



NATURAL RESOURCES





8. Natural Resources

A. Introduction

Natural resources play an important role in defining the City's physical structure and quality of life, with special emphasis on river and stream corridors, woodlands, wetlands and floodplains. These areas in particular may enhance or serve as a restriction development. The Great Miami River is the major natural resource feature in Sidney and it serves as a natural corridor home to a variety of wildlife, linking different parts of the City. The Plan addresses the following topics:

- **Natural Constraints and Opportunities**
- **Geology and Soils**
- **Topography and Slope**
- **Watersheds and Drainage**
- **Floodplains**
- **Woodlands and Wetlands**
- **Species Habitat**

B. Planning Issues

The following planning issues were identified relative to natural resources:

1) Great Miami River Corridor

The Great Miami River corridor (and several of its tributaries such as Plum Creek) supports a unique open space system, which helps to define Sidney's special character. It also serves as an edge, which defines neighborhoods and provides scenic views. But these corridors also physically divide the City from west to east. This division affects both the functional nature of the City (constraining traffic flow) and affects perceptions of the City's two halves. The Comprehensive Plan seeks to incorporate the valuable river system into a framework that allows for the efficient and effective movement of traffic circulation while protecting environmentally sensitive areas.

C. Existing Conditions

1. Findings

Natural resources may create constraints and opportunities for development. Please refer to the enclosed map identifying natural constraints and opportunities in Sidney and the surrounding area.

a) Natural Constraints

Floodplains, soils and steep slopes are constraints on development. Floodplain restrictions regulate the type and degree of development in these areas. Generally, most of the City is located over well-drained soils, however as the City continues to expand, new development will encroach in areas with poorly drained soils which may prove to be an issue for development that is not tapped into the sanitary sewer system. The majority of the steep slopes occurs along the Miami River corridor and will therefore only have a modest constraint on development, except to the City's south where severe slopes are major constraints to providing utilities.

The Central Business District and area extending north and south along the Great Miami River appear to be located over soils that are generally well drained. While it appears that the large percentage of residential growth in the northeast is occurring in proximity to well drained soils, the industrial expansion occurring to the west appears to be located in proximity to poorly drained soils.

b) Natural Opportunities

Much of the area southeast of the City provides pleasing views of Sidney and the surrounding area. The few woodland areas located near Sidney help strengthen and bring character to the river corridor and provide habitats for plants and wildlife. Woodland areas may serve as potential passive amenities for different land uses and may also act as natural buffers between land uses.



2. Geology and Soils

Shelby County contains a large portion of glacial till. This means that a large percentage of the underlying geological deposits in the county contain a mixture of assorted boulders, stones and gravel, sand, silt and clay. Soil types located in and around Sidney range from well-drained soils to poorly drained soils. Much of the soil diversity is attributed to the Great Miami River and the floodplains located along the river and streams in the area. In these areas, soils contain large concentrations of sand, silt and clay deposits. A large portion of the City extending west to I-75 is located on soils that are moderately well drained and somewhat poorly drained.

3. Topography and Slope

A majority of the City is located on level land. Steep slopes are found along the Great Miami River, Tawawa Creek and the Plum Creek ravine north of the City. Flowing from the northeast in a southwesterly manner through the City, the elevation of the river changes from 940 feet to about 920 feet above sea level. It appears that the highest point in Sidney, approximately 1,065 feet, is in the area of the Russell Road and Fourth Avenue intersection. There are two significant elevation changes in the City. One elevation change is south of Court Street between Wagner Avenue and the CSX railroad and the second is in the area of St. Mary's Avenue and Maple Street.

4. Watersheds and Drainage

Sidney contains three large drainage basins: the Great Miami River to the east, Turtle Creek to the west, and Plum Creek to the north. The Plum Creek basin tends to have a negative impact on development by limiting the extension of utility services. Sidney and the surrounding area contain several tributaries, which assist in providing Sidney with a stormwater drainage system. These tributaries include Plum Creek, Wells Creek, Tilberry Run, Starret Run, Tawawa Creek, Doorley Run, Ernst Ditch, and the Mill Creek and Mill Branch Tributaries of the Turtle Creek. Two large ponds are located along the west side of I-75. Another large pond is located southeast of the Fair Avenue / I-75 interchange. In addition, a large pond is located north of the SR 29/I-75 interchange in Franklin Township and appears to be used for recreational purposes.

5. Floodplains

Floodplains and flood lands are located along the Great Miami River and surrounding creeks in Sidney. The identification of potential flood areas (see watersheds) in Sidney resulted from the City's participation in the National Flood Insurance Program in the early 1970's. It appears that the 100-year floodplain extends into the southeast area of the Central Business District. In addition, the 100-year floodplain widens significantly in the Tawawa Park area and where Plum Creek joins the Great Miami River. The actual depiction of the floodplains and floodways can be referenced in the *Flood Insurance Study of the City of Sidney, Ohio*. As a result of the study, the City adopted development regulations for the floodplain areas. Shelby County enforces the floodplain regulations in unincorporated areas of the County and within Sidney's three-mile platting area.

6. Woodlands and Wetlands

As a result of the large tracts of agricultural land around the City, there appears to be only a couple of large woodland areas in the Sidney planning area. First, much of Tawawa Creek and river corridor area extending eastward from the City contains a large composition of woodlands. Secondly, there is a large composition of woodlands along the SR 47 corridor between Port Jefferson and Sidney. Except for a few small farm ponds, there appears to only be a small number of the wetlands in the Sidney area in spite of its level topography and poorly drained soil compositions.

7. Species Habitat

Many of Ohio's common plants and animals can be found in the Sidney area, such as rabbits, deer, squirrels, raccoons, opossums, skunks, muskrats, woodchucks, foxes and many species of birds and waterfowl. The Ohio Department of Natural Resources, Division of Natural Areas and Preserves identified a few species in the area that are either threatened or of special interest. North of the City near Meranda Road, a habitat of the Sharp-shinned Hawk (Special Interest), was identified by the Division. An Eastern Redcedar was identified north of Port Jefferson. South of the City along the Great Miami, the Division identified a habitat of a threatened Wood's Hellebore. The Division also identified the location of a cave south of Sidney near I-75 and Miami River Road.



Natural Constraints





D. Natural Resources Plan

1. Introduction

The Natural Resource Plan concentrates on conserving areas environmentally sensitive such as the Great Miami River Corridor and taking steps to reduce air, water and visual pollution in the City. The mission statement recognizes the importance of conserving wildlife habitats and increasing public health by decreasing pollution impacts.

2. Policies

a) Mission Statement

The natural resources mission is to **conserve natural resources with concern for wildlife, reducing pollution and use of the river corridor.**

b) Objectives

The following are the objectives and respective strategies for Natural Resources. The strategies serve as the means to achieving the objectives.

Objective 1 - Protect wildlife.

Whenever possible efforts should be taken to minimize developmental impacts on wildlife and to protect habitat to ensure that wildlife continues to flourish in the Sidney area. Wildlife enhances the City's quality of life, which makes Sidney a better place to raise children. Siting wildlife preserves and mitigating development impacts protect wildlife.

Objective 2 - Reduce pollution.

In general and within the City's jurisdiction, pollution should be reduced. This will improve the City's livability and health of its residents. A host of state and federal agencies are involved in pollution abatement and enforcement and the City's ability to have an impact in this arena is thereby minimal. Issues that the City can address include urban erosion and sedimentation control measures, focusing economic incentives on light manufacturers and research and development, encouraging car pooling and dial-a-ride participation and expanding the urban forest. Reducing impervious surfaces and encouraging and/or incentivizing natural filtration systems on site (e.g. rain gardens) through regulations will decrease surface water run-off that may direct chemicals and other pollutants into the ground.

Objective 3 - Utilize/improve the river corridor.

Sidney has a unique natural asset in the Great Miami River, which provides an excellent open space corridor already cherished by the community. Several public parks are located along the river and opportunity exists for additional facilities. The 2008 Master Park and Recreation Plan Update was prepared that addresses the variety of concerns raised here outlining potential opportunities along the river. The Plan identified an open space master plan for the Great Miami River and its major tributaries, providing linkages with existing parkland, conservation easements for floodplain property, reforesting public lands along the Great Miami River and its tributaries.

3. Standards

Express technical standards for natural resources vary according to the issue and prospective government agency. Most of the natural resource issues are handled by state and federal agencies. Should the City begin to address natural resources that focus on wetlands, water quality, erosion and preserves, the Ohio Environmental Protection Agency and Ohio Department of Natural Resources can provide assistance to local communities on those issues. In addition, the Soil and Water Conservation Service provides assistance on issues related to soils and agriculture. Currently, the State is undertaking a risk assessment study that will address environmental issues and is to result in different policy considerations. Standards in zoning codes requiring the installation of natural water filtration systems (e.g. rain gardens) that filter water from a site before slowly releasing it back into the ground are just one of the local means that can be undertaken to reduce pollutants in the City.



4. Natural Resources Plan

The following summarizes the Natural Resources Plan.

a) Introduction

The Natural Resources Plan will affect Sidney's physical structure, particularly the Great Miami River Corridor and pollution reduction and development policies. The City's geographical position places it within a context of strong environmental features including topography, woodlands, floodplains and river and stream corridors. These features create unique opportunities for the City to take advantage of these elements and incorporate them within development. Opportunities may include expanding the City's open space system or creating a natural preserve for wildlife. Implementing policies that preserve these features will enhance the City's quality of life.

b) Great Miami River Corridor

A significant portion of the Natural Resources Plan concentrates on the Great Miami River corridor. The plan focuses on improving the open space aspects of that corridor through an open space master plan and creating links to the downtown and other City parks. This would result in a strong network of open space, which is important to maintaining residential connections to the City's park system. This corridor also serves as an important wildlife habitat as a result of its woodlands and topography.

In addition, the Plan suggests the use of conservation easements for properties located within the 100-year floodplain. The Plan suggests that areas along the river and surrounding stream corridors be reforested and that residential uses should be proposed over nonresidential uses. Decreasing the amount of impermeable surfaces common with nonresidential uses such as the parking lots of commercial uses will result in less sediment collection into nearby streams. Requiring natural filtration systems on site will help filter contaminants from surface water prior to entering the groundwater system.

c) Pollution Considerations

The remainder of the Natural Resources Plan focuses on pollution reduction policies and enhancing the City's built environment. One method is to increase the number of street trees. Increasing the amount of street trees strengthen the aesthetics of corridors, residential and business areas and helps reduce microclimate temperatures which are often artificially inflated in urban areas due to asphalt and concrete. Other methods include reducing off-site signage to reduce visual pollution and promoting carpooling to reduce traffic congestion and increase air quality. Furthermore, the Plan suggests that the City implement policies that reduce the on and off-site development impacts associated with erosion. The City should identify environmentally sensitive areas that may be more suitable as a preserve rather than be developed.

E. Implementation

1. Introduction

The following strategies focus on key implementation steps that will protect wildlife, reduce pollution and utilize and improve the river corridor.

2. Strategies

The following details implementation of the Natural Resources Plan:

Objective 1 - Protect wildlife.

Strategies

1a) Minimizing environmental impacts in new development.

The potential impacts should be minimized that typically occur as development takes place in environmentally sensitive areas. Such areas include highly erodible soils, woodlands, wetlands, floodplains and species habitats. Development and construction activities should be generally discouraged from these areas. Where they must take place, impacts should be minimized by the City adopting soil erosion and sedimentation requirements and



encouraging best management practices designed to protect the other noted resources. Clustering buildings is an appropriate site-planning tool as is minimizing the permitted impervious surfaces on a site.

Revised subdivision regulations and zoning regulations may be needed.

Responsible Party: Community Services Director (Lead) and City Engineer
Timeframe: Mid Term
Estimated Cost: In-House Staff Time

Objective 2 - Reducing pollution.

Strategies

2a) Improving traffic flow and reducing congestion, and encouraging car pooling and dial-a-ride participation.

Traffic congestion can have a tremendous impact on local air pollution levels. Addressing key traffic congestion points (intersections and arteries) with improvements will improve flow and reduce air pollution. Encouraging car pooling and maximizing participation on the City's dial-a-ride service will reduce the number of cars used for daily transportation needs.

Responsible Party: Transit Manager (Lead)
Timeframe: Ongoing
Estimated Cost: To be Determined on a Project Specific Basis

2b) Reviewing and amending if necessary on-site lighting guidelines and signage standards.

Light and visual pollution impacts the quality of Sidney's environment. Glare from excessive and unshielded on-site lighting creates obnoxious visual pollution. The overuse of signage, both on- and off-premises, likewise negatively impacts the visual environment. The Urban Design Plan considers the overall beautification of Sidney as a component in quality of life and economic development. This strategy will have a similar impact. Information from sources such as the International Dark Sky Association (<http://www.darksky.org>) can provide lighting standards that will provide for safe environments while significantly minimizing visual light pollution. The City Engineering Department continues to review the Engineering Standards regarding new street lighting, as well as new commercial and industrial outside lighting standards.

Responsible Party: Public Works Director (Lead)
Timeframe: Ongoing
Estimated Cost: In-House Staff Time

2c) Focusing economic incentives on light manufacturers and research and development.

From an environmental standpoint, the City should pursue light manufacturers and research and development facilities. This strategy should be implemented consistent with the Economic Development Plan. Incentives can be targeted to those industries meeting certain environmental criteria such as using energy efficient lights, turning off sign lights during non-business hours. Information from sources such as the International Dark Sky Association (<http://www.darksky.org>) can provide lighting standards and identify lighting companies that provide fixtures for safe environments while significantly minimizing visual light pollution.

Responsible Party: City Manager (Lead)
Timeframe: Ongoing
Estimated Cost: In-House Staff Time

2d) Expanding the urban forest.

Please see the Community Facilities and Services Plan, Objective 1f1.



Objective 3 - Utilize/improve the river corridor.

Strategies

3a) Purchasing additional public parkland within the Great Miami River corridor.

The City should identify key parcels for acquisition with the river corridor, execute "first right of refusal" agreements with property owners and acquire such parcels when they become available. The City could also consider acquiring or receiving as a donation a conservation easement on some parcels, with the private owner retaining ownership. These acquisitions and easements should build an interconnected network of public access along the river.

Responsible Party: Parks and Recreation Director (Lead), Recreation Board and City Council
Timeframe: Ongoing with portions currently underway
Estimated Cost: To Be Determined on a Project Specific Basis

3b) Obtaining conservation easements for private land within the 100-year floodplain.

Wherever property is located within a federally designed 100-year floodplain, the City should attempt to obtain conservation easements. These would be acquired or donated by the property owner, who would receive the respective tax benefits. The City would be protecting floodplain from future development and the property owners would retain their property rights except the right to development. This is most appropriate for land used for agriculture or open space.

Responsible Party: Parks and Recreation Director (Lead) and Recreation Board
Timeframe: Ongoing with portions currently underway
Estimated Cost: To Be Determined on a Project Specific Basis

3c) Maintaining and reforesting public lands along the Great Miami River and its tributaries.

Land owned by the City along the Great Miami River and its tributaries should be maintained as woodland or reforested. This creates a continuous green corridor through the City, establishes wildlife habitat and improves water quality. A minimum wooded buffer of 90 feet is recommended along these watercourses. Funds and/or plantings may be available from the Ohio Department of Natural Resources (ODNR) or OSU Cooperative Extension. ODNR's urban forestry division should be of assistance.

Responsible Party: Parks and Recreation Director (Lead) and Recreation Board
Timeframe: Ongoing with portions currently underway
Estimated Cost: To Be Determined on a Project Specific Basis

3d) Encouraging residential development along the river corridor through an incentives package.

Open space is the preferred use along the Great Miami; however, where development potential exists the preferred use should be residential in line with the Land Use Plan. Residential is more appropriate than nonresidential development. In locations where commercial and industrial uses are present, their expansion should be discouraged. Regardless of the type of development, a 90-foot buffer should be established measured from the high water line for the Great Miami. This buffer should be kept in a natural, vegetative state. The buffer should be established by conservation easement either purchased by the City or donated by the property owner.

Responsible Party: Community Services Director (Lead)
Timeframe: Long Term
Estimated Cost: In-House Staff Time

3e) Parks and Recreation Master Plan for the Great Miami River and its major tributaries.

Please see Community Facilities and Services Plan, Objective 1a1.

3f) Providing strong pedestrian linkages between the public river corridor and the downtown.

Please see the Community Facilities and Services Plan, Objective 1a1.