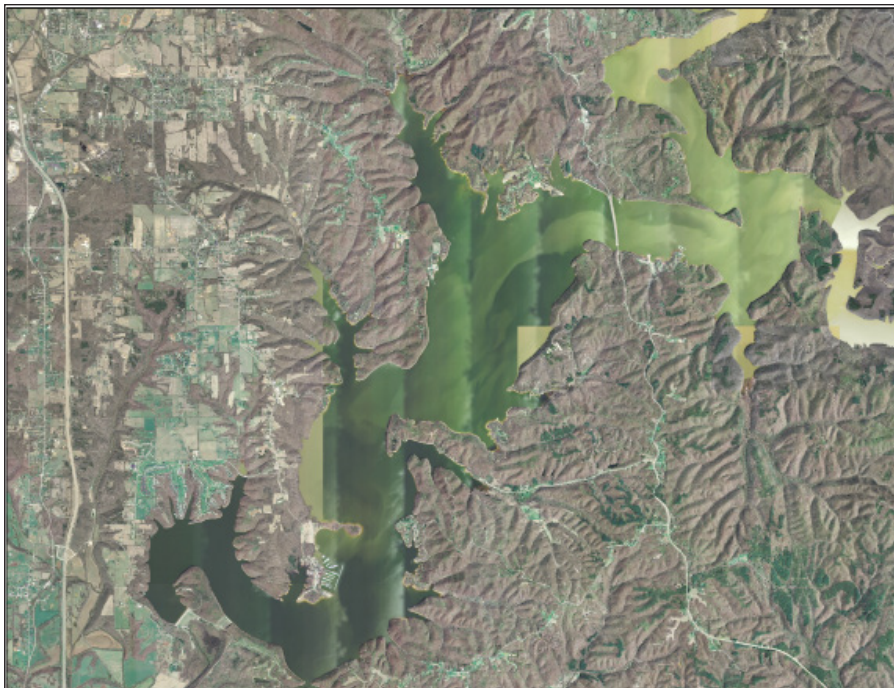


Figure 5: Monroe Reservoir Watershed Aerial Photo

Another significant statistic related to the Monroe Reservoir is that more than 86% of the 415 square miles of the watershed is categorized as forested areas. This is important to note when considering the current overall health and function of the watershed. With only 1.4% of the watershed containing development related property uses, the potential impact of future development in the area and the effect it could have on the health of the watershed is indefinite.

Lake Griffy Reservoir

The Griffy watershed consists of more than 5,000 acres, 1,169 of which are located within Bloomington City limits. Indiana University owns about 900 acres in the watershed area while the remainder is privately owned. Griffy Lake also serves as an emergency potable water supply for the City of Bloomington. The watershed area upstream from the lake is roughly 4,200 acres in size.

The watershed is drained by Griffy Creek, which has three equally-sized branches or forks (see Figure 6). The property use in the watershed has shifted from forested to urbanized. As a result of the change in use, the overall health of the watershed will face new challenges.³ Issues such as erosion control, sedimentation, and point/non-point source pollution will have a greater likelihood of occurrence as development continues in the watershed.



Figure 6: Lake Griffy Watershed Aerial Photo

Lake Lemon

This man-made lake lies in both Monroe and Brown Counties. The approximate surface area of the lake is 1,650 acres, making it the 11th largest lake in Indiana. There are 24 miles of shoreline, and the lake has a shallow average depth of only 10 feet at full pool level. The greatest depth is over 20 feet, which is roughly the original Bean Blossom Creek bed. Lake Lemon was created in 1953 when a dam was constructed in Bean Blossom Creek with the intent to create a primary water source for nearby Bloomington, as well as a recreation area and flood control project for Bean Blossom Creek. Construction was completed in 1956. The lake served as the primary water source for Bloomington until replaced by Monroe Reservoir in the 1970's.

In the late 1980's and early 1990's, the City of Bloomington Utilities department transferred management of the lake to a group of landowners adjacent to the lake due to fiscal pressures at the time. The Lake Lemon Conservancy District was officially charged with management of the lake in 1995. It should be noted that while Monroe and Griffy watershed areas are protected under the County's Environmental Constraints Overlay (ECO) District, Lake Lemon is not (see Figure 8).

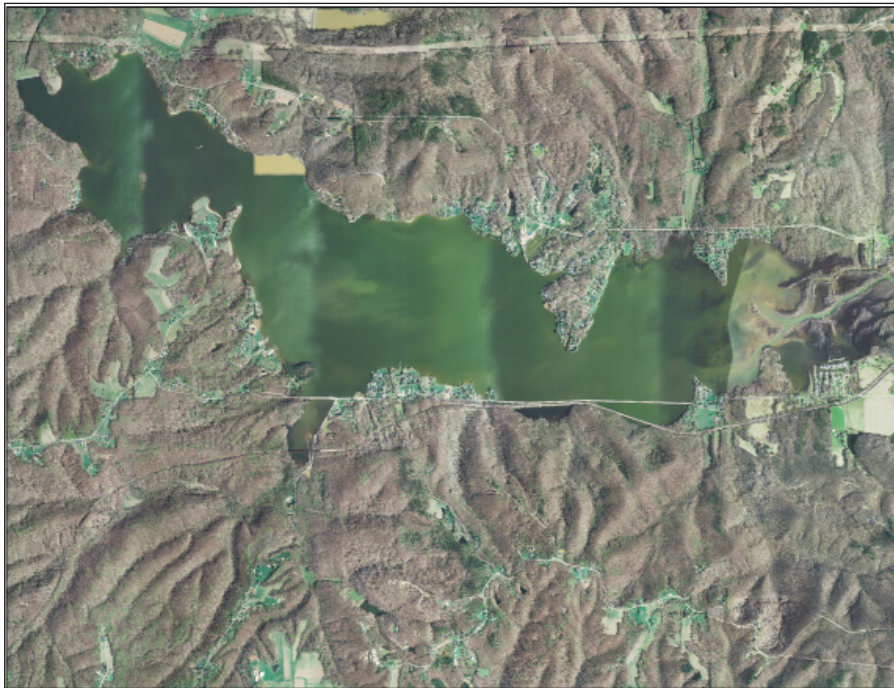
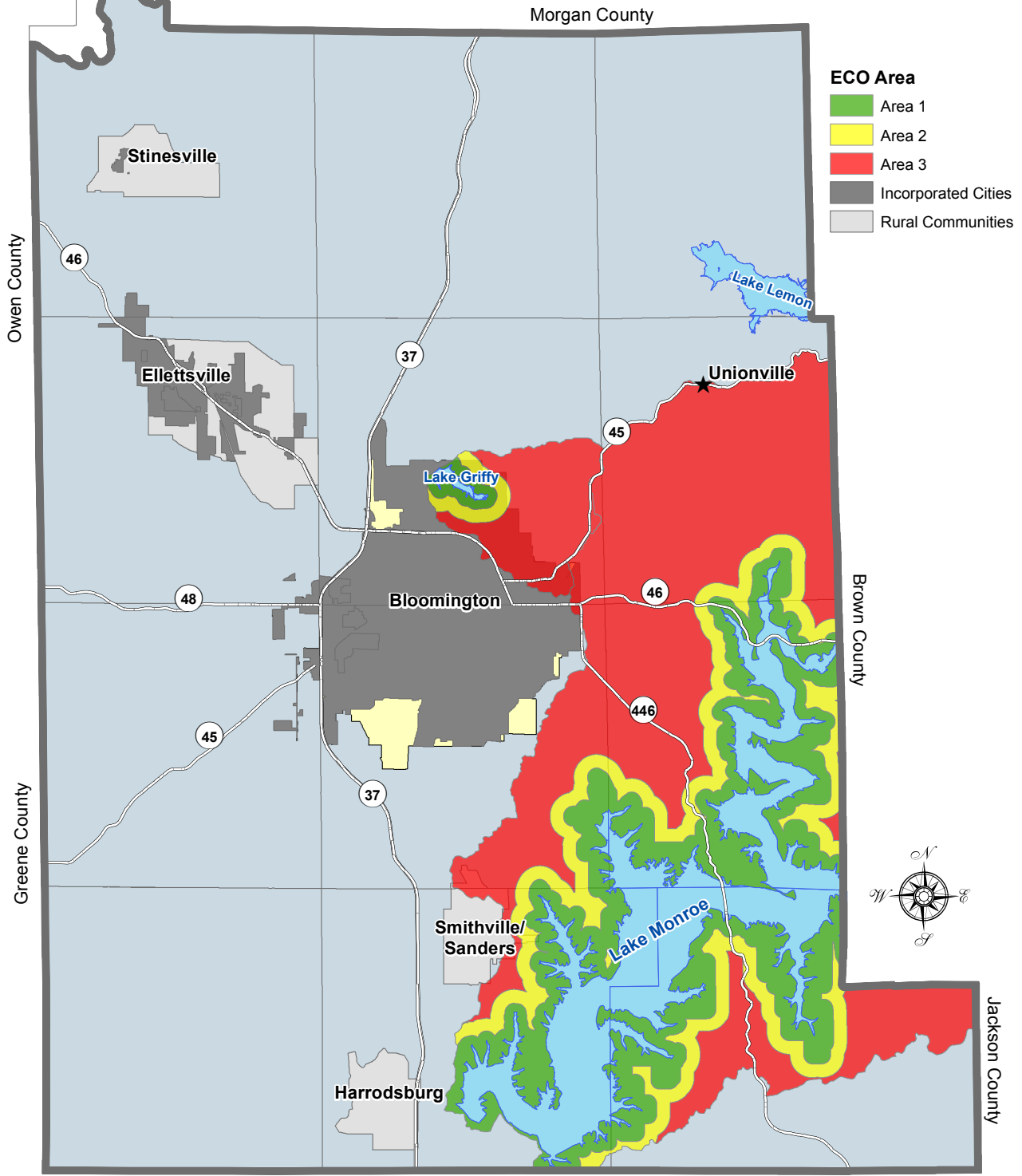


Figure 7: Lake Lemon Watershed Aerial Photo

**Lake Monroe and Lake Griffy
Environmental Constraints Overlay Areas -
Monroe County, Indiana**



0 0.75 1.5 3 Miles

September 2009 Data Source: Monroe County.
Datum: WGS 84.
Coordinate system: US State Plane NAD 83.
Created by Monroe County Planning Department



Figure 8: Lake Monroe & Lake Griffy ECO Areas Map

4.1.4 Floodplains

Floodplain protection decisions affect the economic and environmental interests of Monroe County. Nationally, from 1978 through 2009, the National Flood Insurance Program (NFIP) has paid a total of \$38 billion for flood insurance claims and related costs on a national level. The creation of levee setbacks, flood easements, floodplain improvement limitations, and pre-disaster mitigation plans can limit taxpayer costs associated with flood-related losses.

Furthermore, the development of floodplain management systems and models can reduce expected damages to properties located in floodplains, they can create economic benefits related to the development of previously undeveloped lands, or they can intensify use of already developed areas. Monroe County adopted a flood damage prevention section in the Zoning Ordinance in 1999, which restricts the development in floodplains and requires any construction in the designated floodplain to meet minimum standards if certain conditions to preserve property and lives are met. In sum, development in the floodplain is discouraged and allowed only under very specific conditions.

A potential benefit under the National Flood Insurance Program (NFIP) allows local policy holders in communities that participate in the Community Rating System (CRS) – such as Monroe County - to receive lower premiums. In addition, communities that participate in the CRS and receive good ratings based on their implementation of effective floodplain management measures to reduce flood and erosion damage will receive a premium credit. This credit is based on the estimated reduction in flood and erosion damage that exceeds the minimum standards identified in the NFIP.⁷

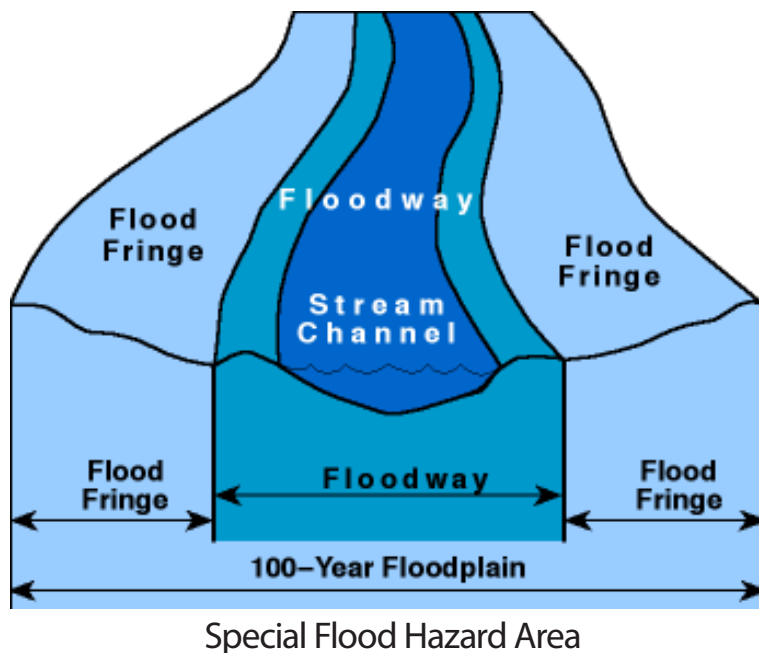


Figure 9: Special Flood Hazard Area graphic ²⁸

Floodplains - Monroe County, Indiana

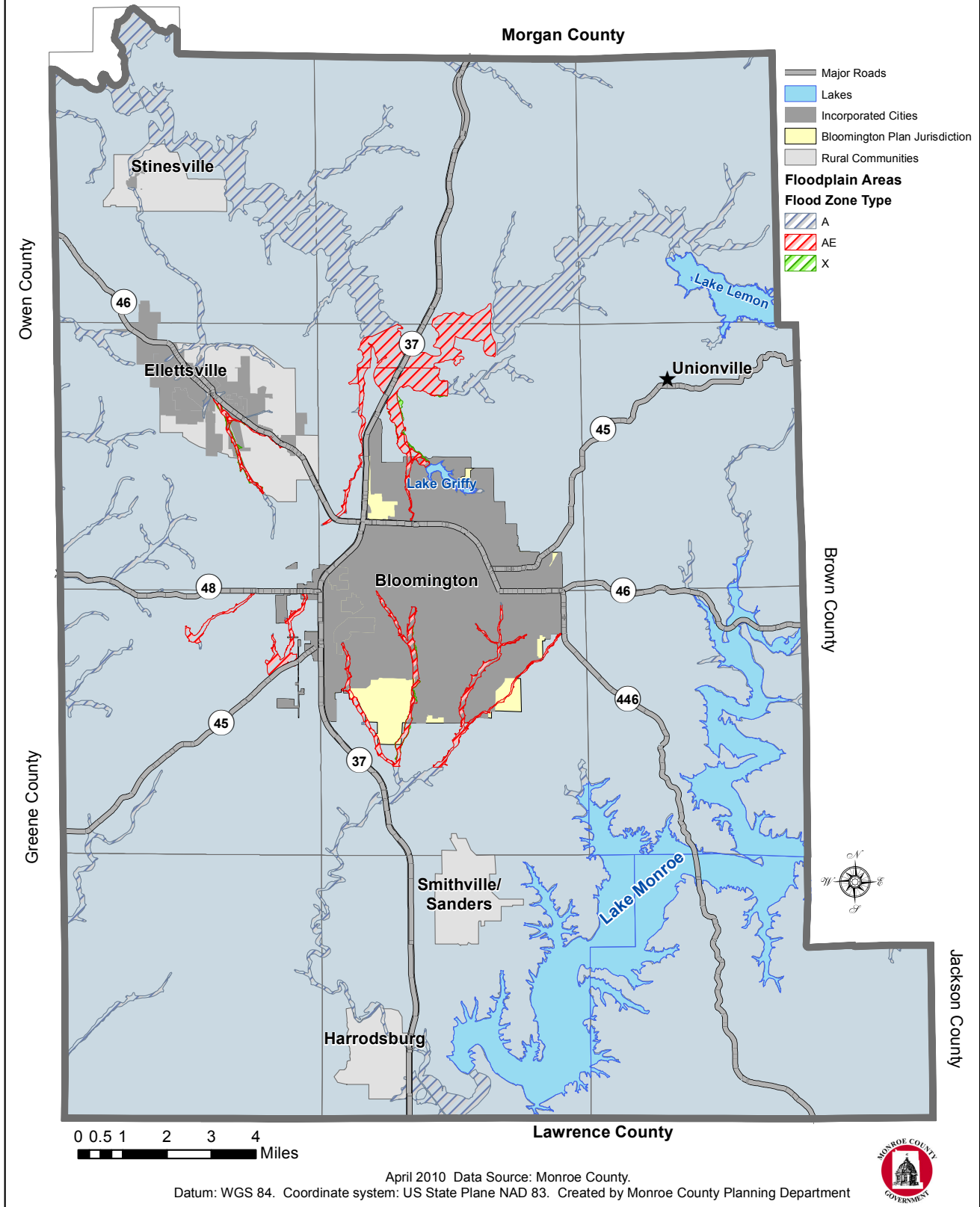


Figure 10: Floodplain Map

Both Watersheds and Floodplains provide significant environmental benefits, including:

- ✦ the filtration of runoff through vegetation;
- ✦ a supply of usable water for various uses;
- ✦ the provision of unique habitats for flora and fauna;
- ✦ flood control regulation; and
- ✦ protection of public health and welfare in and around floodplain areas.



Figure 11: Monroe County Flooding Photo

4.1.5 Soils

Soils are a natural body composed of minerals, water, air, and organic material. The type of soil that forms in a given area is dependent on a variety of factors such as climate, parent material, topography, and time. Soils are classified into three broad categories of sand, silt, and clay. In addition, there are numerous soils types that are a varying mixture of the three broad categories.

The soils of Monroe County are classified by the United States Department of Agriculture and can be accessed via the Web Soil Survey.³⁴ Soils range from deep and well drained soils to shallow and poorly drained soils. Approximately 80% of Monroe County soils are prone to erosion for most uses (crops, woodlands, urban areas and recreation areas) when located on slopes and in areas of minimal soil depth to bedrock.²⁰ When planning for development, soil suitability and limitations play a significant role in determining the layout for streets, suitable septic and building sites, and recreation areas. It is appropriate to leave highly erodible soils undisturbed to prevent sedimentation or degradation of water-quality. In addition, soils can be considered the most important natural resource because food, fiber, and construction materials are grown from soils.

4.1.6 Steep Slopes

Unlike most of Indiana, the hills of Monroe County were formed when the area deglaciated approximately 20,000 years ago. The majority of the County is comprised of steep slopes and ravines. Elevation in Monroe County ranges from 490 to 996 feet above sea level with a local relief of approximately 300 feet along Salt, Bean Blossom, and Richland Creeks.

An area of land designated as having a “steep slope” is one where the change in elevation over a particular distance, or slope, is classified as “steep.” Since there is no universal definition of “steep”, government units may set their own definitions, and likewise, may identify and regulate other grades of land slope.

Land slope is significant to planners primarily because of the heightened impacts on erosion and water quality. Since steep slope development can represent a magnification of the erosion and water quality problems posed by general development, it is appropriate to discuss the general effects of development on the water cycle.

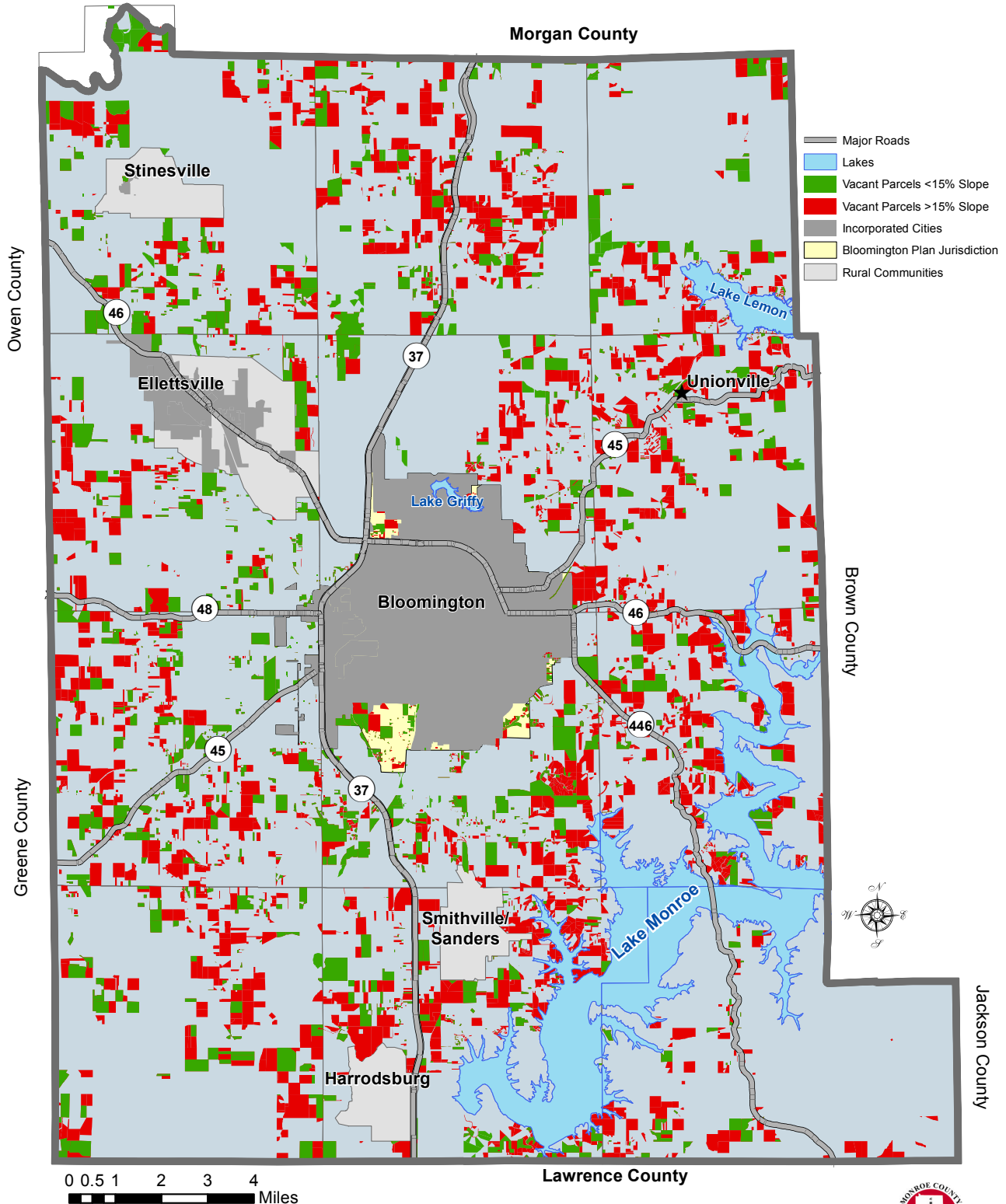
Water flow is affected by development because such activities generally involve removing vegetation and changing the permeability of the land surface. Removing vegetation (e.g., during construction) reduces land stability and exposes the soil, leading to increased erosion. Disrupting the natural infiltration of water into the ground also results in accelerated movement of precipitated water across the land (surface runoff). Consequently, precipitated water and the pollutants picked up by the flowing water concentrate at endpoints more quickly; and since the water has greater velocity, the rate of water erosion is higher. The increased erosion means that sedimentation in streams and endpoints occurs at higher rates. Moreover, erosion is linked to water quality because certain pollutants are absorbed by particles in fine sediment and are hereby taken to water bodies as sedimentation occurs.¹⁸ Erosion due to land development can lead to greater water flow rates, which in turn intensifies erosion and water quality problems. The impact on water quality is especially critical for Monroe County given the significance and current conditions of the water bodies, as well as its abundance of karst formations.

In addition to potential impacts on erosion and water quality, there are many other reasons to protect steep slope areas. For one, steep slope areas can become public safety hazards and can cause property damage when slope failure occurs near development. Moreover, removal of vegetation, especially trees, can destabilize slopes due to the eventual loss of root systems.³⁸ As well, septic systems located in steep slope areas can malfunction and potentially lead to slope failure.²³ In addition to safety concerns, steep slope areas can be valued for aesthetic qualities, which can in turn influence property values.² They also provide safe habitats for wildlife and act as natural boundaries between property uses. Thus, there are multiple reasons for why steep slope areas are valued and protected.

Understandably, steep slopes are potentially critical factors in erosion processes due to the fact that soil types found on steep slopes are generally highly erodible. The Soil Survey of Monroe County provides an important description of steep slope soils and their location within the County.³³

In 2007, the Indiana Department of Natural Resources published a Storm Water Quality Manual defining steep slopes as 15% or greater.¹¹ The manual recommended development on slopes with a grade of 15 percent or greater be avoided whenever feasible in order to minimize erosion, soil loss, degradation of surface water, and

Vacant Land Classified by Slope- Monroe County, Indiana



April 2010 Data Source: Monroe County.
 Datum: WGS 84. Coordinate system: US State Plane NAD 83. Created by Monroe County Planning Department



Figure 12: Vacant Land Classified by Slope Map

excessive storm water runoff. A recent analysis of vacant lands in Monroe County revealed that the majority of undeveloped land in the County contained slopes of 15% or greater (see Figure 12).

4.1.7 Wetlands

For the State of Indiana, the Indiana Wetlands Conservation Plan notes that, prior to settlement 200 years ago; there were approximately 5.6 million acres of wetlands, covering approximately 24.9% of the State's area.¹⁰ By 1989, however, the total number had been reduced to 813,000 acres, a loss of 85%. In addition, while no analysis exists that charts the loss at the County level, it is plausible that local loss matches or exceeds the state figures because population growth rates for the County have exceeded that of the state five of the last six decades, according to Census data.

According to data provided by a 2000 IDEM National Wetland Inventory there is an estimated span of 633 to 5,105 acres of Wetland in Monroe County.²⁰ The Indiana Department of Natural Resources indicates that there may be upwards of 11,000-19,999 acres of wetland in Monroe County.²⁰ This is a sharp difference from that indicated by the 2000 IDEM study. This variance in statistical data indicates a need to accurately inventory the wetlands features found in Monroe County to ensure effective analysis and decision-making.

Wetlands are complex land forms (i.e., transition zones) that can vary along three different continua (water regime, soils, and vegetation). This tendency toward complexity has in the past made wetlands a poorly understood feature. For many years, wetlands were perceived as wastelands that needed to be eliminated, and some laws in the 19th century actively promoted the draining and filling of wetlands. Since that time, the understanding of and interest in wetlands has increased and there is a recognition of the multiple benefits conferred by wetlands, including erosion control, flood control, water filtration, wildlife habitat, and ground water recharge and discharge.

Hydric Soils

Though there are different definitions of wetlands, several utilize the concept of the hydric soil as one of the criteria. These soils, as defined by the Natural Resources Conservation Service (NRCS) of the US Department of Agriculture, are "soils formed under the conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part".³² Wetland soils in the County include (but are not limited to) the following classifications: Bonnie Silt Loam (Bo); Peoga Silt Loam (Po); Zipp Silt Clay Loam (Zo); Zipp Silt Clay Loam, frequently flooded (Zp); Bartle Silt Loam (Ba); Haymond Silt Loam (Hd); Steff Silt Loam (Sf); Stendal Silt Loam (St); Wakeland Silt Loam (Wa); Whitaker Loam (Wo); Wilbur Silt Loam (Wr); and Zipp Variant Silt Loam (Zs).

Because these soils are formed through saturated or water-logged conditions, they can be suggestive of areas where wetlands once existed or could exist in the future. Hydric soils are not diagnostic of wetlands by themselves, but they can support areas that possess one of the characteristics wetland areas normally exhibit. In addition, because hydric soil data is derived from the United State Department of Agriculture (USDA) soil survey, which itself is based on field work and laboratory testing, the hydric soil component of the inventory comes from a different source than the National Wetlands Inventory data and increases the available information.

4.1.8 Endangered Species

First and foremost, protection of endangered species is important because it is the law. The Endangered Species Act requires national protection of species that "...are of aesthetic, ecological, educational, historical, recreational, and scientific value to the Nation and its people".⁶

Additionally, species diversity provides many benefits to the human population, one of the most crucial being as an indicator of ecosystem health. This "canary in the mine" function of many species makes them a visible signal that the ecosystem is changing.

Endangered, threatened, or extinct species are a clear indication of the impact humans have on the natural world, and may be a predictor of more dramatic future change. Many endangered species can also be classified as "keystone species," holding crucial positions within the ecosystem. A keystone species, like its architectural namesake suggests, is a central species that provides primary support for associated species and the surrounding ecosystem. When such species are removed or disrupted, other dependent species are affected, upsetting the ecosystem balance. This ultimately affects human food sources and lifestyles. For example, the Indiana bat could be classified as a keystone species because it keeps numerous insect populations in check. Indiana bats consume half their body weight in insects every night, including mosquitoes and the corn borer.³⁷ Loss of this function would not only be uncomfortable, but would be an economic challenge for farmers who depend on this insect control.

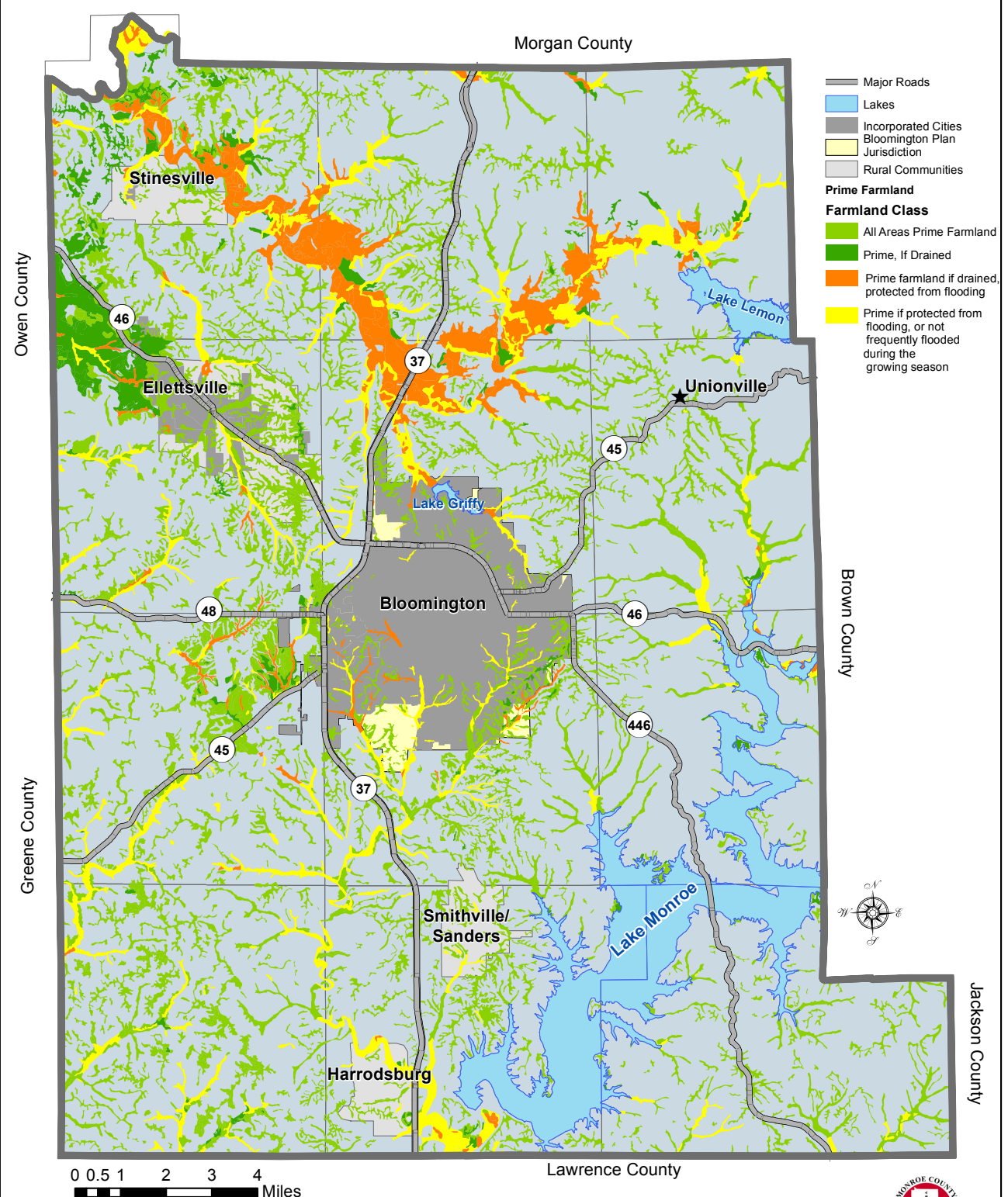
4.1.9 Agriculture

In Monroe County, agricultural land is devoted to a wide variety of enterprises such as the production of row crops, pasture, and livestock. Most Monroe County farmers supplement their livelihoods with non-farm income. Many County residents value the rural atmosphere and scenic beauty which is, in part, provided by these farms and the pastoral viewsheds, undisturbed by development.

The acreage devoted to farming has steadily declined over the years. Figures 13, 14, and 15 contain data which underscore the gradual loss of farmland and the fluctuating number of farms in Monroe County since 1900. Several factors account for the changing nature of the number of farms, including the number of agriculture census survey respondents, indebtedness, the impacts of fluctuating land values, state and federal agricultural policies, market supply and demand, and finally, federal subsidies.

Much of the traditional farmland has been converted to other uses, including land zoned as Rural Residential. While livestock may be raised on property that is zoned as Rural Residential, the property may not meet the qualifications to be classified as farmland. In addition, farmland has also been converted to other uses such as public and semi-public lands (Sycamore Land Trust, parks, schools and commercial uses).

Prime Farmland- Monroe County, Indiana



0 0.5 1 2 3 4 Miles

April 2010 Data Source: Monroe County.
 Datum: WGS 84. Coordinate system: US State Plane NAD 83. Created by Monroe County Planning Department



Figure 13: Prime Farmland Map

Monroe County Farm Acreage, 1900 - 2007

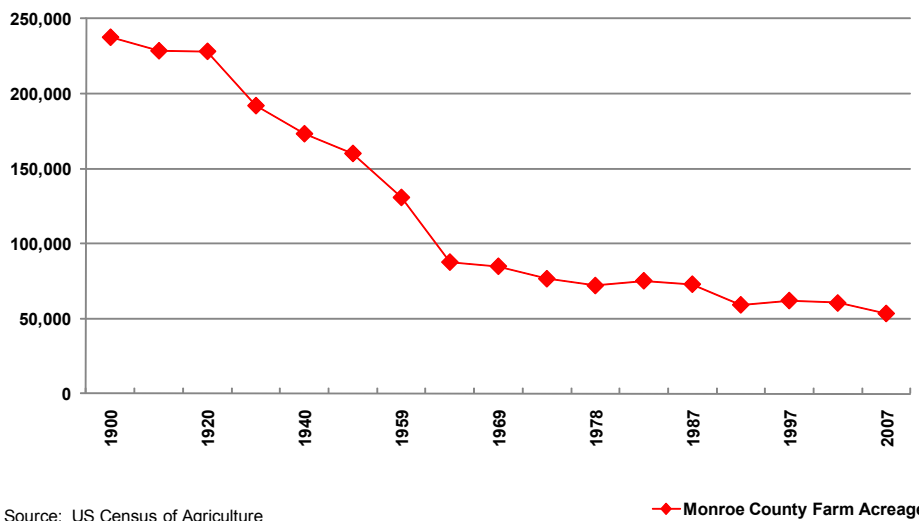


Figure 14: Monroe County Farm Acreage, 1900-2007

FARMLAND IN MONROE COUNTY AND INDIANA, 1900 - 2007						
Year	Monroe County Land in Farms (Acres)	Indiana Land in Farms (Acres)	Monroe County Number of Farms	Indiana Number of Farms	Monroe County Average Farm Size (Acres)	Indiana Average Farm Size (Acres)
1900	237,552	21,619,623	2242	221897	106	97
1910	228,541	21,299,823	2200	215485	104	99
1920	228,170	21,063,332	2232	205126	102	103
1930	191,985	19,688,675	1959	181570	98	108
1935	207,977	20,518,745	2444	200835	85	102
1940	173,293	19,800,778	2119	184549	82	107
1945	185,707	20,027,015	2259	175970	82	114
1950	160,151	19,718,523	1705	166638	94	118
1959	130,841	18,625,794	1154	128143	113	145
1964	87,773	17,933,500	621	108085	141	166
1969	84,991	17,572,865	592	101479	144	173
1974	76,681	16,785,208	525	87915	146	191
1978	72,157	17,037,075	574	88427	126	193
1982	75,330	16,294,268	619	77180	122	211
1987	73,054	16,170,895	583	70,506	125	229
1992	59,282	15,618,831	508	62,778	117	249
1997	62,149	15,111,022	473	57,916	131	261
2002	60,510	15,058,670	547	60,296	111	250
2007	53,538	14,773,184	481	60,938	111	242

Source: US Census of Agriculture

Figure 15: Farmland Acreage in Monroe County & Indiana, 1900 - 2007

4.1.10 Forestry

Because the County has a significant amount of woodland acreage, forestry is an important economic resource for the County and area residents. In addition to timber production, these forests stabilize most of the highly erodible soils on Monroe County's steep slopes and provide habitat for much of the County's wildlife. Additionally, these areas provide the benefits of recreational opportunities and a scenic value to residents and visitors.

A major concern for forestry is assurance that timber production can continue, while not reducing the effectiveness of forests to provide other essential benefits. Modern forestry's best management practices (BMPs), such as selective cutting and managed access, help to reduce the occurrence of negative impacts such as soil erosion or habitat loss. Forest production viewed in broader terms helps maximize the benefit for all County residents. In 2009, Monroe County issued permits for timber harvest on 1,200 acres by fee. The Logging on Private Lands map identifies those areas issued County logging permits in 2009 (see Figure 16).

Logging on Private Property (sample)- Monroe County, Indiana

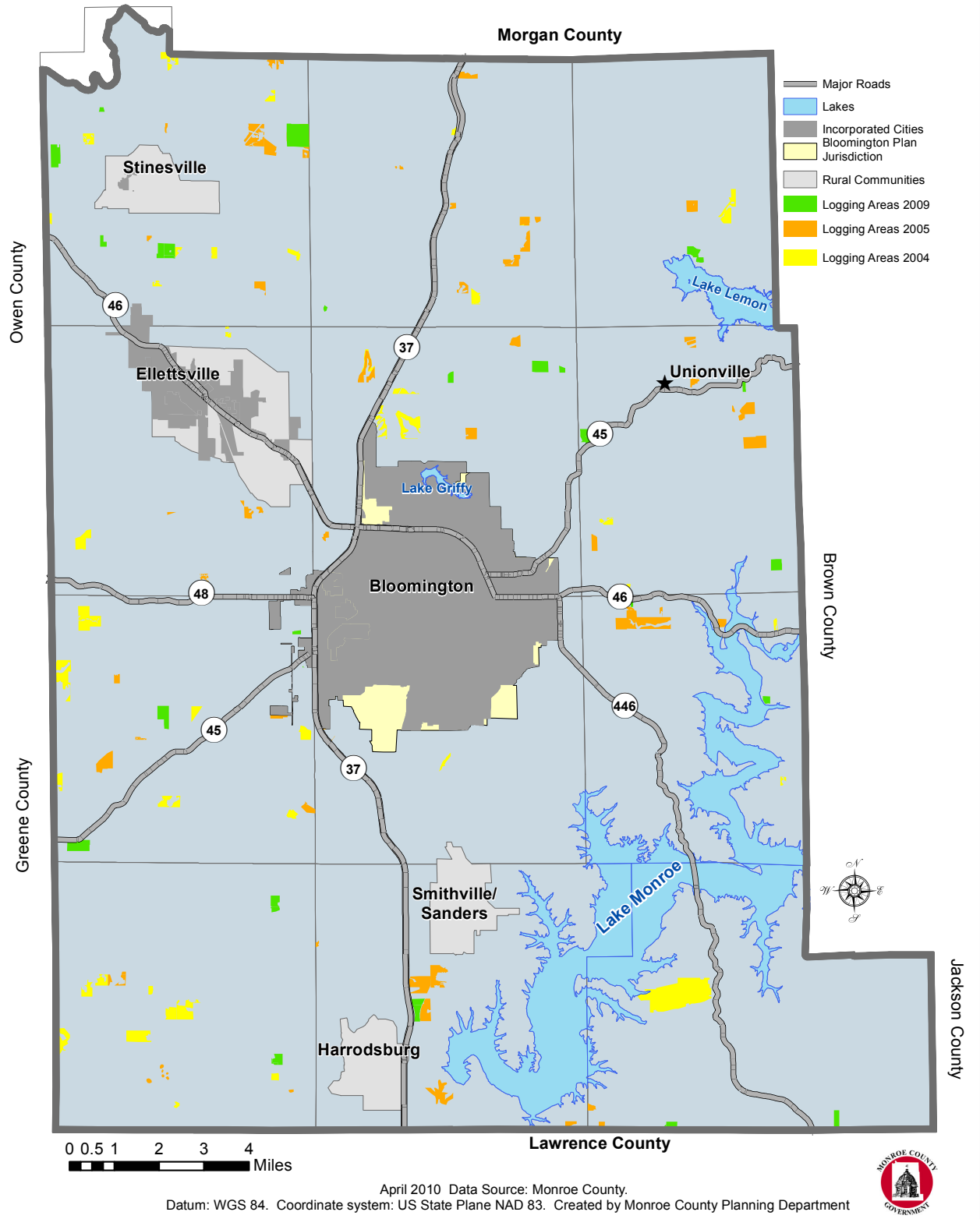


Figure 16: 2009 Logging on Private Lands Map

4.2 DEMOGRAPHICS

4.2.1 Population

Based on 2010 Census numbers, 137,974 residents reside in Monroe County.²⁸ This figure includes the incorporated areas of the county including the City of Bloomington, the Town of Ellettsville, and the Town of Stinesville.

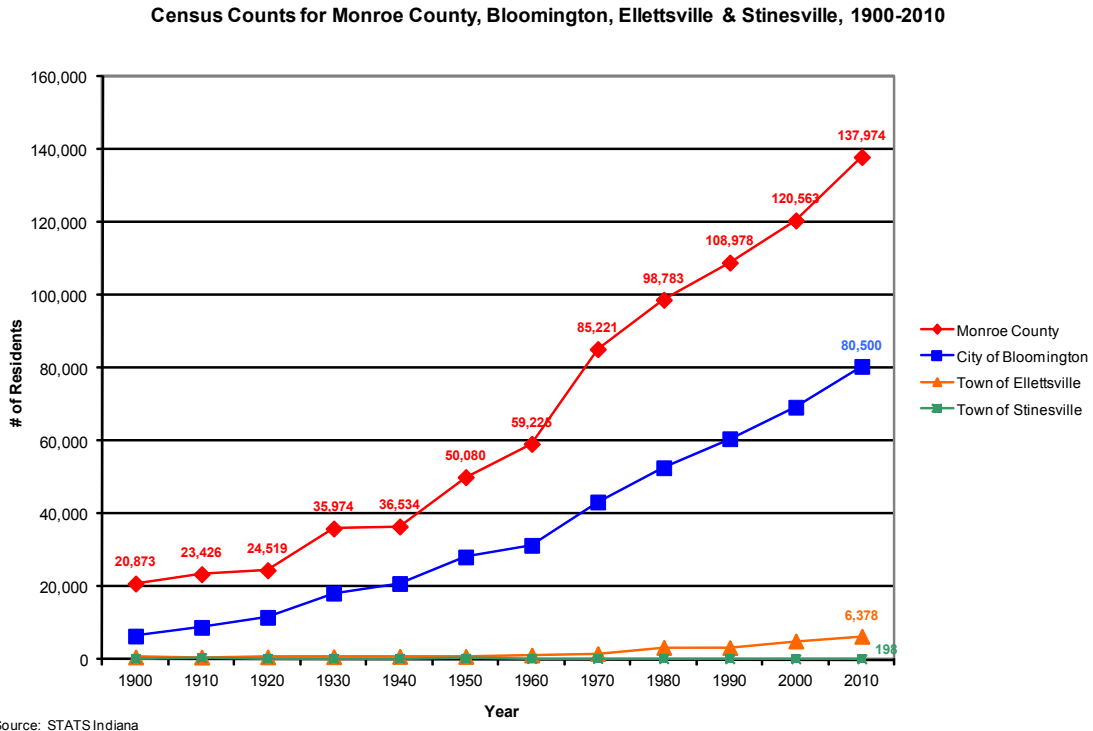
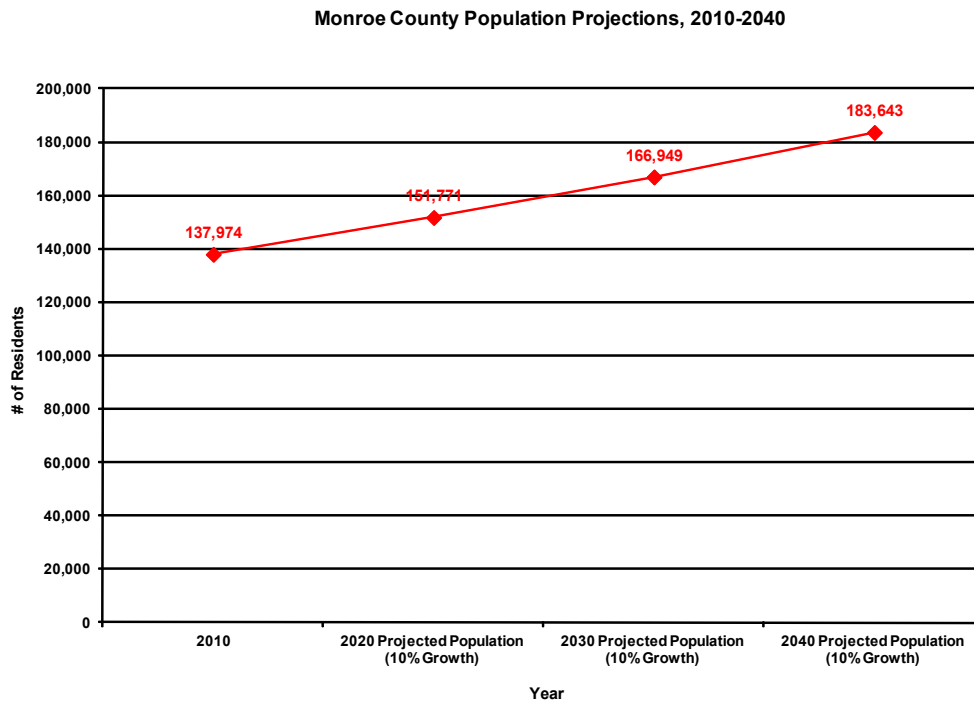


Figure 17: Census Counts for Monroe County, Bloomington, Ellettsville & Stinesville, 1900-2010

Since the County’s formation in 1818, Bloomington has served as the County seat and as the center of both local commerce and the population. The City’s 2010 population of 80,405 represents approximately 58% of the County total, demonstrating the City’s central role in the County - geographically, economically and socially. The presence of Indiana University and its student population, which realized a student enrollment of 42,731 for the Fall Semester (2011) is clearly a significant factor in Bloomington’s population base, as well as the County’s (see Figure 17). This relationship has existed since the 1930’s, when the County’s total population was fewer than 36,000 residents. While Bloomington’s population has long been a major component in the County’s livelihood as an economic center, the County has maintained a significant population presence outside of the City limits.



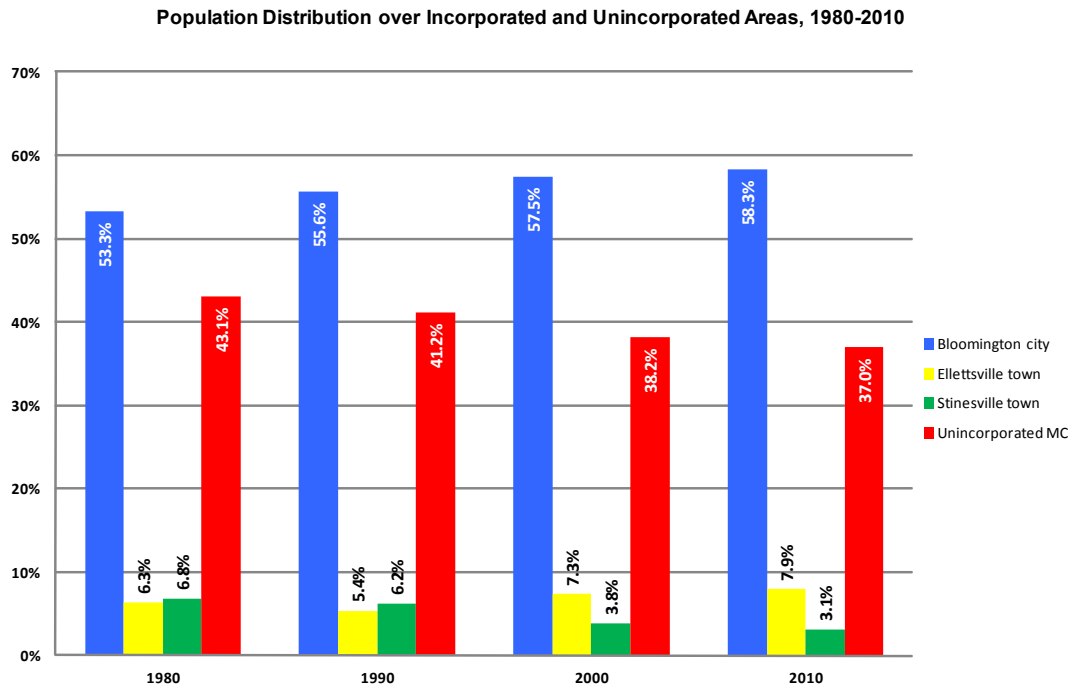
Monroe County will likely continue its population expansion well into the future. Over the last 30 years, the County has grown an average of 11% each decade. From 2000 to 2010 alone, the County population increased 14.4%. Assuming a conservative 10% growth rate each decade for the next thirty years, Monroe County is expected to reach a total population of 183,643 persons (see Figure 18).



Source: Monroe County Planning Department

Figure 18: Monroe County Population Projections, 2010-2040

Unincorporated areas of Monroe County and the Town of Stinesville are slowly losing population as compared to Bloomington and Ellettsville (see Figure 19). In 1980 unincorporated Monroe County represented 43% of the total County population while in 2010, it represented only 37%.



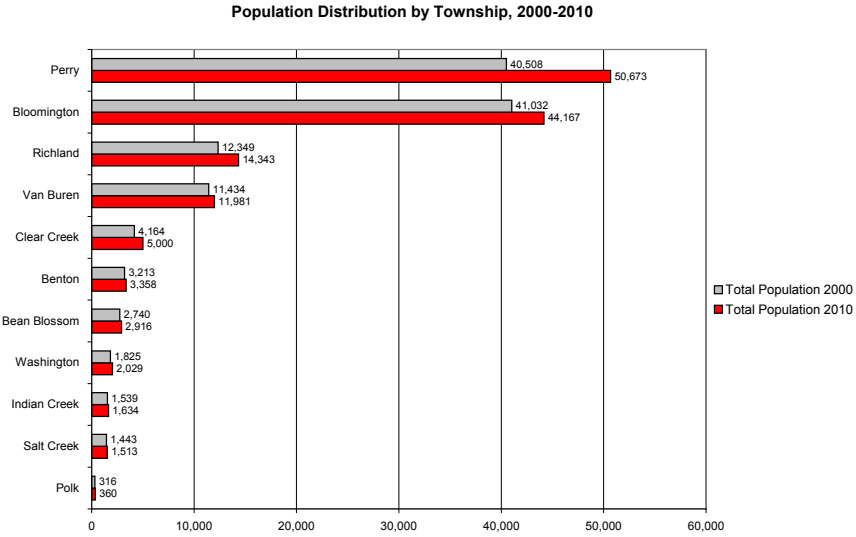
Source: STATS Indiana

Figure 19: Population Distribution over Incorporated and Unincorporated Areas, 1980-2010

The Towns of Ellettsville and Stinesville had 2010 populations of 6,378 and 198, representing 7.9% and 3.1% of the County, respectively. The unincorporated area surrounding the Town of Ellettsville experienced increased development in the last decade, fueled by the completion of the four-lane State Road 46 arterial to Bloomington and annexations. Mixed use development along this corridor, particularly the North Park Planned Unit Development, located on over 600 acres between Ellettsville and Bloomington will increase the industrial, commercial and residential development opportunities over the next 20 years. Monroe County administers many of the services in this unincorporated area, and expects to continue the provision of services for new residents as well as work in concert with the Town of Ellettsville on issues including annexation.

37% or 50,993 residents live throughout unincorporated Monroe County (see Figure 19). The County township framework can better illustrate the location of these residents, and their associated population growth. The most populous townships are Perry, Bloomington and Richland Townships – home to the City of Bloomington and the Town of Ellettsville. Polk Township maintains the least residents in the county, representing 0.26% of the 2010 County population (see Figure 20).

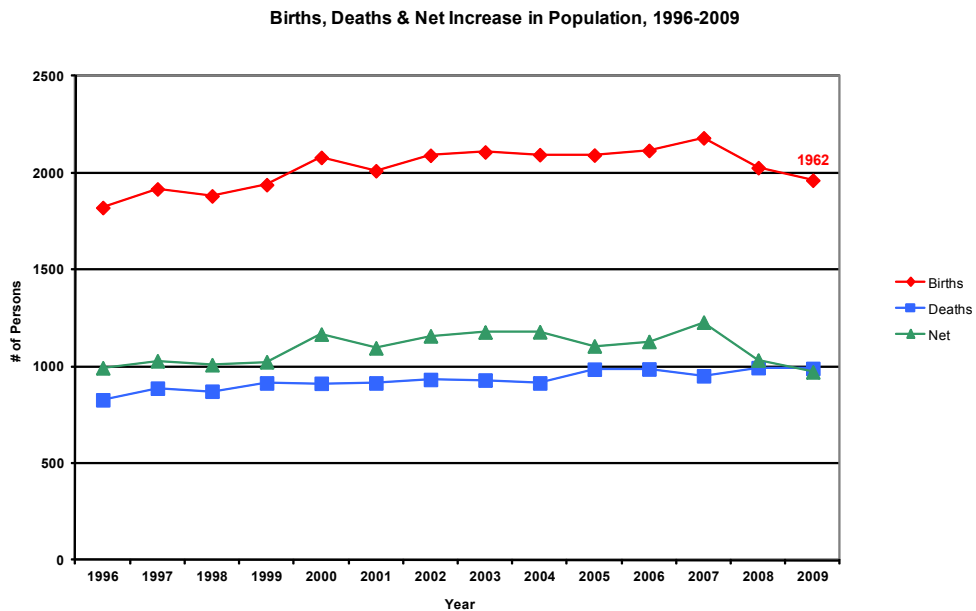




Source: STATS Indiana

Figure 20: Population Distribution by Township, 2000-2010

Monroe County residents consistently have more children born in a given calendar year than residents are lost due to deaths (see Figure 20). This trend is likely to continue, barring a major shift in the younger demographic categories leaving the County.

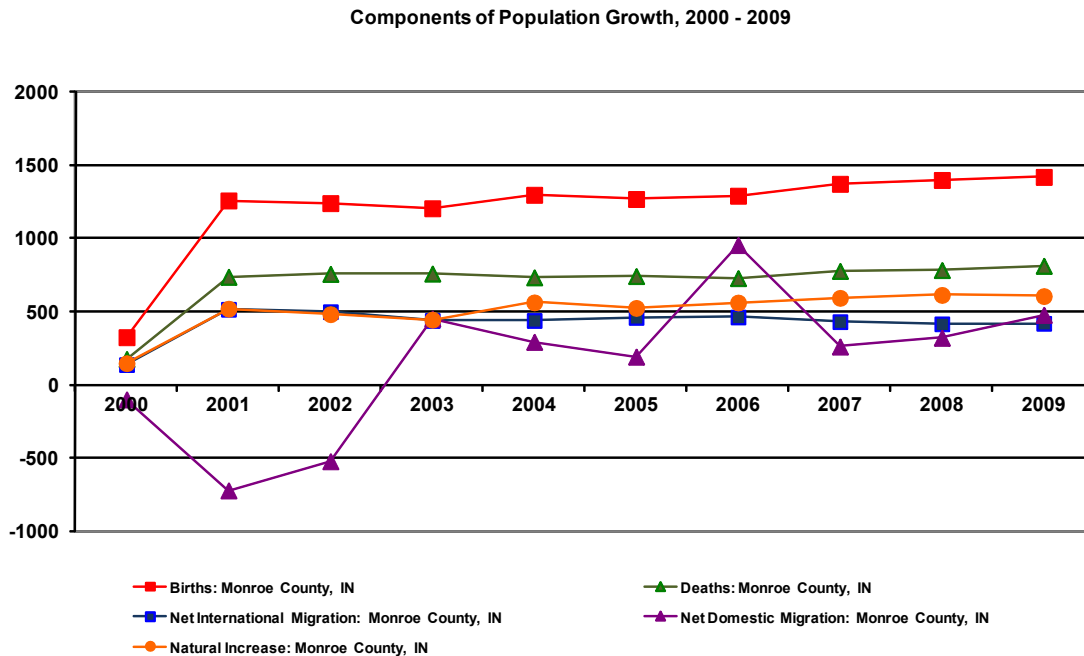


Source: Monroe County Health Department, 2010

Figure 21: Births, Deaths & Net Increase in Population, 1996-2009



Combining the birth and death rates together, Monroe County has seen its population naturally increase by over 15,302 residents since 1996 (see Figure 21). Overall, from 2000 to 2009, the County gained 1,617 residents due to migration from other states, and 4,231 residents due to international migration (see Figure 22).

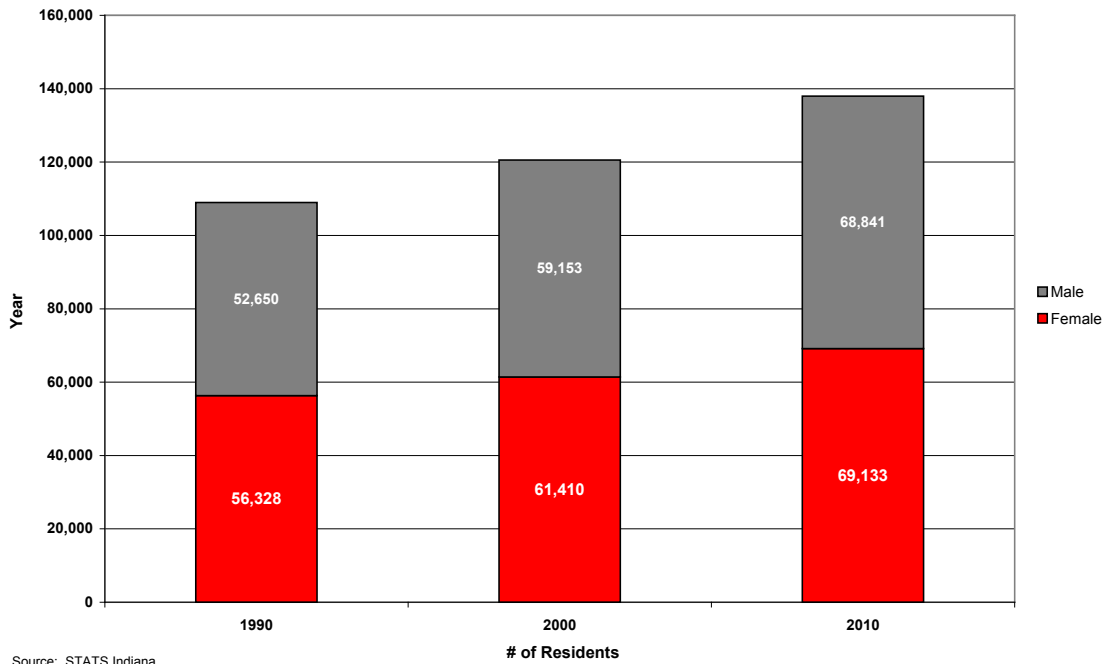


Source: STATS Indiana

Figure 22: Components of Population Growth, 2000-2009

Figure 23 contains data for population change based on gender and Figure 24 illustrates the population age trends for the past ten years. The latter underscores the notion that Monroe County has two dominant population ranges. Undergraduate-aged persons make up a significant portion of the County’s total population. Slightly fewer than 28% of County residents in 2010 were between 18 and 24 years of age. This group is followed by young adults ages 25 to 44, who comprise 23% of the County’s total population.

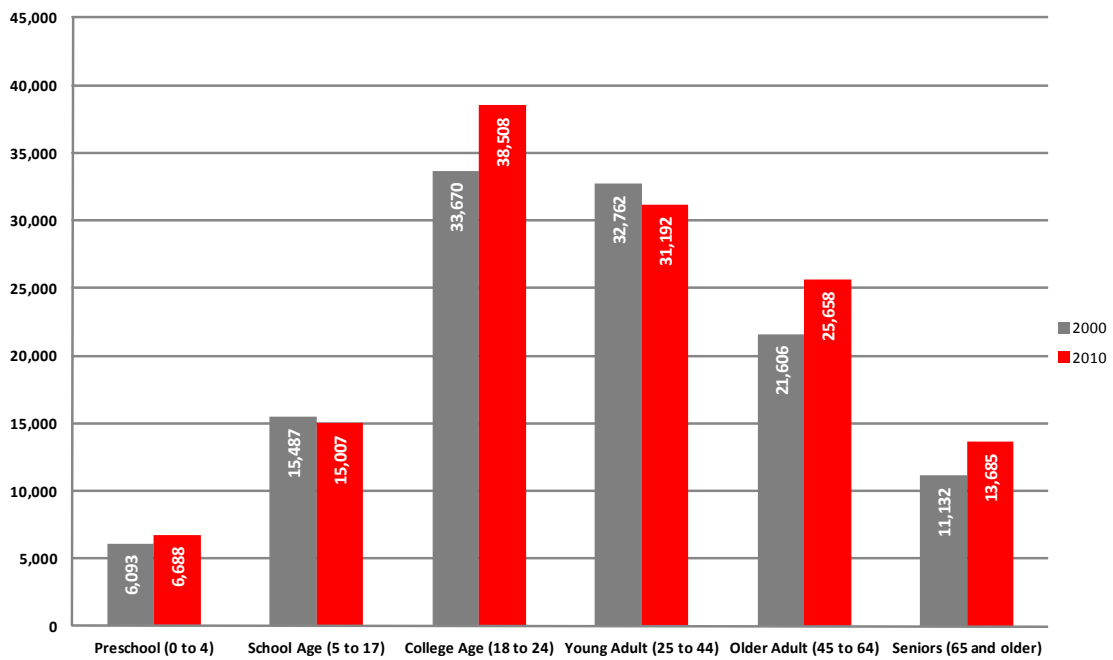
Population by Gender, 1990-2010



Source: STATS Indiana

Figure 23: Population by Gender, 1990-2010

Population by Age, 2000 & 2010



Source: STATS Indiana

Figure 24: Population by Age, 2000 & 2010

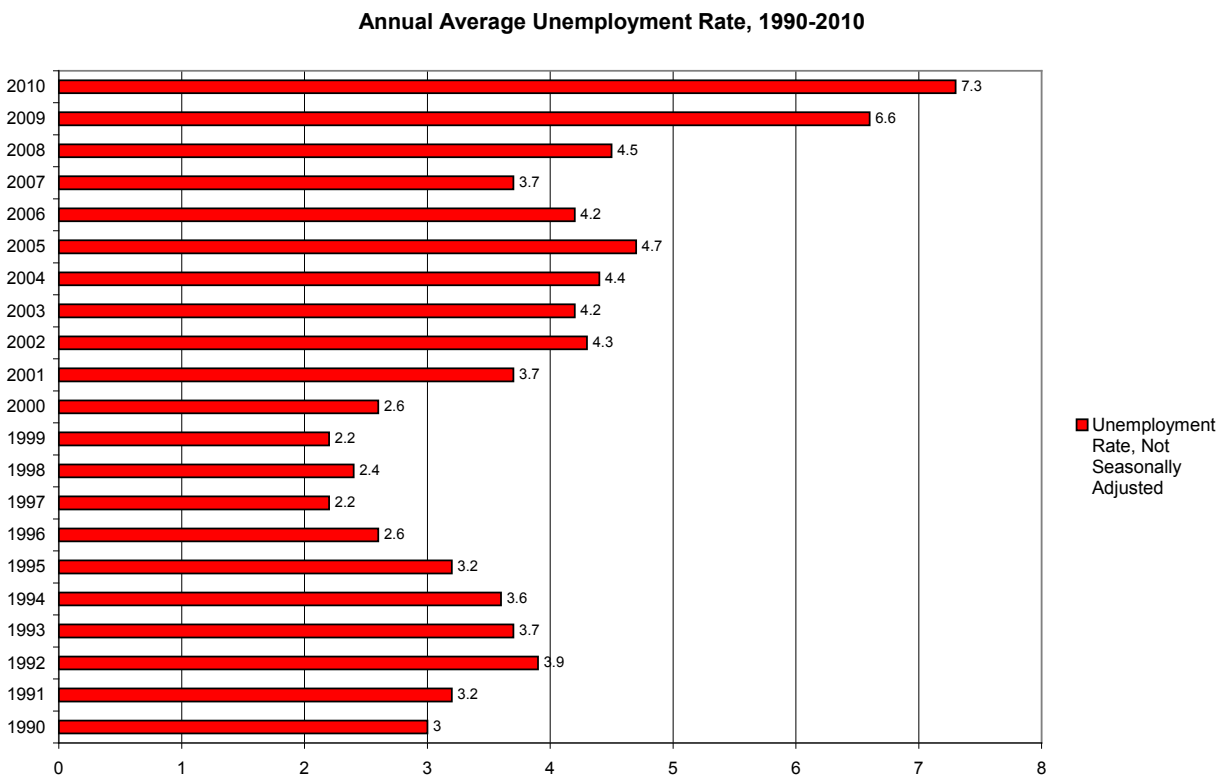


4.2.2 Economic Indicators

From its early days as the County seat and center of local commerce, Bloomington has been the place where Monroe County residents eat, shop, socialize and work. Bloomington features a variety of services and goods to meet the needs of most County residents. The County has been a center of economic growth for the surrounding counties throughout most of the 20th century. It is anticipated that Monroe County will continue to be the center of economic activity for South Central Indiana for the planning period.

The hospitality industry is the third largest industry in Monroe County, bringing over three million visitors to the area each year. Tourism accounts for nearly four thousand jobs in the Bloomington area and \$279 million dollars each year in economic impact to the community.

Historically, Monroe County has a relatively low unemployment rate, and like most communities throughout the nation, experiences conditions of underemployment and low wages. The unemployment rate took a sharp hike in 2009 and further increased in 2010 to 7.3% (see Figure 25). This increase is due, in part, to the inclusion of Greene and Owen Counties in the Bloomington/Monroe County Metropolitan Statistical Area in 2000. Recently, the banking, insurance and housing crises have had a significant negative impact on employment throughout the region beginning in 2008.

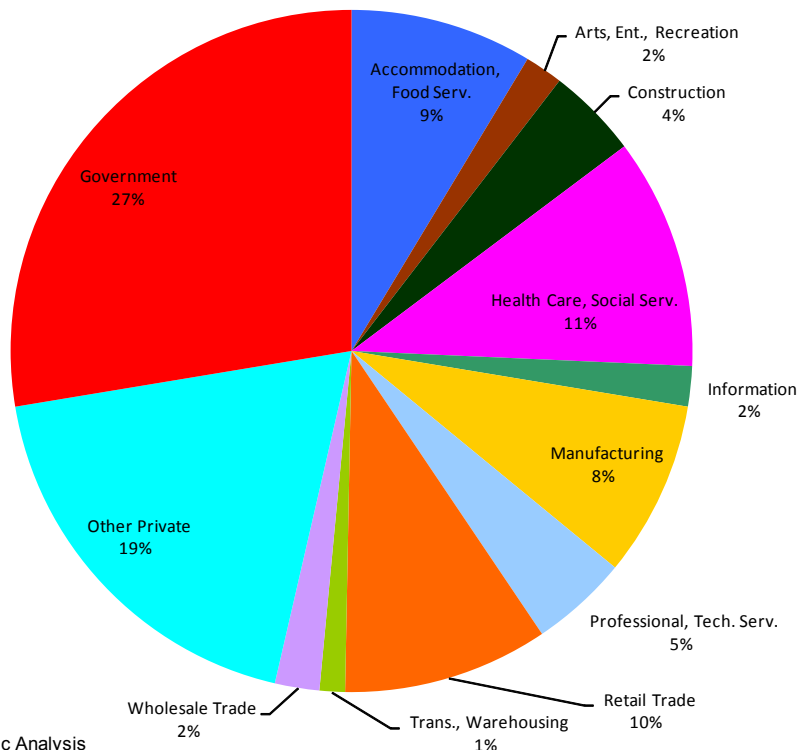


Source: STATS Indiana

Figure 25: Average Annual Unemployment Rate, 1990-2010



Employment by Industry, 2009



Source: US Bureau of Economic Analysis

Figure 26: Employment by Industry, 2009

The County's business and industrial mix is increasingly diverse, resulting in an economy that is less reliant on any one industry and better able to weather economic fluctuations (see Figure 26). The trend toward an employment base that is less dependent on manufacturing and shifting increasingly towards a service based economy is typical of Midwestern counties.

Small businesses continue to play a vital role in the Monroe County economy by employing the majority of the workforce. According to the U.S. Small Business Administration, more than 90% of the employer firms in Indiana have fewer than 500 employees and are categorized as small businesses.³⁵ The local economy's diverse base of small business employers includes health services, special trade contractors, small scale and specialty manufacturing, business services, eating and drinking establishments, retailers, automotive dealers and service stations.

Regionally, Monroe County is grouped into the Economic Growth Region (EGR) 8, which also includes Brown, Daviess, Greene, Lawrence, Martin, Orange and Owen counties. The Indiana Department of Workforce Development and STATS Indiana maintain an up to date demographic profile for the region, in addition to the other ten regions in Indiana.¹² The Department of Workforce Development also maintain a monthly Labor Market Review report for EGR 8, which contains updates of various topics including regional and state unemployment rates, Consumer Price Index changes and Unemployment Claims for Region 8.

Retail and Service Sectors

Typical of most of the country, growth in retail and service businesses has been a leading factor in local economic growth. Aside from local government units - typically a major service provider - the large student population and increased regional access have created an expanding local market for consumer goods and services. Small businesses provide most private sector retail and service based jobs. In 2009, retail trade and health care and social assistance contributed more than 21% of total private jobs in the Bloomington Metropolitan Area.

When examining the retail service sector in Monroe County, it must be approached with the understanding that the retail impact is far more extensive than a regional shopping center. Hotels, restaurants and many specialty shops are supported by tourist dollars. According to the 2009 U.S. Economic Census, retail trade employed almost 8,145 workers.³⁰ These same retailers paid local workers nearly \$193 million in wages and salaries. The accommodation and food services industry, meanwhile, paid \$116.9 million to 7,231 workers in the County.

Consumers are able to find both wide variety and competitive pricing in goods and services. A large medical services sector, centered on Bloomington Hospital, has also emerged to meet regional demand. Monroe County professionals are reaching an expanding regional and national clientele.

Education Sector

The post-secondary education sector, including Indiana University and Ivy Tech, are important drivers of economic vitality and provide important resources for business and industry, setting Monroe County apart from other southern Indiana counties. This particular sector will become even more critical over time as the County works with the post-secondary education sector to take advantage of opportunities to benefit from their unique resource in innovative ways.

Primary and secondary education services also provide employment opportunities in Monroe County, with several private schools and two public school districts; Monroe County Community School Corporation and Richland-Bean Blossom Community School Corporation.

Industrial & Wholesale Sectors

The County's economy has long been a source of innovation and technological advancement. Due to the presence of Indiana University as well as world-renowned industrial firms, Monroe County has a unique concentration of scientists and engineers to enable the development of new businesses. This superior workforce and innovative research and development environment provide excellent opportunities for technology-based business growth in Monroe County.

The County provides the means for the redevelopment of existing properties while respecting the demands on our County's infrastructure and the impact economic development has on our natural resources. The County supports redevelopment projects that provide increased capital investment to underutilized areas.

Industrial employment, both in total jobs and as a percentage of total employment, continues to decrease. Manufacturing has been a key part of the local industrial base for many years. The RCA (later Thomson) factory produced televisions and other components from 1940-1998. General Electric maintains a plant in the County just west of Bloomington, but has seen a fluctuation in workforce. While the County has seen an increase in

the life science industries, as evidenced by Baxter and Cook who operate several production facilities, small businesses provide most private sector jobs.

Labor Force

The federal definition of the resident labor force is the number of people working and those who are without a job but actively seeking work. As stated by Carol Rogers of the Indiana Business Research Center, “This is a people number—you either work or you are actively seeking work in order to be part of this number.”⁹

According to STATS Indiana, Monroe County’s annual estimated (not seasonally adjusted) labor force in 2010 was 69,430. The employed labor force for 2010 was 64,372 residents. The 2010 unemployment stat for the Bloomington / Monroe County Metropolitan Statistical Area was 5,058, or a 7.3% unemployment rate.

In 2000, the labor force in Monroe County was 64,586 and the total employment was 62,625, with an unemployment rate of 3%. In 1990, the labor force in Monroe County was 55,153 and the total employment was 53,569, with an unemployment rate of 2.9%.

Work Force and Commuting

The Monroe County workforce includes Indiana University (and other post-secondary) students and residents of adjacent Counties. Available Internal Revenue Service statistics indicates that in 2009, the total workforce in Monroe County was 85,114 (see Figure 27). The number of workers who lived and worked in Monroe County was 70,016, while workers who lived outside of the County but were employed in Monroe County was 15,098, or approximately 18% of the total workforce.

In 2000, the total work force in Monroe County was 77,934. The number of workers who lived and worked in Monroe County was 62,548, while workers who lived outside the County but were employed in Monroe County was 15,386, or approximately 14.3% of the work force. In the same year, approximately 10% of Monroe County residents commuted to other areas.

Monroe County Commuting Profile, 2009 *	
Workers	
Number of people who live in Monroe County and work (implied resident labor force)	74,962
Number of people who live AND work in Monroe County	70,016
Total number of people who work in Monroe County (implied work force)	85,114
Commuters	
Number of people who live in Monroe County but work outside the county	4,946
Number of people who live in another county (or state) but work in Monroe County	15,098
* Based on Indiana IT-40 Returns for Tax Year 2009	
Source: STATS Indiana	

Figure 27: Monroe County Commuting Profile, 2009

The Monroe County workers who live outside the County's boundaries often live in neighboring counties, namely Greene, Owen, and Lawrence. For this reason, in 2000 the Census Bureau included these neighboring counties (except Lawrence County) in its measurement of the Bloomington Metropolitan Statistical Area (MSA). In 2010, 71.6% of the MSA's population resided in Monroe County. Figures 28 and 29 illustrate 2009 commuting patterns into and out of Monroe County and the surrounding counties.

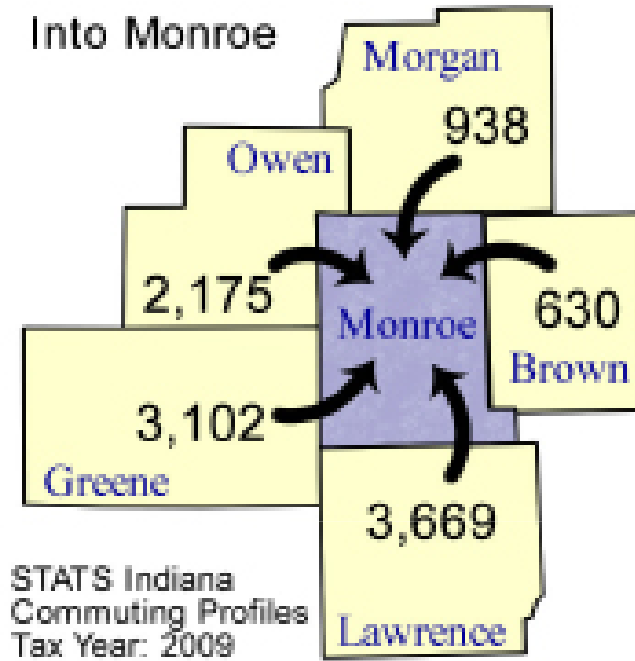


Figure 28: Top Five Counties Sending Workers INTO Monroe County, 2009

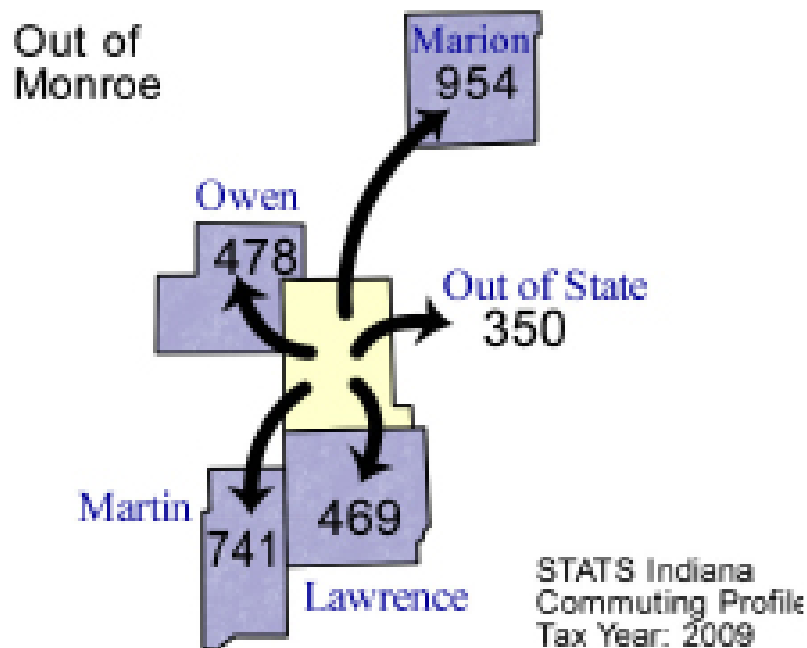
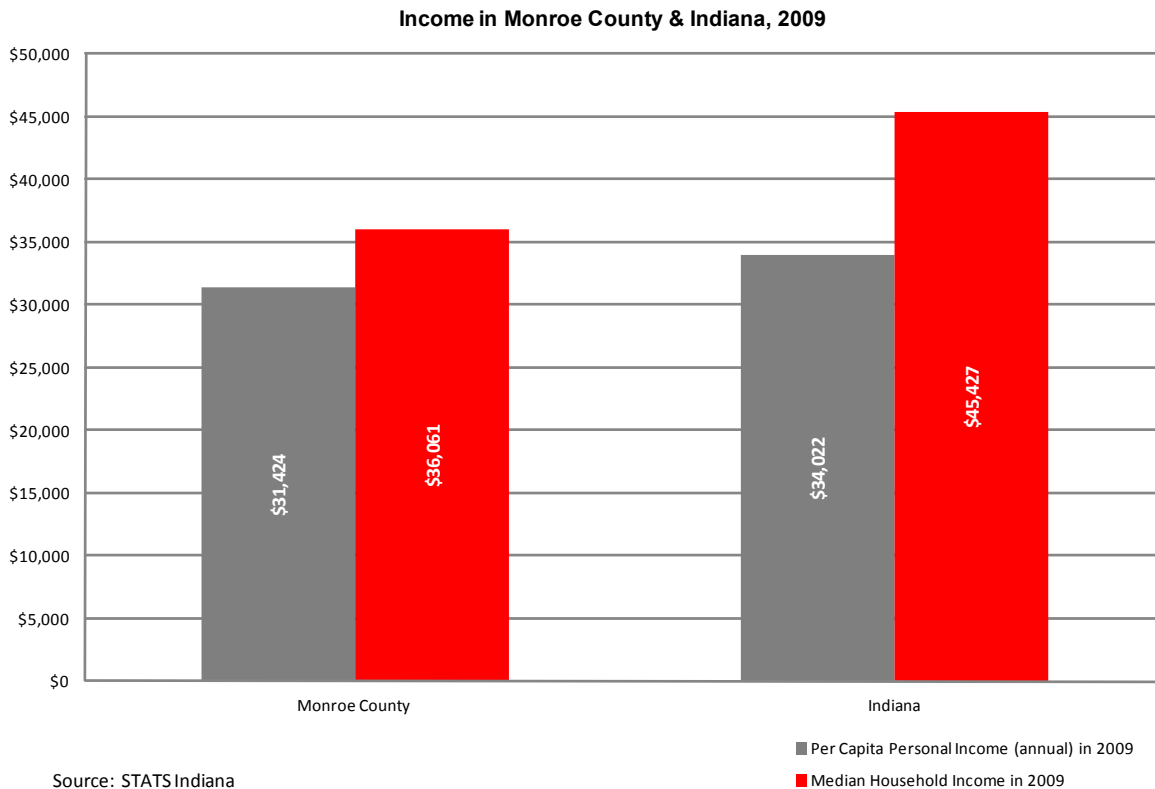


Figure 29: Top Five Counties Sending Workers OUT of Monroe County, 2009

Income

The Monroe County workforce includes Indiana University (and other post-secondary) students and residents of adjacent Counties. Students enrolled in post-secondary education institutions who often enter the workforce on a part-time or full-time basis in the retail and service sectors are included in the County’s labor and income figures. In 2009, County residents earned a per capita figure of \$31,124.²⁷ This was contrasted with the statewide per capita earnings figure of \$36,061, meaning Monroe County residents, on average, earned 8% less than the state per capita.²⁸



Source: STATS Indiana

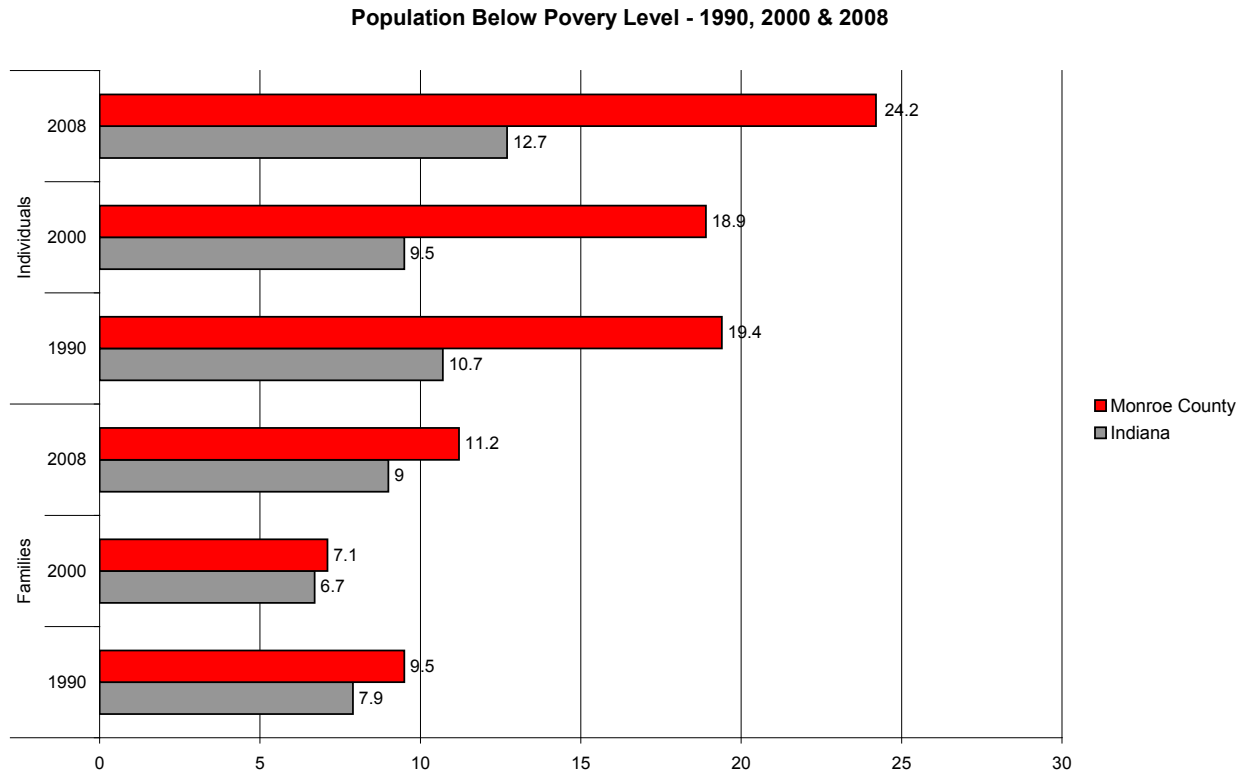
Figure 30: Income in Monroe County & Indiana, 2009

Similar to the recent per capita earnings trend, Indiana residents have outpaced Monroe County residents in median household income over the last twenty years (see Figure 30). In 2000, the median household income in Indiana rose to \$41,511, compared to a County household of median income of \$33,311 (a difference of 20%).²⁴ In 2009, Indiana’s median household income was estimated at \$45,427, while Monroe County’s median household income was \$34,022 (a difference of 34%).^{27&28}

Two possible reasons for the earnings disparity between the state and County are: 1) Monroe County has transformed from being a regional basic sector employment center into a regional commercial and service sector employment center; and 2) The presence of Monroe County’s large post-secondary student population.

Poverty

Coupled with median household income data is the percentage of Monroe County residents living at or below the poverty level. There are two primary sample populations in this dataset; families and individuals. In 2008, 11.2% of families and 24.2% of individuals residing in Monroe County were living at or below the poverty level. In 2000, 7.1% of families and 18.9% of the individuals residing in Monroe County were living at or below the poverty level. In 1990, 9.5% of families and 19.4% of the individuals residing in Monroe County were living at or below the poverty level (see Figure 31).²⁴



Source: STATS Indiana

Figure 31: Population Below Poverty Level - 1990, 2000 & 2008

Indiana figures for 2008 indicated that 9% of families and 12.7% of individuals were living at or below the poverty level in the State. This is a higher proportion of the population compared with 2000, when 6.7% of families and 9.5% of individuals were living at or below the poverty level.

While Monroe County and Indiana show similar patterns for families living at or below the poverty level for the interval, there are consistent distinctions between the state and County data regarding individuals at or below the poverty level, due, in part, to the large post-secondary education population.

4.2.3 Housing

As the population in Monroe County has increased over time, the supply and demand for housing has proven cyclical. Increasing post-secondary education enrollment, natural population growth, and plant closings have all had an impact on the demand for housing in both the incorporated areas as well as in the unincorporated areas of the County (see Figure 32).

The 2010 Census identified 59,107 housing units in the County of which 54,864 are occupied, while approximately 4,243 (including seasonal and vacation homes) are identified as vacant. Compared to 2000 when the County had a total of 51,016 units, the County has seen a 16% increase in housing stock. In terms of occupied units, 52.6% are owner occupied while 47.4% are renter occupied.

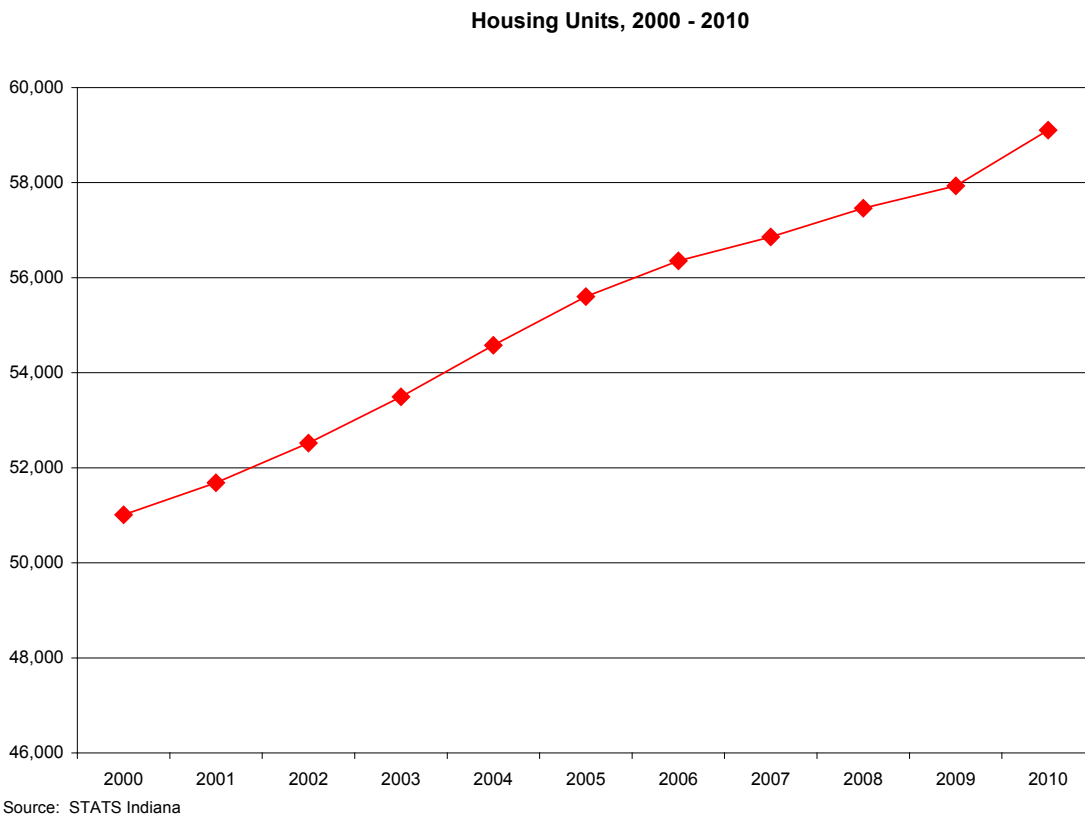
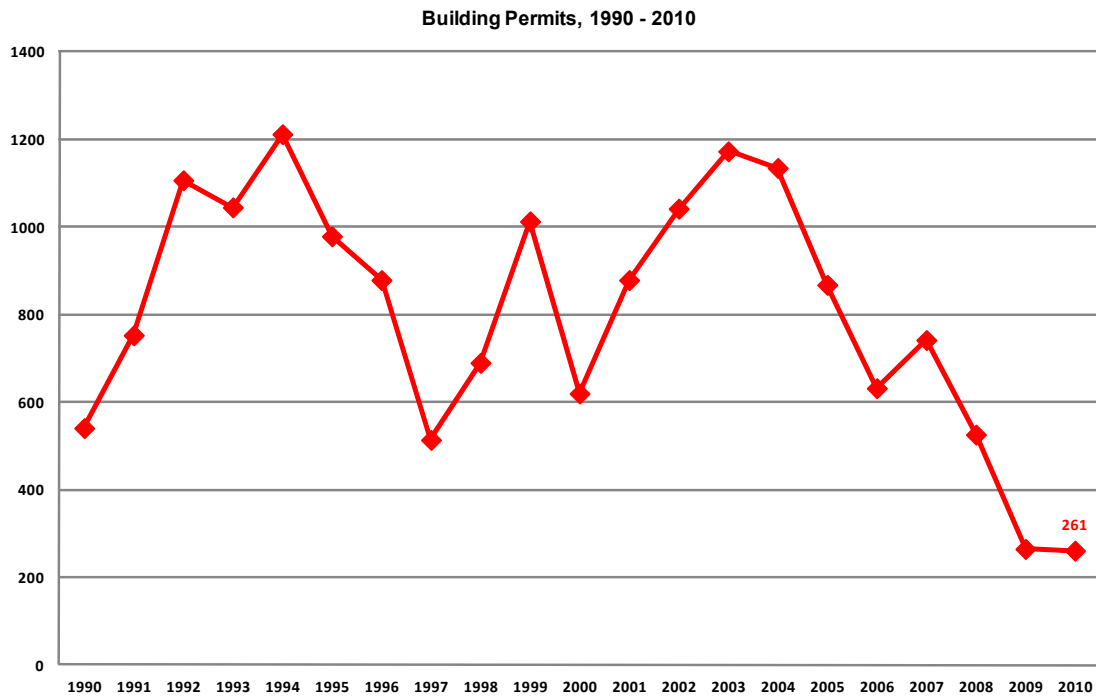


Figure 32: Housing Units, 2000-2010

The 2010 Census also identified 14,976 persons in group quarters in Monroe County. Group quarters include such places as college residence halls, residential treatment centers, skilled nursing facilities, group homes, military barracks, correctional facilities, and workers' dormitories.

Demand for housing can be measured in terms of the building permits issued for various types of residential dwelling units, including single-family attached/detached, duplexes, multi-family, condominiums, manufactured housing, and group quarters. The number of permits has fluctuated from 1,173 units in 2003, while 261 building permits were issued in 2010. Bloomington and Ellettsville are included in the Monroe County building permit totals.



Source: STATS Indiana

Figure 33: Monroe County Building Permits, 1990-2010

In 2009, the median rent in Monroe County was \$606/month. This figure is due in large part to the competition for student rental housing. This created a median rent disparity among neighboring counties. As a result, Monroe County median rent was the highest among the counties in the Bloomington Single Metropolitan Statistical Area (SMSA). For example, the median rent in Owen County in 2009 was \$422/month, while Greene County’s median rent was \$332 – among the lowest in the state.

4.3 TRANSPORTATION

4.3.1 Roads

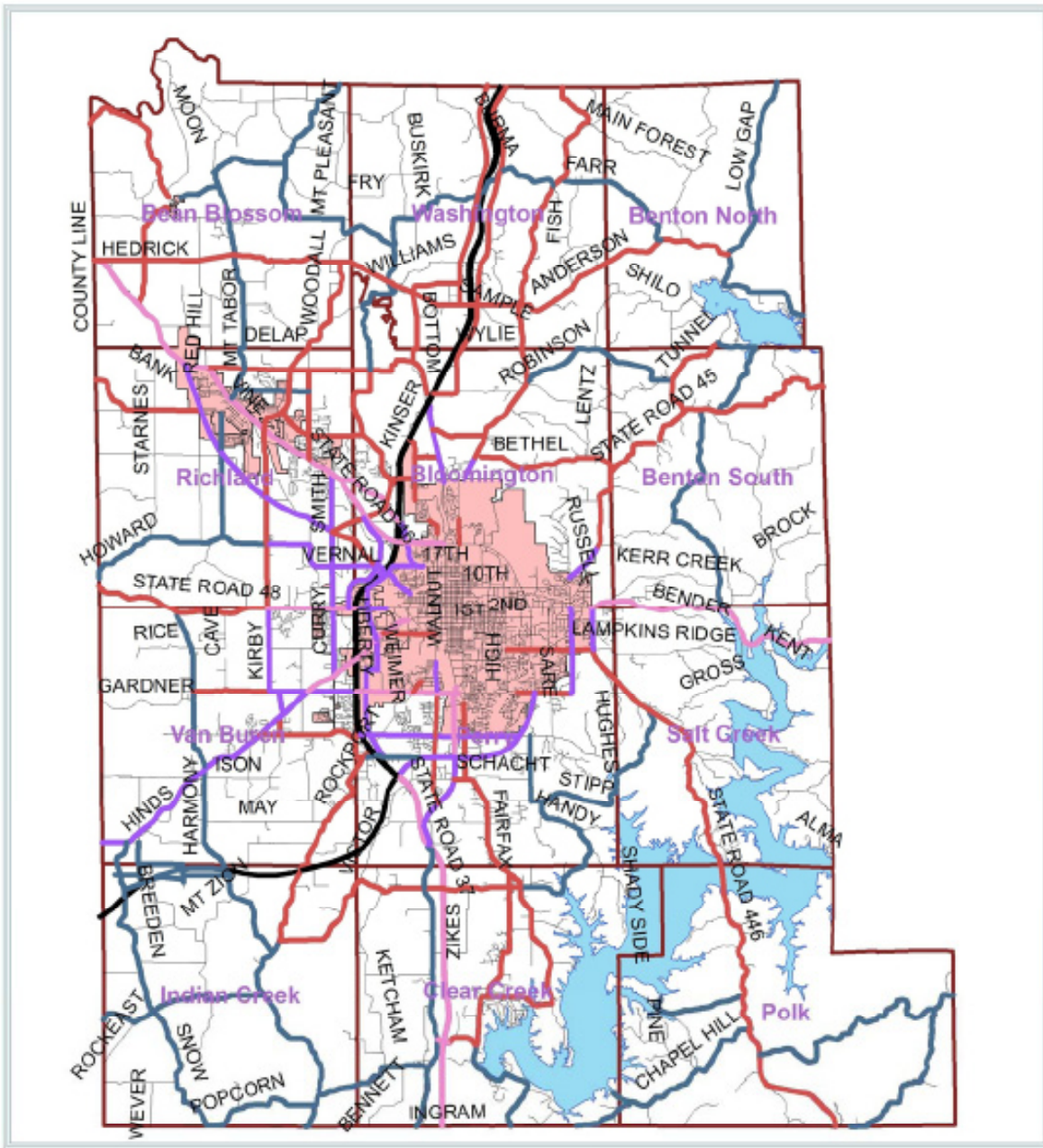
A well-planned transportation network is necessary to carry residents, visitors, and commercial traffic throughout the County. Despite increasingly limited resources, Monroe County has over 1,000 miles (1,027 miles) of roads, most of which are maintained by the County.

In addition to the locally-maintained roads, Monroe County is served by five state highways primarily maintained by the Indiana Department of Transportation: 1) State Road 48, which moves vehicular traffic west from Bloomington through the County; 2) State Road 45, which carries vehicular traffic between the southwest region of the County to the northeast region of the County; 3) State Road 46 serves the northwest and eastern regions of the County; 4) State Road 446, located south of State Road 46, serves the Monroe Reservoir area; and 5) State Road 37 (SR37) carries vehicular traffic through the County from the north and south. Old State Road 37 continues to carry traffic from the north and south with sections outside of Bloomington maintained by the County. All of the state roads serve both the incorporated and unincorporated areas of the County.

State Road 37 was identified by the State of Indiana as a future corridor for the proposed extension of Interstate 69. The proposed extension would connect the existing corridor extending from the northeast corner of Indiana to Indianapolis down to the southwest corner of Indiana in Evansville. The proposed corridor from Indianapolis to Evansville would utilize both existing highway networks in addition to new terrain construction. The northern segment of the proposed corridor in the County overlays the existing route of SR 37. Interchanges are currently proposed at Sample Road, Walnut Street (Business 37 North), SR 46, SR 48, SR 45, Fullerton Pike, and SR 37 South. Grade separations are planned for Chambers Pike, Kinser Pike, Vernal Pike, Tapp Road, and Rockport Road. Frontage roads are proposed in some areas north of Walnut Street, along both sides of the proposed interstate that will assist with connectivity. The new terrain construction would begin between That Road and Victor Pike, inclusive of the aforementioned interchange at SR 37 South. No additional interchanges will be constructed in this segment. Grade separations are approved at Bolin Lane, Tramway Road, Lodge Road, Rockport Road, Harmony Road, Burch Road and Breeden Road. Proposed road closures within this area are Evans Lane and Carter Road. Glenview Drive will be reconstructed to connect with Bolin Lane.

Over the years, Monroe County Commissioners have adopted several significant documents which identify the transportation, land use, and environmental impact of I-69, including: the 1996 Monroe County Comprehensive Plan, the Monroe County Street and Road Management System, and the Thoroughfare Plan and Capital Improvement Program (adopted in 1995 and amended in 1996). The Board of Commissioners also adopted a SR 37 Corridor Plan in 2000 and the Monroe County Alternative Transportation and Greenways System Plan in 2006. Other documents identifying I-69 include the I-69/SR 37 Alternative Transportation Corridor Study of 2007 (adopted in 2010), the February 2010 SR 37 Corridor Plan update adopted in the same year, and the Bloomington-Monroe County Metropolitan Planning Organization's (MPO) 2030 Transportation Plan, which was amended in 2010 and is scheduled to be updated in 2013.

Monroe County Functional Classification Map



- Legend**
- Interstate
 - Major Collector
 - Minor Arterial
 - Minor Collector
 - Principal Arterial



Figure 34: Monroe County Functional Classification Map

4.3.2 Transit

Bloomington and Monroe County are served by Bloomington Transit, Bloomington Transit-Access, Rural Transit, and Indiana University Bus Services. These entities provide transportation services for some of the most densely populated areas of Bloomington and Monroe County. Ridership continues to increase. Bloomington Transit's ridership increased from 900,000 individual trips in 1997 to three million trips in 2009. Similarly, Indiana University's ridership increased from over 1.6 million individual trips in the 2000-2001 academic year to 3.3 million trips in the 2007-2008 academic year. Rural Transit provided 154,474 rides in 2008-2009 compared to 180,000 rides in 2011 to their four county (Owen, Putnam, Lawrence and Monroe) service area. Of the 180,000 rides provided in 2011, 80,000 were for Monroe County residents.

4.3.3 Alternative Transportation

In an effort to reduce the trend toward increasing number of vehicle miles traveled, Monroe County adopted the Monroe County Alternative Transportation & Greenways System Plan for the County in 2006. This plan is a long range plan of bicycle, pedestrian, and equine trails throughout the County, and where possible, provide linkage to the City of Bloomington's and the Town of Ellettsville's trails and paths. Inter-jurisdictional coordination efforts will continue to make the area more attractive for new and current residents to utilize a County-wide inter-connected alternative transportation system as local, state and federal opportunities become available.

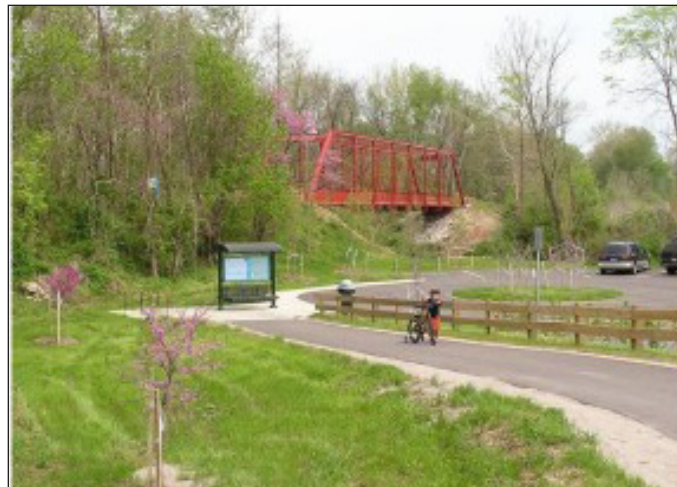


Figure 35: Clear Creek Trail photo

4.3.4 Airport

Monroe County Airport (BMG), a Part 139 Class IV airport serving the greater Monroe County area, is a corporate-class general aviation airport. The airport offers an air traffic control tower and automated weather observation system, as well as Global Positioning System (GPS) technology, precision instrument landing systems considered to be commercial class facilities, and services to serve its corporate client base.

In 2007, BMG hosted 108 commercial flights in and out of the airport and currently serves as the base for over 100 aircraft. Indiana University had its charter operation based at BMG from the airport's beginning in 1939 and continues to utilize BMG's services to this day. There are currently 33 high-quality steel hangars on site at the Airport. A typical hangar size is 70 feet by 90 feet, with several others at 10,000 square feet. The two largest hangars each measure approximately 18,000 square feet.

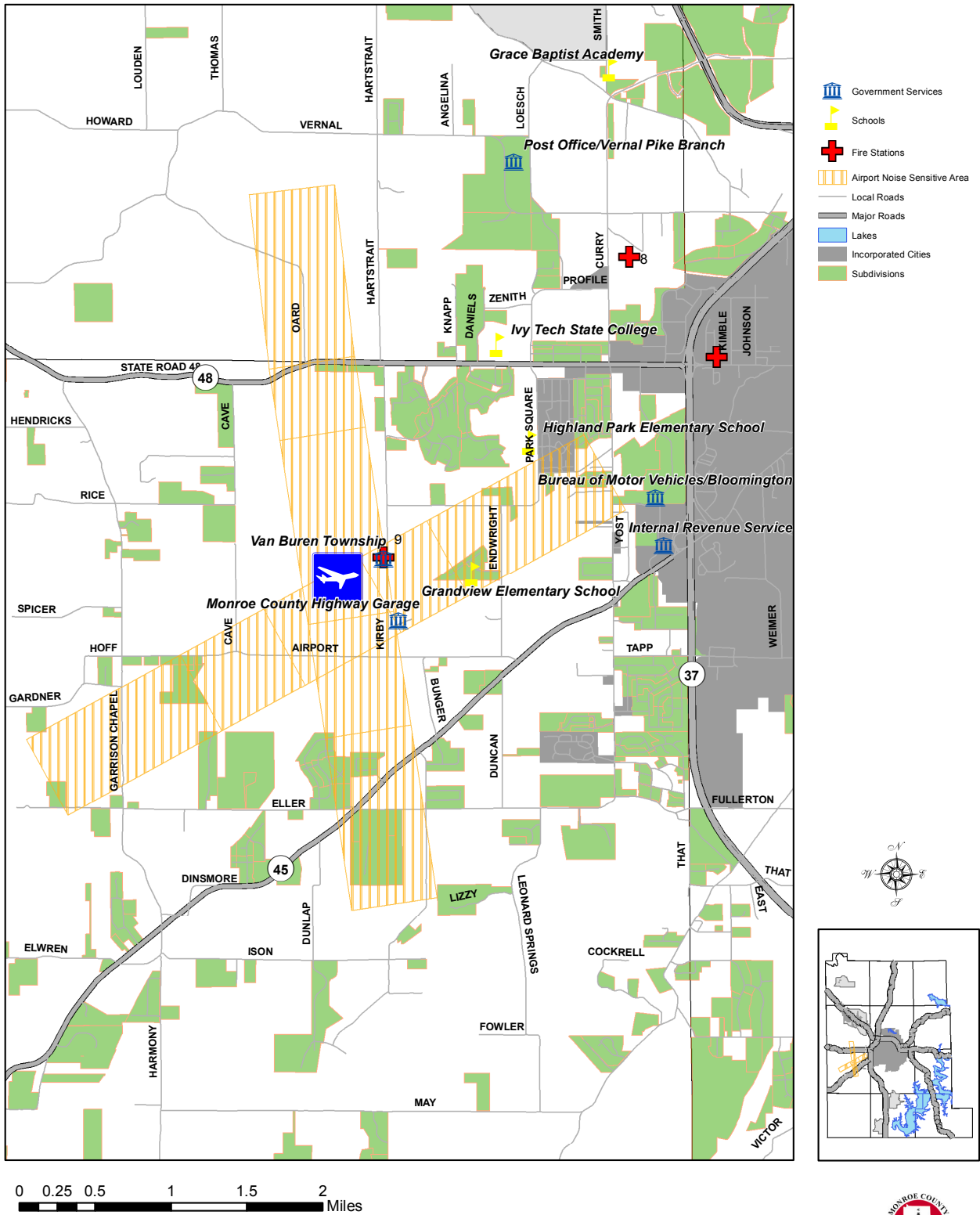


Figure 36: Monroe County Airport photo

Monroe County government supports the Airport by approving land acquisition measures for future and current development. With the support of the Monroe County Council, the airport has established an Airport Building Fund to purchase hangars when current leases expire. In addition, the Monroe County Board of Commissioners has invested cumulative capital funds into airport development.

The Airport has identified areas for future growth, primarily along the west side of the existing north/south runway. Expansion areas include an additional 5,000 foot runway/taxiway paralleling the existing 6,500 foot runway. Supporting this addition are expanded general and corporate aviation areas and a future Foreign Trade Zone for international flights. This expansion would likely require the inter-connection of Cave Road, currently split on the north and south, to provide adequate access to the proposed western expansion area. Expansion of general and corporate aviation areas are also proposed adjacent to the existing terminal area and Airport office. Additionally, the Airport has an identified Noise Sensitive Area where further residential encroachment should be discouraged.

Airport Noise Sensitive Area- Monroe County, Indiana



April 2010 Data Source: Monroe County.
 Datum: WGS 84. Coordinate system: US State Plane NAD 83. Created by Monroe County Planning Department

Figure 37: Airport Noise Sensitive Area Map

4.3.5 Railroads

Railroads are a vital component in the nation's economy. According to the 2002 Indiana State Rail Plan, railroads move over 40% of all ton miles of intercity freight, nearly as much as trucks, barges, and airlines combined. The nation's railroads carry:

- + 70% of automobiles and trucks
- + 64% of coal
- + 40% of grain
- + 20% of chemicals

Monroe County is served by the Indiana Rail Road Company and CSX Transportation Company. According to the company's website, the Indiana Rail Road line carries coal for electric utilities, liquid sweeteners and sugar for Hershey chocolate, ethanol produced in Illinois, refrigerators manufactured by General Electric, and numerous other commodities, such as petroleum products, lumber, plastics, and grain. The railroad carries traffic between Chicago, Louisville, Indianapolis, and Newton, Illinois, with connections to major western and southern carriers. The Indiana Rail Road Company connects with all major Class One rail carriers in its territory: CSX Transportation, Canadian National, Canadian Pacific and Norfolk Southern. Railroads will continue to be an important factor in Monroe County's economy serving a number of existing and future industries.

4.4 UTILITIES AND SERVICES

4.4.1 Energy Service

Electricity is provided by Duke Energy (formerly Cinergy/PSI) to most of the County, with the local South Central Indiana Rural Electric Member-Owned Cooperative (REMC) covering the balance of the County. Vectren supplies natural gas in and around the urbanized areas and Designated Communities, including Bloomington, Ellettsville, Stinesville, Harrodsburg, Smithville/Sanders, Unionville, and New Unionville.

4.4.2 On-Site Sewage Disposal Systems

The proper treatment and disposal of wastewater is vitally important to the health and well being of the residents of Monroe County. While many variations and "experimental" systems exist, the following is a list of the four most popular types of on-site sewage disposal systems (septic systems). A more descriptive analysis of each system can be found in the Annex.

- + Subsurface Gravity System
- + Pump-Assisted Distribution
- + Elevated Sand Mound System
- + Presby Septic Systems

4.4.3 Sanitary Sewer Service

Sanitary sewer wastewater treatment is provided and managed (depending on geographic location within the County) by five utilities: City of Bloomington Utilities (CBU), Northern Richland Sewer Corporation, Eastern Richland Sewer Corporation, Town of Ellettsville Utilities, and the South Central Regional Sewer District (SCRSD).

The existing wastewater treatment plants generally have excess capacity, though heavy rain events reduce this capacity due to infiltrating stormwater. CBU has two facilities, the Dillman Road Waste Water Treatment Plant and Blucher Poole Waste Water Treatment Plant. The Dillman Road Waste Water Plant has a designed capacity of 15 million gallons/day (mgd), with a current daily average capacity of 9 mgd, or 60%, under normal conditions. Blucher Poole currently has a designed capacity of 6.0 mgd, with a current daily average capacity of 2.75-4 mgd, or 57% of total capacity. In 2010, the CBU has 20,173 sewer service customers and 22,491 water service customers.

In 2007, Monroe County and the City of Bloomington Utilities Services Board reached an agreement (Rule 24) for the areas outside of the corporate limits of Bloomington not scheduled for annexation which would receive sanitary sewer service. In the past, this was known as Service Area Agreement and was delineated on the 1996 Comprehensive Plan as the Urban Services Boundary.

The Town of Ellettsville's municipal system serves over 3,000 customers at a capacity of 2.3 mgd, and currently handles about 1.1 mgd, just under 50% of its capacity. This system also handles waste generated by both Northern and Eastern Richland Sewer corporations. The SCRSD, serving over 1,300 customers, handles about 150,000 gallons of wastewater a day in a 300,000 gallon facility on Foggy Morning Road operated by SCRSD and now serving Strain Ridge Road and the Eagle Point area.

Stinesville has an effluent treatment plant serving approximately 90 customers. Each home in Stinesville has a septic tank that collects the solids and only the effluent is collected and treated at the plant. SCRSD pumps the solids out of the septic tanks on a 3 year rotation. (i.e. one third of the tanks are pumped each year) The treatment plant has a capacity of 39,000 gallons per day and the current average flow to the plant is 17,000 gallons per day.

In addition to the aforementioned treatment facilities, there are several small wastewater treatment package facilities located throughout the County, typically providing sewer service to a very limited demographic, such as a residential neighborhood or mixed use developments, for example, the North Park development. With the exception of the latter, it should be noted that some of the private package treatment facilities were constructed prior to the 1971 opening of the Lake Monroe-area plants.

4.4.4 Water Service

There are 10 water suppliers in the County, all of which (except Bean Blossom-Patricksborg Water) draw their supply from Monroe Reservoir at the Monroe Water Plant, with a 23 mgd design capacity (maximum), and daily usage of 14 mgd average (61%). Most areas in the County have potable water service, yet some areas lack sufficient water pressure for fire-fighting efforts. City of Bloomington Utilities (CBU) is the primary water provider for those living in and around Bloomington, and sells water to many of the nearby water providers, including B & B Water, East Monroe Water, Rhorer, Harrell and Schaact (RHS) Water, Shady Side Drive Water, Southern Monroe Water, Van Buren Water, Washington Township Water, and Town of Ellettsville Water.



Figure 39: Monroe Reservoir photo

4.5 COMMUNITY FACILITIES

With Indiana University's athletic and cultural events and facilities, Monroe Reservoir, the County's public recreation lands, and the promotional efforts of the Monroe County Convention and Visitors Bureau, tourism related to the County's many community gathering places and facilities provides a significant economic benefit to Monroe County.

4.5.1 Parks and Recreation

In the context of a County with considerable open space and a rural life style, the concepts of formal parks and recreation facilities may seem out of place. Active recreational opportunities, primarily in the form of organized athletic activities, result in well-utilized facilities. Most County residents live in suburban surroundings without available open space for play and personal enjoyment nearby.

The County is home to many recreational assets. Quality parks systems both in the City of Bloomington and in Monroe County provide varied opportunities for residents to relax and enjoy a variety of recreational activities. The County maintains five parks totaling 1,902 acres, while the City of Bloomington features 18 parks. With several state recreation areas near Monroe Reservoir and other state and national forests, the County boasts an impressive array of areas to explore. An expanding network of bicycle, pedestrian, and equine routes, bolstered by the passage in 2006 of the Alternative Transportation and Greenways System Plan for the County, continues to make the area more attractive for new and current residents.

Historically, most park land had been donated to the community. As large parcels disappear and land is more likely to be held for future development, these donations rarely occur. When an offer to provide park land is made, that land is often not suitable for residential use and is, therefore, not very well suited to many types of recreational uses either. The County must continue their effort to obtain sufficient land proximate to County residents to meet their needs for open space and recreational opportunities. The questions of sharing the costs of park development and maintenance (development fees, user fees, or tax districts, for example) must be addressed in the context of shrinking County financial resources. In some cases, private land can be utilized to meet the park and recreation needs of County residents. The County should assess whether the current state and federal recreation facilities are sufficient to meet the needs of County residents. The Master Plan for the Monroe County Department of Parks and Recreation addresses many of these issues and is referenced in this Plan.

Monroe Reservoir offers numerous marine facilities and opportunities to people from around Indiana and the Midwest. Morgan-Monroe State Forest, whose land stretches across the County's northern and eastern Townships, covers a total of 23,443 acres in parts of Monroe and Morgan Counties. The Hoosier National Forest has 18,840 acres in Monroe County including a good portion of Polk Township in the County's southeast corner as well as part of Salt Creek Township, which surrounds the northern reaches of Monroe Reservoir.

4.5.2 Police and Fire Protection

There are five police organizations which serve the residents of Monroe County: the Bloomington Police Department, the Indiana University Police Department, the Ellettsville Police Department, the Town Marshall in Stinesville, and the Monroe County Sheriff's Department (operating out of its Bloomington headquarters). The

Sheriff's Department is responsible for all of unincorporated Monroe County. State police officers patrol state highways from a post in northern Bloomington. There are 14 fire stations in the County: five in Bloomington, two in Ellettsville and others in Bean Blossom, Bloomington, Van Buren, Clear Creek, Indian Creek and Benton South Townships. Some areas of the County contract local fire protection, particularly Benton North, Washington Township and those portions of Salt Creek and Polk Townships southeast of Monroe Reservoir. Other areas need additional capacity to meet the demand of recent growth. Inadequate water supplies, substandard hydrants, and narrow cul-de-sac designs cause problems for firefighters. The duplication of street names, single streets with multiple names, and inconsistent property address numbering are major problems for public safety emergency responders.

The fire companies which operate outside of Bloomington and Ellettsville are not part of a County-wide system. They are managed by Township Trustees and funded by township-based taxes often with mutual aid agreements. This arrangement may not provide the best protection to County residents. Small companies which cannot benefit from economies of scale must rely upon small professional and volunteer staffs and cannot offer broad-based protection.

4.5.3 Schools

The Monroe County Community School Corporation (MCCSC) provides instruction for the majority of students from kindergarten through the 12th grade. The Richland-Bean Blossom Community School Corporation (RBBCSC) provides instruction for residents of Ellettsville, Stinesville and the surrounding areas in northwestern Monroe County. There are a total of seventeen elementary, five middle, four high schools and three high school alternatives in the County in addition to ten private schools. The majority of the schools serving the County are in or adjacent to Bloomington. School facility siting has become a serious issue during the past 10 years as successive school boards have responded to population changes with different approaches. The serious overcrowding at Ellettsville Elementary is the result of a failure to comprehend the impacts of development along SR 46. One outcome of comprehensive planning must be the ability to conduct better siting of schools to accommodate future changes in population.

While Ivy Tech Community College is part of a statewide network, it is a very important local educational resource. Ivy Tech is a critical resource for economic development in the County because it provides much of the post-secondary technical training for County residents.

Indiana University's presence in the center of the County offers cultural events and athletic contests almost daily throughout the academic year. From football and basketball games drawing tens of thousands of fans to cultural events on campus, the University's attractions are a major asset to the community and collectively offer some of the greatest draws for visitors to Monroe County.

4.5.4 Libraries

The Monroe County Public Library has two locations to service county residents, the Main Library in Bloomington and the Ellettsville branch. The library also hosts the Community Access Television Services (CATS), which manages five stations which cablecast government meetings and educational and cultural content. CATS is a partnership with Monroe County, the City of Bloomington, the Town of Ellettsville, and Comcast.

A large percentage of Monroe County residents use and value the Library, as documented by usage statistics from the library's 2010-11 Strategic Plan: 2.3 million items circulated, 1.3 million visits to a Library facility, 1.7 million visits to the Library website, 500,000+ uses of Library public computers, 82,000 Library card holders, and 43,551 participants in Library programs. As part of past strategic planning processes, the library did a valuation study, which showed that for every \$1.00 invested in the library in 2006, Monroe County residents received \$1.68 in value. The 2008 figures show a return on investment of \$1.80.

In terms of recognition and awards, Monroe County Public Library ranked second in its population category in the 2008 Hennen American Public Library Ratings (HAPLR). The Library also received the 2008 Tom Zupancic Literacy Award from the Indiana Library Federation. A new national rating of public libraries, the Library Journal (LJ) Index of Public Library Service, has identified Monroe County Public Library (MCPL) as a Star Library. The rating puts MCPL in the top 3.6% of public libraries.

4.5.5 Social Service Delivery

While social services ranging from health clinics to church-based welfare organizations are primarily found in Bloomington, a wide range of services are distributed throughout the County, either as community organizations or as outreach services from the Bloomington-based groups. Of particular importance are the 94 licensed daycare and nursery schools in Monroe County. Facilities can accommodate anywhere from 4 to 114 children. Child care is an important aspect of employment opportunities and must be available for pre-school children, after regular school hours, and during the summer months. However, child care costs can be difficult for average-income families to afford.

In addition to child care facilities, not-for-profit agencies across the County provide assistance to County residents – including food, temporary shelter, counseling, legal services, and many forms of emergency assistance. All social, health, and welfare services or facilities (including child care facilities) have independent planning needs and policy issues. Their common bonds regarding land use and transportation planning are service delivery and facility duplication in a fairly sparsely settled area totaling over 400 square miles. Where people reside determines the place of demand for many of these services and their attendant facilities.

4.6 DEVELOPMENT PATTERNS

To effectively plan for future growth, it is important to understand where and with what intensity areas of the County are developing. Figure 41 shows all platted land in Monroe County as of 2009.

The greatest concentration of new development in the unincorporated areas of Monroe County has occurred adjacent to the corporate limits of Bloomington and Ellettsville. Some of these areas feature a mixture of developed and greenfield land. In the area that was formerly part of the City of Bloomington's planning jurisdiction, the zoning is sometimes at odds with similar land that has always been in the County's jurisdiction. In other places, similar zoning classifications make the transition much simpler, despite the difference in some regulations for the development of such lands.

In addition to the redevelopment of existing properties and neighborhoods, the County also recognizes that commercial development may occur on greenfield sites, resulting in increased pressure on natural resources,

environmental quality, infrastructure and services. Greenfield development may be appropriate; however, a balance must be struck to ensure a healthy economic and natural environment that will continue to attract employers and workers. Many recent commercial developments are focused along the Bloomington-Ellettsville portion of State Road 46, and along the SR 37 corridor near Bloomington.

Another popular area for new home construction is the area around Monroe Reservoir. The County instituted new controls over the development of this area with an Environmental Constraints Overlay (ECO) in the most recent Zoning Ordinance in 1997. This set of zoning regulations has helped to ensure that growth near the lake and in the lake watershed will take place in a less-damaging, more environmentally conscious manner, especially in regard to erosion control issues.



Figure 40: Arbors at Woodgate Subdivision, Ellettsville Rural Community Area

Platted Lands- Monroe County, Indiana

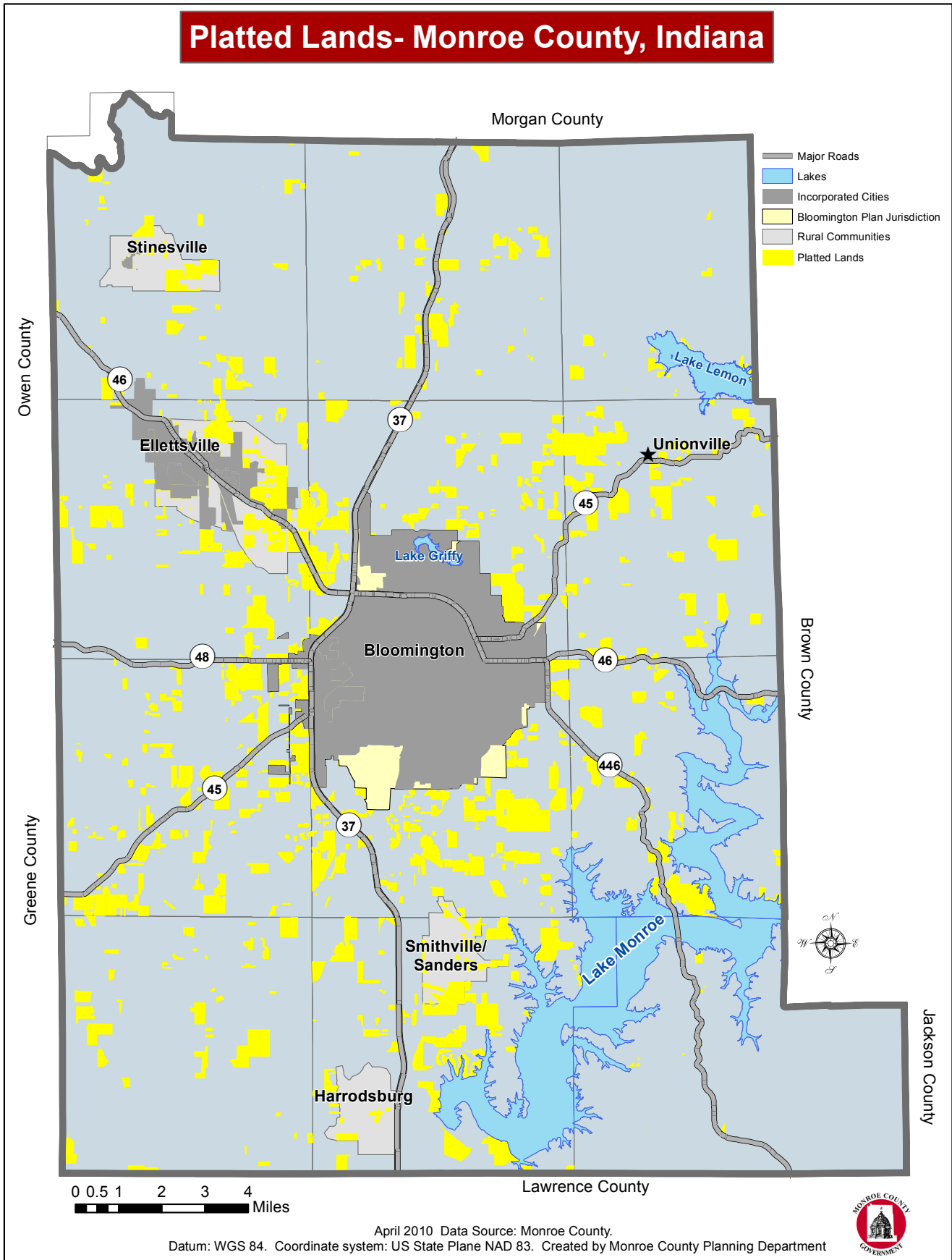


Figure 41: Platted Land Map

5

PLANNING POLICY

5.1 POLICY ASSUMPTIONS

Our policy statement is based upon the following assumptions concerning land and property use in Monroe County:

- A.** A robust local economy with sustainable economic growth is important to our residents. The County's economic well-being is critical to providing employment, adequate housing and educational opportunities for its residents. Sustainable economic growth is fundamental to the availability of community services, recreational opportunities, the work and services of nonprofits and cultural amenities.
- B.** The community is best served in the long-term when we protect vulnerable and environmentally sensitive lands from degradation.
- C.** Changes in property use can vary in timing and location based upon the factors influencing public service provision (e.g. adequate tax base, available revenues, partnership opportunities, and facility capacity).
- D.** New construction and development do not translate to increased local property tax revenue. We must balance our demand for public services with our willingness to pay for them.
- E.** Comprehensive planning policy attempts to minimize decreases in individual private property value as it seeks to maximize the utility of scarce public infrastructure and services from which all residents and businesses benefit.

5.2 POLICY STATEMENT

The following policies provide for necessary growth and development in Monroe County and provide the means to assure sufficient public services and infrastructure while safeguarding vulnerable land.

The following policy statements constitute the most fundamental aspects of the process by which we achieve our goals:

- A.** Future growth and development will avoid the disturbance of vulnerable land.
- B.** Maintain sparse and low density with the subdivision of rural property.
- C.** The presumed future use of rural property shall be the current vested use.
- D.** Individual property rights shall be considered when establishing community interest and goals.

- E.** The scope of commercial use for rural property that depends upon natural resources available from the land shall be limited to operations related to agriculture or quarrying. Farm-related commercial and industrial uses that are not dependent upon the nature of the land shall not be permitted on rural property.
- F.** The conversion of rural property to urban property shall occur when either:
 - a. Inclusion of the Rural property fits into an adjacent Urban property area (requirement for contiguous growth)
 - or,
 - b. Creation of a new urban property area with the adoption of a new Designated Community Plan that approximates the mean area of the existing Designated Communities.
- F.** Designated Community Plans shall include a full array of field studies demonstrating the availability of adequate public infrastructure and services required for the planned community area, e.g., the Sewer Service Extension Area maps developed in partnership with the Monroe County Plan Commission and the City of Bloomington Utilities Service Board for the Bloomington Urbanizing Area.
- G.** Development in urban areas shall provide in aggregate a range of options for residential density, and intensity of commercial and industrial activity.
- H.** Urban property shall use sanitary sewers.
- I.** Any development adjoining vulnerable land shall provide adequate buffers to minimize the impact of property use upon the vulnerable land.
- J.** Urban areas shall designate business and employment activities with areas of sufficient size and capacity to meet the identified needs over the planning horizon.
- K.** Prior to development in urban areas, availability of sufficient infrastructure to support expected residential, commercial and industrial activities must be present or provided.

6

GOALS

The 2012 Comprehensive Plan in its entirety is the single formal document in which major development goals, objectives, and plan elements are brought together and coordinated. The following Goals and Strategies frequently refer to land use development concepts and functional planning areas for Monroe County. Used in conjunction with other goals, strategies, and plan elements, they shape land use decision-making and guide future development. The Goals and Strategies, however, are not intended to dictate specific land uses and zoning categories.

This section broadly states expectations for future conditions as goals and strategies as measures of success. Goals are grouped into five major areas. Associated with each goal are several strategies for achieving the goal.

6.1 ECONOMIC DEVELOPMENT

Goal

- A. Creating opportunities for the community by retaining existing employers and increasing employment opportunities by maintaining sufficient areas for new development, redevelopment, and enhancing recreational, cultural, and social activities;
- B. Maintain an itemization of County level employment activities by North American Industry Classification System (NAICS) market sector;
- C. Maintain an inventory of the property and infrastructure needs to support all currently identified employment activities;
- D. Periodically identify and evaluate property and infrastructure resources that meet all currently identified employment needs;
- E. Periodically adjust property designated for employment use to assure sufficient employment opportunity;
- F. Periodically review the rationale for allocating employment property uses with other property uses;
- G. Maintain an itemization of economically significant natural resources including, but not limited to; farmland, forestland, mineral deposits, lakes, ground-water and surface-water and other bodies of water based on local, state and federal data contained in the Natural Features Inventory;
- H. Maintain a definition of entrepreneurial activities in the Zoning Ordinance;
- I. Periodically review the rationale for allocating entrepreneurial activities with other property uses;

- J. Periodically adjust property designated for entrepreneurial activities for consistency with evaluation criteria and identified needs;
- K. Enable alternative and renewable energy production, including, but not limited to, solar or wind resources;
- L. Promote employment opportunities best addressed at the county level while maintaining a diversified economic base;
- M. Ensure the availability of sufficient land for employment growth in a variety of industry sectors; and
- N. Preserve industrially zoned lands to support new industrial development ranging from small business incubator facilities to larger business organizations.

Strategies

Monroe County will focus its land and property use management responsibilities to:

- a. Support and coordinate efforts to provide adequate infrastructure and targeted community investment in areas best suited for employment opportunities;
- b. Identify and protect economically significant natural resources as defined by the Natural Features Inventory;
- c. Enable small-scale entrepreneurial activities;
- d. Work to coordinate property use planning to attain regional economic development goals and increase the number and quality of jobs;
- e. Maintain and enhance existing recreational and cultural activities to support industry employers; and
- f. Enable employment opportunities for the County by providing sufficient property for the expansion of existing and future employment areas.
- g. Focus future industrial development to existing areas with adequate public facilities;
- h. Create an agricultural overlay district that encourages sustainable agricultural-related business;
- i. Create an overlay district for existing mineral extraction operations and potential areas of reactivated operations;
- j. Review the viability of the Business and Industrial Overlay districts and an overlay for future water supplies;
- k. Further enhance opportunities for small business by enhancing home-based business and home occupation zoning ordinance language for further flexibility;
- l. Provide mixed use residential opportunities with light industrial and business centers in urban areas;

- m. Work with local economic development organizations on short and long range programs of public works projects for the purpose of stabilizing industry and employment;
- n. Where sufficient existing infrastructure exists, promote infill uses and redevelopment;
- o. Establish the use districts and the environmental preservation requirements necessary to preserve the County's existing tourism and cultural assets;
- p. Establish the use provisions necessary to accommodate art, agricultural, and other forms of tourist attractions;
- q. Expand the system of recreational greenways near, or serving, employment areas; and
- r. Identify and designate employment areas sufficient to accommodate the expansion of existing businesses and the addition of new businesses.

6.2 RESIDENTIAL DEVELOPMENT

Goals

- A. Enable housing demand to be met while protecting the unique character of the built and natural environment with equitable new residential opportunity;
- B. Provide sufficient buildable lots to meet housing demand;
- C. Assure a range of residential opportunities while fairly allocating available private property resources;
- D. Periodically evaluate the capacity of urban and rural infrastructure and services to meet the needs of each characterized area, and review the evaluation criteria for elements that contribute to the character of designated areas;
- E. Through a protection program, maintain the quantity and quality of those elements contributing to the character of designated urban and rural areas within the County planning jurisdiction;
- F. Maintain an inventory of areas within the County exhibiting significant identified character elements;
- G. Utilize current and historical U.S. Census Data to maintain a history of the supply of dwelling units available for purchase or lease and a projection for housing demand.

Strategies

Monroe County will focus its land and property use management responsibilities to:

- a. Protect the existing character of designated rural and urban areas within the County by keeping rural areas rural in character while encouraging urban densities and services in Designated Communities that serve to meet capacity requirements within the planning horizon of this Comprehensive Plan;
- b. Enhance the existing character of urban and rural areas of the County by protecting existing investment and lifestyle choices;



- c. Locate subdivisions containing five or more lots in the designated growth areas containing adequate public facilities;
- d. Limit subdivision development within specified areas in the watersheds of Lake Lemon, Lake Griffy and Monroe Reservoir;
- e. Avoid whenever feasible development of residential and accessory structures on slopes of 15% or greater throughout the County as recommended by the Indiana Storm Water Quality Manual;
- e. Limit subdivisions on County roads prone to flooding;
- f. Require all subdivisions to contain open space - excluding building lots - along with dedicated connections to any adjacent current or future link of the County and City's respective Greenway Plans;
- g. Encourage development that seeks to integrate the principles of smart growth, urbanism and green building into overall neighborhood design;
- h. Require new subdivisions to be designed in a manner that minimizes disturbance to the topography;
- i. Establish grading limits near sensitive natural features;
- j. Develop an integrated Geographic Information System (GIS) Inventory database of available developable lots in Designated Community areas;
- k. Invest in viable petition management software to support tracking and inventory compilation;
- l. Identify and protect existing historically important sites in the County, e.g. houses, stone walls, silos, barns, pre-historic sites;
- m. Implement Heritage Conservation Districts or Overlays in historically significant areas that will maintain the quantity and quality of those elements contributing to the historic character of said areas within the County planning jurisdiction;
- n. Identify the means for establishing a "demolition delay" ordinance provision;
- o. Develop an integrated GIS Inventory database of all historic features in the County;
- p. Encourage development in areas with the least environmental constraints and most favorable infrastructure capability;
- q. Encourage development with adequate recreational space to meet the needs of the residents;
- r. Link subdivisions within Designated Communities with collector streets and greenway paths;
- s. Encourage innovative concepts in housing designs and architecture;
- t. Strive to preserve the rural character and minimize the visual impact of large-scale development. Maximize the amount of natural vegetation preserved on each site;
- u. Encourage the practice of developing a design that fits the site rather than manipulating a site to fit the design in order to minimize the amount of land disturbance;

- v. Development should be restricted on slopes for which adequate soil and water management practices are not possible;
- w. Protect water quality through the use of acceptable erosion control and soil conservation techniques. An erosion and drainage control plan shall be provided by petitioners for all development. The plan shall include measures to minimize erosion during and after construction and methods to stabilize disturbed areas;
- x. Require driveway design to meet national standards that will accommodate emergency vehicles and limit the number of curb cuts onto collector and arterial roads to improve public safety and traffic flow;
- y. Encourage shared driveways for adjoining properties in appropriate circumstances;
- z. All driveways should avoid crossing agricultural land to reach non-farm residential development lots. Flag lots or other long driveways shall be discouraged;
- aa. The general location of residential development should remain consistent with the Plan and be concentrated in the Designated Communities; and
- ab. Constrain the serial subdivision (i.e. "sprawl" or "leapfrog development") of rural property to maintain large parcels and distribute new property creation opportunity among current property owners.

6.3 TRANSPORTATION, INFRASTRUCTURE & PUBLIC SERVICES

Goals

- A. Protect the integrity of current public transportation, public infrastructure, and public service facilities, and promote the utility, safety, and cost effectiveness of future public transportation, infrastructure, and service facilities;
- B. Create an escalating bond, fine and cost structure to ensure timely completion of all required public improvements;
- C. Maintain an inventory of public infrastructure investment and annual maintenance expenses for utilities, roads, schools and emergency response service providers;
- D. Establish adequate public infrastructure criteria for traffic flow, school utilization, emergency response time, and utilities;
- E. Maintain an inventory by location and utilization of current and proposed service areas for infrastructure, including public roadways and sanitary sewer service;
- F. Periodically identify the current and projected infrastructure and service needs of the County;
- G. Periodically evaluate public infrastructure and service capacity that is available to meet the needs of new residential units in designated areas within the County;
- H. Prevent the utilization of public infrastructure and services beyond capacity by limiting new residential demand where the resulting infrastructure demand cannot be met;

- I. Establish a mechanism for valuing both the direct cost of development to the developer and the direct and indirect cost of development to the property owners in the vicinity;
- J. Maintain an inventory of transportation assets and plan so as to ensure future investments in public facilities, transportation, and services are consistent with the County's property use policies;
- K. Protect and preserve scenic historic routes in Monroe County by creating a Scenic Historic Rural Roads program that preserves rustic and scenic characteristics of such routes through rural landscapes; and
- L. Maintain an inventory of qualitative and quantitative measurements and measurement technologies for determining the scale and utilization of infrastructure to assess effectiveness of County standards.

Strategies

Monroe County will focus its land and property use management responsibilities to:

- a. Protect the County's arterial and collector road network from overcrowded or other unsafe conditions by protecting the integrity and service of the current public infrastructure through the fair allocation of resources among vested users;
- b. Enable non-automotive and other transportation opportunities to expand options for personal and group travel;
- c. Ensure infrastructure is commensurate with both the intended scale of any proposed development and the probable future utilization of that infrastructure;
- d. Ensure connections between residential and commercial uses with roads, sidewalks and trails by limiting dead-end roads and cul-de-sacs;
- e. Seek additional drinking water capacity to offset demands for the utilization of existing local water resources to meet demands beyond Monroe County;
- f. Establish a standard for adequate public facilities so that growth follows adequate infrastructure;
- g. Require new subdivisions served by County roads to not result in a reduction in the Level of Service (LOS) within roadsheds feeding Federal, state and arterial and collector highways, because of the impacts of the subdivision or due to the condition of existing unacceptable LOS;
- h. Require sidewalks, side-paths and/or multi-use paths in new subdivisions if connections to the County and/or City's Greenway System is feasible or if roads do not provide access to adjoining subdivisions or large developable parcels;
- i. Prohibit private package wastewater treatment facilities in areas not designated for more intense use in the future;
- j. Adopt and support funding for a green infrastructure component of a public facilities standard that includes, at a minimum, low impact development and design elements;

- k. Investigate additional revenue sources and mechanisms to provide for maintenance of County infrastructure;
- l. Identify transit oriented development opportunities in designated growth areas with the potential to accommodate rail, bus, bike and pedestrian transportation facilities, i.e. rail corridors, arterial and collector roadways;
- m. Designate Park and Ride Facility locations along commuter corridors;
- n. Coordinate with Transit Authorities the development of shuttle service programs to destinations from the City of Bloomington, and to the Designated Communities;
- o. Examine opportunities to expand local water storage resources;
- p. Encourage collaboration with public and private sector partners to advance strategies for economic development;
- q. Establish a minimum of two (2) points of ingress and egress for subdivisions of five (5) lots or more connecting to County roads;
- r. Establish driveway design standards for the accommodation of emergency vehicles; and
- s. Encourage the use of shared driveways and other methods of reducing the number of road access points.

6.4 ENVIRONMENTAL CONSERVATION

Goals

- A. Maintain and enhance the integrity of the County's natural features and protect the economic viability of the County's natural resources;
- B. Maintain an inventory of significant natural features and Vulnerable Land forms, e.g., threatened and endangered species, contiguous hardwood canopy, historic sites, and watersheds which are susceptible to the destructive forces of particular property uses;
- C. Establish requirements for the sustainability of significant natural features;
- D. Maintain an inventory of protected significant natural features;
- E. Periodically assess the change in significant natural features;
- F. Establish a program of significant natural feature acquisition by public and private land conservation organizations for the purpose of restoration and protection from development;
- G. Identify and evaluate the interrelated components of the local watersheds;
- H. Protect and restore the natural function of the components of the local watersheds; and
- I. Protect and improve scenic routes and other viewsheds along transportation corridors.

Strategies

Monroe County will focus its land and property use management responsibilities to:

- a. Protect significant natural features by increasing the amount of significant natural features permanently protected;
- b. Improve the integrity of local watersheds by improving water quality and quantity for all uses and establish a storm water utility;
- c. Protect economically significant natural resources including, but not limited to; farmland, forestland, mineral deposits, lakes, ground-water and surface-water and other bodies of water based on local, state and federal data contained in the Natural Features Inventory;
- d. Avoid future conflict with Vulnerable Land and natural features as the expansion of future infrastructure occurs;
- e. Restore damaged eco-systems beneficial to the community;
- f. Promote water conservation through improved site design standards;
- g. Avoid whenever feasible new development on slopes 15% or greater throughout the County;
- h. Establish riparian buffers on both sides of perennial or intermittent streams;
- i. Exclude karst features, floodway and slopes greater than 15% from the acreage used to calculate subdivision density in Urban areas;
- j. As part of the planning approval process, establish standards in the zoning and subdivision ordinances for avoiding disturbance of sensitive geological features;
- k. As part of the planning approval process, establish standards in the zoning and subdivision ordinances that require soils suitable to the permitted property use;
- l. Define a maintenance standard for tree buffering, preservation and coverage in new subdivisions and continue to encourage planting native tree species for residential, commercial and industrial development;
- m. Require protection of verified Endangered Species habitats;
- n. Establish standards in the zoning and subdivision ordinances that preserves topsoil and minimizes cut and fill in areas proposed for development;
- o. Establish a process for regular on-site inspections of erosion, sediment, and other pollution control practices throughout the development process;
- p. Require erosion and sediment control measures that maintain off-site run-off during construction and post-development at pre-development conditions;
- q. Create a storm water utility to manage and fund water run-off control structures;

- r. Require all subdivision proposals to provide adequate access to open space;
- s. Establish clear limits for site grading that will: minimize the impact of building footprints, maintain existing topsoil on site, and protect development area topography, existing vegetation and habitat;
- t. Establish protective buffers around existing wetlands and encourage the restoration of wetlands and watershed components as part of development approvals;
- u. Encourage the use of pervious surfaces in parking lots and sidewalks to enhance stormwater management when not in conflict with local, state and federal standards;
- v. Enable alternative renewable, sustainable energy sources for domestic use;
- w. Enable environmentally friendly soil management programs;
- x. Implement a Lake Lemon Watershed Protection Area and develop a plan to restore damaged ecosystems around the lake, improve the quality of watershed run-off, and protect the lake;
- y. Increase sanctions for violations of protected slopes, karst features, and floodways; and
- z. Create an Environmental Review Committee made up of citizens with technical expertise on environmental systems to provide a review of development proposals and report on concerns or mitigation recommendations.

6.5 GOVERNMENTAL COOPERATION

Goals

- A. Collaborate with other governmental agencies to improve the effectiveness of public planning and development on issues and projects of mutual benefit;
- B. Maintain a regular schedule of intergovernmental meetings where County participation is beneficial for County-based planning and zoning;
- C. Regularly assess opportunities for intergovernmental coordination of community planning efforts;
- D. Regularly convene community discussions in response to intergovernmental initiatives;
- E. Maintain an inventory of County planning and zoning issues that require intergovernmental cooperation;
- F. Regularly disseminate information on County issues through public media; and
- G. Promote certainty, efficiency, and economy in Zoning Ordinance administration.

Strategies

Monroe County will focus its intergovernmental operation responsibilities to:

- a. Coordinate communication between the local units of government located in the County by improving intergovernmental problem identification and potential resolutions for issues facing County residents;



- b.** Coordinate communication between the various levels of government present in or impacting Monroe County by improving intergovernmental problem identification and potential resolutions for issues facing the environment and regional economy;
- c.** Coordinate business development in areas to enable the state and County the ability to make the most cost-effective infrastructure investments in schools, roads, libraries and public safety facilities;
- d.** Establish a benchmark system that enables and facilitates Monroe County and the urbanizing areas to gradually transition to a more sustainable and resilient local economy;
- e.** Meet regularly for inter-local planning coordination with the City of Bloomington, Town of Ellettsville, Town of Stinesville, and adjacent counties;
- f.** Coordinate future property use and infrastructure needs among the City of Bloomington, the Towns of Ellettsville and Stinesville and the County;
- g.** Maintain a GIS repository of corporate boundaries for local jurisdictions;
- h.** Complete a Bloomington Urbanization Area Plan for the residential, commercial and industrial areas formerly a part of the City of Bloomington planning jurisdiction;
- i.** Encourage collaboration with public and private sector partners to advance strategies for economic development;
- j.** Work with IU and the City of Bloomington through memoranda of understanding or multi-party agreements to encourage appropriate infill locations and environmental sensitivity in the planning and development of university facilities;
- k.** Arrange and present the Zoning Ordinance in the unified development code format;
- l.** Seek ways to reduce the cost and time involved in obtaining approvals and permits, including without limitation, offering on-line petitioning, expanding the use of alternative approval procedures, and obtaining and using site inspection reporting software; and,
- m.** Update the Zoning Ordinance as necessary to address emerging technologies and business opportunities.

7

LAND USE FRAMEWORK

7.1 PRINCIPLES

The Plan is based upon five major principles that determine many of the choices for land form management and property use:

1. Residential Choices
2. Focused Development in Designated Communities
3. Environmental Protection
4. Planned Infrastructure Improvements
5. Distinguish Land from Property

These principles are not independent, but rather work together to build a framework in which most of the concerns identified by County residents can be equitably managed.

7.1.1 Residential Choices

The Plan designates areas of differing characteristics to accommodate a wide variety of lifestyles and economic needs. These areas are:

Rural development for areas lacking public infrastructure and services:

- ✦ Farm and Forest
- ✦ Rural Residential

Urban development for areas with access to public infrastructure and services:

- ✦ Conservation Residential
- ✦ Estate Residential
- ✦ Urban Residential

It is anticipated that all urban development will occur within the Designated Communities identified below.

7.1.2 Focused Development in Designated Communities

The central property use concept in this Plan is to focus new development into one of the following Designated Communities:

- ✦ Bloomington Urbanizing Area,
- ✦ Ellettsville Rural Community Area,
- ✦ Stinesville Rural Community Area,
- ✦ Harrodsburg Rural Community Area,
- ✦ Smithville-Sanders Rural Community Area.

These residential, commercial, and industrial growth areas are extensions of historical growth patterns for Bloomington, the Bloomington/Ellettsville corridor and the historic communities located throughout the County. This Plan must be closely coordinated with the property use plans and development standards in Bloomington's Growth Policies Plan and planning efforts by Ellettsville.

This plan directs concentrated residential and commercial/industrial development over the next 20 years to the Bloomington Urbanizing Area and the four Designated Communities. Public waste water treatment facilities, necessary for the protection of public health and the environment, can also be provided more cost effectively in these areas due to existing wastewater facilities as well as population densities sufficient to justify the extension of sewers. Ideally, much of the growth will not occur on undeveloped sites, but on existing underdeveloped or brownfield properties or properties in targeted business corridors.

Concentrating growth into the Designated Communities should strive to meet expectations for reasonable levels of service such as uncrowded neighborhood schools, police and fire protection, and ambulance service provided in an efficient and timely manner. These plans should be periodically reviewed and updated to reflect trends and demographic changes.

7.1.3 Environmental Protection

Monroe County has special environmental conditions and resources. These irreplaceable resources, which sustain the health, welfare, and quality of life for Monroe County residents, can be protected while allowing for the land necessary to accommodate projected population and economic growth. Therefore, these resources shall be protected.

7.1.4 Planned Infrastructure Improvements

The three planning principles presented above, Residential Choices, Focused Development in Designated Communities and Environmental Protection lead to the recommendation for a fourth principle of planning: Adequate Infrastructure. Major waste disposal infrastructure improvements should be provided only within the Designated Communities. The majority of County highway improvements should be oriented toward these same areas as should other infrastructure improvements. Roads, fire stations, schools, recycling drop off centers, child and adult care facilities, and other public services and facilities should be located where they most effectively meet the needs of those who rely on them. Public and private economic development activities related to property use can be better served through this cost effective approach. By following this policy

principle, Monroe County can manage growth along with other service-providing agencies and can plan for the efficient extension of facilities and services.

Essential to realizing this policy principle is the careful management of improvements to roads, sidewalks and sanitary sewer systems. In almost every case, future public operating expenses are directly proportional to public capital investment, including acquisition through dedication. These proposed infrastructure improvements should be duly regarded in the formulation of other official County planning documents.

7.1.5 Distinguish Land from Property

This Plan establishes a framework for the expression of policy and implementation requirements that separates property ownership from the characteristics of land forms. Land has only natural boundaries. Land forms may be within the boundary of one property, e.g. a sinkhole, or encompass many properties, e.g. the Sinking Creek watershed. Property is established by survey with unique ownership recorded in public records.

In this context, the distinction between land and property is very significant for planning purposes. Use of individual property is dependent upon the condition and character of the land.

7.2 FRAMEWORK

7.2.1 Vulnerable Land Forms

Vulnerable Land forms are natural features where human activities degrade characteristics of the feature resulting in harm to the feature whether it is fauna, flora, or human life. Vulnerable Land includes floodplains, karst, steep slopes, riparian areas, wetlands, poor soils, threatened species habitat, critical water supply watersheds as well as potential and existing reservoirs. Vulnerable areas are environmentally sensitive land forms with inherent development constraints.

Vulnerable Land also includes land for which there is a public expectation of a long-term sustainable use for a specific purpose. This category of Vulnerable Land includes historic sites, public open spaces, potential reservoirs to assure our potable water supply, our best agricultural and forest land, drainage ways, mineral resources, and transportation corridors.

The management of this Vulnerable Land is detailed in many different chapters of the Monroe County Code and includes the Zoning Ordinance and the Subdivision Control Ordinance.

7.2.2 Resilient Land Forms

In contrast to Vulnerable Land forms the natural features of Resilient Land forms are generally recoverable after disturbance, making them suitable for development to support more intense human activity. Resilient Land includes relatively flat, karst and floodway free areas of the Crawford Upland and Mitchell Plateau (see Figure 1).

7.2.3 Urban Property

The Urban property category includes all parcels within the boundaries of the incorporated communities of Bloomington, Ellettsville and Stinesville. This category also includes the planned Designated Community areas.

Urban transitional areas are present and built into the fabric of the existing rural community plans and the proposed Bloomington Urbanizing Area. These areas establish a distinct edge at the perimeter of existing Designated Communities.

7.2.4 Rural Property

The Rural property category includes all parcels of property not in a designated Urban area.

8

LAND USE POLICIES

This Chapter is intended to serve as the statement of policy for the land and property use development of Monroe County, Indiana pursuant to IC 36-7-4-502 (2).

8.1 PROPERTY USES ON VULNERABLE LAND

Vulnerable Land is sensitive to degradation by human activities; therefore, property containing Vulnerable Land shall only be used in a manner that protects and sustains the underlying vulnerable features. Since Vulnerable Land is so often intermingled with Resilient Land where more intense human activity is sustainable, property use is often a mixture of uses, each specific to that Vulnerable Land and Resilient Land portion of the property.

For a particular property parcel, one vulnerability may exist within other vulnerabilities, e.g., steep slopes within a reservoir watershed, and different constraints may be imposed by each vulnerability.

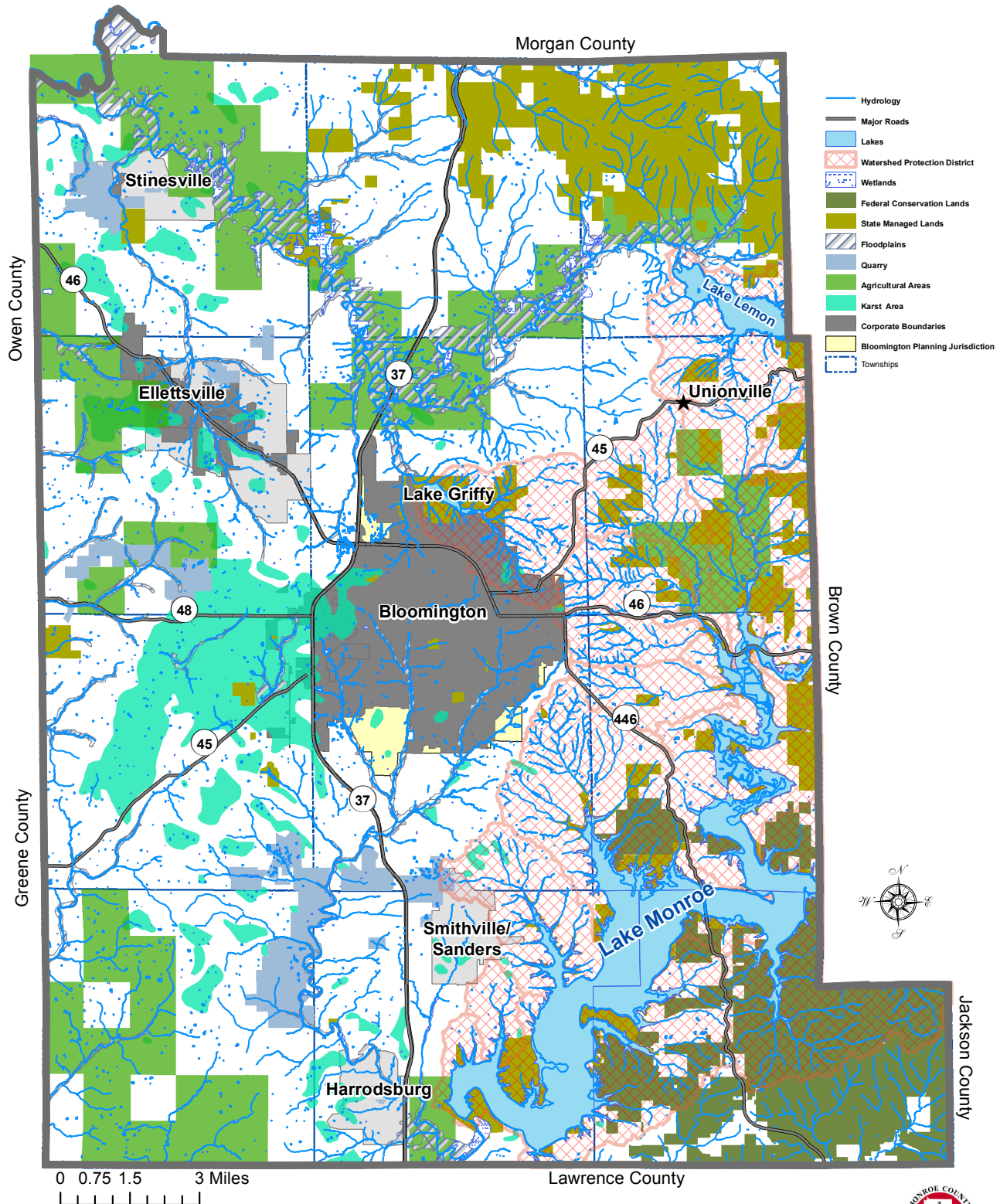
A means for protection shall be established for each identified Vulnerable Land category. Some of these protective instruments shall be in the form of specific ordinance requirements related to a property's use, e.g., sink-hole conservancy areas, slope disturbance restrictions, and dedications for inter-connections with the transportation system. Other protective instruments may apply more broadly to large areas and encompass many pieces of property, e. g., lakeshore building restrictions, forest canopy maintenance, and drainage ways.

All vulnerabilities do not require the same extent of protection. For example, a floodplain may be suitable for sustained agricultural use with appropriate riparian buffers and soil management techniques, but unsuitable for residential use. Vulnerable Land and the constraints imposed on that land are generally identified by broad analyses of existing geographic and field data, but must be evaluated on a case-by-case basis to determine the proper application of use and locating restrictions.

Property use on Vulnerable Land is categorized as:

- ✦ Undisturbed Land that includes most of the environmentally sensitive vulnerabilities characterized by the specific form and function of the features, e. g., karst, floodways and riparian zones, steep slopes, poor soils, and endangered species habitat;
- ✦ Public Open Space that includes public property devoted to a wide variety of low intensity uses generally focused on our tourism or timber industries but also including more intensely used transportation corridors; and
- ✦ Private Holdings that include our best agricultural land for row crops, pasture, forests, floodplains, and mineral resources.

Vulnerable Land - Monroe County, Indiana



September 2009 Data Source: Monroe County.
 Datum: WGS 84. Coordinate system: US State Plane NAD 83. Created by Monroe County Planning Department



Figure 42: Vulnerable Land Map

All of these property categories are susceptible to change in property use that degrades or eliminates the value we place in their natural or historic features.

Where public improvements are considered, the development of these improvements should be handled with great care and public scrutiny. The Plan supports conservation of vulnerable resources through public reservation, regulation and, where necessary, acquisition.

Transportation corridors of all kinds are considered vulnerable to encroachment and overuse that diminish their value to the public. Roadways, paths, trails, and waterways must be constrained with respect to their placement. This Plan recognizes the constraints of topography, proximity, and utility that determine transportation corridor location.

8.1.1 Undisturbed Land

This Plan adopts the value proposition that the special environments of karst, steep slopes, floodways, riparian areas, wetlands, and endangered species habitat shall be reserved and remain undeveloped and undisturbed, with the exception of low intensity non-invasive educational and recreational uses. The Plan recognizes that all economic, residential and recreational needs of County residents and visitors can be adequately accommodated on other accessible property not impacted by vulnerable environmental or historic features.

8.1.2 Public Open Space

Open space property areas are comprised of public parks, forest preserves, natural habitat areas, greenway paths, and existing major public open spaces and recreational areas in Monroe County. These include County parks, the Morgan - Monroe State Forest and the Hoosier National Forest with its Charles C. Deam Wilderness and Hardin Ridge Recreation Area, as well as Monroe Reservoir State Recreation Areas (see Figure 43). These public open spaces may receive heavy active and passive recreational usage during most seasons. Hunting, hiking, fishing, camping, and picnicking opportunities draw thousands of visitors to the County who contribute to the local economy. Lake Monroe draws over 1 million visitors per year to the lake and surrounding federal and state forests. Lake Monroe is Monroe County's major source of potable water and is particularly vulnerable because of the many visitors and the pressure for residential development within the watershed (see Figure 43).

Transportation corridors, whether for automotive or alternative transportation and pedestrian use, are also considered "open space". The property they occupy is expected to remain in public service for the foreseeable future and diligence is required to sustain suitable access and functionality, while avoiding any potential damage to Vulnerable Land.

These public open space areas will continue to play an important role in serving the County's residents and the tourism economy. The Plan identifies about 45,000 acres of public open space (exclusive of water bodies) and recommends consolidating public property, with some of the residential uses that are in the middle of the state or federal forest preserves being traded for some isolated public property outside of the main forest preserves. Private property within the open space designation should be classified as Farm & Forest or Rural Residential.

The Plan incorporates, by reference, the recommendations of the Monroe County Parks and Recreation Master Plan: 2008-2012 that was produced by the Monroe County Parks and Recreation Department, the Monroe

County Thoroughfare Plan, as it may be updated and the Monroe County Alternative Transportation and Greenways System Plan as it may be updated.

While the Plan recognizes that a managed expansion of tourism is possible and desirable, it also recognizes that Lake Monroe and Lake Lemon can become overdeveloped and overused, causing a decline in the recreational and ecological quality. When tourism-related changes in property use occur, the natural beauty of the area shall be sustained or enhanced through proper design, landscaping and buffering. Local, state and federal agencies must work together to promote the responsible development of additional recreational alternatives in Monroe County, taking into consideration the impact of property use changes on the surrounding ecology, residents, and existing tourism resources.

8.1.3 Private Holdings

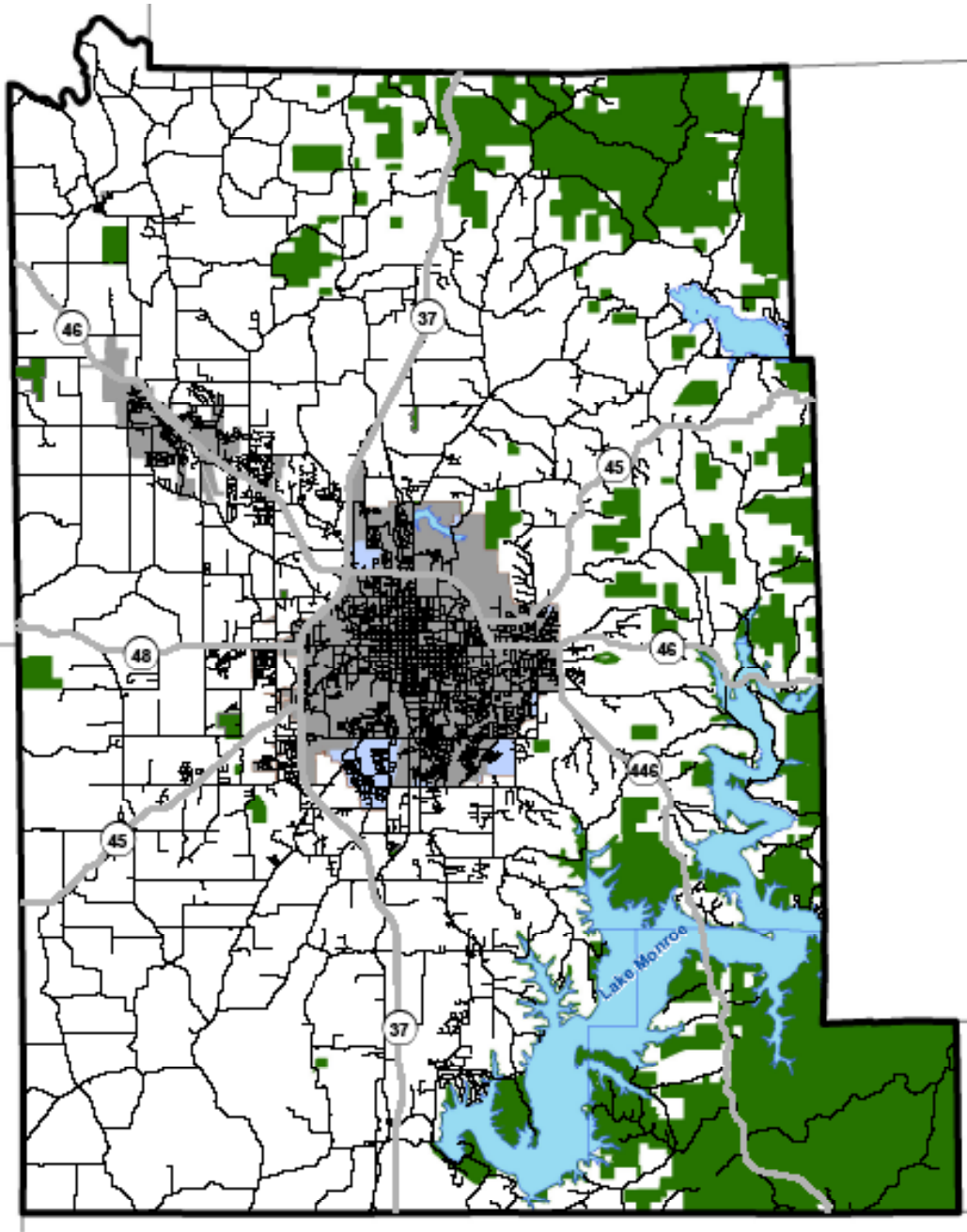
Much of Monroe County is characterized by hills and hollows formed by erosion over the millennia. As a result, much of the property contains steeply sloping land, narrow ridge-tops, or floodplain bottoms. Significant karst is present on the Mitchell Plain where the land is more level. Over the past two centuries, property owners used what we classify as “Resilient Land” for their homes and businesses. Generally that portion of their land is suitable for residential development, farming, or timbering, but some of their property is Vulnerable Land that was farmed too intensively or logged beyond an appropriate capacity. Marginal farm ground has often reverted to pasture or forest as a consequence of uses that were too intense to be sustained. Owners have retained property with Vulnerable Land that includes farm and forest land that has been used in an unsustainable fashion acquired as a part of their purchase of Resilient Land.

Care must be taken to assure Vulnerable Land is not exploited in the future as it has sometimes in the past. Both the federal and state governments acquired significant property, now referred to as “open space”, precisely because of its overuse for agricultural and timbering activities. But those acquisitions could not include all Vulnerable Land in Monroe County and most of it is still privately held and remains in a more or less natural state because it lacks an otherwise historically viable economic use.

The result has been that large portions of Monroe County are privately held but undeveloped. They form the “rural” Monroe County. Our reservoir and lake watersheds are comprised of this land and provide high quality runoff collected in the water reservoirs, with benefit to all residents. The expanse of privately owned hardwood forest is greater than that of the federal and state forests combined. Even without a right to access, all residents and visitors benefit from these private holdings.

Many property owners have taken it upon themselves to establish conservation easements on their property that reduce future use. For example, the Sycamore Land Trust, a nonprofit organization and member of the National Land Trust Alliance, seeks to preserve the landscape, protect scenic beauty, provide habitat for wildlife, and offer natural places for the aesthetic enjoyment of current and future generations. This Plan supports and encourages the expanded use of conservation trusts.

Recommended Land Use Plan: Managed Lands- Monroe County, Indiana



- | | |
|--|---|
|  Major Roads |  Incorporated Cities |
|  Centerline Roads |  Bloomington Plan Jurisdiction |
|  Lakes |  Managed Lands |



February 2012 Data Source: Monroe County.
Datum: NAD 83. Coordinate system: US State Plane NAD 83. Created by Monroe County Planning Department



Figure 43: Recommended Land Use Map: Managed Lands

8.2 PROPERTY USE ON RESILIENT LAND

Property use on resilient land spans both rural and urban property but with different intensity of use. In addition to natural features that embody resilient characteristics, there are also man-made elements to further define the use of Resilient Land. For the purposes of property use planning, these elements are focused on adequate infrastructure capacity, including - but not limited to - roads and alternative modes of transportation, water service, electrical service, timely emergency response and schools which are not overcrowded. These man-made features shall have adequate capacity at the time of a proposed increase in the intensity or change in the existing property use.

The use of Resilient Land is expressed in three general use categories: employment, residential, and open space. This distinction does not imply that a particular property parcel is one or the other. For example, some parcels may experience both employment and residential uses while some public open space may include employment opportunities related to recreational uses.

8.3 EMPLOYMENT PROPERTY USE

The economic opportunity provided by employment results in a sustainable community through the creation of jobs and through the creation of a tax base to support public infrastructure and services. For Monroe County to remain south-central Indiana's principal employment center will require continued investments in roads, sewers, new communication technology, and education.

Employment areas should be large parcels or groups of parcels that contain relatively flat land, few environmental constraints, and are supported by superior infrastructure for more intensive use. Generally, these areas shall be served by public and private utilities, by roadways with high traffic-carrying capacity, and by visual exposure to aid in locating the employment establishments. They are particularly good locations for employment uses that require immediate, high-volume transportation access, visibility, large, flat sites and utilities. These areas shall provide internal circulation roads as part of their site layout to reduce reliance upon County and state roadways for connection.

This Plan identifies seven (7) kinds of employment uses:

- ✦ Retail and commercial uses;
- ✦ Industrial manufacturers and wholesale businesses;
- ✦ Government and education;
- ✦ Mineral resources;
- ✦ Agriculture;
- ✦ Tourism; and
- ✦ Home-based business.

For particular parcels, the kind of employment opportunity for which it is best suited may depend upon the particular opportunity, the general scope of the intended users, and the infrastructure present. Some small scale employment activities do not require the land area or infrastructure necessary to support larger scale and more intense employment uses. Because of the nature of some employment activities, e.g. loud noises, extended hours of operation, bright lighting, heavy truck or rail traffic, and noxious odors, some employment uses are incompatible with residential life and should be separated by significant buffers that address the particular incompatibilities. Those employment locations are specifically identified for both existing and future use. For other uses with minimal impact, no dedicated locations are identified. Sufficient property has been identified within the Designated Community Areas for current and expected employment uses for the planning horizon of the Comprehensive Plan.

8.3.1 Retail and Commercial Uses

Limited convenience commercial and retail uses with goods and services appropriate for adjacent residential areas are encouraged in all Designated Communities while more extensive centers for commercial and retail uses are encouraged in the Bloomington Urbanizing Area.

8.3.2 Industrial Manufacturers and Wholesale Businesses

Industrial manufacturers and wholesale businesses include manufacturing facilities, offices, trucking, distribution and warehouses that are not generally compatible with residential uses. Five criteria shall guide the location of large tract industrial uses:

- ✦ adequate transportation access;
- ✦ sanitary sewer service;
- ✦ sufficient water supply;
- ✦ compatible surrounding property use; and
- ✦ relatively flat land throughout the location.

While these five criteria limit where large-scale manufacturers and wholesalers may locate, small-scale shops and light industrial uses that are compatible with adjacent residential uses and demand less infrastructure are expected in all of our Designated Communities.

8.3.3 Government and Education

In addition to the government and education employment of Monroe County found in its urbanized areas, several non-profit religious and educational organizations have facilities in the County. These include both seasonal and year-round operations. Township government fire stations and trustee offices, small community post-offices, schools, and other institutional uses provide employment at various locations. The postsecondary education sector, including Indiana University and Ivy Tech, is an important driver of economic vitality and can provide important resources for business and industry along with a range of employment opportunities.

Public/semi-public uses such as schools, utility facilities and places of worship may also locate in the Designated Communities. Commercial and public/semi-public uses should locate where appropriate roadway capacity exists.

8.3.4 Mineral Resources

Monroe County is famous for its limestone deposits and quarry sites. Quarries containing “dimension” (architectural) limestone are a natural resource of national significance. Our quarries also provide crushed limestone for a wide variety of uses. A dimension limestone quarry should not be rendered functionally obsolete because of operational impacts upon adjacent property use activities which were developed with advance knowledge or understanding that active quarrying may occur. Economically viable dimension limestone deposits should be preserved for quarrying activities. Aggregate quarries, while not as scarce a resource, are also an important economic use in the County.

Mineral resource uses shall include all activities associated with the operation of quarries, such as the extraction, storage, processing and transportation of the quarry product. Currently inactive dimension or other limestone quarries may eventually reactivate and shall be protected in the same manner as active quarries. The identified Mineral Resource designations comprise approximately 6,300 acres of open quarry sites and unmined deposits already owned by mining companies (see Figure 42).



Figure 44: Local Quarry photo

Mineral resource areas shall be protected from encroachment by incompatible property uses that may be sensitive to the blasting, dust and heavy trucking operations of quarries. Areas around quarries where active blasting is occurring or can occur may be reserved for agriculture (rural farm), other industrial, or public open space.

8.3.5 Agriculture

When compared to most of Indiana, agricultural employment in Monroe County is limited. The County has few “full-time” farming families; however, there continue to be conventional farms in Monroe County as well as many “part-time” and “hobby” farms that augment income for residents and allow children to participate in 4-H activities. Increasingly we have seen a return to intense production of horticultural crops on smaller acreages and small scale livestock production. Community demand for high quality fresh food has created a market for “locally grown” produce and other agricultural products.

Another type of agricultural activity in the County is viticulture, where grapes are grown and wine is produced. In addition, there is an active forest products industry that utilizes both private and public property timber resources.

Much of the rural character of Monroe County is derived from agricultural activities. Sustainable agricultural opportunity in these areas is essential to the maintenance of rural character and rural employment. Farming on a small scale shall be encouraged to continue in the more urban areas of the County.

8.3.6 Tourism

With its scenic beauty, Monroe Reservoir, Lake Lemon and Indiana University, Monroe County tourism related employment is significant. Visitors enjoy a wide range of leisure and sporting activities, using hospitality and dining opportunities throughout the County. Sustaining a vibrant tourism sector requires thoughtful attention to the placement of residential and commercial activities to avoid conflict with permanent residents.

Tourism occurs at many different levels of intensity. Hospitality ranges from small tourist cabins to campgrounds and a hotel on Monroe Reservoir. For some events at Indiana University, the County experiences large numbers of visitors that require additional traffic management personnel and fill our visitor accommodations. Several music festivals, arts fairs, and non-IU related sports tournaments are among the variety of tourist-related events offered in Monroe County.

The tourism industry in Monroe County continues to grow. The Karst Farm Greenway and other trail projects identified in the Monroe County Alternative Transportation & Greenways System Plan offer opportunities for recreation related employment. Reclaiming abandoned quarries as a public parks would also expand the County's park inventory and tourism opportunities.

8.3.7 Home Based Business

Throughout Monroe County residents employ themselves in home-based business activities, e.g., child-care, arts and craft studios, and a range of home occupations that blend in with the residential character of the surrounding area. Because these employment activities occur in private residences, less property must be consumed than commercial real estate and overhead expenses can be minimized. Home based businesses are a vital component of a healthy local economy, acting as incubators for small business growth in the community.

Special regulations limit the impact that home-based businesses may have on neighbors. Successful home-based businesses that have outgrown the character of the principal residential use and the surrounding area can find ample opportunity to relocate in appropriately designated commercial and industrial employment areas.

8.4 RESIDENTIAL PROPERTY USE

Residential uses are divided between rural property and urban property categories. Residential uses on rural property in Monroe County are designated either Farm and Forest or Rural Residential. Urban property categories are found in the Designated Communities. The urban residential use designations are Conservation Residential, Estate Residential, and Urban Residential. In some Designated Communities, limited commercial opportunities may be permitted in order to promote form-based mixed uses which serve that particular area.

These designations provide a broad range of residential opportunity both in terms of residential density and economic value for Monroe County property owners.

8.4.1 Rural Property

The distinguishing characteristic of rural property is sparse residential development. In keeping with this historic and perceptual approach to rural living, the method for categorizing rural districts is residential density over a relatively large area rather than individual lot size. The most convenient and historically viable large area is the survey section or quarter section. Property lines usually share a common boundary with section lines.

Since survey sections are not all of the same acreage, density must be scaled in proportion to the actual survey section or quarter section area. This is accomplished by dividing the number of parcels by the survey or quarter-section area, as appropriate, to obtain a value expressing dwelling units per acre. For the purpose of identifying relatively distinct rural areas, the resulting values are grouped into two categories, those with a large area residential density less than 0.1 and those with a large area residential density greater than 0.1. Isolated regions of more or less density are grouped with the predominant surrounding area.

Farm and Forest Residential

Much of Monroe County is still covered by hardwood forests, in no small part because of the presence of the Hoosier National Forest, Morgan-Monroe State Forest, Army Corps of Engineers properties, and Griffy Nature Preserve. Much of the low lying floodplains and relatively flat uplands have been farmed for well over 100 years. These areas are sparsely populated and offer very low density residential opportunities because of both adjoining Vulnerable Lands and the lack of infrastructure necessary for additional residential density. This category encompasses approximately 148,000 acres including about 40,000 acres of our best agricultural property located primarily in the Bean-Blossom bottoms and western uplands of Richland Township and Indian Creek Township. It includes private holdings within the state and federal forests.

Farm and Forest Residential also includes the environmentally sensitive watersheds of Monroe Reservoir, Lake Lemon, and Lake Griffy and several other large vulnerable natural features in Monroe County. There are approximately 78,000 acres of watershed area in this portion of the Farm and Forest Residential category. These natural features provide a low density residential option while protecting the lakes and the water supply resources of the County. The Farm and Forest areas comprise most of the Vulnerable Land in Monroe County.

A low residential density is necessary in order to protect associated and adjoining Vulnerable Lands and to sustain particular "quality of life" and "lifestyle" opportunities for the long-term in a sparsely populated, scenic setting. With a few exceptions like The Pointe development on Monroe Reservoir, these areas do not have sanitary sewer services and have limited access on narrow, winding roadways. Those portions not already used for agriculture are usually heavily forested and have rugged topography. They offer unique and sustainable residential opportunities that cannot be replaced.

In reviewing rezoning, subdivision and site development proposals, the County Plan Commission shall consider the following:

- ★ Public services or improvements are not expected for these areas within the horizon of this Plan because those improvements require significant investment in roadways, sanitary sewer, private utilities, and public services for which County financial resources do not exist.

- ✦ New residential density places additional stress on nearby vulnerable natural features that can not be mitigated by sustainable practices without additional public expense.
- ✦ Low density residential opportunities and their associated lifestyle are scarce resources that are sustained only by our willingness to protect that quality of life opportunity for residents who have previously made that lifestyle choice and for future residents seeking that lifestyle.

To maintain Farm and Forest property use opportunities an average residential density per survey section shall be established by ordinance. This average density shall preserve the rural lifestyle opportunity of this area and help protect nearby Vulnerable Lands. The grouping of more than four residential units sharing the same ingress/egress onto a County or state roadway shall not occur on rural property in this category. All property subdivided in this category must provide for adequate contiguous Resilient Land to support either two independent conventional septic fields or one replaceable mound system, sufficient space for buildings traditionally associated with this type use must also be available. In addition, public roadways shall not experience less than the Monroe County Level of Service standard designation which exists at the time this Plan is adopted as a result of subdivision. Roadways classified as state Highways, major collectors, or local arterials are exempt from this requirement.

Rural Residential

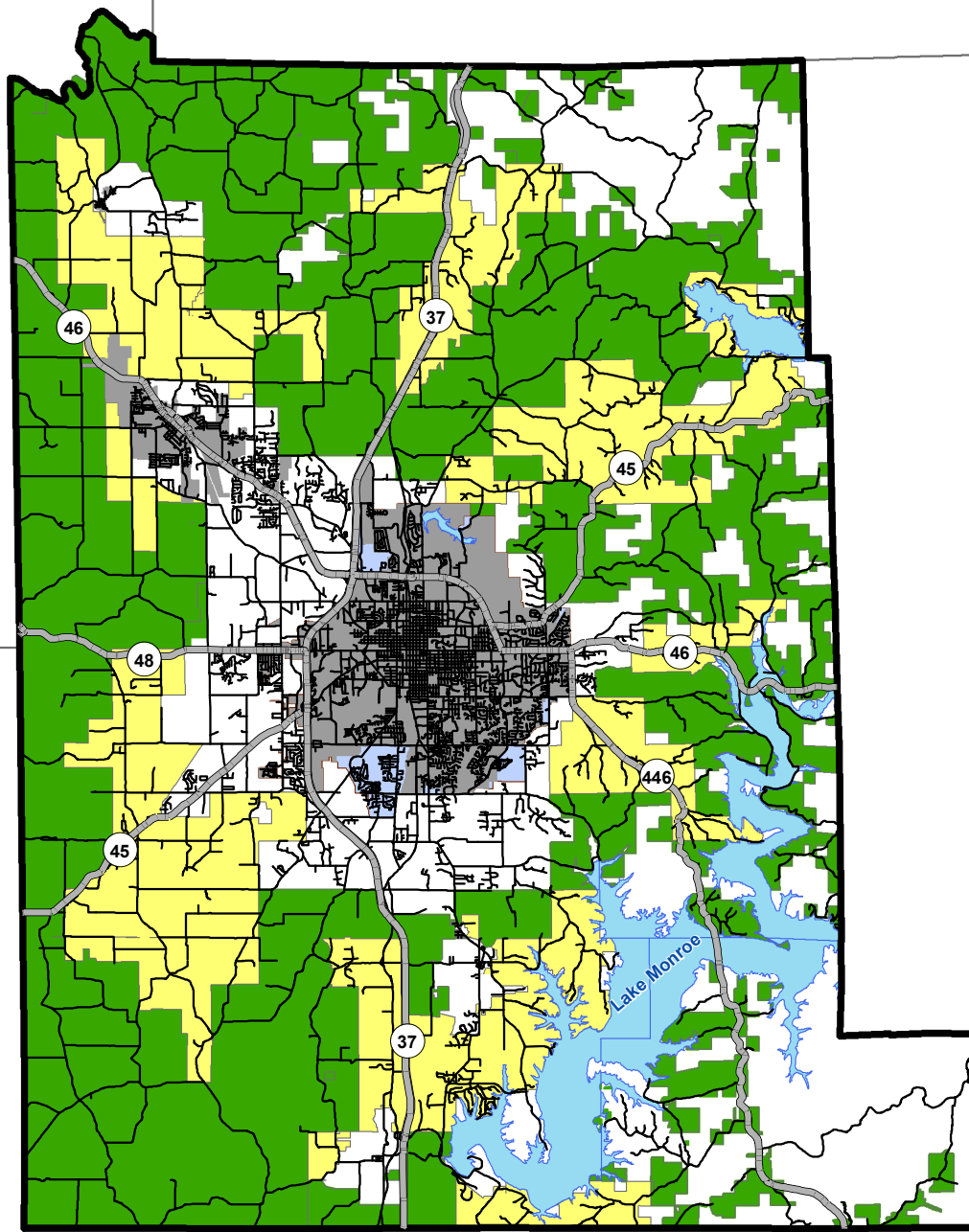
The Rural Residential use category includes rural property, environmentally sensitive areas, and areas adjacent to quarry operations where low densities are appropriate and desirable; however, the sparse population character of the Farm and Forest category is no longer applicable. Generally, these areas are characterized by active or potential mineral extraction operations nearby, steep slopes, and the remaining forest and/or agricultural land where roadways and other public services are minimal or not available.

The Rural Residential use category includes all property in Monroe County that is not within the Farm and Forest Residential area, Bloomington Urbanizing Area or a Designated Community, or an incorporated town or city. Approximately 52,000 acres of rural property in Indian Creek, Clear Creek, Van Buren, Bloomington, Richland, Bean Blossom, Washington, and Benton Townships are designated Rural Residential. Most often this category adjoins or is very close to the Farm and Forest Residential areas. Current Rural Residential densities are usually greater than 64 homes per section and some portions of the Rural Residential area have already been subdivided or developed at urban densities.



Figure 45: Bean Blossom Township property photo

Recommended Land Use Plan: Rural Property- Monroe County, Indiana



- | | | |
|------------------|-------------------------------|-------------------|
| Major Roads | Incorporated Cities | Rural Residential |
| Centerline Roads | Bloomington Plan Jurisdiction | Farm and Forest |
| Lakes | | |



October 2011 ** Data Source: Monroe County.
Datum: WGS 84. Coordinate system: US State Plane NAD 83. Created by Monroe County Planning Department



Figure 46: Recommended Land Use Map: Rural Property

To maintain Rural Residential property use opportunities, an average residential density per survey section shall be established by ordinance. This average density shall preserve the rural lifestyle opportunity of this area and help protect nearby Vulnerable Lands. Where appropriate infrastructure is available, home clustering with open space dedications may be an option in this residential category. Open space can serve a variety of uses including recreational opportunities for local residents, limited accessory agricultural uses, or buffering of an adjoining use. Contiguous Resilient Land shall be available for each dwelling adequate to support either two independent conventional septic fields or one replaceable mound system. Sufficient space for buildings traditionally associated for this type of use must also be provided. In addition, public roadways shall not experience less than the Monroe County Level of Service standard existing at the time this Plan is adopted. New subdivision road traffic lanes that access County roadways shall not exceed the capacity of traffic lanes for adjoining public roadways. State highways, major collectors, or arterial roads are exempt from this requirement.

8.4.2 Urban Property

The distinguishing characteristic of urban property is dense residential development and commercial uses that are consistent with the availability of urban infrastructure and services. Adequate public infrastructure includes water, sewer, streets and roads, alternative transportation, utilities, schools, and parks. Services include police, fire, and emergency. Any proposed change in existing property use should be evaluated in-part on the availability of adequate infrastructure and services to serve the proposed development without diminishing the quality of service delivery to existing development.

In keeping with this historic and perceptual approach to urban living, the methods for categorizing urban residential uses are minimum lot area and intensity of use. Recognizing the recently adopted Rural Community Zoning Overlay opportunity, this plan expects more mixed use neighborhoods than currently exist.

Three broad categories are established that encompass the current zoning in place for our Designated Communities: Conservation Residential, Estate Residential, and Urban Residential. These categories will be the basis for the establishment of new zoning districts in any future Designated Community Plans, including the Bloomington Urbanizing Area.

In the future, higher density areas should be added to existing Designated Communities or become part of a new Designated Community. Potential growth opportunities could include areas around Lake Lemon, the Pointe/Lakeview by Monroe Reservoir and West SR 45 near Harmony Road if needed infrastructure and services can be provided.

Conservation Residential

The Conservation Residential use category has relatively large lots situated within the Designated Communities of Monroe County. Often these parcels contain significant amounts of Vulnerable Land but include three different kinds of uses; each has an independent rationale for its classification as well as different expectations for future use. They are grouped into one use category because the property use policy directives for all three are the same – relatively low intensity use for the plan horizon.

For those portions of our Designated Communities with significant amounts of Vulnerable Land, the Conservation Residential category protects the Vulnerable Land from encroachment while still allowing land to be used for residential purposes.

Each Designated Community also contains property designated for future development, i.e. Residential Reserve sub-area, as infrastructure matures within the area. For those portions of our Designated Communities, the Conservation Residential category provides residential use consistent with established infrastructure and long-term use expectations.

And finally, the Designated Communities must provide a range of residential options, including relatively low density urban living, i.e. large lot, opportunities to accommodate lifestyle choices consistent with our range of lifestyle opportunity goals.

The minimum lot size for new parcels in the Conservation Residential use category shall be 2.5 acres excluding identified Vulnerable Land. Adequate contiguous Resilient Land shall be available for each dwelling to support either two independent conventional septic fields or one replaceable system. Where it is possible, new homes should be connected to sanitary sewer service. Sufficient space for buildings traditionally associated for this type of use must also be provided. For those parcels where more intense use is dependent upon future infrastructure, property owners should be encouraged to consider lot layouts suitable for future subdivision and more intense property use avoiding Vulnerable Land.

Estate Residential

Property in Designated Communities not designated Conservation Residential and lacking the full range of urban infrastructure and services shall be designated as the Estate Residential use category. This category includes areas that have some, but not full, public services and are generally located along or near major County roads or state highways and on relatively flat land. This category also provides a critical component within the range of lifestyle opportunities supported by this Plan. Properties in this use category are not expected to evolve to higher densities in the future and therefore form a permanent boundary between rural densities and more intense urban residential and employment uses. The Estate Residential use category is intended for single family homes. However, in some situations where sanitary sewer is available, clustering of homes with reduced set backs or zero lot line layouts may occur to preserve additional permanent open space as well as to provide limited commercial opportunities where those enterprises are designed to serve the residential component of this classification.

The minimum lot size for new parcels in the Estate Residential use category shall be 1.0 acre Resilient Land. Where sanitary sewer is not available, adequate contiguous land shall be available for each dwelling to support either two independent conventional septic fields or one replaceable system. Where possible, new homes should be connected to sanitary sewer service and older homes connected to sanitary sewer as it becomes available.

Urban Residential

The Urban Residential use category is devoted to urban scale residential single family housing on a range of smaller lot sizes and multi-family residential housing, some of which may be in combination with employment uses or other commercial uses designed to serve the residential community. The category includes urban

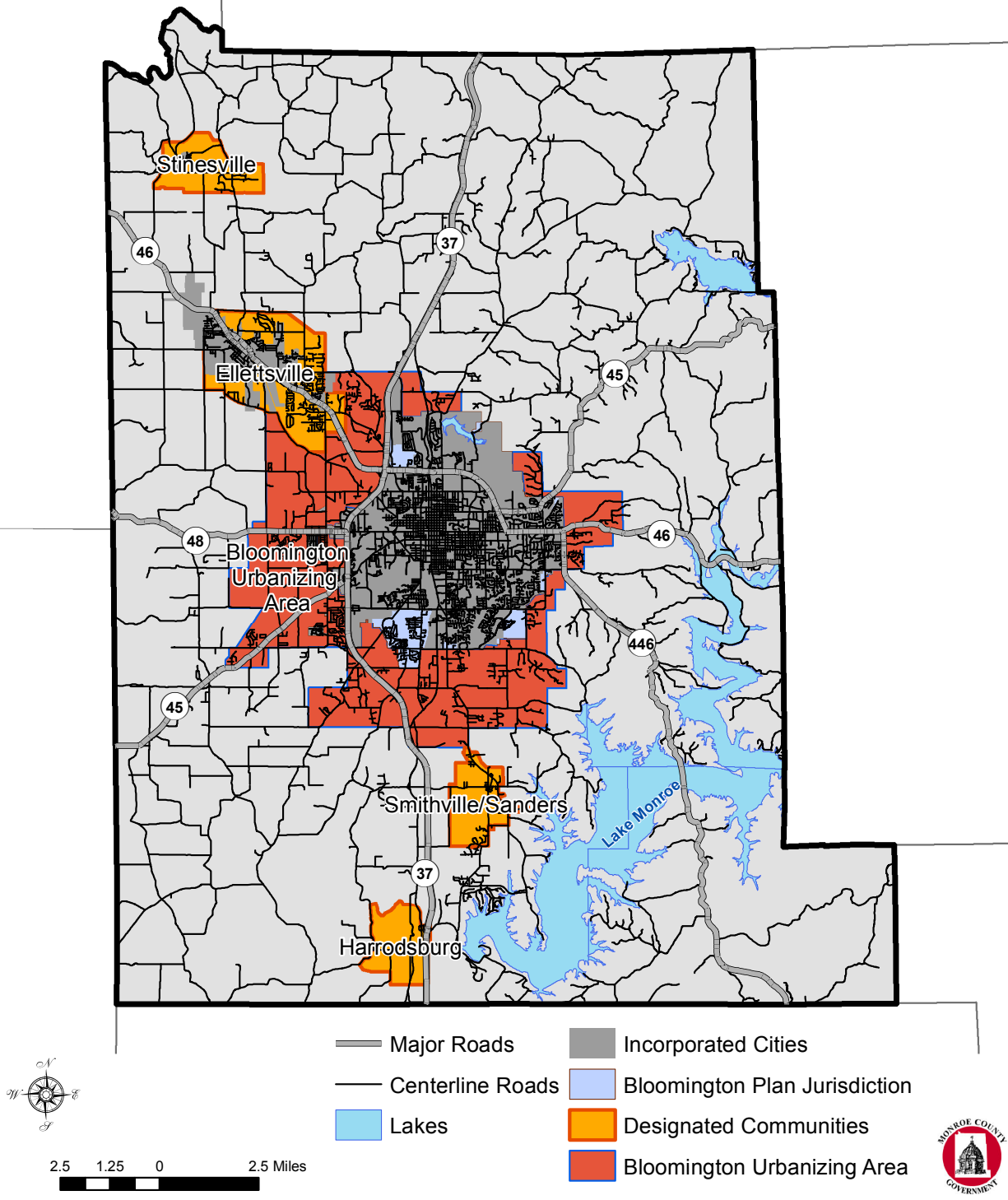
property now used at traditional Midwestern village densities and vacant land exclusive of vulnerabilities in Designated Communities, which are now served or intend to be served by the full range of urban infrastructure and services. The Urban Residential use area is provided to accommodate the vast majority of new residential development over the planning horizon of this Plan and most commercial uses directly connected to serving the residential community. As appropriate, these areas are encouraged to have mixed residential, convenience commercial, light industrial and public/semi-public uses. Primary and secondary schools, as well as police, ambulance, fire protection, recycling facilities, parks and other public services and facilities should be located in the Designated Communities.

The urban lifestyle is supported by a range of density options and the mixing of employment and residential uses. The densities for single family residential development shall range from two dwelling units per acre to those of adjoining incorporated areas, e.g. Bloomington Growth Policy Plan Urban Residential of two to fifteen units per acre. For multifamily residential, town homes and mobile home developments, densities shall range from four to ten units per acre in all of the Designated Communities with the exception of the Bloomington Urbanizing Area, where higher densities of four to twenty units per acre shall be allowed. The mix of dwellings shall be organized into a rational development pattern consistent with urban infrastructure and public services, rather than random lot-by-lot development.

In identifying Designated Communities, the following factors are important: 1) an identified town, village or other urbanized area already exists; 2) some urban infrastructure exists; and 3) water and sewer service capacities exist or are planned. The Plan identifies several Designated Communities with existing designations of Stinesville, Ellettsville, Smithville-Sanders, and Harrodsburg together with the areas around the City of Bloomington described as the Bloomington Urbanizing Area. Section 10.2 of the Annex contains the future property use maps for each Designated Community, derived from their rural community plans.

Concentrating development of new residential housing in Designated Communities will reduce residential sprawl in remote areas, maximize the utility of public capital expenditures, minimize maintenance service costs, and protect farms, mineral and environmental resources from residential encroachment. Residential development should be a mix of single family and multifamily uses, with single family uses predominating. Limited commercial opportunities may also be allowed when directly linked to serving the residential communities.

Recommended Land Use Plan: Designated Communities- Monroe County, Indiana



October 2011 ** Data Source: Monroe County.
Datum: WGS 84. Coordinate system: US State Plane NAD 83. Created by Monroe County Planning Department

Figure 47: Recommended Land Use Map: Designated Communities

8.5 SPECIAL CONSIDERATIONS FOR MANUFACTURED HOUSING

To maintain a wide range of residential lifestyle options, manufactured housing developments shall be included as a form of single family dwelling to improve the availability of affordable housing in Monroe County. Well planned and designed sites for manufactured housing can be compatible with stick built housing.

While zoning regulations and subdivision standards shall encourage good design for all types of urban housing, discretion should be used in selecting sites for manufactured home developments. The sites should not be located in or adjacent to heavy commercial and industrial employment areas, but may be appropriately located in Designated Communities where adequate sanitary sewer is available. Manufactured housing shall be accepted for in-fill lots not otherwise constrained for this kind of housing and shall be permitted in any rural or urban residential use area. To protect the health and safety of the public and to assure quality construction and compatibility with existing uses, site design standards for manufactured housing developments should generally mirror the standards for site-built residential development, including stormwater management features. Storm protection facilities and/or shelters should be required.

8.6 PROPERTY USE PLAN

The recommended property use map of Monroe County identifies the approximate extent of each property use category (see Figure 48). The areas recommended for industrial and commercial property for employment uses are found in the individual Designated Community Plan summaries and land use maps located in the Annex Section. The areas around Bloomington designated as Employment, Estate Residential, Urban Residential, and Conservation Residential constitute the Bloomington Urbanizing Area.

Recommended Land Use Plan- Monroe County, Indiana

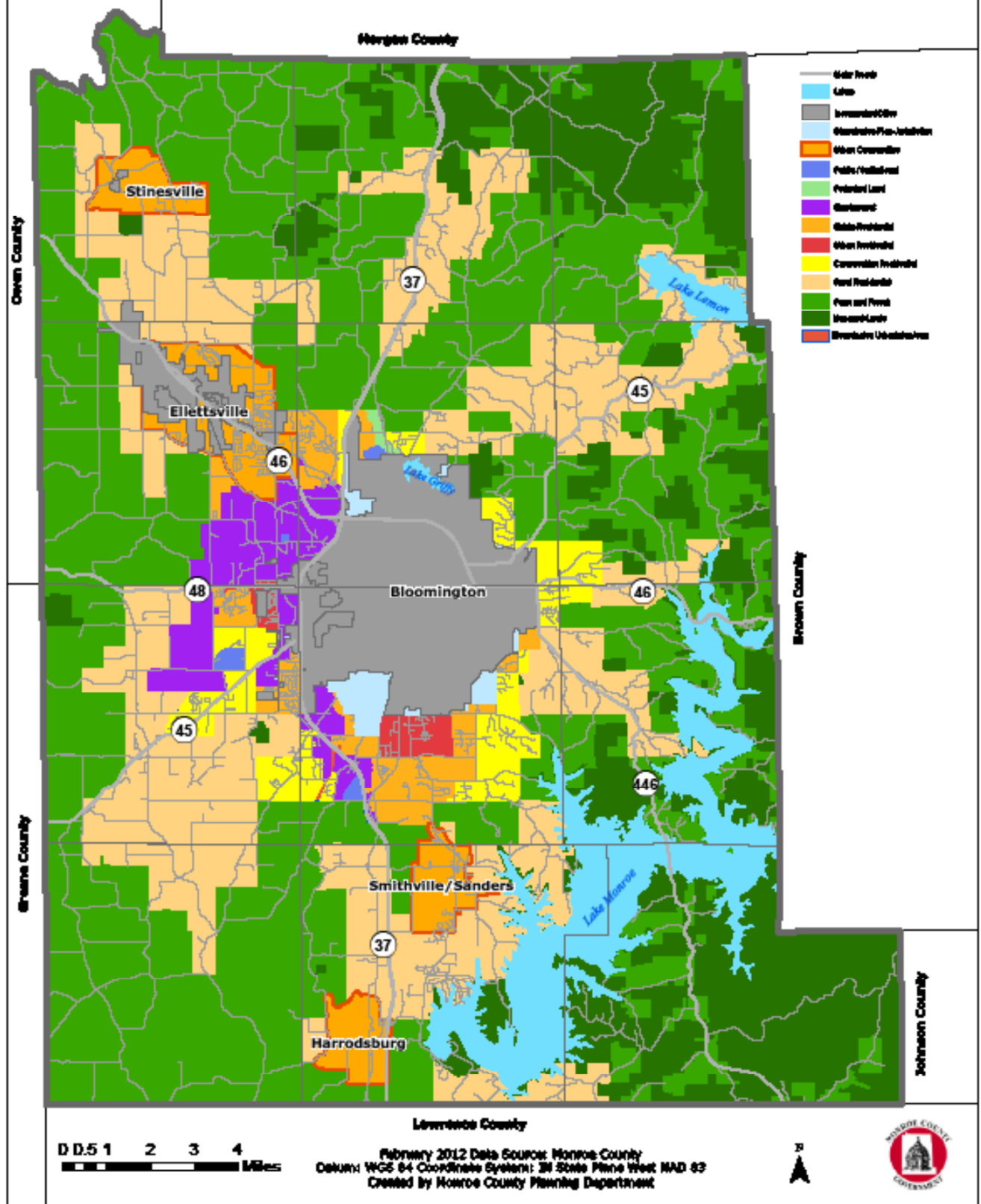


Figure 48: Recommended Land Use Map

9

ORDINANCE DEVELOPMENT CONSIDERATIONS

The 2012 Comprehensive Plan in its entirety is the single formal document in which major development goals, objectives, and recommendations are brought together and coordinated. The following chapter frequently refers to specific land use development concepts and functional planning areas for Monroe County. Used in conjunction with the other plan elements, they shape land use decision-making and guide future development. This chapter, however, is not intended to dictate specific land uses and zoning ordinance provisions.

In keeping with the objectives of encouraging development in urbanizing areas where public services are readily available, of conserving rural environments and lifestyle opportunities, and of improving water quality, subdivision and zoning ordinance regulations should be adopted to:

- ✦ Promote, in urbanizing areas, relatively higher development densities and use intensities;
- ✦ Preserve, in rural districts, large areas of sparse and low residential density; and,
- ✦ Protect and enhance, in all districts, Vulnerable Lands.

9.1 URBAN PROPERTY

The subdivision of property in urbanizing areas should remain, for the most part, subject to the adopted policies corresponding to those areas. For example, the Designated Community regulations (including form-based development options), would apply to the subdivision of land within those areas. The future land use maps for the Designated Communities are set forth in the Annex of this plan.

9.2 RURAL PROPERTY

The procedures and standards established for the creation of new parcels within the rural areas of the County should reflect both an appreciation of the expectations of property owners and an awareness of the number of residential development opportunities that currently exist in those areas. Accordingly, this Plan recommends: 1) promoting new subdivision opportunities through the use of non-traditional procedures and flexible standards; 2) focusing rural subdivision management on the maintenance of rural settings and lifestyle opportunities; and, 3) designating rural areas as Farm and Forest or as Rural Residential use districts.

9.2.1 Residential

To achieve this Plan's objectives, a variety of subdivision procedural options should be considered, without limitation, including the following:

Traditional Approach

This approach would continue to use minimum lot size zoning to implement subdivision regulations and procedures of the 1996 Monroe County Subdivision Control Ordinance. Under the Traditional Approach, a parcel may be subdivided into lots provided that each of the lots satisfy the minimum lot requirement for the relevant use zone and that other subdivision standards are met. This plan recommends that the following minimum lot size standards be established for the rural property use districts: Farm and Forest - 10 acres; Rural Residential - 4 acres.

Large Parcel Rule

Under the Large Parcel Rule, if an existing parcel meets a minimum parcel size (for example, 17 acres), it may be subdivided into two parcels, provided that: 1) the area of one of the newly created parcels is at least 75% of the area of the original parcel being subdivided; and 2) both of the new parcels meet the height, bulk, and density requirements for the zone in which they are located. The Large Parcel Rule may be well-suited for owners who wish to subdivide their property for the benefit of their children. Successive applications of the Large Parcel Rule should be restricted.

Density-Based Approach

The Density-Based Approach would provide a flexible method for the subdivision of rural properties for residential use with a quarter-quarter, density-based allocation and management procedure. Every rural area of the County has a different set of constraints and range of current densities. Associated with each quarter-section are several qualifiers for residential density, which could be used to determine where and when new parcels can be created to accommodate new residential dwellings. The size of newly created parcels varies with the maximum density for the portion of the district in which the parcel is located, the size of the original parcel, the number of parcels created by a particular subdivision action, and conditions of the subdivided property, but is not subject to the rural use zoning lot size minimums. This approach uses the qualifiers to offer a wider variety of subdivision possibilities while still maintaining the rural character and lifestyle opportunities for the 20 year Plan horizon.

9.2.2 Non-Residential

The subdivision of Rural Property for non-residential use should be made subject to specified constraints (e.g., regulations, conservation easements, etc.) designed to preserve the rural setting and use. For example, the constraints should prohibit employment uses that are not associated with agriculture, mineral extraction, or tourism, and should limit the intensity of use to the current use intensity designation. Non-residential subdivisions should be created through the traditional subdivision method.

9.3 VULNERABLE AND PROTECTED LANDS

Standards should be adopted to limit the nature and scope of development and use in or near Vulnerable Land areas. Driveways, buildings and other structures and land disturbing activities should be located, designed, constructed, and maintained in a manner that minimizes impacts on the Vulnerable Lands. Use of the subdivision option that would best promote vulnerable land protection should be encouraged.

9.4 UNIFIED DEVELOPMENT CODE

The Monroe County Plan Commission recommends the preparation and adoption of a Unified Development Code, particularly for the Bloomington Urbanizing Area, which will incorporate the recommendations of this Comprehensive Plan. A Unified Development Code is a (“unified”) document containing zoning and subdivision regulations, along with any other development-related regulations found elsewhere in the County Code of Ordinances. The project could take one to several years before final adoption depending on the availability of funding for the project.

10 ANNEX

10.1 REFERENCES

1. British Columbia Ministry of Forests. (2003). Retrieved from Karst Management Handbook for British Columbia website: <http://www.for.gov.bc.ca/hfp/publications/00189/Karst-Mgmt-Handbook-web.pdf>
2. City of Highland Park, Illinois (2009). Steep Slope Ordinance. Retrieved from: <http://www.cityhpil.com/documents/21/31/50/ART19%20STEEP%20SLOPE%20ZONE.PDF>
3. Commonwealth Biomonitoring. (2000). Griffy Lake Watershed GIS Mapping and Management Plan. Retrieved from: <http://biomonitor.com/GRIFFY.PDF>
4. Council of State Governments. (September 2000). Working at a Watershed Level: a training course.
5. Department of Communications, Energy and Natural Resources. Geological Survey of Ireland. (2004-2007). Conserving Our Karst Landscape. Retrieved from Groundwater Program, Karst Booklet website: <http://www.gsi.ie/Programmes/Groundwater/Karst+Booklet/>
6. Endangered Species Act of 1973. Retrieved from: <http://epw.senate.gov/esa73.pdf>
7. Grimm, Mike. (March 1998). Floodplain Management. Civil Engineering. 68(3), 63-65.
8. Hasenmueller, Nancy R., Powell, Richard L., Buehler, Mark A. and Sowder, Kimberly H. (2002). Karst in Indiana. Retrieved from Indiana Geological Survey website: http://igs.indiana.edu/Bedrock/Karst.cfm?print_05=true
9. Indiana Business Research Center, Kelley School of Business, Indiana University. (September -October 2008). In Context Vol. 9, No. 8. Retrieved from: <http://www.incontext.indiana.edu/2008/sept-oct/2.asp>
10. Indiana Department of Natural Resources, Natural Resources Commission (April 1996). The Indiana Wetland's Conservation Plan. Retrieved from: <http://www.in.gov/dnr/fishwild/3350.htm>
11. Indiana Department of Natural Resources, Indiana Department of Environmental Management. (2007) Storm Water Quality Manual. Retrieved from: <http://www.in.gov/idem/4899.htm>
12. Indiana Department of Workforce Development (2011). Hoosiers by the Numbers, Regional Profile Data, Economic Growth Region 8. Retrieved from: http://www.hoosierdata.in.gov/profiles.asp?scope_choice=b&county_changer2=Regr:8&id=2&page_path=Area+Profiles&path_id=11&menu_level=smenu1&panel_number=1
13. Indiana General Assembly (2012). Indiana Code 36-7-4. Retrieved from: <http://www.in.gov/legislative/ic/code/title36/ar7/ch4.html>

14. Indiana Karst Conservancy. (2008). Sinkholes slide, part of the Indiana Karst Conservancy (IKC) Slide Show. Retrieved from: <http://ikc.caves.org/slideshow/slide4.htm>
15. Indiana University, School of Public & Environmental Affairs (1997). Lake Monroe Diagnostic & Feasibility Study.
16. Indiana University, University Institutional Research & Reporting (2010). Historical Enrollments. Retrieved from: <http://www.iu.edu/~uirr/reports/standard/enrollment/historical.shtml>
17. LaMoreaux, Philip E.; LaMoreaux, James W. (June 22, 1998). A history of karst studies: from stone age to the present.(Living with & Teaching about Karst) (includes related articles on the National Council for Geographic Education and the Indiana Karst Conservancy Inc.).
18. Malott, C. A. (1922). Handbook of Indiana Geology. Part II. Physiography of Indiana. Indiana Department of Conservation Publication 21.
19. Monroe County, Indiana. (April 13, 2010). On Site Sewage Disposal Systems. Retrieved from: <http://www.co.monroe.in.us/tsd/Community/HealthDepartment/WastewaterSanitation/OnSiteSewageDisposalSystems.aspx>
20. Monroe County Planning Department (August 2003). Natural Features Inventory - Wetlands. Retrieved from: http://www.co.monroe.in.us/tsd/Documents.aspx?Command=Core_Download&EntryId=24830
21. Novotny, V. and G. Chesters. (1989). Delivery of Sediment and Pollutants from Nonpoint Sources: A Water Quality Perspective. Journal of Soil and Water Conservation. 44(6), 568-76.
22. Pete, Joseph S. (April 28, 2000). Fate of Griffy watershed examined. Indiana Daily Student.
23. Santa Cruz County Environmental Health Service. (March 1999). Septic Systems and Design Standards in Santa Cruz County. Retrieved from: http://sccounty01.co.santa-cruz.ca.us/eh/sewage_disposal/ehseptic.htm
24. STATS Indiana, Indiana Business Research Center. (2000). Census 1990 & 2000 Geographic Comparison Tables. Retrieved from: <http://www.stats.indiana.edu/c2k/c2kframe.html>
25. STATS Indiana, Indiana Business Research Center. (2011). Census 2010 Demographic Profiles for Counties. Retrieved from: <http://www.stats.indiana.edu/topic/census.asp>
26. STATS Indiana, Indiana Business Research Center. (2010). Migration. Retrieved from: http://www.stats.indiana.edu/dms4/new_dpage.asp?profile_id=331&output_mode=1
27. STATS Indiana, Indiana Business Research Center. (2010). Indiana Profile. Retrieved from: http://www.stats.indiana.edu/profiles/profiles.asp?scope_choice=a&county_changer=18000
28. STATS Indiana, Indiana Business Research Center. (2010). Monroe County, Indiana Profile. Retrieved from: <http://www.stats.indiana.edu/profiles/pr18105.html>.
29. Swichtenberg, Bill. (January 2002). Carving the Nutrient Pie. Water Engineering & Management. Pg 4.



30. United States Census Bureau.(2009). 2007 US Economic Census, County Business Statistics. Retrieved from: <http://factfinder2.census.gov/rest/dnldController/deliver? ts=355325744306>
31. United States Census Bureau. (2005-2009). American Factfinder. Monroe County, Indiana Profile. Retrieved from: http://factfinder2.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_09_5YR_DP5YR5&prodType=table
32. United States Department of Agriculture, Natural Resources Conservation Service. (2003). Indiana Hydric Soil Information. Retrieved from: http://www.in.nrcs.usda.gov/mlra11/Indiana_hydric.html
33. United States Department of Agriculture. Soil Conservation Service (now the National Resource Conservation Service). (May 1981). Soil Survey of Monroe County, Indiana.
34. United States Department of Agriculture, National Resource Conservation Service. (2012). Web Soil Survey. Retrieved from: <http://websoilsurvey.nrcs.usda.gov/app/HomePage.htm>
35. United States Small Business Administration, Office of Advocacy. (October 2009). Small Business Profile – Indiana. Retrieved from: http://www.sba.gov/sites/default/files/files/State%20Economic%20Profiles%202009_Indiana.pdf
36. VLCT News, A Vermont League of Cities and Towns Publication. (January 1999). Floodplain Regulation 101. Retrieved from: http://www.vlct.org/assets/News/Newsletter/2009/vlctnews_2009-01.pdf
37. Vories, Kimery C.; Dianne Throgmorton (2000). Bat Conservation and Mining: A Technical Interactive Forum. U.S. Department of Interior, Office of Surface Mining, Alton, Illinois and Coal Research Center, Southern Illinois University, Carbondale, Illinois.
38. Washington State Department of Ecology. (2005). Managing Vegetation on Coastal Slopes. Retrieved from: <http://www.ecy.wa.gov/programs/sea/pubs/93-31/intro.html>



10.2 DESIGNATED COMMUNITY PLANS

The Board of County Commissioners adopted the previous Monroe County Comprehensive Land Use Plan on February 2, 1996, establishing a blueprint for the future growth and development of the unincorporated portions of Monroe County. A central element of this plan was the development of a number of focused rural community plans. Each of the plans takes the vision, goals, and preferred development patterns in the prior 1996 comprehensive plan and applies them in a more detailed manner within each of the county's existing rural communities.

As stated in the 1996 Comprehensive Plan, "Growth will primarily occur within the City of Bloomington, guided by the city's Growth Policies Plan; in appropriate areas in the Bloomington fringe, guided by the County's Comprehensive Plan; within the Town of Ellettsville, guided by the town's Comprehensive Plan and within the existing small rural communities located throughout the county, each guided by its own rural community plan. The remaining portions of the county will remain rural with very low residential densities, active agricultural lands, mineral extraction operations, and logging activities, as well as substantial areas of open space. The comprehensive plan proposes this development pattern for a number of reasons, including wise management of limited fiscal resources, protection of the natural and manmade environment, and capitalizing on existing public and private investments."

These rural plans are now incorporated as part of the updated 2010 Monroe County Comprehensive Plan.



Harrodsburg Rural Community Land Use Plan

The Harrodsburg Rural Community Land Use Plan was approved by the Board of County Commissioners at the July 11, 2003 meeting. The Harrodsburg area rural community plan proposes to:

- ✦ Focus new growth and development within and near the core of the existing community
- ✦ Promote dense development
- ✦ Maintain a compact form of physical development
- ✦ Capitalize on existing infrastructure
- ✦ Maintain a distinctive edge, separating urban areas from rural areas
- ✦ Provide for future growth areas
- ✦ Promote a continuation of the traditional development pattern
- ✦ Re-develop area sidewalks and alleys
- ✦ Enhance the streetscape along Popcorn, Hobart, and Harrodsburg Roads
- ✦ Interconnect streets where practical
- ✦ Establish design guidelines
- ✦ Develop alternative transportation and recreation opportunities connecting to surrounding areas

Further, the plan proposes to:

- ✦ Encourage business development along Harrodsburg Road between its intersection with Popcorn Road and its intersection with C Street, with possible expansion to its intersection with 4th Avenue, and in the vicinity of the intersection of Harrodsburg Road and Old SR 37. These business uses should continue to focus on neighborhood-serving business enterprises.
- ✦ Encourage business activities near the intersection of Hobart Road and Old SR37. These uses should continue to focus on automobile-oriented business enterprises
- ✦ Focus limited and compatible light industrial development and employment activities in the vicinity of Popcorn Road and Harrodsburg Road near the utility substation at the intersection of Harrodsburg Road and Hobart Road, and along the east side of Old SR 37 just south of its intersection with Hobart Road

The Harrodsburg Rural Community Land Use Plan map is displayed in Figure 49:

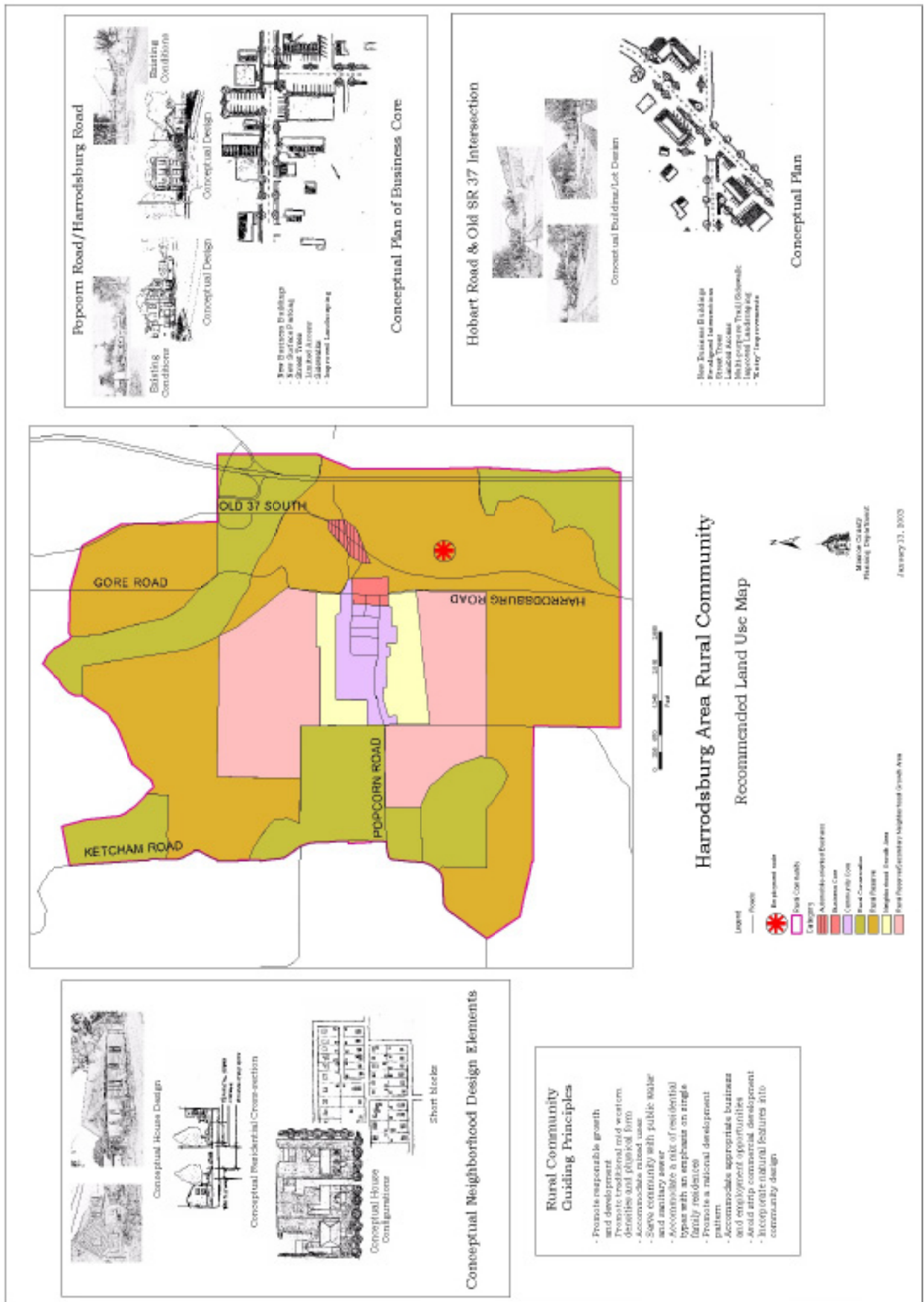


Figure 49: Harrodsburg Recommended Land Use Map

Ellettsville Rural Community Land Use Plan

The Ellettsville Rural Community Land Use Plan was approved by the Board of County Commissioners at the July 11, 2003 meeting.

The Ellettsville area which includes the Town of Ellettsville and the surrounding area bounded by Ratliff Road and Woodyard Road to the south, near Maple Grove to the east, near West Maple Grove Road to the north, and near the town limits to the west, is the subject of the plan developed within this document.

The Ellettsville Rural Community Land Use Plan proposes to:

- ✦ Enhance existing development through the introduction of missing neighborhood elements including open space, mixed uses, and interconnecting transportation facilities
- ✦ Enhance the SR 46 Corridor through improved site design, access management and landscaping and facilitate the introduction of a mix of uses and to better link the corridor to adjoining neighborhoods
- ✦ Establish a green corridor consisting of open space and alternative transportation opportunities along the Monon Rail Corridor and Jacks Defeat Creek
- ✦ Maintain a discernable edge consisting of low density, large lot residential development along the perimeter of the rural community
- ✦ Continue focusing new employment activities, such as manufacturing and processing within current locations and within the business and industry overlay located west of town.
- ✦ Provide business opportunities within new and existing neighborhoods in a unified and compatible manner
- ✦ Coordinates future growth and development activities with the Town of Ellettsville

The Ellettsville Rural Community Land Use Plan map is displayed in Figure 50:

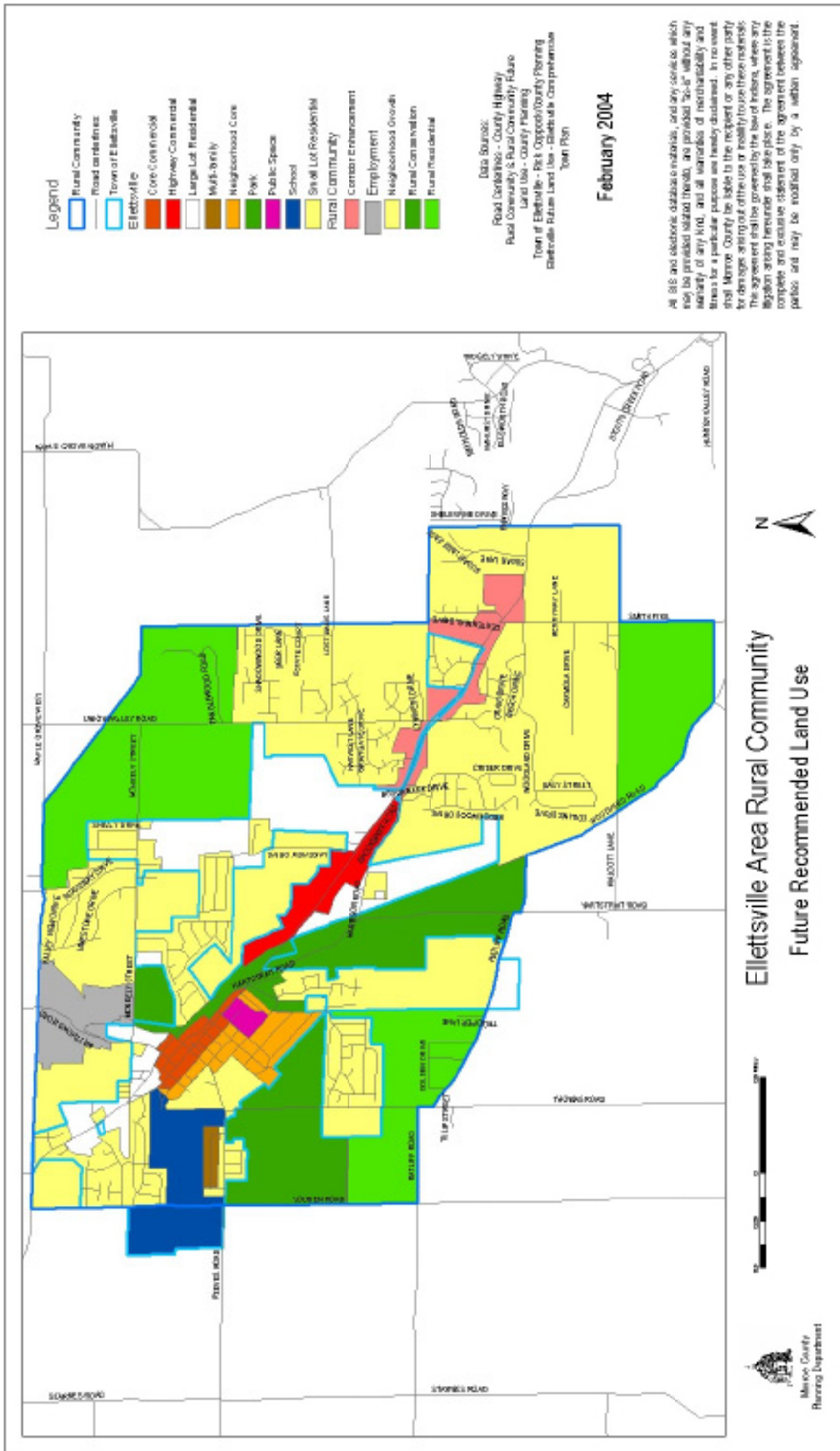


Figure 50: Ellettsville Recommended Land Use Map

Smithville - Sanders Area Rural Community Plan

The Smithville - Sanders Area Rural Community Plan was approved by the Board of County Commissioners at the March 18, 2005 meeting.

The Smithville - Sanders Area Rural Community Plan proposes to:

- ✦ Focus new growth and development within and near the core of the existing community
- ✦ Promote dense development
- ✦ Maintain a compact form of physical development
- ✦ Capitalize on existing infrastructure
- ✦ Maintain a distinctive edge, separating urban areas from rural areas
- ✦ Provide for future growth areas
- ✦ Promote a continuation of the traditional development pattern
- ✦ Enhance the streetscape along Smithville and Strain Ridge Roads
- ✦ Interconnect streets where practical
- ✦ Establish design guidelines
- ✦ Develop alternative transportation and recreation opportunities connecting to surrounding areas

Further, the plan proposes to:

- ✦ Encourage business development along Strain Ridge Road between the Smithville School and its intersection with Smithville Road, with possible expansion to Fairfax Road along Smithville Road. These business uses should continue to focus on neighborhood-serving business enterprises.
- ✦ Focus neighborhood growth and recreational development in the vicinity of the Smithville School.

The Smithville - Sanders Area Rural Community Plan Land Use map is displayed in Figure 51:

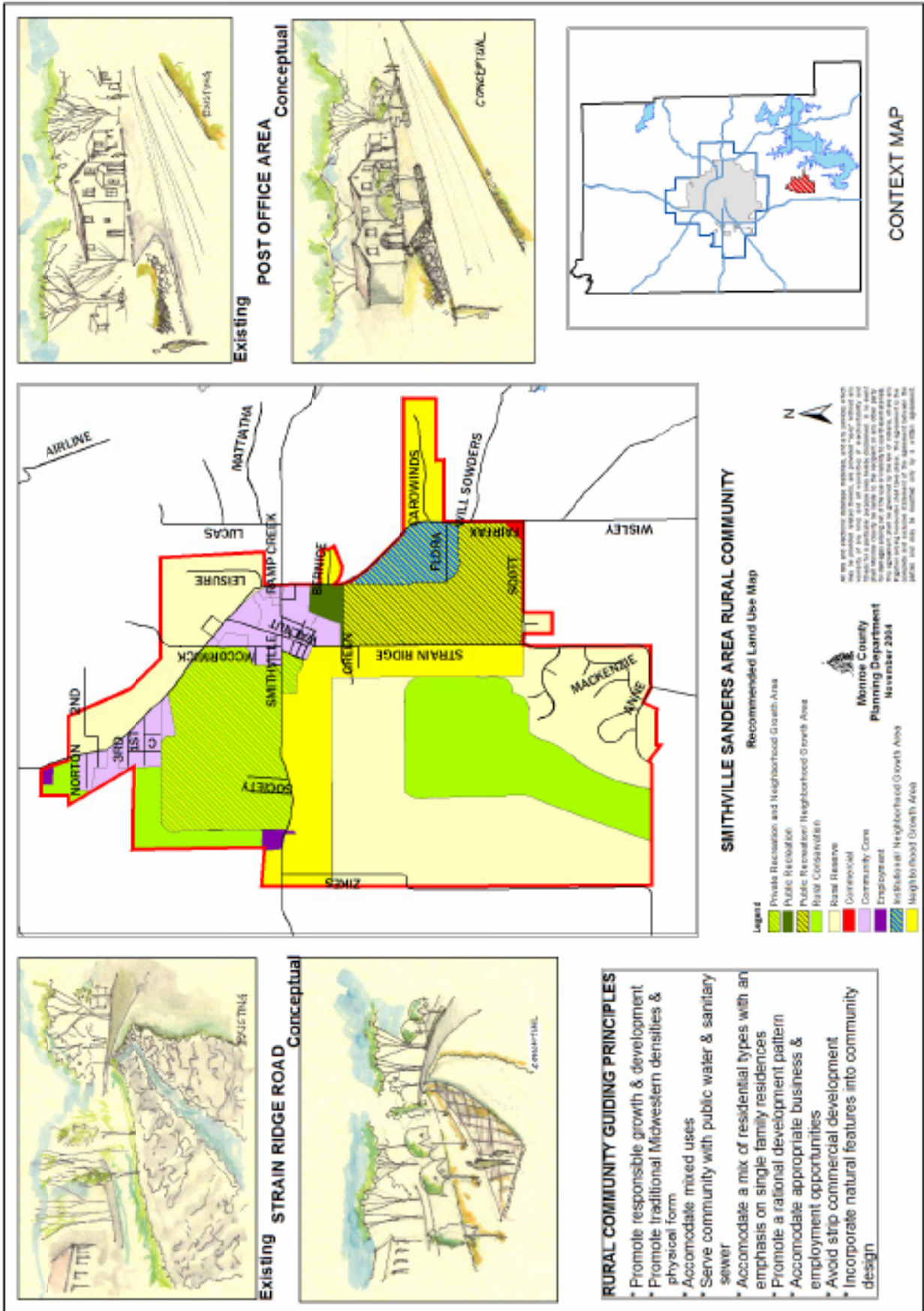


Figure 51: Smithville - Sanders Area Recommended Land Use

Stinesville Area Rural Community Plan

The Stinesville Area Rural Community Plan was approved by the Board of County Commissioners at the December 22, 2005 meeting, and amended on November 5, 2010 to include the Town of Stinesville pursuant to an interlocal agreement between the County and the Town for planning and zoning services.

The Stinesville Area Rural Community Plan proposes to:

- ✦ Focus new growth and development near the core of the existing community
- ✦ Promote dense development
- ✦ Maintain a compact form of physical development
- ✦ Capitalize on existing infrastructure
- ✦ Maintain a distinctive edge, separating urban areas from rural areas
- ✦ Provide for future growth areas
- ✦ Promote a continuation of the traditional development pattern
- ✦ Enhance the gateway areas to town along Stinesville, Mount Tabor, Texas Ridge Roads, and Walker Lane

Further, the plan proposes to:

- ✦ Encourage small business on Stinesville Road near town; this use should focus on business enterprises serving the community
- ✦ Focus neighborhood growth and recreational development in a way that will strengthen the town of Stinesville proper

The Stinesville Rural Community Plan Land Use map is displayed in Figure 52:

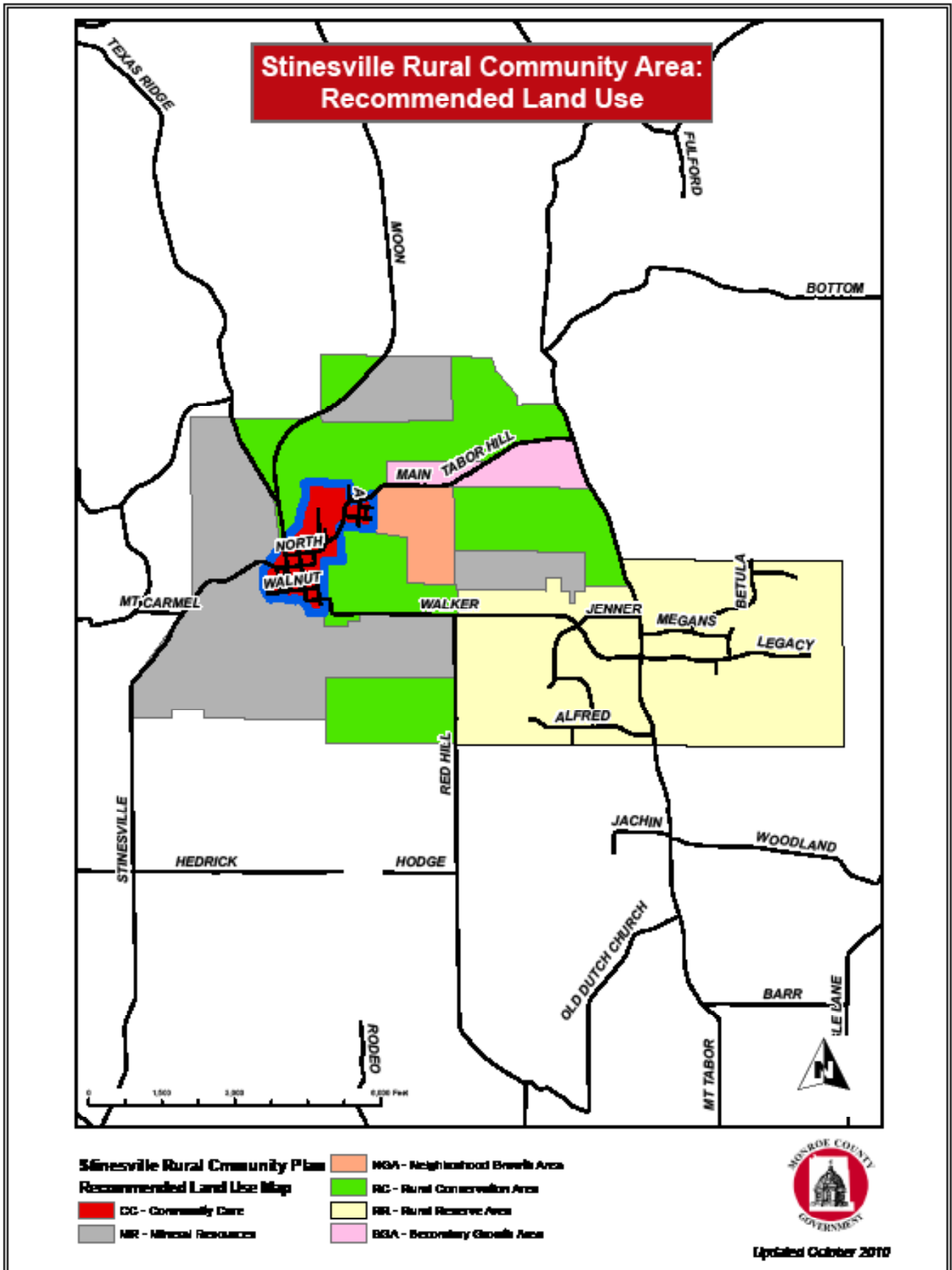


Figure 52: Stinesville Recommended Land Use Map

Bloomington Urbanizing Area Plan

A formal Bloomington Urbanizing Area Plan should be developed engaging key stakeholders in the areas immediately adjoining the City of Bloomington in an effort to develop a more detailed recommended land use plan for these areas. This planning effort should initiate immediately following the adoption of the Monroe County Comprehensive Plan.

The Bloomington Urbanizing Area Plan should consider the following proposals:

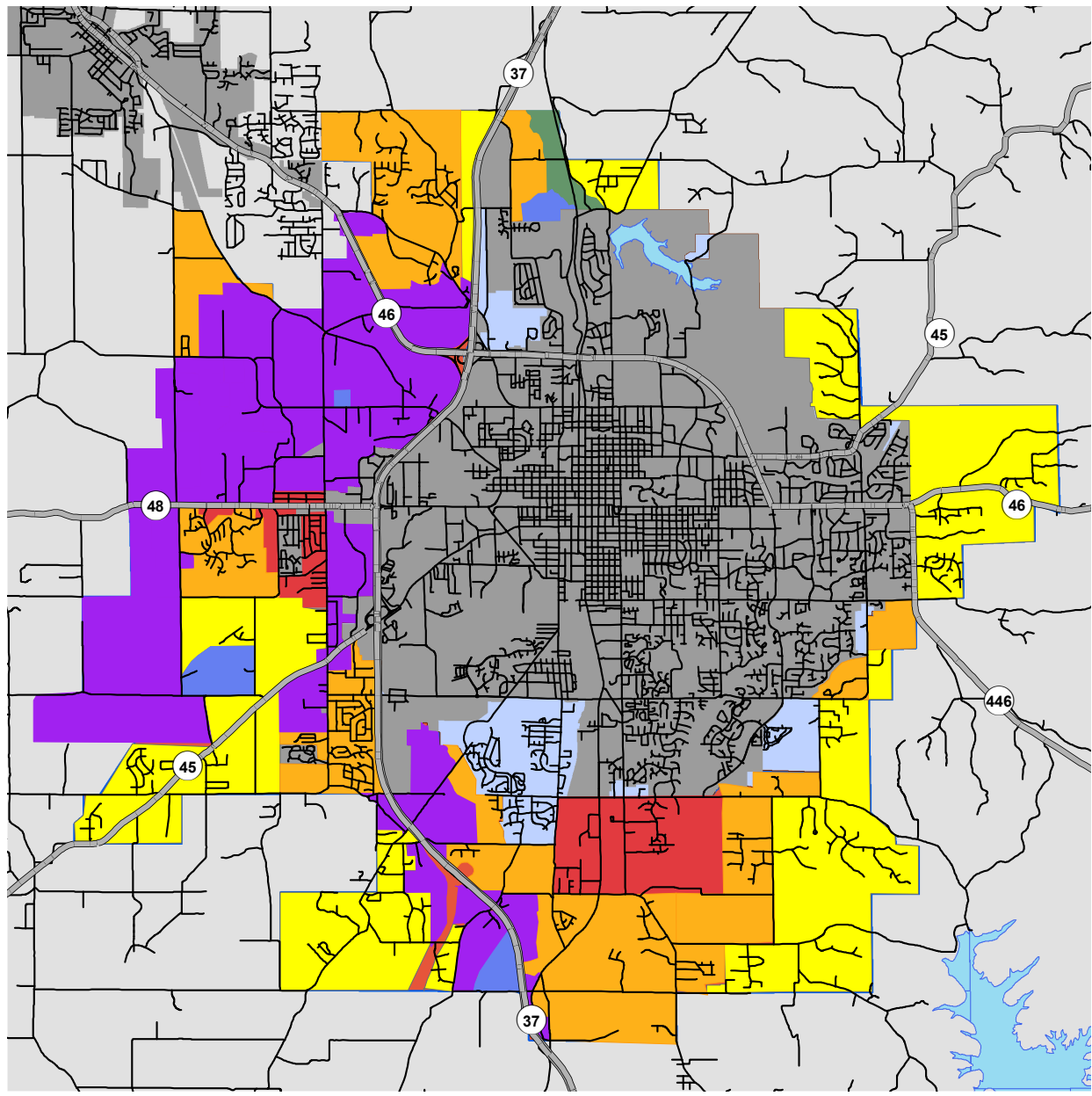
- ✦ Focus new growth and development within and near the core of the existing community;
- ✦ Promote dense and compact form of development;
- ✦ Capitalize on existing infrastructure;
- ✦ Maintain a distinctive edge, separating urban areas from rural areas;
- ✦ Provide for future growth areas;
- ✦ Encourage reinvestment, infill, and redevelopment;
- ✦ Increase employment opportunities;
- ✦ Interconnect streets where practical;
- ✦ Establish design guidelines;
- ✦ Develop alternative transportation and recreation opportunities connecting to surrounding areas;
- ✦ Protect vulnerable lands from encroachment;
- ✦ Provide a range of housing choice and increase affordability;
- ✦ Improve opportunities for Mixed-Use development; and
- ✦ Integrate open space, natural, and historic resources into the land use and development patterns.

Further, the plan should propose to:

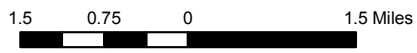
- ✦ Encourage business development in both the Bloomington and West Side Tax Increment Finance Districts and in the areas served directly by State Road 46, State Road 48, State Road 45 and Curry Pike;
- ✦ Focus on meeting the needs of existing business uses and continue to promote a full range of employment growth opportunities from small to large scale;
- ✦ Capitalize on the investments made into the Karst Farm Greenway, Vernal Pike, and Curry Pike to attract and retain business and employment opportunities;
- ✦ Identify key Reinvestment Areas for both residential and employment growth;
- ✦ Develop capital improvement and service plans for the Bloomington Urbanizing Areas.

The Bloomington Urbanizing Area Plan Land Use map is displayed in Figure 53.

Recommended Land Use Plan: Bloomington Urbanizing Areas- Monroe County, Indiana



- | | |
|---|--|
| Public / Institutional | Incorporated Cities |
| Protected Land | Bloomington Plan Jurisdiction |
| Employment | |
| Estate Residential | |
| Urban Residential | |
| Conservation Residential | |



October 2011 Data Source: Monroe County.
Datum: WGS 84. Coordinate system: US State Plane NAD 83. Created by Monroe County Planning Department



Figure 53: Recommended Land Use Map: Bloomington Urbanizing Areas

10.3 ON-SITE SEWAGE DISPOSAL SYSTEMS

The proper treatment and disposal of wastewater is vitally important to the health and well being of the residents of Monroe County. Septic systems, by statute, are a Monroe County Health Department responsibility. While many variations and “experimental” systems exist, the following is a description of the four most popular types of on-site sewage disposal systems (septic systems).

Subsurface Gravity System

This is the type of septic system that is familiar to most people. Wastewater from the building is transported by gravity to a septic tank (usually concrete and about 1,000 gallons in size). Primary digestion of the waste occurs in this tank. From this tank the liquid (effluent) travels by gravity to the distribution box (“D” box). The distribution box divides the liquid for equal distribution to the various absorption laterals (fingers). There are two variations of the absorption laterals or fingers: the Traditional Stone Septic System and the Chamber System.

With the Traditional Stone Septic System, the stone absorption laterals are trenches excavated into the soil that are usually three (3’) feet wide, twenty-four (24”) inches deep, and contain about twelve (12”) inches of crushed stone or gravel. Within the stone is a four (4”) inch pipe which aids in the distribution of the effluent along the trench length.

The Chamber System (such as the Graveless system) is a Polyolefin Plastic formed into a hollow dome which is three (3’) feet wide and placed directly on the trench bottom requiring no stone or additional fabric. Because neither the Graveless or Chamber systems require stone, there is less compaction of the surrounding soil by heavy equipment during the transference of the stone from the pile to the trench. The 10” Graveless Pipe or three (3’) foot Chamber can be brought to the site by hand, which also reduces construction time at the job site.

In Subsurface Gravity Systems, both the Chamber System and Traditional Stone, the final treatment and disposal of the wastewater occurs in these trenches and the soil that surrounds them.

Pump-Assisted Distribution

This type of system, often referred to as “pump dose” or “flush dosed”, is an improved version of the gravity system. By pumping effluent into the system, one can overcome many limiting conditions such as soil depth and terrain features that would not permit the installation of a standard gravity system.

A pump dosed system has the same septic tank, distribution box, and absorption laterals as a gravity system. However, in the pump dosed system, the effluent flows by gravity from the septic tank into a second large chamber - often called a pump tank (which is usually concrete and has a capacity of approximately 750 gallons). An effluent pump is located at the bottom of this tank and is connected to the distribution box by a small diameter pressure pipe. Control floats and a high level alarm are also located in this tank. As the effluent flows from the septic tank into the pump tank, it is retained until enough is accumulated for the proper “dose” required by the system design. When this “dose” has been accumulated, it is pumped to the distribution box in a short interval of time. By delivering the effluent in this fashion, the entire absorption field is flooded at one time and allowed to treat the effluent before the next “dose” is delivered. The even and spaced distribution that is obtained with this type of system helps extend the overall life of the septic system.

In all Subsurface Septic Systems utilizing the Trench System (laterals or Fingers), whether it be pumped or gravity, 36" Chamber System or Traditional Stone, the final treatment and disposal of the wastewater occurs in the trenches and the soil that surrounds them.

Elevated Sand Mound System

Often referred to as a Mound system, an elevated Sand Mound is an innovative alternative to on-site sewage disposal. Within design limitations, a Mound system allows sewage disposal in areas that would not qualify for a subsurface system. A Mound system contains a septic tank and a pump tank like a pump dosed system, but the effluent is sprayed into a gravel bed within an elevated mound of sand. The quantity and timing of the "doses" are designed differently in a mound to promote more efficient treatment of the effluent. Unlike other on-site sewage disposal systems, final treatment of the effluent takes place within the sand of the mound and not within the surrounding soil. When mounds first appeared in Monroe County, high costs and construction difficulties were the major drawbacks of this system.

Presby Septic Systems

This system is utilized for the majority of New and Repair Septic Systems in Monroe County due to the smaller area required, shallower soils needed, and ability to cleanse the effluent before leaving the system. Like the Mound Septic System, sand is installed to aid in the cleaning of waste. In addition, specialized piping is placed within the sand to enhance the growth of bacteria which breaks down any suspended solids and nutrients before it enters the sand. While the Presby system is usually fed without pumps, pumps may be utilized in situations where the septic site is on a higher elevation than the home. This often requires additional cost and maintenance (Monroe County, 2010).

RESOLUTION 2012-07

A resolution adopting the attached form of Comprehensive Land Use Plan as the Monroe County, Indiana, Comprehensive Land Use Plan.

WHEREAS, Indiana Code § 36-7-4-502 requires that comprehensive land use plans for Indiana counties contain the following three elements: 1. a statement of objectives for the future development of the jurisdiction; 2. a statement of policy for the land use development of the jurisdiction; and, 3. a statement of policy for the development of public ways, public places, public lands, public structures, and public utilities;

WHEREAS, over the past five years, the Monroe County Plan Commission ("Plan Commission") and the Planning Department staff solicited public input from County residents, businesses, local leaders, and various civic groups relative to the foregoing comprehensive plan elements;

WHEREAS, the Plan Commission prepared a proposed comprehensive land use plan ("Proposed Plan"), dated as of October 2009, that contained the statutorily required elements, with respect to land use within the Monroe County, Indiana, planning and zoning jurisdictional area ("County Jurisdictional Area");

WHEREAS, in keeping with the public input received by the Plan Commission, the Proposed Plan was designed, in part, to:

promote safety and reduce the cost of infrastructure construction and maintenance to the public by encouraging development in areas where sufficient infrastructure capacity exists and by equitably allocating infrastructure costs among stakeholders;

promote a range of residential lifestyle options by encouraging more intense development in distinct, urbanizing areas and by establishing alternative subdivision procedures and standards that balance reasonable lot creation expectations with rural character preservation expectations;

support the establishment of mechanisms for assessing and responding to the impact of development proposals on schools, fire and police protection, utility service provision, and other matters of community concern; and,

support the establishment of practices and standards designed to promote water quality, habitat preservation, and eco-tourism-based business and recreation opportunities;

WHEREAS, the Plan Commission conducted two legally advertised public hearings on the Proposed Plan on the following dates, and heard and accepted all public comments and objections during the hearings: November 17, 2009, and, May 13, 2010;

