

Long Grove

COMPREHENSIVE PLAN

Chapter 5: The Environment

Introduction

Historically the Long Grove environment was an area of wooded uplands and lowlands situated along Buffalo Creek and the south fork of Indian Creek (sometimes called Kildeer Creek). The Village of Long Grove took its name from these predominantly oak, hickory, basswood, and sugar maple woodlands. The surrounding areas were prairie mixed with oak-hickory groves. Occasional prairie fires maintained this vegetation pattern by preventing the spread of the woodlands. The large stands of burr oaks were not harmed because these trees could withstand the fires. In fact, the fire prevented other trees from invading the oak stands. Other wooded areas were invaded by less fire resistant tree species, because existing stream corridors and wetlands helped protect those ecosystems from fires. This gave rise to more diverse woodlands in the Village. (Also see Appendix A)

The first settlers in Long Grove cleared some of the woodlands, tilled the prairies, and drained many wetlands for agricultural purposes. They also eliminated using fire as a management tool. Although remnants of woodlands may dominate the older sections of Long Grove, lack of management (i.e., periodic burning) allowed both native and exotic species, such as buckthorn, honeysuckle, and teasel to establish a foothold. Similarly, without proper management, preserved wetlands have become and can be dominated by aggressive native species such as cattails, and exotics such as purple loosestrife. (1991)

While the residents of Long Grove have long respected the beauty of their community, understanding how they interact with the environment, and the consequences of that interaction, has been a learning process. The Village has learned over time that an apparently resilient environment can be easily damaged or destroyed. (1991)

Long Grove was an early leader in the environmental movement and was one of the first communities in Illinois to enact environmental regulations. The effort was focused on protecting and managing wetlands, surface water, and subsurface water to promote high quality waters to serve the community's needs. (1991)

The first generation of regulations was based on soil classification. Wetland and drainage way soils were clearly important because they served as the natural storm water drainage and storage system for the community. Some soils were wetland-related and help the water in ponds. In other areas, the water moved across the land in sheet flows. Soils in these areas were dense with characteristically high water tables and were unsuitable for septic systems and tile fields. These soils were designated "conservancy soils" and development on them was prohibited. (1991)

Long Grove's first effort at environmental management was very important. It focused attention on the environment and the impacts housing and other land uses could have on the environment. Today the environment is viewed both as a place to grow food and build homes, and as a complex system that provides the land, water and air the community needs to survive. The variety of natural habitats, that is, the vegetative cover, within the Village reflects physiographic site types that are established by the land forms and orientation of the land. They provide different conditions for the survival of plants and animals. Cycles of water, air, and nutrients support life. An understanding of the roles of different environmental elements is essential to a sound environmental management system. (1991)

Soil study platting was done in the early 1960s. Since the first soil regulations were adopted by Long Grove in 1974, understanding of complex ecosystems has advanced: Although the very poor soils of wetlands are now recognized as having a role in recharging the community's groundwater, they are also important in maintaining water quality and storm water management. Upland soils and wooded areas of the Village have much greater importance in recharging groundwater than previously believed. Upland soils and woodland areas intercept and detain significant portions of rainwater, reducing the amount and intensity of surface runoff area, allowing large quantities of water to slowly filter into groundwater systems. Stream corridors and certain topographic features, as well as the upland soils and wooded areas, all play vital roles in protecting and enhancing the community's health and welfare. (1991, 1999)

This chapter presents discussion and recommendations pertaining to major elements of the natural environment: water resources and upland resources. Water resources include groundwater, wetlands, floodplains, drainage way systems, and stream corridors. A map of wetlands is provided in Map 5.1, while a map of natural resources and flood zones is provided in Map 5.2. Upland resources include topographic features, prairies, and woodlands. This chapter also discusses the other important environmental issues of natural landscaping and wildlife communities. Since these are all sensitive environmental features, their protection and preservation in as near an undisturbed state as possible is important. The 1988 Village of Long Grove Natural Areas Inventory is still an important document for identifying and targeting areas for special treatment. (A copy of this document is available at the Village Hall) Environmental data provided by the Lake County GIS (Geographic Information System) Division provides an updated perspective on key natural areas in Long Grove, as part of this 2018 update to the Comprehensive Plan. (1991, 2018)

Water Resources

Protecting the Village's water resource--both ground and surface--shall be approached from four perspectives. The first perspective is to prevent the introduction of pollutants to groundwater resources and to ensure sufficient groundwater recharge. Protection of this resource is represented by the current Village conservancy soils policy and regulations that prevent septic fields from being located in areas with high groundwater in order to prevent groundwater contamination and pollution. (1991)

The second perspective, enhancing groundwater recharge, is an issue that Long Grove has considered to be advocated by the conservancy soils approach. However, this approach must be supplemented in the future with more stringent protection of upland sites. (1991) According to the Illinois State Geological Survey, some of the most common factors that affect water infiltration and groundwater recharge include: (For source references see Appendix M 5.1)

- Rainfall intensity and duration
- Texture and permeability of soil/geological materials
- Soil moisture/depth to water table
- Slope and landscape position
- Land cover (e.g., vegetation, impervious surfaces, retention/detention basins)
- Presence and types of different water sources or sinks (e.g., leaking water supply pipes, storm sewers, etc.)

The conservancy soils approach will help to manage soil conditions, which will impact texture, permeability, and moisture levels. Considerations to fortify the Village’s site design standards that regulate landscaping, slopes, and retaining walls may help to reduce runoff and improve water infiltration for groundwater recharge. In addition to fortified landscape standards, the Village may consider steps to reduce the amount of impervious surfaces, such as requiring more pervious materials in new developments and working closely with an engineer to evaluate the efficiency of existing and proposed retention/detention basins to properly manage stormwater using native plantings, emerging technologies, and other best practices. The Village should also consider long-range capital improvement projects, particularly evaluations and potential repairs/replacements of water supply infrastructure such as modernizing old pipes, replacing fractured or undersized pipes, and cleaning out all storm sewers to prevent backups and overflowing.

In addition, the Village encourages homeowners to play their part in managing stormwater and infiltration for groundwater recharge, particularly through its rain gardens how-to manual and water-efficient landscaping manual, which are both available on the Village’s website:

- Rain Gardens How-To Manual for Homeowners (For source references see Appendix M 5.2)
- Water-Efficient Landscaping Manual (For source references see Appendix M 5.3)

The third perspective requires the protection and management of wetlands. Such protection of wetland areas assures the protection of surface water quality. (1991) The Illinois Department of Natural Resources (IDNR) provides statewide protections for wetlands, including the Interagency Wetlands Policy Act of 1989 and Agency Action Plans (AAPs) that are prepared by each agency within IDNR’s Interagency Wetlands Committee and required to be updated every four years. (For source references see Appendix M 5.4)

Finally, a well-planned surface drainage system shall be maintained in addition to the already protected floodways and floodplains. The Village will continue to rely on soils as one tool available

to the Village to build stronger methods for the protection of portions of the drainage system which are not floodway or floodplain areas. (1991)

The Village is a certified community that is committed to implementing the tenets of the Lake County Watershed Development Ordinance (WDO) at the local level. Originally enacted and effective in October 1992, and last amended in 2015, the WDO is intended to minimize the impacts of new development by mitigating existing stormwater issues and preventing new ones from arising. The WDO accomplishes this by setting minimum standards across Lake County for stormwater management, including floodplains, detention, soil erosion/sediment control, water quality treatment, and wetlands. Lake County Watershed Development Ordinance (WDO) (For source references see Appendix M 5.5)

A more detailed discussion of each of these water resource elements, and their importance to the sound planning of the Village of Long Grove, is set forth in Appendix A, along with other related policy statements in Chapter 4. (1991)

Upland Resources

For purposes of the Long Grove Comprehensive Plan, upland resources are defined as those elements of the resource base including topographic features, woodlands, prairies, natural landscaping, and wildlife communities. In addition to the discussion of these features set forth in this chapter of the Plan, a more detailed discussion of each of these upland resource elements, and their importance to the sound planning of the Village of Long Grove, is set forth in Appendix A, along with other related policy statements. (1991)

Topographic Features

In general, this area of Illinois is lacking in dramatic topographic features except near the Great Lakes. Topographic features are important due to their uniqueness and natural beauty. The topography, or relative elevation of the land surface, within the Village of Long Grove, has been formed by glacial deposits. The configuration of the glacial deposits matches an upland-moraine complex and was formed by the retreat of the Wisconsin glaciers 10,000 to 20,000 years ago. In general, the Village is flat with some gentle rolling terrain. The low-lying areas are associated with perennial and intermittent stream valleys and are a part of the internal drainage patterns. Long Grove derives some of its “rural community character” from these features. It is important that this, as well as the need for their preservation and restoration, be clearly understood. (1991)

Slope, to a considerable extent, determines the land uses practicable on a given parcel of land. Lands with steep slopes are poorly suited for development, as well as for most agricultural purposes, and therefore, shall be maintained in natural cover for wildlife habitat and erosion control. Lands with less severe slopes may be suitable for certain open space uses such as pasturelands, and for certain development, such as carefully designed low-density residential areas. Lands that are gently sloping or nearly level are typically best suited to development. It should also be noted that slope is directly related to water runoff and erosion hazards and therefore, the type and extent of land uses shall be

carefully adjusted to the slope of the land. In general, slopes of twelve percent or more shall be considered unsuitable for development and shall be maintained in essentially natural open uses. (1991)

Woodlands

Woodlands serve many functions in the Village and shall be preserved and reestablished. They have important roles in many of the biological cycles, such as energy, oxygen, nitrogen, and carbon cycles. They also provide essential wildlife habitat for numerous varieties of plants and animals. At least one such woodland in Long Grove provides shelter to a state-endangered species. Woodlands serve as buffers against the potential impacts of soil erosion, pollution, and severe weather. They are especially important in areas where they help to slow water flows and minimize runoff, break wind velocities, absorb pollutants, and moderate solar radiation. (1991)

With all these important functions, woodlands shall be preserved and/or reestablished wherever possible. Land to be developed that was previously farm field shall be heavily landscaped with trees to provide the subdivision with its own source of woodland protection and benefits. Developable land with existing woodland should be strictly regulated so that there is as little disturbance to the woodland as possible. (1991)

Prairies

The 1998 Long Grove Natural Areas Inventory identifies several areas containing prairie remnants and several are included in sites recommended for priority acquisition or preservation. Although they are all severely degraded, their quality can be improved through proper management and restoration. (1991)

Prairie restoration shall be considered wherever large open areas are being created. Restorations represent opportunities for the effective management of new prairie lands. The Village shall continue to require seeding of open areas and roadsides in prairie mix seeds. This practice is desirable even where an area cannot be burned and will follow a natural succession, or is planted to grow into a woodland. It will take a minimum of 20 years for most trees to mature into actual woodland. During the interim, the prairie plants will add interest to the areas, as well as provide additional buffering. (1991)

The public shall be educated about the benefits of prairie plantings. Too many people still think of the old field as something unkempt and in need of maintenance. Rather, it should be viewed as a continuously changing environment of interest and beauty. There seems to be the feeling that when grasses go to seed, they should be cut. The shift in color, however, is part of the changing visual value of the prairie and the seeds should be left to be harvested by wildlife. (1991)

Natural Landscaping



Since Long Grove is not a typical suburban or urban community, the traditional suburban ethic of mowed lawns needs to be altered with an educational effort on the beauty of natural plantings. A whole range of natural landscaping alternatives shall be made available to encourage residents to plant portions of their yards in more natural materials and leave them alone. Three areas are to be encouraged: scenic easements, stream corridors, and street fronts. As of Spring 2017, Long Grove has preserved 1,563 acres in scenic easements and conservancy areas. In addition, the Village should do demonstration projects on natural lawn plantings, either in existing subdivisions with the assistance of developers still working in the Village, or with individual landowners. (1991, 2018)

Regulations for new development in the Village can take an aggressive posture. They can specify the introduction of new woodlands, maintenance and enhancement of wetlands, and the establishment of prairie plants. Open spaces should be planted in native species if possible and should be planted in a legitimate seed-bed, not just a plowed field. (1991)

A great deal more emphasis shall be placed on native oaks and hickories. While they are slower growing, more expensive, and harder to transplant than other trees, the effort should be made to give the native forests a chance to expand and regenerate. Understory plants shall be installed. For the oaks, smaller trees and even whips or seed may be used. The goal is to create natural looking plant groupings. The natural shape of natural succession groupings of woody plants is a mound shape. This can be achieved by installing large plants in the middle and small ones largely on the outside. (1991)

In new developments, the Village shall be protective of existing vegetation. This is not only important in areas of mature trees, but in successional areas as well. All new development should be required to have development pads on their site plans and show where existing vegetation would be cleared. The remainder of the lot shall be deed restricted and protected by the Village from clearing. Developers shall be encouraged to create wooded or prairie elements in the design of their developments. This strategy will provide a more rural atmosphere, better quality wildlife habitat, and more privacy. (1991)

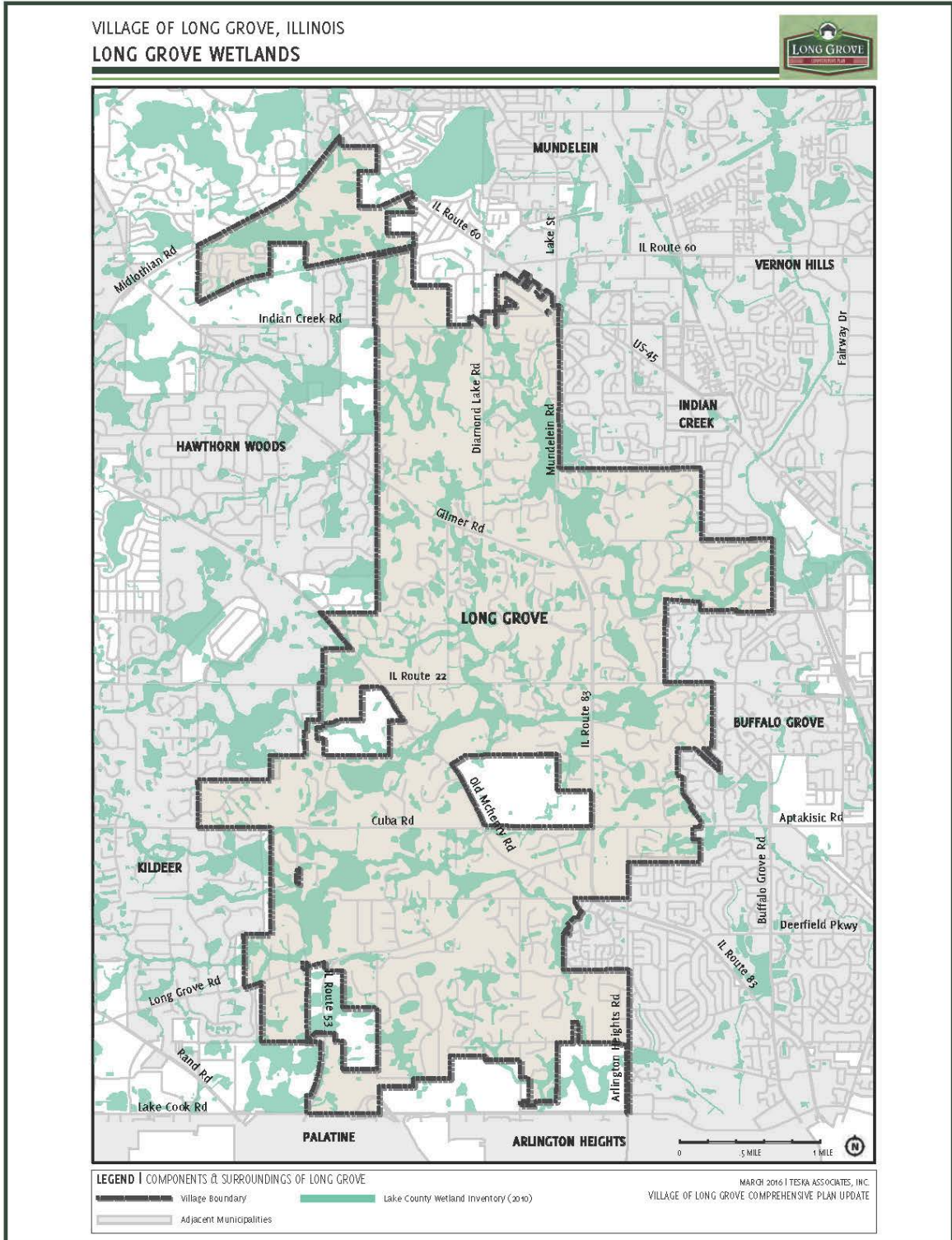
Wildlife Communities

While establishing plant communities is relatively easy if they are properly planted and maintained, creating and maintaining habitat for larger mammals and small predators is far more difficult. They need larger areas, wildlife preserves, and corridors to connect them. The larger areas may be the open spaces established by the Village for supervision and protection and maintained and supervised by the Long Grove Park District. Conservancy areas shall be improved to compensate for lost open space areas. (1991)

Connecting wildlife corridors are needed. Two environmental features are logical candidates for corridors: stream corridors and the scenic corridors required by the Village. The existing scenic corridors, however, are often too narrow to serve as effective wildlife corridors. More importantly, many provide almost no shelter. The interest in prairies has encouraged citizens to burn many of

these areas. The best solution would be to let succession take over in the scenic corridors. Wildlife needs cover and only a few species will use these narrow corridors. The larger corridors recommended in the community character chapter of this Plan will be far more effective. Native shrubs such as gray dogwood and sumac should be planted in these areas and mulched to encourage them to spread. Ideally, a wildlife corridor would be a minimum of 300 feet wide. In addition, scenic corridors should have an individual and appropriate plan for their eventual restoration to maximize their use by wildlife. (1991)

Map 5.1: Wetlands Map



Map 5.2: Natural Resources & Flood Zone Map

