A land use plan for the town of LaGrange.

Waukesha, Wisconsin: Southeastern Wisconsin Regional Planning Commission, 1991-03

COMMUNITY ASSISTANCE
PLANNING REPORT NO. 168

A LAND USE PLAN FOR THE TOWN OF LAGRANGE: 2010

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Special acknowledgement is due Ms. Nancy A. Holguin, SEWRPC Senior Planner, for her contribution to the preparation of this report.

COMMUNITY ASSISTANCE PLANNING REPORT
NUMBER 168

A LAND USE PLAN FOR THE TOWN OF LAGRANGE: 2010

Prepared by the

Southeastern Wisconsin Regional Planning Commission
P. O. Box 1607
Old Courthouse
916 N. East Avenue
Waukesha, Wisconsin 53187-1607

March 1991

Inside Region	$3.00
Outside Region	$6.00

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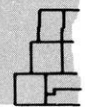

March 21, 1991

Mr. Neal J. Kedzie
Chairman, Town of LaGrange
and Members of the Town
Board and Plan Commission
Route 5 Box 394
Elkhorn, Wisconsin 53121

Ladies and Gentlemen:

By letter dated March 16, 1988, the Town of LaGrange requested the assistance of the Southeastern Wisconsin Regional Planning Commission in the preparation of a land use plan for the Town. The Regional Planning Commission staff, working with Town officials, has now completed the requested plan, which is presented in this report. The plan is intended to help guide the physical development of the Town to the year 2010 and to assist Town officials in making day-to-day decisions regarding development in the Town.

In addition to setting forth the land use plan adopted by the Town Plan Commission and Town Board in December 1990, this report presents pertinent information on the present stage of development in the Town, including information on population and housing units, on existing land use, and on the topography and drainage pattern, soils, woodlands, wetlands, wildlife habitat, prime agricultural areas, and environmental corridors of the Town, all of which constitute important considerations in any local planning effort. The report also contains recommendations for the proper implementation of the plan, including recommended changes to the Town zoning district map and modifications to the text of the Walworth County Zoning Ordinance and the Walworth County Shoreland Zoning Ordinance.

The Regional Planning Commission is appreciative of the assistance offered by the Town Plan Commission and Town Board during the preparation of this report. The Commission staff stands ready to assist the Town in the implementation of this plan over time.

Sincerely,

Kurt W. Bauer
Executive Director

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Chapter I

INTRODUCTION

Section 60.10(2)(c) of the Wisconsin Statutes provides that town boards may exercise village powers, including comprehensive planning powers delegated to cities and villages under Section 62.23 of the Statutes. The Town of LaGrange adopted village powers on April 7, 1959.

The city planning enabling act, as set forth in Section 62.23 of the Statutes, provides for the creation of plan commissions and charges those commissions with the duty and function of making and adopting a "master"—or comprehensive—plan for the physical development of the municipality. The scope and content of the comprehensive plan, as set forth in the Statutes, is very broad, extending to all aspects of the physical development of a community. The Statutes indicate that the master plan shall be made with the general purpose of guiding and accomplishing a coordinated, adjusted, and harmonious development of the community which will, in accordance with existing and future needs, best promote the public health, safety, morals, order, prosperity, and general welfare, as well as efficiency and economy in the process of development. To carry out the planning responsibilities attendant to the adoption of village powers, the Town Board created a Town Plan Commission on November 8, 1988.

In March 1988, the Town of LaGrange asked the Southeastern Wisconsin Regional Planning Commission to assist the Town in the preparation of a land use plan. The plan was to provide town officials with a tool to better guide and shape land use in the Town. This report sets forth the findings and recommendations of the planning effort undertaken in response to that request. It is intended to assist in defining the land use development objectives of the Town and in identifying means for achieving those objectives over time.

The planning effort involved extensive inventories and analyses of the factors and conditions affecting development in the Town, including the preparation of projections of the possible range of future population and economic activity levels within Town; extensive inventories of the natural and man-made bases of the Town, and of existing land use, soil capabilities, flood hazards, woodlands, wildlife areas, and wetlands; an inventory of existing local plan implementation devices; careful analyses of the inventory findings; and the development and adoption of a plan which may be expected to accommodate probable future population and employment levels in a manner consistent with the local land use development objectives of the Town. The plan, when adopted by the Town Plan Commission and Town Board, is intended to serve as a guide to the protection of the prime agricultural lands and environmentally significant areas, and to direct future land use development in the Town of LaGrange in a manner consistent with promoting the public health, safety, and general welfare.

THE PLANNING AREA

The planning area considered consists of the Town of LaGrange. The Town is located in the northwest corner of Walworth County. It is bordered on the east and south by the Towns of Troy and Sugar Creek, respectively, both in Walworth County; on the west by the Town of Whitewater, also in Walworth County; and on the north by the Town of Palmyra in Jefferson County. As shown on Map 1, the Town of LaGrange contains approximately 36 square miles, encompassing all of the U. S. Public Land Survey sections within Town 4 North, Range 16 East. There are no incorporated areas within the Town of LaGrange; however, the City of Whitewater is located about two and one-half miles to the west of the Town and the City of Elkhorn is located about five miles to the south of the Town.

EARLY TOWN HISTORY[1]

By an act of the Territorial Legislature on January 2, 1838, the Civil Town of Elkhorn was

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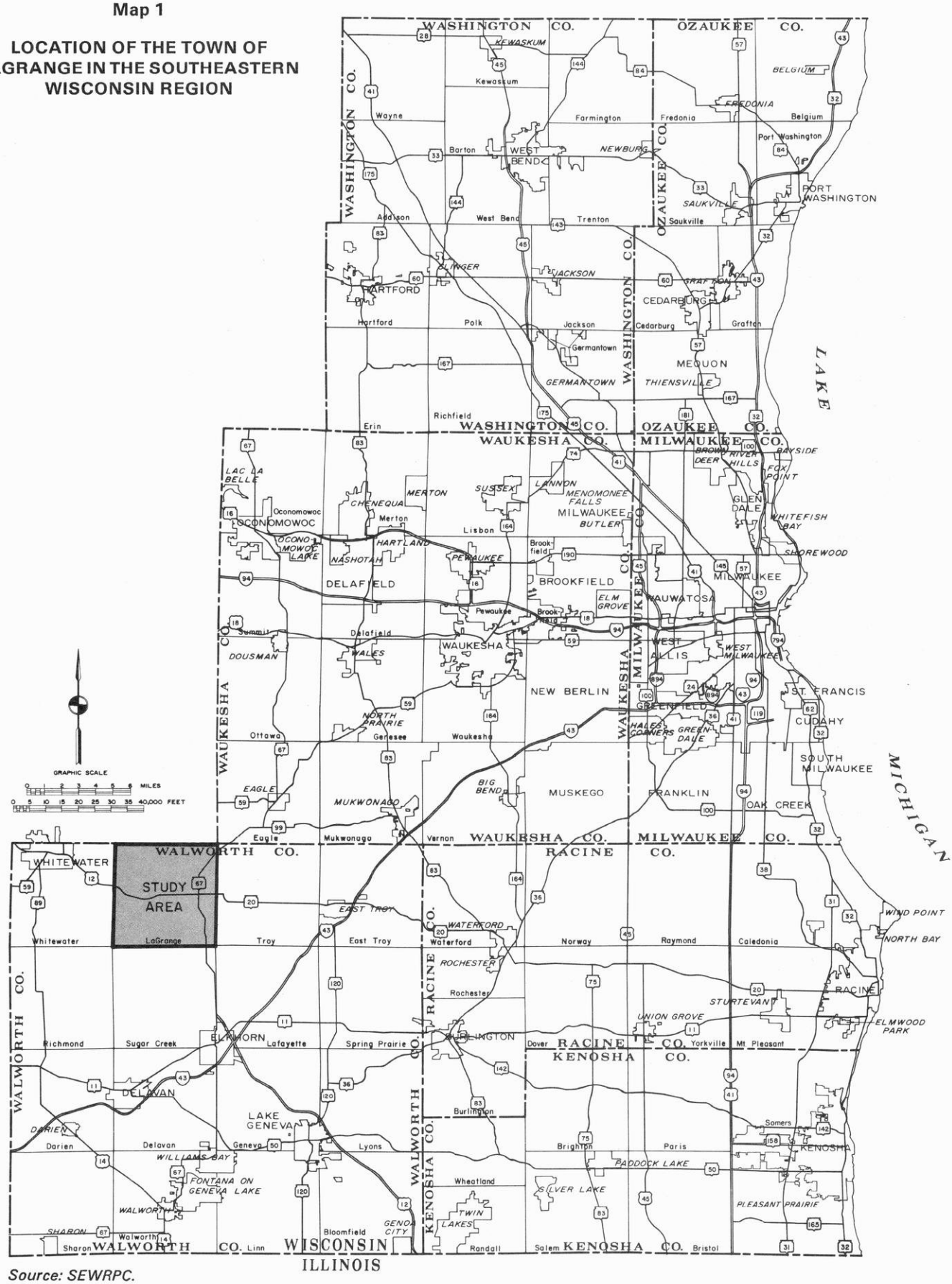
[1] *The history of the Town of LaGrange was derived, in part, from: Western Historical Company, History of Walworth County, Chicago, 1882, pp. 821-824; and the LaGrange Ladies' Aid Society, LaGrange Pioneers, Walworth County, Wisconsin, 1935, pp. 7-18.*

Map 1

LOCATION OF THE TOWN OF LAGRANGE IN THE SOUTHEASTERN WISCONSIN REGION



Source: SEWRPC.

established, embracing four U. S. Public Land Survey townships in the northwest quarter of Walworth County which were known as Whitewater, LaGrange, Richmond, and Sugar Creek. On March 21, 1843, by another act of the Territorial Legislature, the Civil Town of LaGrange, Town 4 North, Range 16 East, was detached from the remaining Town of Elkhorn area. The first Town of LaGrange meeting and election of officers was held on April 3, 1843, at the Round Prairie School House. The name LaGrange was selected by some of the original settlers, Cyrus Huton, Moses Rand, and Caleb and Levi Harris, at a gathering held in Charles P. Ellis' sitting room prior to the town meeting. The Town was named after the birthplace of General LaFayette, in addition to being a popular name in the New England area from where many settlers emigrated. The early town government was patterned largely after the New England style of "Little Republics." There existed a pure democracy in the Town, where all business was transacted in an open town meeting forum.

The Town of LaGrange was first settled by James Holden, who arrived on April 2, 1837 at "Lone Tree Bluff" which overlooked a heart-shaped open space area he later called "Heart Prairie" in the southwestern portion of the Town. Mr. Holden made a claim of one square mile, consisting of timber and prairie land.

Over the next two years, many of the pioneer settlers located in the vicinity of Heart Prairie and nearby Round Prairie. George and Robert Easterly, Edwin De Wolf, William McDugald, James Bret, the Worthingtons, True Rand, and others were neighbors on the Heart Prairie, while on the Round Prairie were the Cornishes, Caleb Morris, Marshall Newhall, et al. In 1837, Mr. Easterly, an earlier settler on Heart Prairie, secured over one thousand acres of land and began extensively cultivating wheat. Induced by the necessity to efficiently gather his crop, he began experimenting with a harvest machine he constructed in his barn-converted machine shop. He labored to design a reaper in which horses were placed behind the cutting apparatus and steered by a tiller. He eventually constructed a harvesting machine and was so successful that he began manufacturing them for sale. Mr. Easterly received his first patent in 1844 for the harvester, and in 1857 relocated the operation to Whitewater.

The first school was private and built in the center of the Town on Round Prairie in 1840. By 1882, the Town of LaGrange consisted of four school districts and six joint districts, in which there were 301 school-aged children.

In the early years of settlement, two general stores were built in the Town—one at LaGrange Center and the other on Heart Prairie. In 1838, Amasa Bigelow constructed a saw-mill, and in a few years, a grist-mill was also constructed. Shortly thereafter, the grist-mill was relocated to another site and a more efficient mill was built in its place by Daniel Williams, in an area east of the Williams Mills Post Office. No railway facilities were ever built in the Town, although for a time it was anticipated that the old Chicago & Northern Pacific, later named the Chicago, Portage & Superior Air Line, would pass through Heart Prairie. The Town developed in a conventional manner, with agriculture as its economic base. Summer cottages and recreational homes developed around the major inland lakes located in the southeastern corner of the Town. The pattern of urban growth in the Town of LaGrange up until 1985 is shown on Map 2.

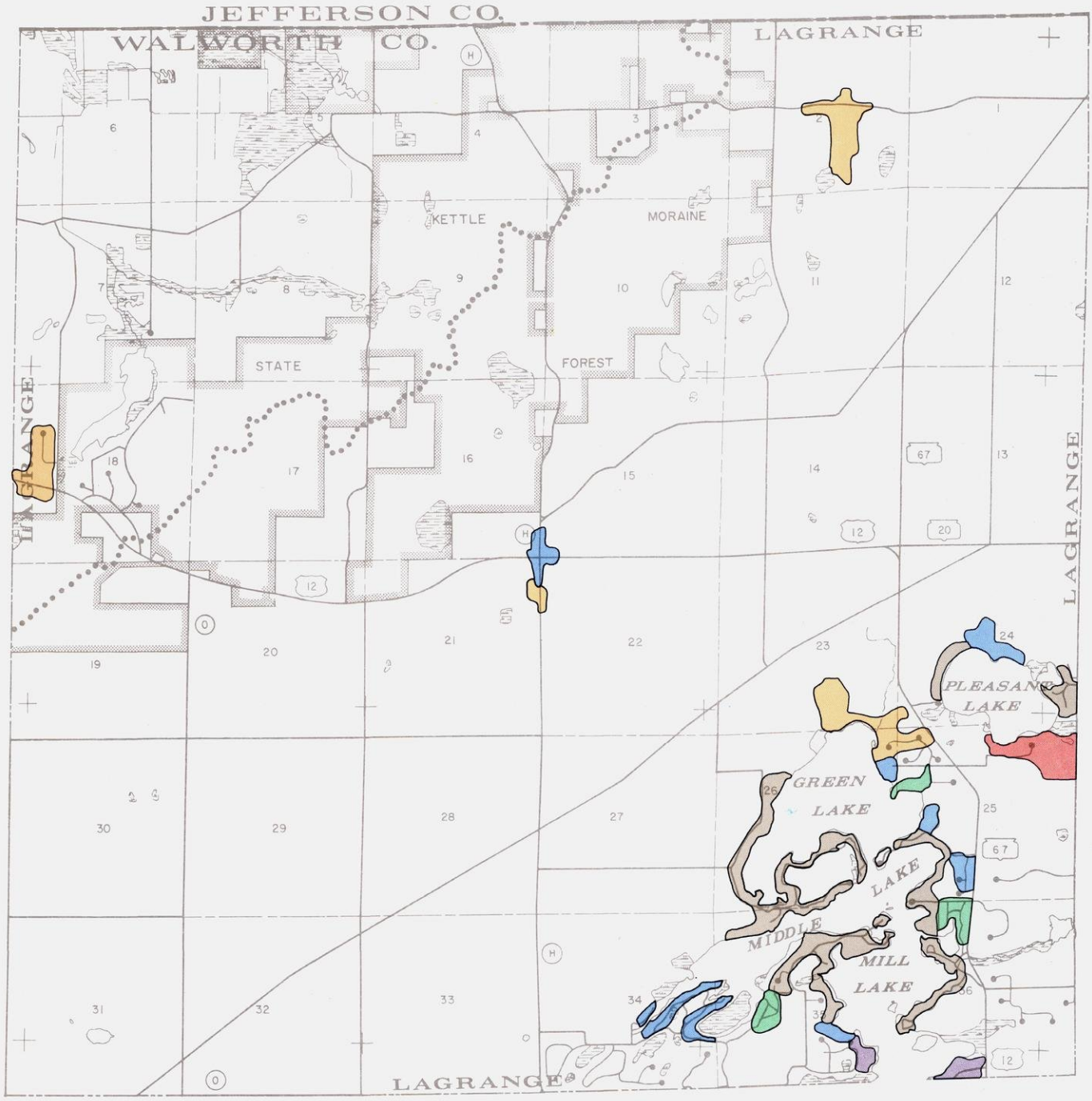
REGIONAL INFLUENCES

Sound planning practice dictates that local plans be prepared within the framework of broader areawide plans. The Southeastern Wisconsin Regional Planning Commission is the official areawide planning agency for the seven-county Southeastern Wisconsin Region, which includes Walworth County and the Town of LaGrange. The Commission has, since its creation in 1960, pursued the preparation of an advisory plan for the physical development of the Region through the systematic formulation of those elements of such a plan considered most important to the units and agencies of government operating within the Region. The salient recommendations of the adopted regional plan elements applicable to the Town of LaGrange are graphically summarized on Maps 3 and 4.

The adopted regional land use plan, as set forth in SEWRPC Planning Report No. 25, A Regional Land Use Plan and a Regional Transportation Plan for Southeastern Wisconsin: 2000, provides recommendations with respect to the amount, spatial distribution, and general arrangement of the various land uses required to serve the needs of the existing and anticipated future resident

Map 2

HISTORIC URBAN GROWTH IN THE TOWN OF LAGRANGE: 1850 THROUGH 1985



LEGEND

- BEFORE 1950
- 1951 - 1963
- 1964 - 1970
- 1971 - 1975
- 1976 - 1980
- 1981 - 1985

GRAPHIC SCALE

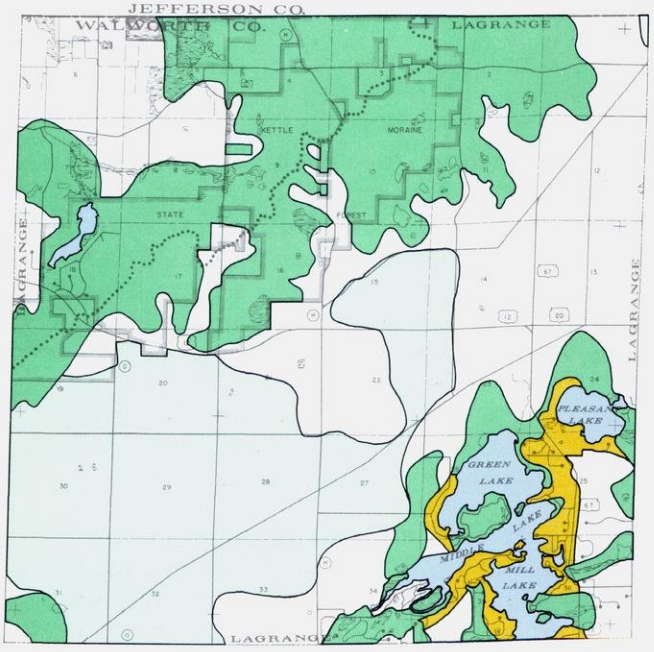
0 1/4 1/2 MILE

0 2000 4000 FEET

Source: SEWRPC.

Map 3

ADOPTED REGIONAL LAND USE PLAN AS RELATED TO THE TOWN OF LAGRANGE: 2000



LEGEND

PRIMARY LAND USES

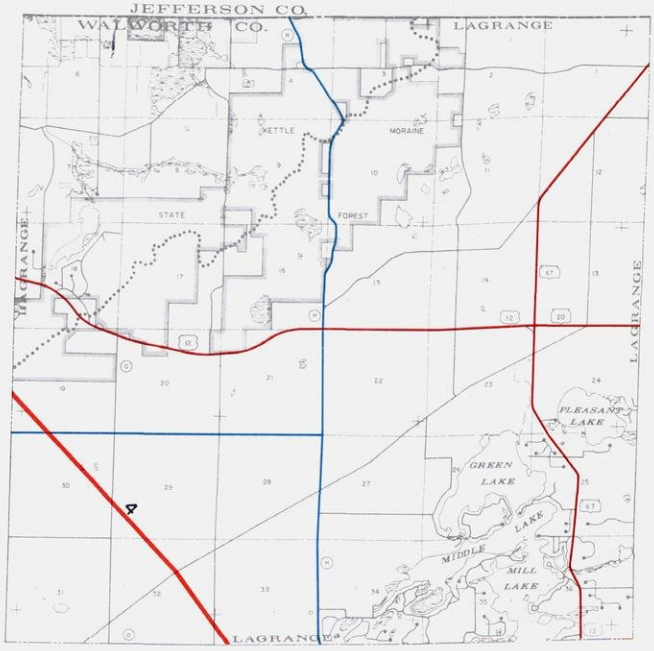
- LOW DENSITY RESIDENTIAL (0.7-2.2 DWELLING UNITS PER NET RESIDENTIAL ACRE)
- PRIMARY ENVIRONMENTAL CORRIDOR
- PRIME AGRICULTURAL LAND
- WATER
- OTHER AGRICULTURAL AND RURAL LAND

GRAPHIC SCALE 0 1 MILE 0 2000 4000 6000 8000 FEET

Source: SEWRPC.

Map 4

ADOPTED REGIONAL TRANSPORTATION SYSTEM PLAN AS RELATED TO THE TOWN OF LAGRANGE: 2000



LEGEND

ARTERIAL STREET AND HIGHWAY SYSTEM

JURISDICTIONAL CLASSIFICATION

- STATE TRUNK-FREEWAY
- STATE TRUNK-NONFREEWAY
- COUNTY TRUNK
- 4 NUMBER OF TRAFFIC LANES (2 WHERE UNNUMBERED)

GRAPHIC SCALE 0 1 MILE 0 2000 4000 6000 8000 FEET

Source: SEWRPC.

population and economic activity levels within the Region. Particularly pertinent to the preparation of a land use plan for the Town of LaGrange are the recommendations contained within the adopted regional land use plan for the preservation of the primary environmental corridors and prime agricultural lands of the Region, and for the encouragement of a more compact pattern of urban development in those areas that are covered by soils suitable for urban use; that are not subject to special hazards such as flooding; and that can be readily and economically served by such essential urban facilities and services as public sanitary sewerage and water supply. These three salient recommendations of the regional land use plan provided the basic framework around which the local land use plan was developed. The adopted regional land use plan as it pertains to the Town of LaGrange is shown on Map 3.

The adopted regional transportation system plan, as described in SEWRPC Planning Report No. 25, provides recommendations as to how the regional land use plan can best be served by arterial street and highway and transit facilities. It recommends a functional and jurisdictional system of arterial streets and highways to serve the Region through the design year 2000, together with a functional network of various types of transit lines. The regional transportation system plan was developed on the basis of careful quantitative analyses of existing and probable future traffic movements within the

Region, and of existing highway and transit system capacity and use. The transportation system plan as it pertains to the Town of LaGrange planning area is shown on Map 4. The plan as shown on Map 4 is fully consistent with the county jurisdictional highway system plan documented in SEWRPC Planning Report No. 15, A Jurisdictional Highway System Plan for Walworth County, as that plan pertains to the Town of LaGrange.

The adopted regional park, outdoor recreation, and related open space plan, as described in SEWRPC Planning Report No. 27, A Regional Park and Open Space Plan for Southeastern Wisconsin: 2000, identifies existing and probable future park and open space needs within the Region, and recommends a system of large regional resource-oriented parks, recreational corridors, and smaller urban parks to meet these needs and to provide form and structure to urban development within the Region. The adopted regional plan is being refined and detailed by the Commission for Walworth County in response to a request from the Walworth County Board.

The regional park and open space plan, in addition to presenting recommendations relating to Walworth County, specifically identifies the actions by the Wisconsin Department of Natural Resources (DNR) and Walworth County required to implement the plan. Specifically, within the Town of LaGrange, the plan identifies the state-owned lands in the Kettle Moraine State Forest-Southern Unit located in the Town. The land areas in the Kettle Moraine State Forest-Southern Unit that are currently owned by, and that are planned to be owned by, the Wisconsin Department of Natural Resources are shown on Map 5.

The findings and recommendations of the water quality management planning program for southeastern Wisconsin are described in Planning Report No. 30, A Regional Water Quality Management Plan for Southeastern Wisconsin: 2000. The plan documented in this report consists of a land use and sanitary sewer service area element, a point source water pollution abatement element, a nonpoint source water pollution abatement element, a wastewater sludge management element, and a water quality monitoring element. The regional water quality management plan includes recommended sanitary sewer service areas attendant to each recommended sewage treatment facility and related trunk sewer facilities in the Region. These initially recommended sanitary sewer service areas were based upon the urban land use configuration identified in the Commission-adopted regional land use plan for the year 2000.

In addition to the regional plan elements, there is a subregional plan element which is also of importance to the Town of LaGrange planning area. This plan is for the Fox River watershed as documented in SEWRPC Planning Report No. 12, A Comprehensive Plan for the Fox River Watershed. This subregional plan contains recommendations for generalized land use, resource conservation, park and outdoor recreation, flood control, and stream and lake water pollution abatement, as well as water supply plan elements which pertain to the Town of LaGrange planning area, excluding the northwestern portion of the Town which is located in the Rock River watershed.

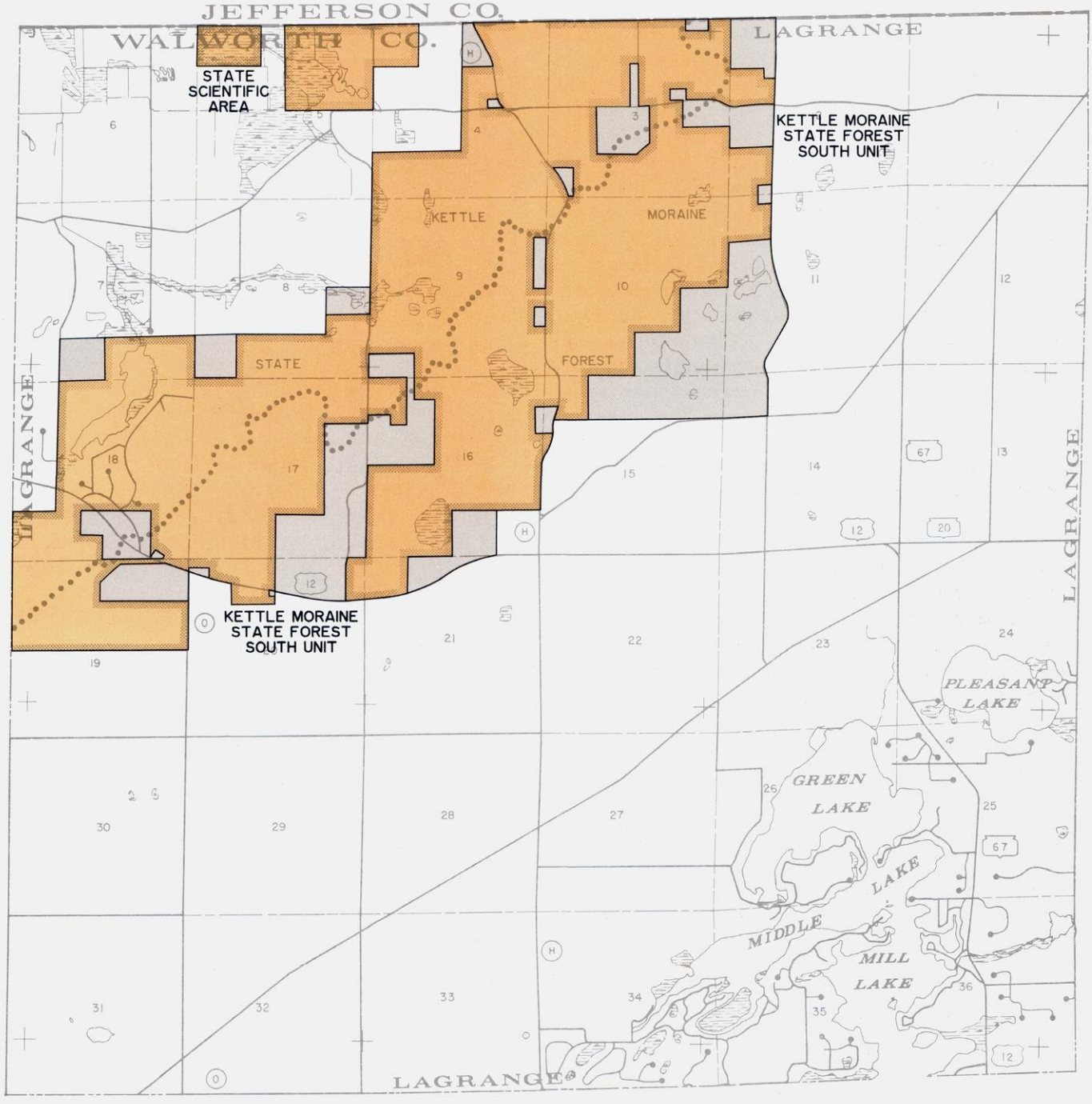
The findings and recommendations of the regional and subregional plan elements all have important implications for any comprehensive planning effort for the Town of LaGrange. The pertinent recommendations of these plan elements contained in these reports are included in this plan by reference and are considered further in the inventory and analysis chapters of this report.

STUDY PURPOSE

The purpose of the requested planning effort is to provide the Town of LaGrange with one of the key elements of a comprehensive community development plan—the land use plan. This plan, while primarily intended to meet local planning objectives, is also intended to carry related regional plan elements into greater depth and detail as necessary for sound local and regional planning. In conducting this planning effort, every attempt was made to identify the physical constraints imposed upon, and the opportunities open to, the Town of LaGrange; to set forth an integrated set of land use development objectives for the Town; to determine locations for the various anticipated land uses within the Town to the plan design year 2010; and to identify lake management practices necessary to ensure the continued protection of the water quality for the major inland lakes in the Town. Finally, plan implementation measures and devices needed to effectively carry out the recommended plan and lake management activities were identified, with

Map 5

WISCONSIN DEPARTMENT OF NATURAL RESOURCES OWNED LANDS AND PLANNED ACQUISITIONS WITHIN THE TOWN OF LAGRANGE: 1990



Source: Wisconsin Department of Natural Resources and SEWRPC.

particular emphasis upon recommended revisions to the Walworth County zoning and subdivision control ordinances.

Of particular importance to this planning effort was the information on lake water quality and related land use and land management practices in the Lauderdale Lakes and Pleasant Lake areas. The Lauderdale Lakes are comprised of three contiguous lakes—Green Lake, Middle Lake, and Mill Lake—located in the southeastern portion of the Town of LaGrange. The lakes are a major water resource in the Fox River watershed. Pleasant Lake is located just northeast of the Lauderdale Lakes, also in the southeastern corner of the Town. The planning report identifies the existing lake water quality conditions, and sets forth the results of inventories and analyses of pertinent tributary watershed characteristics affecting water quality conditions, including lake use and lake access management practices, lake impacts of land use-related activities, septic system management practices, and related shoreline erosion protection measures. For the Lauderdale Lakes, selected inventory data collected on septic system management have been incorporated into the report. From these inventories and analyses, feasible alternative actions for the maintenance and enhancement of lake water quality are proposed and evaluated, and water quality management measures are recommended.

THE COMMUNITY LAND USE PLANNING PROCESS

The recommended plan presented herein was developed through a land use planning process consisting of the following steps: 1) a comprehensive inventory of the factors affecting development in the Town; 2) a careful analysis of the inventory data; 3) the formulation of community land use objectives; 4) the identification of land use needs in the planning area through the year 2010, based upon the population and economic activity forecasts and the land use objectives; 5) the development and evaluation of the recommended plan; and 6) the recommendation of plan implementation measures. Imperative to any sound community planning process is active citizen participation in each stage of the process. Also imperative to the process is the need to continually reevaluate adopted community plans based upon the emergence of new information and changing public attitudes and opinions.

Inventory and Analysis

Reliable basic planning data are absolutely essential to the formulation of a workable land use plan. Consequently, inventory becomes the first operational step in the planning process. The crucial nature of factual information in the planning process should be evident, since no intelligent forecasts can be made or alternative courses of action evaluated without knowledge of the current state of the system being planned. The sound formulation of a land use plan for the Town of LaGrange requires that factual data be developed on the existing land use pattern, on the potential demand for each of the various major land use categories, on the major determinants of these demands, and on local planning objectives and constraints, as well as on the underlying land and water natural resources.

The necessary inventory and analyses not only provide data describing the existing conditions, but also provide a basis for identifying existing and potential problems in the planning area, as well as opportunities and potentials for urban growth. The inventory data are also crucial to the forecasting of community development needs, and to developing and evaluating the land use plan.

Formulation of Community Land Use Planning Objectives

An objective may be defined as a goal or end toward the attainment of which plans and policies are directed. Planning is a rational process for formulating and attaining objectives. The objectives developed serve as a guide to the preparation of the land use plan. Objectives may change as new information is developed, as objectives are fulfilled through plan implementation, or as objectives fail to be implemented owing to changing public attitudes and values. The formulation of objectives should involve the active participation of officials and citizens. The active participation of the town citizenry and elected and appointed officials in the planning process was facilitated through public meetings, including several Town Plan Commission meetings. The Town Plan Commission provided guidance throughout the course of the plan preparation.

Identification of Community Land Use and Facility Requirements

Although the preparation of forecasts is not planning, a land use plan must, to the extent possible, anticipate future requirements as a

basis for the development of the plan. In the planning effort, forecasts are required of future events and conditions which are outside the scope of the system to be planned. The future demand for land and facilities will depend primarily upon the size of the future population and the nature of future economic activity within the Town. Control of changes in population and economic activity levels, however, lie largely—although not entirely—outside the scope of government activity at the local level, and therefore outside the scope of the local planning process. Future population and economic activity levels must, therefore, be forecast. These forecasts, in turn, can be used to determine the probable future demand for land uses and facilities. This is not to say that governmental policies at the local level cannot influence the course of development and, consequently, of population and economic activity growth rates.

Development and Adoption of Recommended Plan

Having estimated the probable future demand for land use and facilities, a land use plan which meets the demands can be developed. The plan should be evaluated based on its ability to attain the agreed-upon land use objectives. The evaluation should be made by the Town Plan Commission. Such evaluation involves the use of data obtained during the inventory and analysis stages of the planning process, as well as during the later plan design stages.

Plan Implementation

Implementation of the adopted land use plan requires the use of several planning tools of a legal nature. A zoning ordinance and accompanying zoning map should be used to legally assure that private development and redevelopment occur in conformance with the adopted plan. The zoning regulations should govern not only the types of land uses permitted in various parts of the community, but the height and arrangement of buildings on the land, the intensity of the use of land, and the supporting facilities needed to carry out the intent of the land use plan. Land subdivision regulations should be applied to assure that any proposed land subdivision plats and certified survey maps conform to the plan with respect to the proposed land uses to be accommodated. Implementation of the plan should also be furthered by the formulation of public policies that will ensure plan implementation.

REPORT STRUCTURE

This planning report consists of eight chapters. Following this introductory chapter, Chapter II, "Population and Employment Inventory, Analysis, and Forecasts," presents both the historic and forecast population and employment data for the year 2010 that were used in the planning effort. Chapter III, "Natural Resource Base," presents information pertaining to the natural resource base of the Town of LaGrange, including data on soils, topography, drainage, wetlands, floodlands, scenic vistas, woodlands, wildlife habitat, parks, and aquatic plants and animals. Chapter IV, "Existing Land Use and Land Use Regulations," presents relevant data on the significant man-made features of the Town of LaGrange, including data on existing land use, land use regulations, and community facilities and services. Chapter V, "Lake Management Activities," describes the existing uses of the major lakes in the Town, water quality concerns, and options for future governance of the lake area. Chapter VI, "Land Use Plan," presents the community land use objectives upon which the land use plan was based, as well as the community land use needs to the design year 2010 based upon the forecast population and employment levels described in Chapter II. Chapter VII, "Plan Implementation," describes the legal instruments needed to implement the plan. Finally, a complete summary of the plan is provided in Chapter VIII.

Chapter II

POPULATION AND EMPLOYMENT INVENTORY, ANALYSIS, AND FORECASTS

INTRODUCTION

Information on the size, characteristics and distribution of the resident population; on economic activity; on housing activity; and on anticipated changes in these socioeconomic factors over time is essential to the preparation of a sound land use plan. In the final analysis, the purpose of any local planning program is to benefit the resident population by maintaining and enhancing living conditions in the area. Moreover, certain of the land use requirements and needs that a land use plan seeks to meet are directly related to the existing and probable future population levels of the area.

HISTORIC AND FORECAST POPULATION AND EMPLOYMENT LEVELS

The preparation of population and employment forecasts of a rural community such as the Town of LaGrange, when set in a dynamic region, is a particularly difficult task, fraught with uncertainties and subject to periodic revision as new information becomes available. The population and employment forecasts presented in this land use plan were developed from regional and county forecasts reflecting alternative futures for the Southeastern Wisconsin Region developed by the Regional Planning Commission and used by the Commission in its regional and local planning efforts.

Two initial alternative future scenarios were prepared for the Region as a basis for the regional population and employment forecasts: an intermediate future scenario and an optimistic future scenario. Under each scenario, land use development patterns were developed which were believed to represent conditions that could occur in the Southeastern Wisconsin Region and the Town of LaGrange over the next 20 years. Under the intermediate scenario, a centralized development pattern was selected, and under the optimistic scenario, a decentralized development pattern was selected as the basis for preparing the population and employment forecasts for the Town.

Population

The historic and forecast population levels for the Region, Walworth County, and the Town of LaGrange are shown in Table 1. The optimistic future scenario-decentralized development pattern envisions that the resident population of the Region will increase from about 1,742,700 persons in 1985 to about 2,316,100 persons in the year 2010, an increase of about 573,400 persons, or about 33 percent. That scenario envisions that the resident population of the County will increase from about 72,200 persons in 1985 to about 137,600 persons in the year 2010, an increase of about 65,400 persons, or about 91 percent. The optimistic scenario envisions that the resident population of the Town will increase from about 1,560 persons in 1985 to about 1,814 persons in the year 2010, an increase of about 254 persons, or about 16 percent.

The intermediate scenario-centralized development pattern envisions that the resident population of the Region will increase from about 1,742,700 persons in 1985 to about 1,872,200 persons by 2010, an increase of about 129,500 persons, or about 7 percent. That scenario envisions that the resident population of the County will increase from about 72,200 persons to about 87,300 persons by 2010, an increase of about 15,100 persons, or about 21 percent. The intermediate scenario envisions that the resident population of the Town will increase from about 1,560 persons in 1985 to about 1,614 persons in the year 2010, an increase of about 54 persons, or about 3 percent.

Throughout its history, the Town of LaGrange has been predominantly a rural community and may be expected to remain so in the foreseeable future. The Town contains no incorporated municipality at present, and is sufficiently removed from any urban area to make annexation of areas to other communities a remote possibility. Second-home development in the Town has been strong for many years, and the rate of second-home construction in the Town appears to have increased in the past five years. As shown in Table 2, 192 zoning permits have been issued for single-family home construction within the Town in the past 10 years. Accord-

Table 1

COMPARISON OF HISTORICAL AND FORECAST POPULATION LEVELS FOR THE REGION, WALWORTH COUNTY, AND THE TOWN OF LAGRANGE

Year	Region		Walworth County		Town of LaGrange	
	Population	Percent Change from Previous Period	Population	Percent Change from Previous Period	Population	Percent Change from Previous Period
1850	113,389	--	17,862	--	1,050	--
1860	190,409	67.9	26,496	48.3	1,255	19.5
1870	223,546	17.4	25,972	-2.0	1,039	-17.2
1880	277,119	24.0	26,249	1.1	921	-11.4
1890	386,774	39.6	27,860	6.7	844	-8.4
1900	501,808	29.7	29,259	5.0	882	4.5
1910	631,161	25.8	29,614	1.2	779	-11.7
1920	783,681	24.2	29,327	-1.0	794	1.9
1930	1,006,118	28.4	31,058	5.9	769	-3.1
1940	1,067,699	6.1	33,103	6.6	757	-4.7
1950	1,240,618	16.2	41,584	25.6	915	20.9
1960	1,573,620	26.8	52,368	25.9	1,087	18.9
1970	1,756,086	11.6	63,444	21.1	1,311	20.6
1980	1,764,919	0.5	71,507	12.7	1,661	26.7
1985[a]	1,742,700	-1.3	72,203	1.0	1,560	-6.1
Alternative Future Scenario: 2010						
Intermediate-Centralized Development Pattern	1,872,200	7.4	87,300	20.9	1,614	3.5
Optimistic-Decentralized Development Pattern	2,316,100	32.9	137,600	90.6	1,814	16.3

[a] *Wisconsin Department of Administration population estimate.*

Source: U. S. Bureau of the Census, Wisconsin Department of Administration, and SEWRPC.

ingly, the optimistic-decentralized development scenario was selected as the most reasonable basis for the preparation of a land use plan for the Town of LaGrange.

Table 1 compares historic and forecast population levels for the Southeastern Wisconsin Region, Walworth County, and the Town of LaGrange. The table indicates a rapid resident population increase in the Region as a whole since 1850. Prior to 1980, the Region's population generally increased at an average rate of 2.4 percent per year, whereas between 1980 and 1985 the average rate decreased about 0.3 percent per year. Under the optimistic future scenario-decentralized development pattern, the resident population of the Region may be expected to increase at a rate of about 1.3 percent per year to the year 2010.

Table 1 indicates a slightly lower rate of resident population growth in Walworth County. The population of Walworth County increased at a rate of about 2.1 percent per year between 1940 and 1980. The County experienced a 0.2 percent per year rate of increase between 1980 and 1985. Under the optimistic scenario, the resident population of Walworth County may be expected to increase at a rate of about 3.6 percent per year to the year 2010.

Table 1 further indicates that the Town of LaGrange experienced a resident population rate increase of 2.2 percent per year between 1940 and 1980. The Town experienced a 1.2 percent decrease per year in resident population from 1980 to 1985. Under the optimistic scenario, the resident population may be expected to increase at a rate of 0.6 percent per year to the year 2010.

Figure 1 graphically shows the historical and alternative forecast resident population levels for the Town of LaGrange.

The actual and forecast population levels by age group for the Region, Walworth County, and the Town of LaGrange are shown in Table 3. As shown in the table, under the optimistic forecast, the percentage of school-age population (ages 5 through 18) in relation to the county population may be expected to decrease from its 1980 level of about 25 percent to about 19 percent by the year 2010. Similarly, the percentage of school-age population in the Town in relation to the total population in the Town may be expected to decline from about 27 percent in 1980 to about 18 percent by the year 2010. The proportion of the population 65 years of age and older in the County in relation to the total county population may be expected to gradually increase from its 1980 level of about 13 percent to about 14 percent by the year 2010, whereas the proportion of this age group in the Town may be expected to substantially increase from about 13 percent in 1980 to about 19 percent in the year 2010. These figures suggest that new educational facilities and services may not be needed in the Town. The Town, as well as the County as a whole, may, however, need to address the needs of a steadily increasing elderly population.

Employment

The actual and alternative forecast employment levels for the Region, Walworth County, and the Town of LaGrange are shown in Table 4. The optimistic scenario-decentralized development pattern envisions that the number of jobs in the Region will increase from about 871,900 in 1985 to about 1,251,600 by the year 2010, an increase of about 379,700 jobs, or about 44 percent. In Walworth County, the optimistic scenario envisions that the number of jobs in the County will increase from about 28,100 in 1985 to about 57,600 by the year 2010, an increase of 29,500 jobs, or about 105 percent. In the Town of LaGrange, the optimistic scenario envisions that the number of jobs will increase from about 240 in 1985 to about 268 by the year 2010, an increase of about 28 jobs, or about 12 percent.

The intermediate scenario-centralized development pattern envisions that the number of jobs in the Region will increase from about 871,900 in 1985 to about 1,051,300 in 2010, an increase of about 179,400 jobs, or about 21 percent over the 1985 level. However, in Walworth County the

Table 2

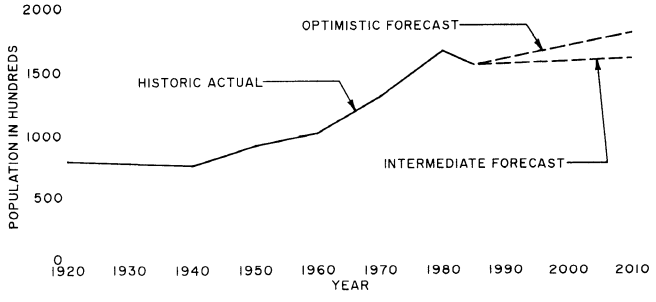
RESIDENTIAL BUILDING ACTIVITY IN THE TOWN OF LAGRANGE: 1960-1989

Year	Number of Single-Family Housing Units Authorized by Zoning Permit
1960	28
1961	16
1962	14
1963	12
1964	12
1965	18
1966	14
1967	22
1968	29
1969	20
1970	19
1971	23
1972	18
1973	16
1974	23
1975	9
1976	14
1977	34
1978	42
1979	26
1980	11
1981	2
1982	3
1983	7
1984	14
1985	54
1986	34
1987	26
1988	24
1989	17

Source: Walworth County Planning, Zoning and Sanitation Department; and SEWRPC.

Figure 1

HISTORICAL AND ALTERNATIVE POPULATION PROJECTIONS FOR THE TOWN OF LAGRANGE: 1920-2010



Source: U. S. Bureau of the Census and SEWRPC.

Table 3

HISTORICAL AND ALTERNATIVE FORECAST RANGE FOR COMPOSITION OF THE RESIDENT POPULATION BY AGE GROUP IN THE REGION, WALWORTH COUNTY, AND THE TOWN OF LAGRANGE: 1980 AND 2010

Age Group	Region			
	1980		Alternative Forecast Range: 2010[a]	
	Number	Percent	Number	Percent
Under 5	128,085	7.3	110,828-150,540	5.9-6.5
5 to 14	274,086	15.5	223,141-297,569	1.9-12.8
15 to 19	168,897	9.6	125,048-161,653	6.7-7.0
20 to 64	998,557	56.4	1,148,234-1,382,779	61.4-59.7
65 and Older	195,294	11.2	264,833-323,544	14.1-14.0
All Ages	1,764,919	100.0	1,872,084-2,316,085	100.0-100.0

Age Group	Walworth County			
	1980		Alternative Forecast Range: 2010[a]	
	Number	Percent	Number	Percent
Under 5	110,828	5.9	5,471-7,452	5.1-5.4
5 to 14	223,141	11.9	9,814-16,216	11.2-11.8
15 to 19	125,048	6.7	5,981-9,429	6.9-6.9
20 to 64	1,148,234	61.4	54,380-83,854	62.3-60.9
65 and Older	264,833	14.1	12,653-20,649	14.5-15.0
All Ages	1,872,084	100.0	87,299-137,600	100.0-100.0

Age Group	Town of LaGrange			
	1980		Alternative Forecast Range: 2010[a]	
	Number	Percent	Number	Percent
Under 5	87	5.2	78-93	4.8-5.1
5 to 14	279	16.8	193-224	12.0-12.4
15 to 19	165	10.0	100-112	6.2-6.2
20 to 64	915	55.1	937-1,043	58.1-57.5
65 and Older	215	12.9	306-340	18.9-18.8
All Ages	1,661	100.0	1,614-1,812	100.0-100.0

aThe first number shown in the range represents the forecast under the intermediate future scenario-centralized development pattern; the second number represents the forecast under the optimistic scenario-decentralized development pattern.

Source: U. S. Bureau of the Census and SEWRPC.

Table 4

ACTUAL AND FORECAST EMPLOYMENT LEVELS FOR THE REGION, WALWORTH COUNTY, AND THE TOWN OF LAGRANGE: 1985 AND 2010

Year	Number of Jobs		
	Region	Walworth County	Town of LaGrange
1985 Actual	871,900	28,100	240
Alternative Future Scenario: 2010			
Intermediate-Centralized Development Pattern	1,051,300	38,590	244
Optimistic-Decentralized Development Pattern	1,251,600	57,640	268

Source: Wisconsin Department of Industry, Labor and Human Relations; and SEWRPC.

intermediate scenario envisions that the number of jobs will increase significantly from about 28,100 in 1985 to about 38,590 in 2010, an increase of about 10,490 jobs, or about 37 percent. In the Town of LaGrange, the intermediate scenario envisions that the number of jobs will increase slightly from about 240 in 1985 to about 244 in 2010, an increase of about four jobs, or about 2 percent.

Employment Characteristics

Table 5 provides information on the employed population age 16 years of age and older by occupation and by place of residence for the Region, Walworth County, and the Town in 1980. In 1980, a total of 826,456 persons in the Region, or about 47 percent of the resident population of the Region, were employed in the labor force. In Walworth County, a total of 32,478 persons, or about 44 percent of the resident county population, were employed in the labor force. In the Town of LaGrange, a total of 718 persons, or about 43 percent of the resident population, were employed in the labor force. As indicated in Table 5, white collar workers, including managerial and professional specialty, and technical, sales, and administrative support, represented about 52 percent of the employed persons in the Region, about 45 percent in Walworth County, and about 47 percent in the Town of LaGrange. Blue collar workers, including service; farming, forestry, and fishing; precision production, craft, and repair; and operators, fabricators, and laborers, represented about 48 percent of the employed persons in the Region, about 55 percent of the of the employed persons in the County, and about 53 percent of the employed persons in the Town of LaGrange.

As previously indicated, although the Town of LaGrange is predominately rural in character, only about 9 percent of the population is employed directly in farming, forestry, or fishing operations, as indicated in Table 5. Precision production, craft, and repair laborers; managerial and professional workers; technical workers and sales workers; service workers; and operators, fabricators, and laborers accounted for 91 percent of the resident work force. Since there is little commercial or industrial development in the Town, it is apparent that most of these people commute out of Town to their place of employment.

Table 6 provides information on the employed population 16 years of age and older by class of worker for the Region, Walworth County, and the Town in 1980. Table 6 indicates that in 1980, about 71 percent of the employed town residents worked in the private sector, as compared to 83 percent in the Region and 73 percent in the County; and that about 16 percent of the employed town residents worked in the public sector, as compared to 13 percent in the Region and 17 percent in the County. Table 6 also indicates that about 12 percent of the employed residents were self-employed, as compared to only 4 percent for the Region and about 9 percent for Walworth County. The table further indicates that about 1.4 percent of the town workers were engaged in unpaid family work, as compared to 0.3 percent in the Region and 0.9 percent in Walworth County.

Table 5

EMPLOYED PERSONS 16 YEARS OF AGE AND OLDER BY OCCUPATION IN THE REGION, WALWORTH COUNTY, AND THE TOWN OF LAGRANGE: 1980

Occupation	Region		Walworth County		Town of LaGrange	
	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total
Managerial and Professional Specialty						
Executive, Administrative, Managerial	81,635	9.9	2,983	9.2	85	11.8
Professional Specialty	96,863	11.7	3,678	11.3	76	10.6
Technical, Sales, Administrative Support						
Technicians and Related Support	25,271	3.1	653	2.0	14	1.9
Sales	81,057	9.8	2,843	8.8	72	10.0
Administrative Support, Including Clerical	143,121	17.3	4,364	13.4	90	12.5
Service						
Private Household	2,486	0.3	128	0.4	2	0.3
Protective Service	11,721	1.4	404	1.3	9	1.3
Service, Except Protective and Household	95,816	11.6	4,554	14.0	79	11.0
Farming, Forestry, and Fishing	9,065	1.1	1,735	5.3	62	8.6
Precision Production, Craft, Repair	100,953	12.2	4,343	13.4	107	14.9
Operators, Fabricators, and Laborers						
Machine Operators, Assemblers, Inspectors	109,787	13.3	4,290	13.2	60	8.4
Transportation and Material Moving	33,843	4.1	1,290	4.0	40	5.6
Handlers, Equipment Cleaners, Helpers, Laborers	34,838	4.2	1,213	3.8	22	3.1
Total	826,456	100.0	32,478	100.0	718	100.0

Source: U. S. Bureau of the Census and SEWRPC.

Table 6

EMPLOYED PERSONS 16 YEARS AND OLDER BY CLASS OF WORKER IN THE REGION, WALWORTH COUNTY, AND THE TOWN OF LAGRANGE: 1980

Class	Region		Walworth County		Town of LaGrange	
	Number	Percent of Total	Number	Percent of Total	Number	Percent of Total
Private Wage and Salary Worker	684,138	82.8	23,836	73.4	507	70.6
Federal Government Worker	15,954	1.9	317	1.0	0	0.0
State Government Worker	15,872	1.9	1,757	5.4	28	3.9
Local Government Worker	73,370	8.9	3,419	10.5	86	12.0
Self-Employed Worker	34,300	4.2	2,849	8.8	87	12.1
Unpaid Family Worker	2,822	0.3	300	0.9	10	1.4
Total	826,456	100.0	32,478	100.0	718	100.0

Source: U. S. Bureau of the Census and SEWRPC.

HISTORIC AND FORECAST POPULATION PER HOUSEHOLD

Table 7 compares historic and forecast population per household in the Region, Walworth County, and the Town of LaGrange in the year 2010 under the optimistic and intermediate future scenarios. As already noted, the optimistic scenario was selected for use in the preparation of the land use plan for the Town.

Table 7 indicates that in 1980, the average household size in the Town was 2.83 persons, compared to 2.74 persons in the County and 2.75 persons in the Region. The table also indicates that under both the intermediate and optimistic scenarios, the average household size may be expected to decline for all of the areas considered. This is in keeping with the trend exhibited from 1970 to 1980. These changes in average household size have important implications for housing and residential land use planning, since the average household size is used to convert a population forecast to the number of housing units needed over the planning period. Based upon a decrease in average household size from 2.83 persons in 1980 to 2.57 by 2010 in the Town of LaGrange as forecast under the optimistic scenario, an additional 120 year-round, occupied housing units may be expected to be needed by the year 2010 to meet the housing needs of the resident population of about 1,814 persons forecast under the optimistic scenario. Under the intermediate scenario, an additional 88 year-round, occupied housing units may be expected to be needed by the year 2010 to meet the housing needs of a resident population of 1,614 persons, based upon an average household size of 2.34 persons.

POPULATION AND HOUSING CHARACTERISTICS

Table 8 indicates the total number of year-round and seasonal housing units in the Region, Walworth County, and the Town of LaGrange in 1980, the latest year for which definitive data are available. As shown in Table 8, about 99 percent of the total housing units in the Region were year-round housing units, as compared with about 86 percent in Walworth County and 70 percent in the Town of LaGrange. In 1980, the Region had 389,381 owner-occupied, year-round housing units, or about 58 percent of the total housing units; Walworth County had 17,010 owner-occupied, year-round housing units, or about 51 percent of the total housing units; and the Town of LaGrange had 484 owner-occupied, year-round housing units, or about 41 percent of the total housing units.

Table 7

COMPARISON OF HISTORICAL AND PROBABLE FUTURE POPULATION PER OCCUPIED HOUSING UNIT IN THE REGION, WALWORTH COUNTY, AND THE TOWN OF LAGRANGE: 1960-2010

Year	Region	Walworth County	Town of LaGrange
1960	3.30	3.28	3.50
1970	3.20	3.16	3.25
1980	2.75	2.74	2.83
2010[a]	2.40	2.35	2.34
2010[b]	2.67	2.57	2.57

[a] *Forecasts based on the intermediate scenario-centralized development pattern.*

[b] *Forecasts based on the optimistic scenario-decentralized development pattern.*

Source: U. S. Bureau of the Census and SEWRPC.

As compared to the Region and Walworth County, a substantially greater proportion of the total housing units in the Town of LaGrange were seasonal units. As shown in Table 8, in 1980 there were 346 seasonal housing units, or about 30 percent of the total housing units in the Town of LaGrange, compared with 4,554 seasonal housing units, or only about 14 percent, in Walworth County and 9,227 seasonal housing units, or only about 1 percent, in the Region. In addition, a number of housing units counted as vacant in 1980 were likely unoccupied seasonal units.

Information provided by the Town indicates that the proportion of seasonal to year-round housing units in 1989 was approximately 1.5 seasonal units to each year-round unit. This proportion was based on information from the Lauderdale Lakes Improvement Association, which maintains a list of the names and permanent addresses of all those who own property in the Lauderdale Lakes area; and on information gathered as part of the comprehensive reassessment of improvements in the Town, which was completed on December 31, 1989.

Table 8

POPULATION AND HOUSING CHARACTERISTICS OF THE REGION, WALWORTH COUNTY, AND THE TOWN OF LAGRANGE: 1980

Characteristic	Region		Walworth County		Town of LaGrange	
	Number	Percent	Number	Percent	Number	Percent
Population	1,764,919	--	71,507	--	1,661	--
Year-Round Housing Units						
Owner-occupied	389,381	58.5	17,010	50.9	484	41.3
Renter-occupied	238,574	35.9	7,779	23.3	102	8.7
Vacant	27,791	4.2	4,054	12.1	240	20.5
Subtotal	655,746	98.6	28,843	86.4	826	70.5
Seasonal Housing Units	9,277	1.4	4,554	13.6	346	29.5
Total Housing Units	665,023	100.0	33,397	100.0	1,172	100.9
Persons per Housing Unit	2.75	--	2.74	--	2.83	--

Source: U. S. Bureau of the Census and SEWRPC.

As of December 31, 1989, there were 1,363 housing units within the Town. Approximately 1,000 of these homes were in the Lauderdale Lakes area, and about 70 homes were located near Pleasant Lake. According to records kept by the Lauderdale Lakes Improvement Association, approximately 23 percent of those who own homes in the Lauderdale Lakes area are year-round residents of the Town. If this same percentage of year-round resident ownership is applied to both the Pleasant Lake and Lauderdale Lakes areas, then approximately 245 lake-area housing units are occupied by year-round residents and approximately 825 are occupied on a seasonal basis. It was assumed that the remaining 290 housing units outside the Lauderdale Lakes and Pleasant Lake areas were occupied by year-round residents. Based on these assumptions, at the end of 1989 approximately 535 housing units, or 40 percent of the housing units in the Town, were occupied by year-round residents, while approximately 830 housing units, or 60 percent, were occupied on a seasonal basis.

As previously discussed, it is forecast that an additional 120 housing units will be needed by the year 2010 to accommodate the increase in year-round resident population. Assuming that the proportion of 1.5 seasonal units to each year-round housing unit remains constant during the planning period, an additional 180 housing units for seasonal occupancy will be needed by the year 2010, for a total increase of 300 housing units in the Town between 1985 and the year 2010.

Town Housing Construction Activity 1960 through 1989

Table 2 provides a summary of residential building activity in the Town of LaGrange from 1960 through 1989. During this time period, 601 single-family housing units were authorized by residential zoning permits. This figure represents an average of 20 new housing units per year. This rate of residential construction may be expected to decrease slightly by the year 2010. An additional 120 year-round housing units may be expected to be constructed in the Town between 1985 and the year 2010 under the optimistic scenario. Also, an additional 180 units may be expected to be constructed between 1985 and the year 2010 for seasonal occupancy. Thus, an average of 12 single-family units per year will need to be constructed between 1985 and 2010.

SUMMARY

Population and Employment Forecasts

The forecasts of population and employment that were utilized in the preparation of a land use plan for the Town of LaGrange were based upon consideration of alternative population and employment forecasts to the design year 2010. Two alternative population and employment forecasts were developed: an optimistic scenario-decentralized development pattern and an intermediate scenario-centralized development pattern. Under the alternative forecasts, the population of the Town may be expected to increase from 1,560 persons in 1985 to a range of 1,614 persons to 1,814 persons by the year 2010. Employment in the Town may be expected to increase from about 240 jobs in 1985 to a range of 244 jobs to 268 jobs by the year 2010. The optimistic scenario population and employment forecasts were selected for use in the planning effort.

Employment Characteristics

Of the total 718 employed persons in the Town of LaGrange in 1980, about 337 persons, or about 47 percent, were white collar workers, including managerial and professional specialty, and technical, sales, and administrative support; and about 381 persons, or about 53 percent, were blue collar workers, including service; farming, forestry, and fishing; precision production, craft, and repair; and operators, fabricators, and laborers. Since there is little commercial or industrial development in the Town, it is apparent that most of these people commute out of Town to their place of employment.

In 1980, 71 percent of the employed population 16 years of age and older worked in the private sector and about 16 percent of the employed town residents worked in the public sector. About 12 percent of the residents were self-employed, and about 1.4 of the employed residents were engaged in unpaid family work.

Forecast Age Distribution

The anticipated changes in the age composition of the population of the Town of LaGrange have important implications for land use planning. The decline in school-age population levels anticipated under the optimistic scenario indicate that there may not be a need for new schools or recreational facilities for children between the ages of 5 and 18. However, a significant increase in the resident population age 65 and older is forecast under the optimistic scenario, which could affect the demand for elderly housing units and special transportation and health care needs.

Household Size

In 1980, the average number of resident persons per household in the Town of LaGrange was 2.83, compared with 2.74 in Walworth County and 2.75 in the Region. The average resident household size in the Region, the County, and the Town may be expected to decrease slightly by the plan design year. Based upon a Town of LaGrange decrease in average household size from 2.83 persons in 1980 to 2.57 by 2010, an additional 120 housing units may be expected to be needed in the Town by the year 2010 to meet the housing needs of a resident population of about 1,814 persons. An additional 180 housing units are expected to be needed by the year 2010 to meet the demand for seasonal—that is, vacation or second home—housing.

Housing Characteristics

The available data show that both the Region and Walworth County have a higher percentage of owner-occupied, year-round housing units than the Town of LaGrange. As shown in Table 8, in 1980 the Region had 389,381 owner-occupied, year-round housing units, or about 58 percent of the total housing units; Walworth County had 17,010 owner-occupied, year-round housing units, or about 51 percent of the total housing units; and the Town of LaGrange had 484 owner-occupied, year-round housing units, or only about 41 percent of the total housing units. Table 8 further indicates that in 1980 at least 30 percent of the total housing units were seasonal units in the Town of LaGrange, as compared to only 14 percent in Walworth County and only about 1 percent in the Region.

Chapter III

NATURAL RESOURCE BASE INVENTORY AND ANALYSIS

INTRODUCTION

The conservation and wise use of the natural resource base is vital to the sound physical, social, and economic development of an area and to the continued ability of the area to provide a pleasant and habitable environment for life. Consequently, a sound land use plan for the Town of LaGrange should identify areas having concentrations of natural resources deserving of protection from urban development, and also areas having natural resource characteristics that may impose severe limitations on urban development, as well as areas having characteristics that are suitable for development.

For the purposes of this planning effort the following elements of the natural resource base were identified for consideration in the land use planning process: 1) soils; 2) topographic features; 3) watersheds, subwatersheds, and subbasins; 4) surface water resources, including lakes, rivers, and lesser streams with their associated floodlands and wetlands; 5) scenic overlooks; 6) areas of scientific value; 7) prairie remnant vegetation; 8) woodlands; 9) wildlife habitats; 10) aquatic plant and fish habitats; and 11) other resource-related elements.

Areas of the landscape that contain concentrations of high-value elements of the natural resource base have been identified and termed "environmental corridors" by the Regional Planning Commission. The environmental corridors encompass those areas in southeastern Wisconsin in which concentrations of recreational, aesthetic, ecological, and cultural resources occur, and which should be preserved and protected in essentially natural, open uses.

Without a proper understanding of the significance to sound land use of these elements of the natural resource base, human alteration of the natural environment proceeds at the risk of excessive costs in terms of both monetary expenditures and of environmental degradation. The natural resources of an area are vulnerable to misuse through improper land use development. Such misuse may lead to severe environmental problems which are difficult and costly to correct, and to the eventual deterioration and destruction of the natural resource base itself.

SOILS

Soil properties exert an influence on the manner in which land is used. Soils are an irreplaceable resource, and mounting pressures toward more intensive land usage are constantly making this resource more and more valuable. The majority of land in the Town of LaGrange is tilled for crops. Because of the significant slopes present in the Kettle Moraine lands in the Town, conservation tillage practices are especially critical to soil preservation.

Another soil-related issue is the adequacy of the soils to support septic systems for residential development. Within the Town of LaGrange, the area of most concern is the land surrounding the Lauderdale Lakes, where the amount of residential development is already significant.

In general, the soils of the Lauderdale Lakes area are primarily a wind-deposited silty loess cap underlaid by cobbly, gravelly, sandy glacial till and outwash materials. Other soils in the area are soils formed from organic material and those formed in alluvial or colluvial deposits. Also, some areas have little or no loess cap, and thus are primarily sandy glacial materials.

Due to the density of residential development around the Lauderdale Lakes, the Town of LaGrange, the Town of Sugar Creek, and the Lauderdale Lakes Improvement Association arranged for the Wisconsin Department of Industry, Labor and Human Relations (DILHR) to conduct over 100 onsite inspections in Fall 1988 to determine the adequacy of the soils and the shoreline topography for proper septic system operation. The separation of the high seasonal soil saturation elevation from the base of the installed septic field or dry well was determined by observing soil mottling on extracted soil cores. State codes dictate a minimum separation of two feet for proper septic system operation. The cores indicated that the saturation depth variation was a function of the

texture of the soils, which, in turn, influenced their internal drainage characteristics. In areas of high organic soils, the water table may be at or relatively near the land surface during the wet season. However, in most cases, lake shoreline properties were found to have groundwater levels relatively close to the lake level.

The DILHR inspections were specifically concentrated on the 10 percent of the lake shoreline where septic system performance was most suspect because of a combination of the following indicators:

- Observed septic plume in the lake by multi-year leachate detector scan measurements along the shoreline;
- Observed high fecal bacteria counts offshore by multi-year water sampling program along the shoreline;
- Low elevation of land on which septic systems are installed;
- Indication of groundwater flow toward the lake; and
- Less than ideal soil types.

Of the 114 septic systems inspected by DILHR, 50 were determined to exhibit characteristics of failure. Some 46, or 92 percent, of the failures were due to high groundwater. Four, or 8 percent, of the failures were due to other conditions. The DILHR inspection is described in more detail in Chapter V of this report.

These findings were encouraging in that they confirmed the ability to use indicators to identify local lake shoreline areas with a high probability of onsite septic system failure. Although almost half of the systems inspected exhibited failure, it is not expected that more than 15 percent of the total of about 1,000 systems in the Lauderdale Lakes area are failing. The higher percentage of failures found during the DILHR inspection is attributed to the fact that the inspection focused on properties with very low elevations, where high water tables are prevalent, and which were thus not truly representative of all the properties using septic systems.

The conclusion is that lake area soils are generally suitable for proper septic system operation, as long as a suitable separation between the soil absorption field and the groundwater is maintained.

TOPOGRAPHIC FEATURES

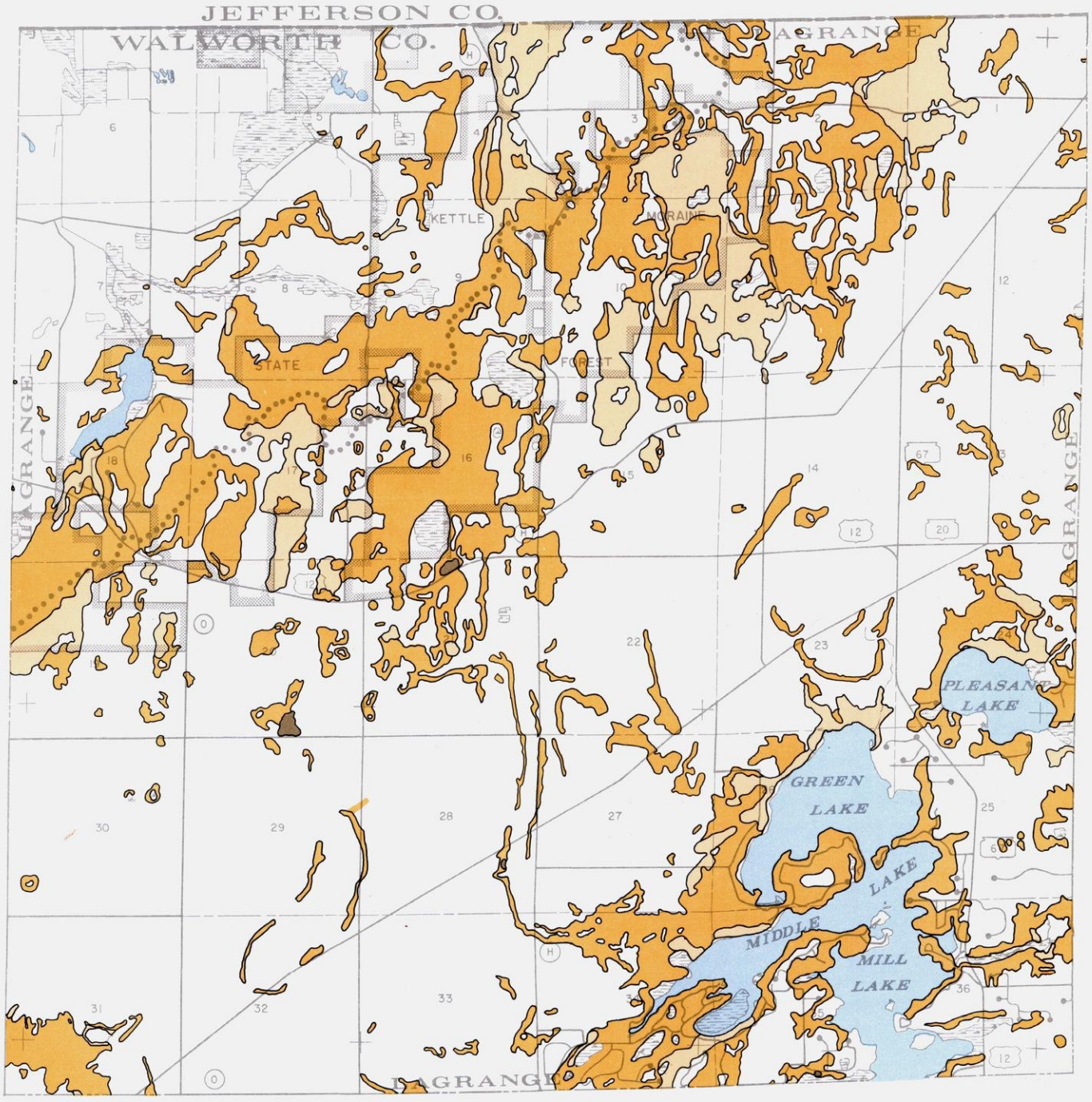
The topography, or relative elevation of the land surface, in the Town of LaGrange is determined, generally, by the configuration of the bedrock geology, and, more specifically, by the overlying glacial deposits. In general, the topography of the Town is level to gently rolling, with the exception of steep slopes associated with the kettle moraines in the north-central and west-central portions of the Town, on the western side of the Lauderdale Lakes, and on the northeastern side of Pleasant Lake.

Slope is an important determinant of the land uses practicable on a given parcel of land. Lands with steep slopes are generally poorly suited for urban development and for most agricultural purposes and, therefore, should be maintained in natural cover for water quality protection, wildlife habitat, and erosion control purposes. Lands with less severe slopes may be suitable for certain agricultural uses, such as pasturage, and for certain urban uses, such as carefully designed low-density residential use. Lands which are gently sloping or nearly level are best suited to agricultural production and to medium-density residential, commercial, or industrial uses. It should also be noted that slope is directly related to water runoff and erosion hazards and, therefore, the type and extent of both urban and rural land uses should be carefully adjusted to the slope of the land. In general, slopes of 12 percent or greater should be considered unsuitable for urban development and most types of agricultural land uses and, thus, should be maintained in essentially natural, open uses.

Map 6 provides a slope analysis of the Town of LaGrange. This analysis serves to identify areas which have slopes ranging from 0 to 12 percent, 12 to 20 percent, and 20 percent or greater. Soils with slopes of 12 percent or greater present major difficulties in the preparation of the land for development, and generally require excessive earth movement and grading, a practice that destroys the natural cover, including existing trees. Slopes of 12 percent or greater, representing about 5,725 acres, or about 25 percent of the Town of LaGrange, are found predominantly in the southeast portion of the Town around the Lauderdale Lakes and continuing in a southwest

Map 6

SLOPE ANALYSIS FOR THE TOWN OF LAGRANGE: 1985



Source: SEWRPC.

to northeast direction in the Kettle Moraine State Forest—Southern Unit.

WATERSHEDS, SUBWATERSHEDS, AND SUBBASINS

As shown on Map 7, the Town of LaGrange is located largely in the Fox River watershed, which is a part of the Mississippi River drainage system. The portion of the Fox River watershed in the Town can be divided into several subwatersheds, as shown on Map 7. These include the Honey Creek, the Mukwonago River, and the North Lake subwatersheds. A small northwestern portion of the Town is in the Rock River watershed, which is also part of the Mississippi River drainage system. The two subwatersheds in the Rock River watershed in the Town are the Steel Brook and the Whitewater Creek subwatersheds. The subwatersheds, in turn, may be further subdivided into individual drainage areas, termed subbasins, which are also displayed on Map 7.

The subbasins in the Fox River watershed in the southeastern portion of the Town generally drain in a southeasterly direction toward Green and Pleasant Lakes, which are tributary to Honey Creek; the subbasins in the southwestern portion of the Town drain in a southwesterly direction toward North Lake. In addition, there are two internally drained areas located in low-lying areas in the northeastern portion of the Town. Subbasins in the northwestern corner of the Town in the Rock River watershed generally drain in a northwesterly direction to Steel Brook.

SURFACE WATER RESOURCES

Surface water resources, consisting of lakes, rivers and streams, and associated floodlands, form a particularly important element of the natural resource base of the Town of LaGrange. Surface water resources influence the physical development of an area, provide recreational opportunities, and enhance the aesthetic quality of the area. Lakes and streams constitute a focal point for water-related recreational activities; provide an attractive setting for properly planned residential development; and, when viewed in the context of the total landscape, greatly enhance the aesthetic quality of the environment. Unfortunately, lakes and streams are readily susceptible to degradation through improper rural, as well as urban, land use development and management. Water quality can be degraded by excessive pollutant loads, including nutrient loads, from malfunctioning and improperly located onsite sewage disposal systems, urban runoff, runoff from construction sites, and careless agricultural practices. The water quality of lakes and streams may also be adversely affected by the excessive development of riverine areas combined with the filling of peripheral wetlands, which removes valuable nutrient and sediment traps and adds nutrient and sediment sources.

Lakes

Lakes have been classified by the Regional Planning Commission as being either major or minor. Major lakes have 50 acres or more of surface water area; minor lakes have less than 50 acres of surface water area. Major lakes located totally or partially in the Town are: LaGrange Lake, 55 acres; Pleasant Lake, 155 acres; and the Lauderdale Lakes, comprised of Green Lake, 311 acres; Mill Lake, 271 acres; and Middle Lake, 259 acres. See Map 7.

Minor lakes in the area, with a surface water area between five acres and 50 acres, were also identified for planning purposes. Lakes having a surface water area of less than five acres were generally located in another natural resource base element, primarily wetlands, and were considered as part of that element of the natural resource base.

Streams

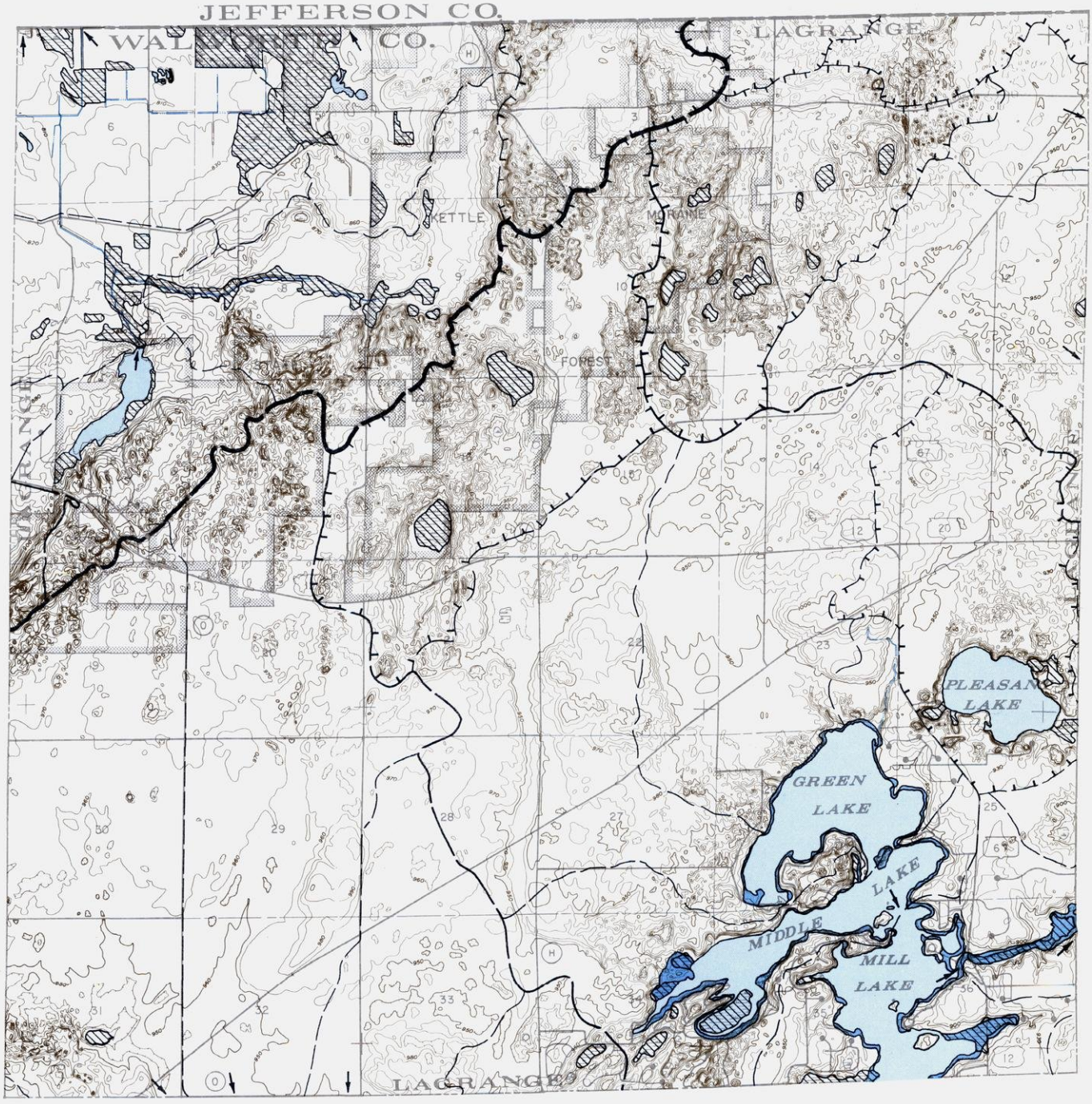
Streams are classified as perennial or intermittent. The perennial and certain intermittent streams in the Town of LaGrange are shown on Map 7. Perennial streams are defined as watercourses that maintain, at a minimum, a small continuous flow throughout the year except under unusual drought conditions. There are two perennial streams located in the Town, Honey Creek in the southeastern portion and Steel Brook in the northwestern portion. Intermittent streams are defined as watercourses that do not maintain a continuous flow throughout the year. Larger intermittent streams in the Town are located on the north side of Green Lake and in association with Steel Brook in the northwestern portion of the Town.

Floodlands

The floodlands of a river or stream are the wide, gently sloping areas contiguous to, and usually

Map 7

TOPOGRAPHY, SURFACE WATER, FLOODLANDS, WETLANDS, AND WATERSHED FEATURES IN THE TOWN OF LAGRANGE: 1985



LEGEND

- 10-FOOT CONTOUR INTERVAL LINES
- WATERSHED BOUNDARY
- SUBWATERSHED BOUNDARY
- SUBBASIN BOUNDARY
- INTERMITTENT STREAM OR WATERCOURSE
- PERENNIAL STREAM OR WATERCOURSE
- DIRECTION OF FLOW
- AREAS OF INTERNAL DRAINAGE
- WATER
- WETLANDS
- 100-YEAR RECURRENCE INTERVAL FLOODLANDS

GRAPHIC SCALE

0 1/4 1/2 MILE

0 2000 4000 FEET

Source: SEWRPC.

lying on both sides of, a river or stream channel. Rivers and streams occupy their channels most of the time. However, during even minor flood events stream discharges increase markedly, and the stream channels may not be able to contain and convey all of the flow. As a result, water levels increase and the river or stream spreads laterally over the floodland. The periodic flow of a river onto its floodlands is a normal phenomenon and, in the absence of costly structural flood control works, will occur regardless of whether or not urban development exists on the floodland.

For planning and regulatory purposes, floodlands are normally defined as those areas, excluding the stream channel, subject to inundation by the 100-year recurrence interval flood event. This is the event that may be expected to be reached or exceeded in severity once in every 100 years; or, as stated another way, there is a 1 percent chance of this event being reached or exceeded in severity in any given year. Floodland areas are generally not well suited to urban development, not only because of the flood hazard, but also generally because of the presence of high water tables and soils poorly suited to urban uses. The floodland areas, however, generally contain important elements of the natural resource base, such as woodlands, wetlands, and wildlife habitat, thus constituting prime locations for needed park and open space areas. Every effort should be made to discourage indiscriminate and incompatible urban development on floodlands, while encouraging discriminate and compatible park and open space use.

The identification of the 100-year recurrence interval flood hazard areas in the Town is important for the preparation of a sound land use plan. Floodland delineations were prepared by the Regional Planning Commission as part of its Fox River watershed planning program, the findings and recommendations of which are set forth in SEWRPC Planning Report No. 12, A Comprehensive Plan for the Fox River Watershed. In addition to this study, the Federal Emergency Management Agency (FEMA) and the former Federal Insurance Administration in the U. S. Department of Housing and Urban Development, have identified additional areas in the Town that may be subject to flood hazards. The FEMA study was conducted for flood insurance purposes. There are other large low-lying areas, particularly in the northwestern portion of the Town, for which FEMA has not prepared detailed flood hazard data, but which possess soil conditions that may be unsuitable for development. The floodland delineations in the Town of LaGrange currently identified by the Regional Planning Commission and FEMA are shown on Map 7, and encompass an area of about 213 acres, or less than one percent of the Town. These floodlands are located on the west side of Middle Lake, on the east side of Mill Lake, and along Honey Creek and Steel Brook.

Wetlands

Wetlands are defined as areas that are inundated or saturated by surface or groundwater at a frequency, and with a duration, sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands include swamps, marshes, bogs, and similar areas. Precipitation provides water to wetlands either directly through rain or snow, or indirectly through surface water runoff or percolation through the soil, to become groundwater seepage. The location of a wetland in the landscape affects the type of water received. Wetlands can occur on slopes as well as in depressions. Wetlands located in the Town of LaGrange are identified on Map 7.

Wetlands perform important natural functions which make them a particularly valuable resource. These functions are summarized below:

1. Wetlands enhance water quality. Aquatic plants change inorganic nutrients such as phosphorus and nitrogen into organic material, storing it in their leaves or in the peat which is composed of their remains. The stems, leaves, and roots of these plants also slow the flow of water through a wetland, allowing suspended solids and related water pollutants to settle out. Thus, the destruction of wetlands may be expected to adversely affect the quality of surface waters in the area.

2. Wetlands regulate surface water runoff, storing water during periods of flood flows and releasing such waters during periods of dryer weather. Wetlands thus help to stabilize stream flows.

3. Wetlands provide essential breeding, nesting, resting, and feeding grounds and predator-escape cover for many forms of

wildlife, thus contributing to the overall ecological health and quality of the environment of the Town, as well as providing recreational, research, and educational opportunities and adding to the aesthetic quality of the community.

4. Wetlands may serve as groundwater recharge and discharge areas.

Recognizing the important natural functions of wetland areas, continued efforts should be made to protect these areas by discouraging costly, both in monetary and environmental terms, wetland draining, filling, and urbanization.

As shown on Map 7, in 1985 about 614 acres, or about 3 percent of the total area of the Town, were covered by wetlands. It should be noted that such areas as swamps and other lowland wooded areas are classified as wetlands, rather than woodlands, because the water table is located at, near, or above the land surface. Wetland areas are located in the northwestern corner of the Town, scattered throughout the Kettle Moraine State Forest—Southern Unit, and in the areas adjacent to all of the major lakes in the Town.

SCENIC OVERLOOKS

Scenic overlooks are defined as areas that provide a panoramic or picturesque view. There are two important components of a scenic overlook: the picturesque view itself, which usually consists of a diversity of natural or cultural features, and the vantage point or viewpoint from which to observe the diversity of features. In identifying the scenic overlooks in the Town of LaGrange, three basic criteria were applied: 1) a variety of features to be viewed should exist harmoniously in a natural or rural landscape; 2) there should be one dominant or particularly interesting feature, such as a river or lake, which serves as a focal point of the picturesque view; and 3) the viewpoint should present an unobstructed observation point from which the variety of natural features can be seen.

A special inventory of scenic overlooks meeting these criteria was conducted. Using the best available topographic maps, areas with a relief greater than 30 feet and a slope of 12 percent or greater were identified. Areas of steep slope with a ridge of at least 200 feet in length and a view of at least three features, including surface water, wetlands, woodlands, or agricultural lands, within approximately one-half mile of the ridge were identified as scenic overlooks. In the Town of LaGrange, 66 overlooks were identified, many of these being long, continuous ridge lines located in the Kettle Moraine State Forest—Southern Unit and around the major lakes in the Town.

SCIENTIFIC AND NATURAL AREAS

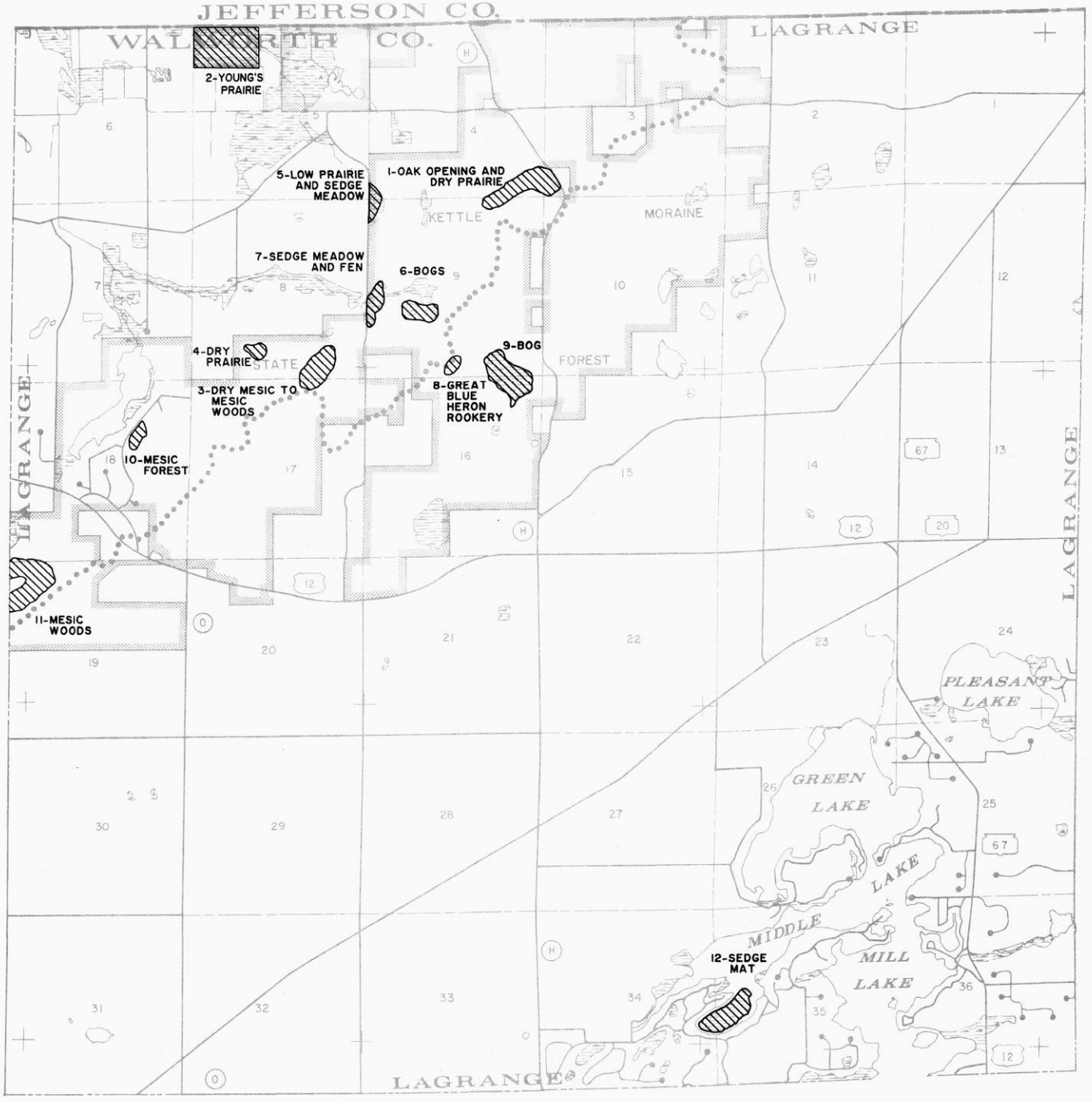
Scientific and natural areas, as defined by the Wisconsin Scientific Areas Preservation Council, are tracts of land or water which have been little changed by human activity or have largely recovered from the effects of such activity. Such areas generally contain intact native plant and animal communities believed to be representative of the landscape before European settlement. Natural area sites are classified into one of the following four categories: state scientific areas, natural areas of statewide or greater significance, natural areas of countywide or regional significance, and natural areas of local significance.

Classification of a natural area into one of these four categories is based on consideration of the diversity of plant and animal species and community types present, the structure and integrity of the native plant or animal community, the extent of disturbance from human activity, such as logging, grazing, water level changes, and pollution, the commonness of the plant and animal community's presence and any unique natural features in the area, the size of the area, and the educational value.

A special inventory of scientific and natural areas was conducted in the Town of LaGrange. As shown on Map 8 and indicated in Table 9, in 1985 there were a total of 12 scientific and natural area sites, encompassing a total area of about 230 acres, or about 1 percent of the Town. Of this total, one site, encompassing 55 acres, was classified as a state scientific area; 10 sites, encompassing 155 acres, were classified as a natural area of countywide or regional significance; and one site, encompassing a total of 20 acres, was classified as a natural area of local significance.

Map 8

SCIENTIFIC AND NATURAL AREAS IN THE TOWN OF LAGRANGE: 1985



LEGEND

SCIENTIFIC OR NATURAL AREA

6 IDENTIFICATION NUMBER (SEE TABLE 9)

GRAPHIC SCALE

0 1/4 1/2 MILE

0 2000 4000 FEET

Source: SEWRPC.

Table 9

SCIENTIFIC AND NATURAL SITES IN THE TOWN OF LAGRANGE: 1985

Number on Map 8	Classification	Area (acres)	Location U. S. Public Land Survey Section	Existing or Proposed Park or Open Space Site
1	Natural area of countywide or regional significance	25	4	Kettle Moraine State Forest—Southern Unit: oak opening and dry prairie
2	State scientific area	55	5	Scientific Area: Youngs Prairie
3	Natural area of countywide or regional significance	20	8	Kettle Moraine State Forest—Southern Unit: dry mesic to mesic woods
4	Natural area of countywide or regional significance	5	8	Kettle Moraine State Forest—Southern Unit: dry prairie
5	Natural area of countywide or regional significance	5	4, 9	Kettle Moraine State Forest—Southern Unit: low prairie and sedge meadow
6	Natural area of countywide or regional significance	10	9	Kettle Moraine State Forest—Southern Unit: bogs
7	Natural area of countywide or regional significance	10	9	Kettle Moraine State Forest—Southern Unit: sedge meadow and fen
8	Natural area of countywide or regional significance	5	9	Kettle Moraine State Forest—Southern Unit: great blue heron rookery
9	Natural area of countywide or regional significance	25	9, 16	Kettle Moraine State Forest—Southern Unit: bog
10	Natural area of countywide or regional significance	10	18	Kettle Moraine State Forest—Southern Unit: mesic forest
11	Natural area of countywide or regional significance	40	19	Kettle Moraine State Forest—Southern Unit: mesic woods
12	Natural area of local significance	20	35	Sedge mat
Total Acres --		230	--	--

Source: SEWRPC.

PRAIRIE VEGETATION

Prairies are open, or generally treeless, areas in the landscape which are dominated by native grasses. Such areas have important ecological and scientific values and consist of four basic types: low, or wet, prairies; mesic, or moderately moist, prairies; dry prairies; and oak openings. Inventories conducted by the Regional Planning Commission indicate that prairies covered about 110 acres, or 0.5 percent, of the the Town of LaGrange in 1985. The identified prairies in the Town include dry prairies, low prairies-sedge meadows, and an oak opening-dry prairie; with dry prairies tending to dominate. The results of the prairie inventory conducted in the Town are shown on Map 8.

Known prairies in the Town were evaluated by the Commission based on a consideration of the diversity of native prairie plants, the integrity of the plant community, and the extent of human disturbance. Most of the remaining prairie vegetation in the Town is protected by the Wisconsin Department of Natural Resources inside the boundaries of the Kettle Moraine State Forest—Southern Unit.

WOODLANDS

Woodlands are defined as upland areas one acre or more in size having 50 percent or more tree canopy coverage and at least 17 deciduous trees per acre measuring at least four inches in diameter at breast height. Coniferous tree plantations and reforestation projects are also classified as woodlands.

Woodlands have value beyond any monetary return for forest products. Under good management, woodlands can serve a variety of beneficial functions. In addition to contributing to clean air and water and regulating surface water runoff, the maintenance of woodlands in the area can contribute to the maintenance of a diversity of plant and animal life in association with human life. The existing woodlands of an area, which required a century or more to develop, can be destroyed through mismanagement in a comparatively short time. The deforestation of hillsides contributes to rapid stormwater runoff, the siltation of lakes and streams, and the destruction of wildlife habitat. Woodlands can and should be maintained for their total values for scenery, wildlife habitat, open space, education, recreation, and air and water quality protection.

Primarily located on ridges and slopes, along lakes and streams, and in wetlands, woodlands provide an attractive natural resource of immeasurable value. Not only is the beauty of streams and glacial landforms of the area accentuated by woodlands, but, as already noted, woodlands are essential to the maintenance of the overall quality of the environment in the area. Lowland wooded areas such as tamarack swamps were classified as wetlands because the water table in such areas is located at, near, or above the land surface and because such areas are generally characterized by hydric soils which support vegetation adapted to saturated soil conditions. In 1985 woodland areas covered about 5,231 acres, or about 23 percent of the Town. Woodland areas in 1985 are shown on Map 16, in Chapter IV of this report.

WILDLIFE HABITAT AREAS

Wildlife in the Town of LaGrange includes upland game, such as squirrel; game birds, including pheasants; and waterfowl. The remaining wildlife habitat areas provide valuable recreation opportunities, constituting an invaluable aesthetic asset for the Town. The spectrum of wildlife species has undergone significant alterations since settlement of the area by Europeans. These alterations were the direct result of the changes in land use and wildlife habitat made by the European settlers, beginning with the clearing of forests and the draining of wetlands for agricultural purposes, and, in some areas, ending with the development of intensive urban land uses. This process of change, which began in the early nineteenth century, is still occurring today.

Land management practices in both rural and urban areas continue to affect wildlife and wildlife habitat. In agricultural areas, land management practices affecting wildlife and habitat include land drainage by ditching and tiling and the increased use of fertilizers and pesticides. In urban areas, land management practices that affect wildlife and wildlife habitat include the excessive use of fertilizers and pesticides, road salting, heavy traffic with its disruptive noise levels and damaging air pollution, and the introduction of domestic animals.

In 1985, the Regional Planning Commission and the Wisconsin Department of Natural Resources cooperatively conducted an inventory of the wildlife habitat of the Region. The results of that inventory, as it pertains to the Town, are presented on Map 9. The following five major categories were used to help classify the value of these wildlife habitats.

1. Diversity: An area must maintain a high but balanced diversity of species for a temperate climate, balanced in the sense that the proper predator-prey relationships occur; in addition, a reproductive interdependence must exist.

2. Territorial Requirements: The territorial requirements of the major species in a particular habitat must be met so as to provide for a minimum population level.

3. Vegetation: The vegetative composition and structure must be such that the levels needed for nesting, travel routes, concealment, and protection from weather are met.

4. Location: Proximity to other wildlife habitat areas is highly desirable.

5. Disturbance: Minimal levels of disturbance from man's activities are necessary.

Based on these five major factors, the inventory identified and delineated three classes of wildlife habitats: 1) Class I: wildlife habitat areas containing good diversity of wildlife, of sufficient size to meet all of the habitat requirements for each species, and generally located in proximity to other wildlife habitat areas; 2) Class II: those wildlife habitat areas generally lacking one of the three criteria necessary for a Class I designation; and 3) Class III: those wildlife habitat areas generally remnant in nature and lacking two of the three criteria for placement in the Class I.

As shown on Map 9, wildlife habitat areas in the Town of LaGrange generally occur in association with existing surface water, wetland, and woodland resources, and in 1985 covered about 7,686 acres, or about 34 percent of the Town. As shown on Map 9, the remaining most significant or Class I wildlife habitat areas in the Town are concentrated in the Kettle Moraine State Forest—Southern Unit, with particularly high concentrations along the Ice Age Recreational Trail, in the areas to the west of Green and Middle Lakes in the southeastern portion of the Town, and in the southwestern corner of the Town. Class I wildlife habitat areas comprised about 4,224 acres, or about 18 percent of the total area of the Town. Class II wildlife habitat, also shown on Map 9, comprised about 2,095 acres, or about 9 percent of the total area of the Town; and Class III wildlife habitat comprised about 1,367 acres, or about 6 percent of the total area of the Town. Class II and Class III wildlife occur in scattered locations throughout the Town of LaGrange.

AQUATIC PLANTS AND FISHERY RESOURCES

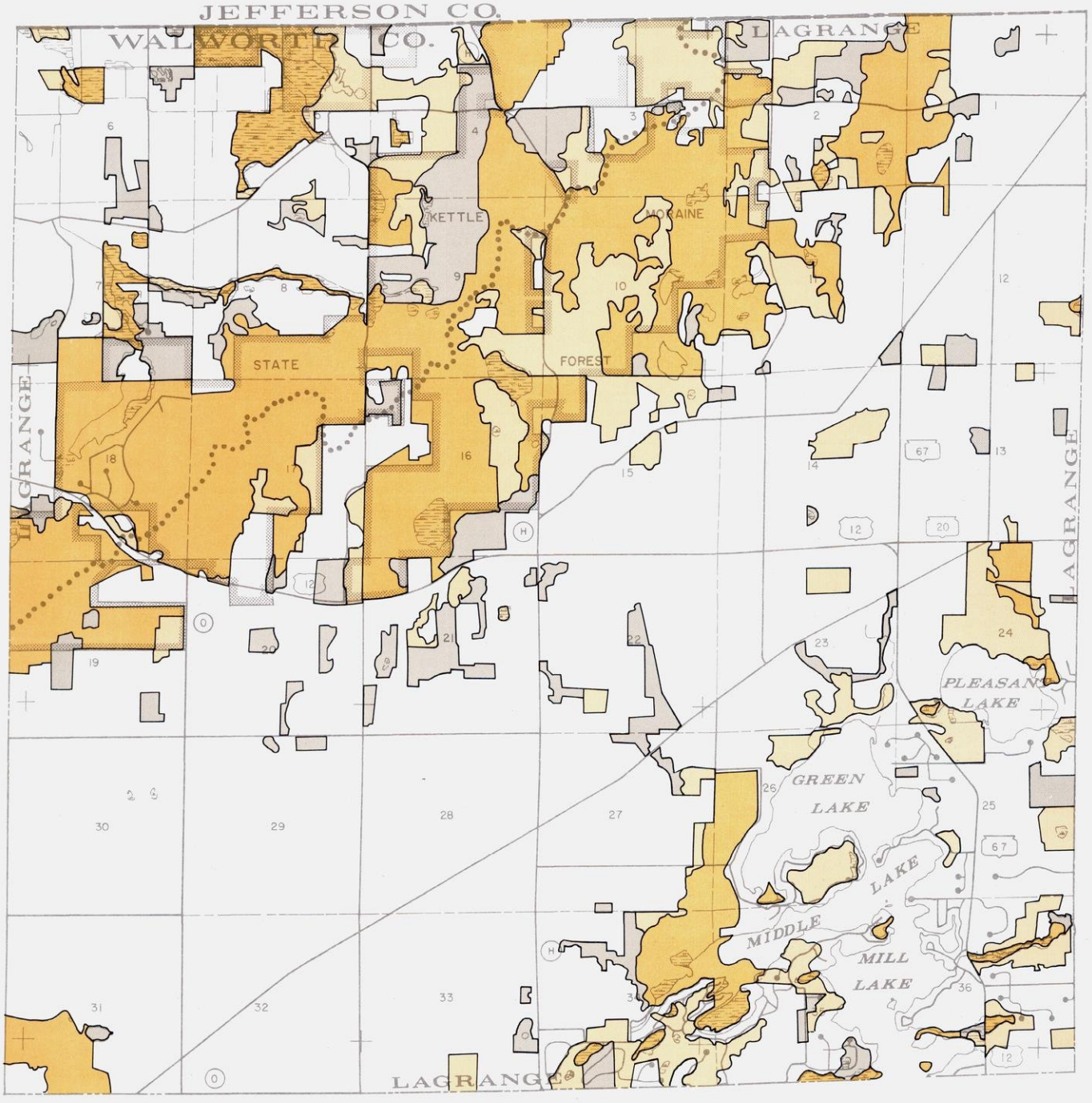
The Lauderdale Lakes (Green, Middle, and Mill Lakes) and Pleasant Lake provide a good environment for desirable forms of plant and animal life. Failure to properly protect the lakes from the harmful affects of the adjacent urban land uses could lead to the deterioration of lake quality and of the plant and animal life in the lakes.

Rooted aquatic plants and algae play an important role in the ecology of the Lauderdale Lakes and Pleasant Lake. Rooted aquatic plants, referred to as macrophytes, such as pondweeds, rushes, cattails, coontails, and water milfoils, provide valuable food and shelter for fish, for other aquatic life, and for wildlife. Depending on species, distribution, and abundance, macrophytes can be either beneficial or a nuisance. Macrophytes growing in the desired locations and in reasonable densities are beneficial, since they provide habitat for fish and other forms of aquatic life and may remove nutrients from the water that might otherwise contribute to excessive algae growth. However, aquatic plants may become a nuisance when heavy densities interfere with such recreational activities as swimming and boating. Many factors, including lake configuration, depth, water clarity, nutrient availability, lake bottom substrate, wave action, and type and size of fish populations, determine the distribution and abundance of aquatic macrophytes present in a lake.

In order to identify the types and distribution of aquatic macrophytes, algae, and fish in the Lauderdale Lakes and Pleasant Lakes, surveys were conducted by the Wisconsin Department of Natural Resources, under contract to the Regional Planning Commission. The Lauderdale

Map 9

WILDLIFE HABITAT AREAS IN THE TOWN OF LAGRANGE: 1985



LEGEND

- CLASS I
- CLASS II
- CLASS III

NOTE: WILDLIFE HABITAT WITHIN THE LAUDERDALE LAKES CONSISTS OF DEEP MARSH AREAS HAVING SUBMERGENT, EMERGENT FLOATING,AND FREE-FLOATING VEGETATION.

GRAPHIC SCALE
0 1/4 1/2 MILE
0 2000 4000 FEET

Source: SEWRPC.

Lakes survey, completed in 1967 and documented in the report entitled, The Lauderdale Lakes, Walworth County, Wisconsin, Lake Use Report No. FX-17, 18, and 20, sets forth results and analyses of the water resources sampling program, related lake use and recreation inventories, and recommendations for recreational use plans. A similar lake use survey was completed for Pleasant Lake in 1967 by the Wisconsin Department of Natural Resources, under contract with the Commission. The findings and recommendations of this survey was documented in the report entitled, Pleasant Lake, Walworth County, Wisconsin, Lake Use Report No. FX-25. The objectives of both studies were: to acquire definitive information concerning lake water quality, biological conditions, and related land use and land management practices in the lake drainage area; to identify the factors affecting the lake water quality and lake uses; and to develop recommendations for the protection of aquatic resources and the enhancement of lake uses.

Another survey of Pleasant Lake was completed in 1982 and was documented in the report entitled, Pleasant Lake, Walworth County, Feasibility Study Results; Management Alternatives, by the Wisconsin Department of Natural Resources. The objectives of the feasibility study were: to present water and nutrient loading estimates; to characterize the inlake water chemistry conditions and biological processes; and to develop a set of lake management alternatives to protect and improve the existing water quality of Pleasant Lake.

Macrophytes

The survey data presented in the lake use reports indicated that the macrophyte growth in the Lauderdale Lakes was moderate to excessive in the shallower bays of the lakes. Vegetation was found at varying depths down to 23 feet. The dominant macrophytes in the deep basin areas of the lake were eelgrass and muskgrass. In the larger, shallower bays the dominant macrophytes were coontail, water milfoil, muckgrass, and American elodea. Other common macrophytes found scattered throughout the lakes include sago pondweeds, white water lilies, pond lilies, and duckweed. The predominant emergent species in the large bays included common cattails, in large, dense stands, and American bulrush. Map 10 presents graphically the distribution of aquatic macrophytes in the Lauderdale Lakes in 1967, and Table 10 identifies the macrophytes by species and relative abundance for the Lauderdale Lakes in 1967.

A survey of aquatic plant distribution in the Lauderdale Lakes was conducted for the Lauderdale Lakes Improvement Association in 1989 by Integrated Lakes Management of Waukegan, Illinois. The findings of the survey were documented in a report entitled Lauderdale Lakes Aquatic Plant Distribution, dated July 1989. The survey found that the Eurasian water milfoil (Myriophyllum cf. spicatum) was the most dominant submerged aquatic macrophyte species in the Lakes. The report noted that, although this species was common in an earlier survey conducted in 1967, it did not then dominate the lake flora as it did in 1989. The report also noted that several plant species that had been present in the 1967 survey were not found during the 1989 survey, and that it appeared that some other plant species present in the Lakes in 1967 were present in much lower numbers in 1989.

The increased dominance of the Eurasian water milfoil is due to the efficient capabilities of dispersal and reproduction of this species. These perennial plants overwinter as green shoots, which enables them to grow rapidly in spring. Milfoil branches extensively and creates thick growth, obstructing navigation and shadeing out other plants. Milfoil can draw nutrients from either the water column or bottom sediments, and can endure reduced light intensities beneath an ice cover or an algal bloom. Milfoil also has a long growing season, extending into September. Growth from shoot fragments ensures rapid recovery even following treatment with herbicides or by harvesting.

Macrophyte surveys for Pleasant Lake conducted in 1967 and 1982 indicated that, in general, the macrophyte growth was not excessive in the main lake basin; however, the growth in the small bays was excessive by late summer. The macrophyte growth in Pleasant Lake was found at varying depths, down to 16 feet. The dominant macrophytes in all areas of the lake in well-scattered, moderate-sized beds were American pondweed and white-stem pondweeds. In the bays, the dominant floating macrophytes were white water lilies and yellow pond lilies. Other common macrophytes found scattered throughout the lake included waterweeds and bushy and curly-leaf pondweeds. The predomi-

nant emergent species was cattail, occurring in a large dense stand in the bay. Maps 10 and 11 graphically show the distribution of macrophytes in Pleasant Lake in 1967 and 1982, respectively. Table 11 identifies the macrophyte species and relative abundance during 1967 according to the lake use report for Pleasant Lake, and Table 12 identifies the macrophyte species and relative abundance during 1982, as set forth in the feasibility study.

Algae

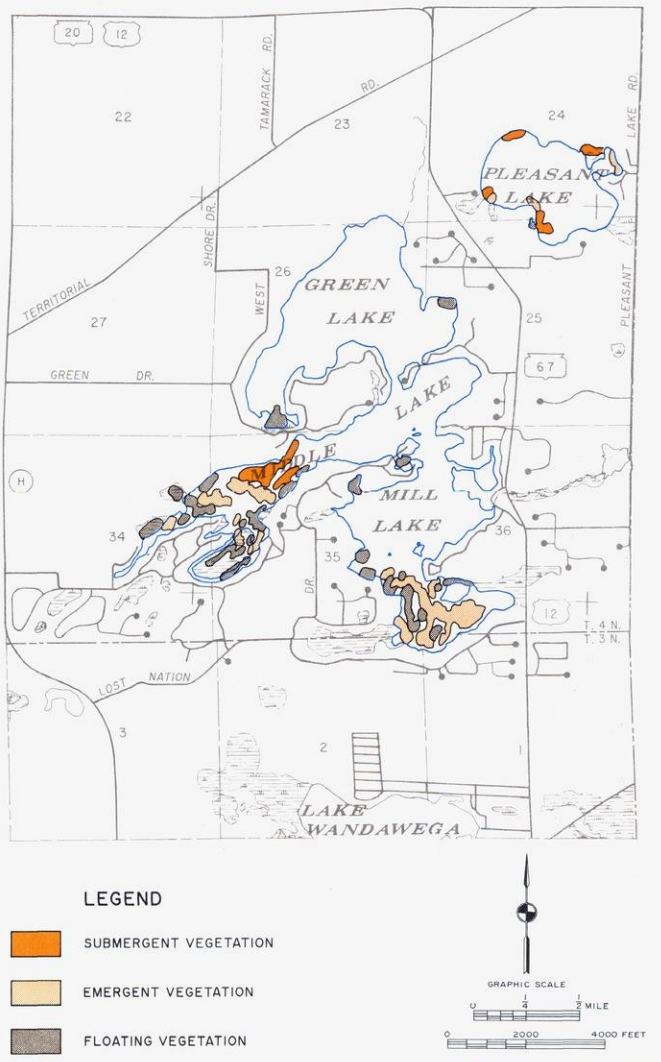
Algae are small, generally microscopic, plants found in all lakes and streams. They occur in a wide variety of forms, as single cells or colonies, and can be either attached or floating free. Algae are primary producers at the base of an aquatic food chain. Through photosynthesis they convert energy and nutrients into the compounds necessary to support life in the aquatic system.

In the lakes of southeastern Wisconsin, green algae (Chlorophyta) are the most important source of food for zooplankton, the microscopic animals which are the primary source of food for fish. Blue-green algae (Cyanophyta) are not ordinarily utilized by zooplankton populations, and some species may become overabundant and out of balance with the organisms that do feed on them. Dramatic population increases, or "blooms," of blue-green algae may occur when excessive nutrient supplies are available, optimum sunlight and temperature conditions exist, there is lack of competition from other aquatic plant species, and there is insufficient grazing by zooplankton. Diatoms (Bacillariophytes) have highly silicified, or glassy, cell walls. Diatoms are often dominant in "clean" lakes, although some diatoms thrive in nutrient-enriched waters. Most diatoms do not produce aesthetically unpleasant conditions in a lake. Other types of algae, such as yellow-green, yellow-brown, brown, and red algae, are also present in many lakes, but are usually of lesser importance.

Algal blooms may reach nuisance proportions in fertile or eutrophic lakes, resulting in the accumulation of surface scum or slime. In some cases, heavy concentrations of wind-blown algae accumulate on shorelines, where they die and decompose, causing noxious odors and unsightly conditions. The process of algal decay consumes oxygen, sometimes so depleting available oxygen supplies that fish kills result. Also, certain species of decomposing blue-green algae may release toxic materials into the water.

Map 10

LOCATION OF AQUATIC MACROPHYTES IN PLEASANT LAKE AND THE LAUDERDALE LAKES: 1967



Source: Wisconsin Department of Natural Resources and SEWRPC.

The types and concentrations of algal population were sampled in Middle Lake, located between Green Lake and Mill Lake, in the Lauderdale Lakes chain. These surveys were summarized in a study entitled Report on Middle Lake, Walworth County, Wisconsin, Environmental Protection Agency Region V, Working Paper No. 70, July, 1975. The dominant algal genera sampled, as well as potential problems these algae may cause, are presented in Table 13, which reports samples taken during June, August, and November. Total algal populations were largest during August, smallest during November. The largest population sur-

Table 10

LAUDERDALE LAKES MACROPHYTE SPECIES, RELATIVE ABUNDANCE, AND VALUE TO FISH AND WILDLIFE: 1967

Scientific Name	Common Name	Growth Characteristic	Abundance	Value to Fish and Wildlife
Nymphaea tuberosa	White water lily	Floating	Abundant in bays	Fish: Provides shade and shelter Wildlife: Waterfowl and marsh birds eat seeds; muskrats eat stems and rootstocks
Nuphar advena	Pond lily	Floating	Abundant in bays	Fish: Provides shade and shelter; but poor food producer Wildlife: Seeds eaten by waterfowl; attracts shore birds, marsh birds, and songbirds; leaves important for muskrats
Lemna minor	Duckweed	Floating	Scattered	Fish: Not beneficial; poor food provider and excessively shady Wildlife: Food for muskrats and wildlife; attracts small aquatic animals
Vallisneria americana	Eelgrass	Submergent	Abundant around deep basins	Fish: Valuable fish food; supports insects; provides good shade and shelter; sometimes used as a northern pike spawning substrate Wildlife: Excellent waterfowl food; attracts marsh birds and shore birds, and small aquatic animals; provides muskrat food
Chara sp.	Muskgrass	Submergent	Abundant in bays and around deep basins	Fish: Provides good cover for young fish; excellent producer of food; softens water by removing lime and carbon dioxide to deposit marl Wildlife: Seeds are important for waterfowl; provides habitat for muskrats
Ceratophyllum demersum	Coontail	Submergent	Common at 10 to 23 feet; abundant elsewhere	Fish: Good shelter for young fish; supports insects valuable for food Wildlife: Seeds and foliage important food for waterfowl and muskrats; shelters small animals
Myriophyllum sp.	Water milfoil	Submergent	Common at 10 to 23 feet; abundant elsewhere	Fish: Provides shelter and supports insects used for food Wildlife: Provides fair waterfowl food; eaten sparingly by muskrats
Potamogeton pectinatus	Sago pondweed	Submergent	Common at 10 to 23 feet	Fish: Provides food and shelter Wildlife: Nutlets and tubers make this the most important Potamogeton for feeding ducks
Elodea (Anacharis) canadensis	American elodea	Submergent	Common in shallows	Fish: Provides shelter; supports insects used as food Wildlife: Food for waterfowl; shelters small animals
Typha latifolia	Common cattail	Emergent	Large, dense stands	Fish: Supports insects used as food Wildlife: Fair food for geese; excellent food and habitat for beavers and muskrats
Scirpus Americanus	American bullrush	Emergent	Mixed stands in bays	Fish: Supports insects used as food; slight value for cover Wildlife: Important food for waterfowl and muskrats

Source: Wisconsin Department of Natural Resources and SEWRPC.

veyed was slightly under four million cells per liter. Concentrations greater than 10 million cells per liter generally result in bloom conditions in a lake. In general, diatoms may be expected to be dominant in Middle Lake during late fall, winter, and early spring. Blue-green algae tend to be dominant throughout most of the summer.

As shown in Table 13, certain algae may reach excessive growth levels when nutrient levels are high. Some of the species in the six dominant genera surveyed are the most likely to form bloom conditions. Species in five of the dominant genera may produce tastes and odors in the water, but usually only when populations are very high. Some species of Microcystis have also been known to be toxic to humans and livestock. However, the risk to human health is negligible, since the lake is not used as a drinking water supply.

The amount of chlorophyll-a, a photosynthetic pigment in algae, present in the water is an indicator of the biomass of the live algae in the water, and is useful in determining the trophic status, or degree of nutrient enrichment, of a lake. Chlorophyll-a levels of less than five micrograms per liter are typical of "clean" lakes. Chlorophyll-a levels measured in Middle Lake during June, August, and November 1972 ranged from 4.1 to 5.2 micrograms per liter, indicating low algal biomass levels. Chlorophyll-a levels measured in August 1979 were 3.84 micrograms per liter in Mill Lake, 3.16 micrograms per liter in Middle Lake, and 2.82 micrograms per liter in Green Lake. A biomass survey, also conducted in 1972, suggested that algal growth was limited by the amount of phosphorus in the water.

Eleven chlorophyll-a measurements taken in Pleasant Lake in 1982 were summarized in the study Pleasant Lake, Walworth County Feasibility Study Results; Management Alternatives, published by the Wisconsin Department of Natural Resources in 1983. The summer average chlorophyll-a concentration measured in Pleasant Lake was 3.1 micrograms per liter, which indicates low algal biomass.

Fishery Resources

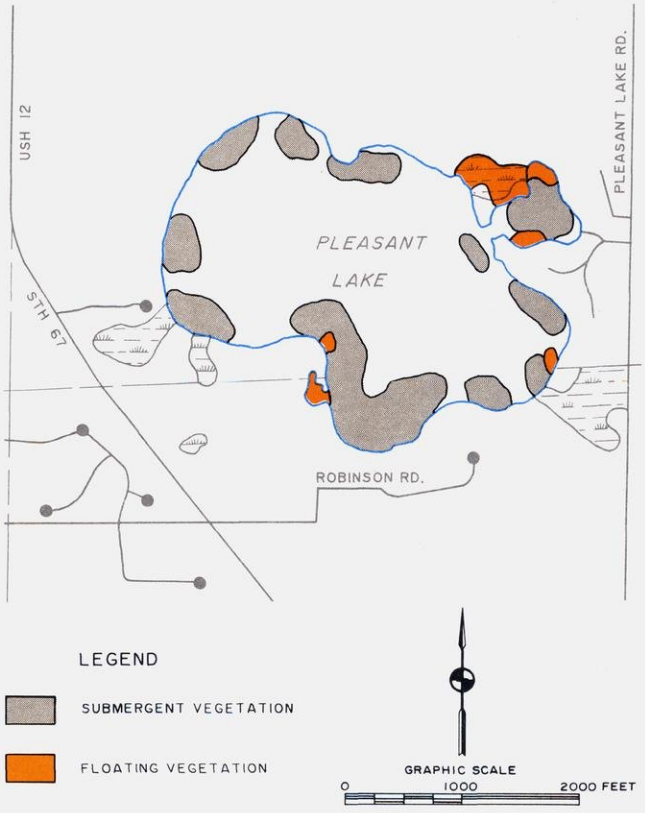
The Lauderdale Lakes support a relatively large and diverse fish community. The Wisconsin Department of Natural Resources survey conducted in 1966 indicated that panfish, including pumpkinseeds, warmouths, bluegills, bullheads, and yellow perch were the most abundant. Large numbers of game fish were also identified, including largemouth bass and both northern and walleyed pike. Some rough fish, including carp, longnose gar, and dogfish, were identified during the survey; however, they were not present in problematic numbers.

Historically, two types of fish have been stocked in the Lauderdale Lakes: northern and walleyed pike. The Department of Natural Resources stocked walleye fingerlings into the Lauderdale Lakes throughout the 1950s and early 1960s. More recently, the Lauderdale Lakes Improvement Association has stocked walleyes in 1988 and northerns in 1989.

Sand and gravel spawning areas exist for both largemouth bass and panfish in all the Lauderdale Lakes. Large bays on the western end of

Map 11

LOCATION OF AQUATIC MACROPHYTES IN PLEASANT LAKE: 1982



Source: Wisconsin Department of Natural Resources and SEWRPC.

Table 11

PLEASANT LAKE MACROPHYTE SPECIES, RELATIVE ABUNDANCE, AND VALUE TO FISH AND WILDLIFE: 1967

Scientific Name	Common Name	Growth Characteristic	Abundance	Value to Fish and Wildlife
Nuphar sp.	Yellow water lily	Floating	Large beds in bays	Fish: Provides shade and shelter; supports insects Wildlife: Important food for waterfowl, deer, beavers, and muskrats; insects live beneath leaves
Nymphaea sp.	White water lily	Floating	Large beds in bays	Fish: Provides good cover Wildlife: Waterfowl and marsh birds eat seeds; muskrats eat leaf stems and rootstocks
Potamogeton natans	Floating-leaf pondweed	Floating	- -	Fish: Provides good cover Wildlife: Rootlets and nutlets provide good food source for waterfowl
Ceratophyllum demersum	Coontail	Submergent	- -	Fish: Good shelter for young fish; supports insects Wildlife: Seeds and foliage important food for waterfowl and muskrats; shelters small animals
Chara vulgaris	Stonewort	Submergent	- -	Fish: Provides good cover for young fish; excellent producer of food; softens water by removing lime and carbon dioxide to deposit marl Wildlife: Seeds important food for waterfowl; provides habitat for muskrats
Elodea sp. Anacharis	Elodea	Submergent	- -	Fish: Provides shelter and supports insects Wildlife: Food for waterfowl; shelters small animals
Myriophyllum sp.	Water milfoil	Submergent	- -	Fish: Provides shelter and supports insects Wildlife: Provides fair waterfowl food; eaten sparingly by muskrats
Najas guadalupensis	Naiad	Submergent	- -	Fish: Good producer of food; provides shelter Wildlife: Good waterfowl food
Potamogeton crispus	Curly-leaf pondweed	Submergent	Small beds at 2 to 8 feet; dominates at 10 to 16 feet	Fish: Good food, shelter, and shade; valuable for early spawning fish Wildlife: Food for ducks
Potamogeton amplifolis	Large-leaf pondweed	Submergent	- -	Fish: Supports insects; abundant food supply Wildlife: Food for ducks
Potamogeton pectinatus	Sago pondweed	Submergent	- -	Fish: Provides food and shelter Wildlife: Nutlets and tubers make this the most important Potamogeton for feeding ducks
Potamogeton praelongus	White-stem pondweed	Submergent	Abundant in beds; shallow	Fish: Provides cover and feeding grounds; especially for pike Wildlife: Provides good waterfowl food

Table 11 (continued)

Scientific Name	Common Name	Growth Characteristic	Abundance	Value to Fish and Wildlife
Potamogeton zosteriformis	Flat-stem pondweed	Submergent	- -	Fish: Does not generally support insects Wildlife: Occasional duck food
Vallisneria sp.	Wild celery	Submergent	- -	Fish: Good shade and shelter; supports insects; and is eaten by fish Wildlife: Excellent food for waterfowl, especially winter buds and root-stocks; attracts marsh birds and shore birds; shelters small animals; food for muskrats
Ranunculus sp.	Buttercup	Submergent	- -	Fish: Fair food producer for trout Wildlife: Food for upland game birds and waterfowl
Cyperaceae sp.	Sedge	Emergent	- -	Fish: Spawning area for largemouth bass; supports insects Wildlife: Nutlets favorite food of some waterfowl; also eaten by deer, muskrats, and beavers
Typha latifolia	Common cattail	Emergent	Large stands in bays	Fish: Supports insects Wildlife: Fair food for geese; excellent food and habitat for muskrats

Source: Wisconsin Department of Natural Resources and SEWRPC.

Middle Lake and the southern end of Mill Lake are particularly well suited for northern pike spawning. The gravelly eastern shores of some of the deeper basins provide a suitable substrate for walleyed pike spawning.

Pleasant Lake supports a somewhat diverse fish community. The Wisconsin Department of Natural Resources survey conducted in 1966 for the lake use report indicated that the most abundant game fish were largemouth bass and northern and walleyed pike. Some rough fish, primarily carp, were present, but in very limited numbers.

The Wisconsin Department of Natural Resources feasibility study conducted in 1983 indicated that Pleasant Lake supported a largemouth bass and bluegill fishery, as well as northern and walleyed pike populations. Northern pike were introduced to the lake in 1958 and have been stocked irregularly since then. From 1969 to 1973, the marsh on the southwest side of the lake was flooded in an effort to determine the impacts of northern pike production in spawning and rearing marshes. The results of this effort have not yet been determined. Spawning beds exist for the largemouth bass along the sand and gravel shoreline of the lake, while the northern pike spawn in the eastern bay and in a weeded area near the boat launch on the western shore of the lake.

OTHER RESOURCE-RELATED ELEMENTS

In addition to the basic elements of the underlying and sustaining natural resource base, existing park and outdoor recreation sites and trails should be considered in any comprehensive land use planning effort. Map 12 presents the location and extent of park and recreational sites and trails in the Town of LaGrange.

Existing Outdoor Recreation Sites

An inventory of the size and location of the existing outdoor recreation sites provides a basis

Table 12

PLEASANT LAKE MACROPHYTE SPECIES, RELATIVE ABUNDANCE, AND VALUE TO FISH AND WILDLIFE: 1982

Scientific Name	Common Name	Growth Characteristic	Abundance	Value to Fish and Wildlife
Nuphar sp.	Yellow water lily	Floating	Large beds in bays	Fish: Provides shade and shelter; supports insects Wildlife: Important food for waterfowl, deer, beavers, and muskrats; insects live beneath leaves
Nymphaea sp.	White water lily	Floating	Large beds in bays	Fish: Provides good cover Wildlife: Waterfowl and marsh birds eat seeds; muskrats eat leaf stems and rootstocks
Ceratophyllum demersum	Coontail	Submergent	- -	Fish: Good shelter for young fish; supports insects Wildlife: Seeds and foliage important food for waterfowl and muskrats; shelters small animals
Chara vulgaris	Stonewort	Submergent	- -	Fish: Provides good cover for young fish; excellent producer of food Wildlife: Seeds important food for waterfowl; provides habitat for muskrats
Myriophyllum sp.	Water milfoil	Submergent	- -	Fish: Provides shelter and supports insects Wildlife: Provides fair waterfowl food; eaten sparingly by muskrats
Najas guadalupensis	Naiad	Submergent	- -	Fish: Good producer of food; provides shelter Wildlife: Good waterfowl food
Potamogeton sp.	Arrow-leaf pondweed	Submergent	- -	Fish: Provides food and shelter; leaves eaten by bluegills; softens water by removing lime and carbon dioxide and depositing marl Wildlife: Good food producer; also eaten by muskrats, beavers, and deer
Potamogeton crispus	Curly-leaf pondweed	Submergent	Small beds at 2 to 8 feet; dominates at 10 to 16 feet	Fish: Good food, shelter, and shade; valuable for early spawning fish Wildlife: Food for ducks
Potamogeton amplifolis	Large-leaf pondweed	Submergent	- -	Fish: Supports insects; abundant food supply Wildlife: Food for ducks
Potamogeton illinoensis	- -	Submergent	- -	Fish: Provides food and shelter Wildlife: Fair duck food
Potamogeton gramineus	Variable pondweed	Submergent	- -	Fish: Provides food and cover Wildlife: Tubers and other parts provide a food source for waterfowl
Potamogeton pectinatus	Sago pondweed	Submergent	- -	Fish: Provides food and shelter Wildlife: Nutlets and tubers make this the most important Potamogeton for feeding ducks
Potamogeton praelongus	White-stem pondweed	Submergent	Abundant beds; shallow	Fish: Provides cover and feeding grounds; especially for pike Wildlife: Provides good waterfowl food

Table 12 (continued)

Scientific Name	Common Name	Growth Characteristic	Abundance	Value to Fish and Wildlife
Potamogeton zosteriformis	Flat-stem pondweed	Submergent	- -	Fish: Does not generally support insects Wildlife: Occasional duck food
Elodea sp. (Anacharis)	Elodea	Submergent	- -	Fish: Provides shelter and supports insects Wildlife: Food for waterfowl; shelters small animals
Ranunculus sp.	Buttercup	Submergent	- -	Fish: Fair food producer for trout Wildlife: Food for upland game birds and waterfowl
Scirpus sp.	Bulrush	Emergent	- -	Fish: Used for nesting by bluegills and largemouth bass; provides good food and cover Wildlife: Important food for waterfowl and muskrats
Typha latifolia	Common cattail	Emergent	Large stands in bays	Fish: Supports insects Wildlife: Fair food for geese; excellent food for beavers and muskrats

Source: Wisconsin Department of Natural Resources and SEWRPC.

Table 13

DOMINANT ALGAL GENERA SAMPLED IN MIDDLE LAKE: 1972

Dominant Algal Genera	Type of Alga	Date Sampled			Potential Problems		
		June 22	August 19	November 10	Excessive Growth in Eutrophic Water	Taste and Odor	Toxicity
Achnanthes	Diatom	X	- -	- -	- -	- -	- -
Aphanothece	Blue-green	- -	X	- -	- -	- -	- -
Asterionella	Diatom	- -	- -	X	X	X	- -
Chroococcus	Blue-green	X	X	- -	X	- -	- -
Dirobryon	Yellow-green	- -	X	X	- -	X	- -
Fragilaria	Diatom	X	- -	X	X	X	- -
Gloeocapsa	Blue-green	X	- -	- -	X	X	- -
Microcystis	Blue-green	- -	X	X	X	X	X
Oocystis	Green	X	- -	- -	X	- -	- -

Source: U. S. Environmental Protection Agency and SEWRPC.

for evaluating the extent to which community recreational needs are being met and for determining future outdoor recreation site needs. In 1975, existing outdoor recreational sites in the Town of LaGrange were identified and classified by the Regional Planning Commission into general functional and site size categories, as set forth in SEWRPC Planning Report No. 27, A Regional Park and Open Space Plan for Southeastern Wisconsin: 2000. This inventory was updated by field surveys conducted by the Commission staff in 1980 and in 1985. Existing outdoor recreation and open space sites in the Town were classified into three general categories: general-use outdoor recreation sites, special-use outdoor recreation sites, and rural open space sites. General-use outdoor recreation sites may be defined as areas of land and water whose primary function is to provide space and facilities for outdoor recreational activities. Sites classified as general-use outdoor recreation sites include publicly owned parks, such as school-related outdoor recreation sites, playfields, as well as private golf courses and campgrounds. As shown on Map 12 and indicated in Table 14, in 1985 there were 15 general-use outdoor recreation sites, encompassing a total of 602 acres, or about 2.6 percent of the Town. Of this total, five sites, encompassing approximately eight acres, were publicly owned; while the remaining 10 sites, encompassing approximately 594 acres, were privately owned.

Special-use outdoor recreation sites may be defined as spectator-oriented, rather than participant-oriented, recreation sites, or sites providing facilities for unique recreational pursuits. Special-use sites include such facilities as zoos, botanical gardens, and skeet and trap shooting areas. As shown on Map 12 and indicated on Table 14, there were two special-use outdoor recreation sites, totalling about eleven acres, in the Town of LaGrange.

Rural open space sites consist of woodlands, wetlands, or wildlife habitat areas acquired by public agencies or private organizations to preserve such lands and associated natural resource amenities in an essentially natural, open state for resource conservation and limited recreation purposes. As shown on Map 12 and indicated on Table 14, there were two rural open space sites in the Town of LaGrange. These sites totaled about 4,720 acres, or about 21 percent of the Town.

Recreational Trails and Scenic Drives

Two recreational trails, one existing and one proposed, traverse the Town of LaGrange; the Ice Age Trail and the Sugar Creek Trail. The Ice Age Trail, designated by Congress as a national scenic trail in 1982, is a 1,000-mile hiking and bicycling route that generally follows natural glacial moraines. The trail stretches from Door County in northeastern Wisconsin through the Northern and Southern Units of the Kettle Moraine State Forest in southeastern Wisconsin to Interstate Park in northwestern Wisconsin. As shown on Map 13, about 8.7 miles of the Ice Age Trail are located in the Town of LaGrange. The proposed Sugar Creek Trail would extend 27 miles from the Honey Creek Trail on the east, in Racine County, to the Ice Age Trail in the north central portion of the Town of LaGrange on the west. As shown on Map 12, about 6.3 miles of the proposed Sugar Creek Trail are located in the Town of LaGrange.

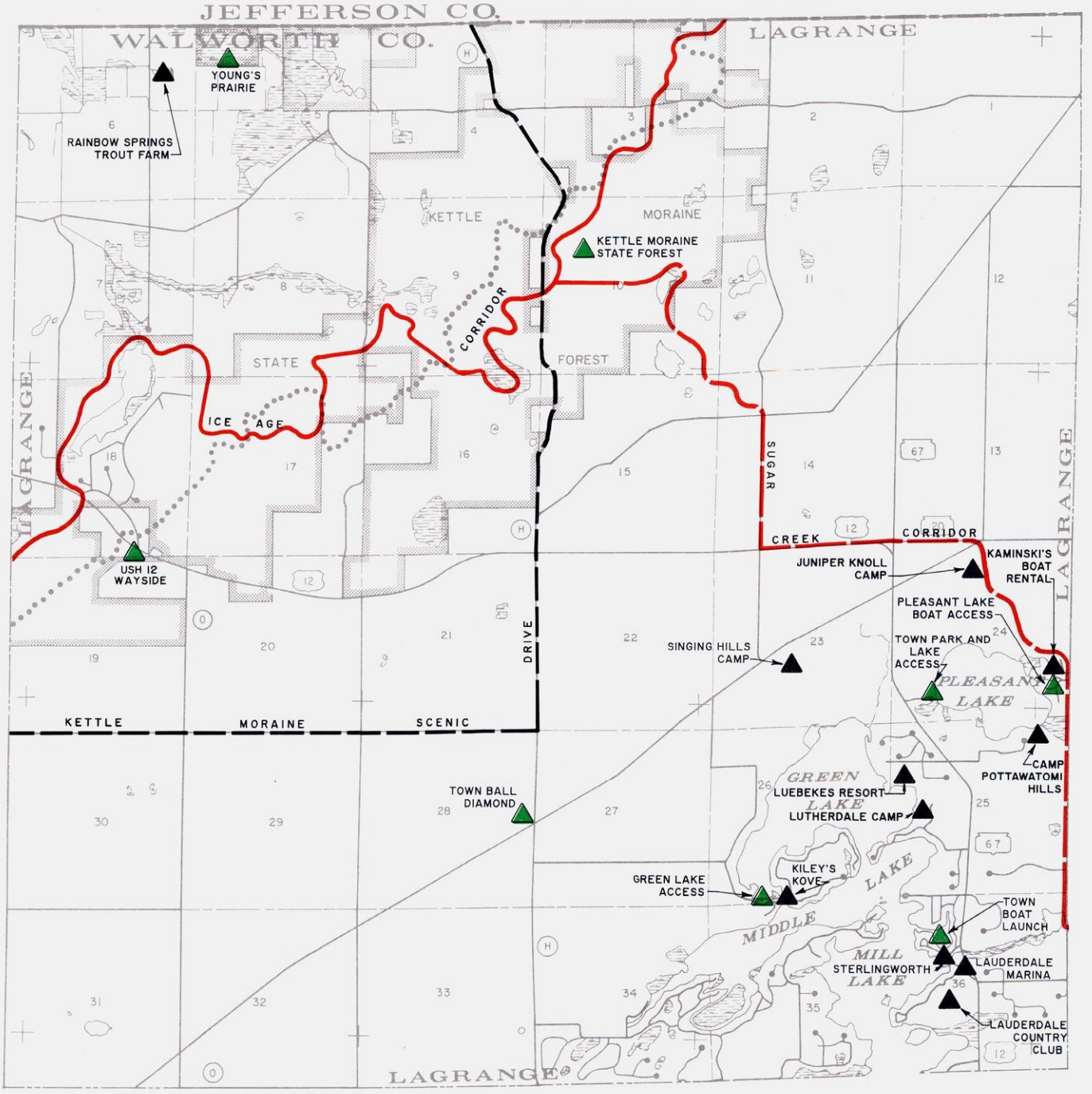
The Kettle Moraine Scenic Drive is a pleasure-driving route connecting the Kettle Moraine State Forest—Southern Unit in Walworth, Jefferson and Waukesha Counties with the Kettle Moraine State Forest—Northern Unit in Fond du Lac, Sheboygan, and Washington Counties. As shown on Map 12, about 7.3 miles of the Kettle Moraine Scenic Drive are located in the Town of LaGrange.

Kettle Moraine State Forest—Southern Unit

The Kettle Moraine State Forest—Southern Unit is a rural open space site extending from southwestern Waukesha County through southeastern Jefferson County into northwestern Walworth County. Approximately 4,665 acres of the Kettle Moraine State Forest—Southern Unit are located in the Town of LaGrange. Rural natural areas, such as the Kettle Moraine State Forest—Southern Unit, possess certain features that warrant special consideration for permanent preservation in an essentially open, undeveloped state for research, conservation, or recreation purposes. Natural areas encompass a variety of natural resource elements, including wetlands, forests, scientific and natural areas, and other open lands. Wetlands in the Kettle Moraine State Forest—Southern Unit are natural areas with multiple-resource conservation purposes, including preservation of fish and wildlife habitat, storage of flood waters, and improvement of water quality. Forests in the Kettle Moraine provide wildlife habitat, reduce soil

Map 12

PARK AND OPEN SPACE SITES, RECREATIONAL TRAILS, AND SCENIC DRIVES IN THE TOWN OF LAGRANGE: 1985



LEGEND

- SCENIC DRIVES

PARK AND OPEN SPACE SITES

- PUBLIC
- PRIVATE

RECREATIONAL TRAILS

- EXISTING
- PROPOSED

GRAPHIC SCALE

0 1/4 1/2 MILE

0 2000 4000 FEET

Source: SEWRPC.

Table 14

PARK AND OPEN SPACE SITES IN THE TOWN OF LAGRANGE: 1985

Classification	Area (acres)	U. S. Public Land Survey Section	Existing Park or Open Space Site	Ownership
General-Use Site	3	24	Town park with lake access	Public
General-Use Site	2	36	Lauderdale Marina	Nonpublic
General-Use Site	166	23	Singing Hills Camp	Nonpublic
General-Use Site	197	24	Juniper Knoll Camp	Nonpublic
General-Use Site	105	25	Camp Pottawatomi Hills	Nonpublic
General-Use Site	51	25	Lutherdale Camp	Nonpublic
General-Use Site	10	25	Luebkes Resort	Nonpublic
General-Use Site	4	36	Sterlingworth Inn lake access	Nonpublic
General-Use Site	56	36	Lauderdale Country Club	Nonpublic
Rural Open Space Site	4,665	--	Kettle Moraine State Forest—Southern Unit	Public
General-Use Site	2	26	Kiley's Kove	Nonpublic
General-Use Site	2	26	Green Lake access	Public
General-Use Site	1	24	Kaminski's Boat Rental	Nonpublic
Special-Use Site	10	6	Rainbow Springs Trout Farm	Nonpublic
General-Use Site	1	24	Pleasant Lake boat access	Public
Rural Open Space Site	55	5	Youngs Prairie	Public
Special-Use Site	1	18	USH 12 wayside	Public
General-Use Site	--[a]	36	Sterlingworth Bay town boat launch	Public
General-Use Site	2	28	Town ball diamond	Public
Total Acres	5,333	--	--	--

[a]*Less than one acre.*

Source: SEWRPC.

erosion, and improve air and water quality. Scientific and natural areas in the State Forest are undisturbed areas which preserve the flora and fauna for purposes of observation and research. Other open lands and natural areas in the Forest are used for existing recreational trail and site development. The recreational trail facilities meandering through the Kettle Moraine State Forest—Southern Unit include hiking and skiing trails, horse and snowmobile trails, a nature trail, and the Ice Age backpacking trail. That portion of the Kettle Moraine State Forest—Southern Unit recreational trail system located in the Town of LaGrange is shown on Map 13.

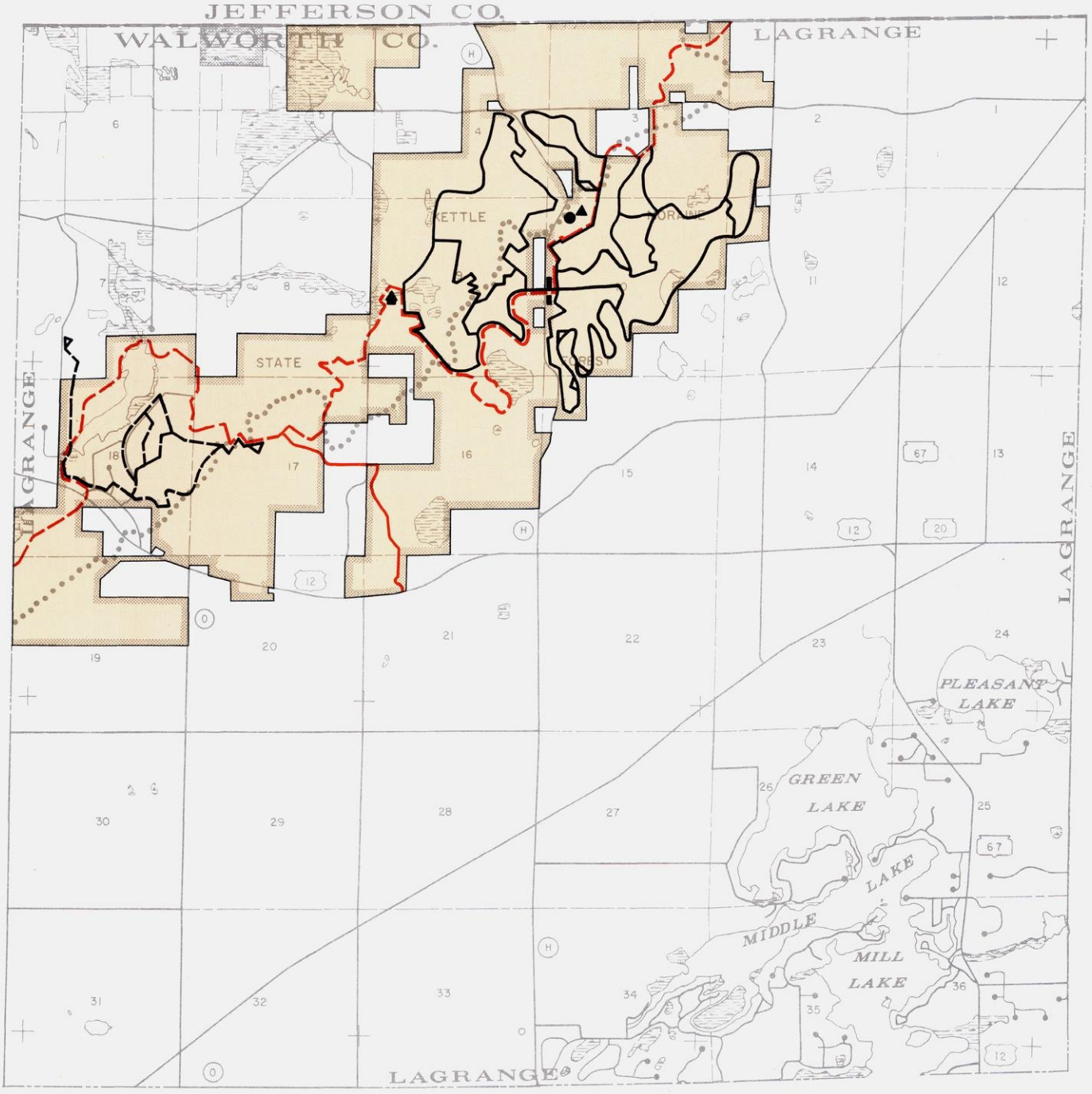
The Kettle Moraine State Forest—Southern Unit is generally used for natural and resource preservation purposes and includes large land holdings by the Wisconsin Department of Natural Resources. As indicated in the adopted Regional park and open space plan, the Wisconsin Department of Natural Resources proposes to continue acquiring lands in identified primary environmental corridors for purposes of natural resource preservation and protection and for limited outdoor recreation purposes.

ENVIRONMENTAL CORRIDORS AND ISOLATED NATURAL AREAS

As defined by the Regional Planning Commission, environmental corridors are elongated areas in the landscape which encompass concentrations of recreational, aesthetic, ecological, and cultural resources which should be preserved and protected in essentially natural, open uses. Such areas generally include one or more of the following seven elements of the natural resource base which are essential for maintaining both the ecological balance and natural beauty of the Region: 1) lakes, rivers, streams,

Map 13

RECREATIONAL TRAIL SYSTEM OF THE KETTLE MORAINE STATE FOREST—SOUTHERN UNIT LOCATED IN THE TOWN OF LAGRANGE: 1991



LEGEND

- KETTLE MORAINE STATE FOREST-SOUTHERN UNIT
- HIKING AND SKIING TRAILS
- HORSE AND SNOWMOBILE TRAILS
- SNOWMOBILE-ONLY TRAILS
- ICE AGE BACKPACKING TRAIL
- SHELTER BUILDING
- PICNIC AREA
- CAMPING AREA
- PARKING AREA

GRAPHIC SCALE
0 1/4 1/2 MILE
0 2000 4000 FEET

Source: SEWRPC.

and associated shorelands and floodlands; 2) wetlands; 3) woodlands; 4) prairies; 5) wildlife habitat areas; 6) areas covered by wet, poorly drained, or organic soils; and 7) rugged terrain and high-relief topography with slopes exceeding 12 percent. These seven elements as they occur in the Town have been described earlier in this chapter.

As already noted, there are certain other elements which, although not a part of the natural resource base, per se, are closely related to or are centered on that base. These elements include: existing parks and outdoor recreation sites, historic sites and structures, areas having scientific value, and scenic areas and overlooks.

The environmental corridors of the Town of LaGrange were delineated, using the following natural resource-related element criteria:

1. Point values from one to 20 were assigned to each natural resource and natural resource-related element. These point values were based on the premise that those natural resource elements having intrinsic natural resource values and a high degree of natural diversity should be assigned relatively high point values, whereas natural resource-related elements having only implied natural values should be assigned relatively low point values. These values for each element of corridor are shown in Table 15.

2. Each natural resource element was mapped, and point values for overlapping resource elements in a given area were totaled.

3. Environmental corridors were then delineated on the basis of cumulative point values and the size of the areas containing natural resource and resource-related elements, as follows:

   - Primary environmental corridors include areas with a cumulative point value of 10 or more that are at least 400 acres in size, two miles in length, and 200 feet in width.

   - Secondary environmental corridors include areas with a cumulative point value of 10 or more that are at least 100 acres in size and one mile in length.

Table 15

POINT VALUES FOR NATURAL RESOURCE BASE AND NATURAL RESOURCE BASE-RELATED ELEMENTS

Element	Point Value
Natural Resource Base	
Lake	
Major (50 acres or more)	20
Minor (5 to 49 acres)	20
Rivers or Streams (perennial)	10
Shoreland	
Lake or Perennial River or Stream	10
Intermittent Stream	5
100-Year Floodland	3
Wetland	10
Woodland	10
Wildlife Habitat	
Class I	10
Class II	7
Class III	5
Steep Slope	
20 Percent or Greater	7
12 Percent to 19 Percent	5
Prairie	10
Natural Resource Base-Related	
Existing Park or Open Space Site	
Rural Open Space Site	5
Other Park and Open Space Site	2
Potential Park Site	
High Value	3
Medium Value	2
Low Value	1
Historic Site	
Structure	1
Other Cultural	1
Archaeological	2
Scenic Viewpoint	5
Scientific and Natural Area	
State Scientific Area	15
Natural Area of Statewide or Greater Significance	15
Natural Area of Countywide or Regional Significance	10
Natural Area of Local Significance	5

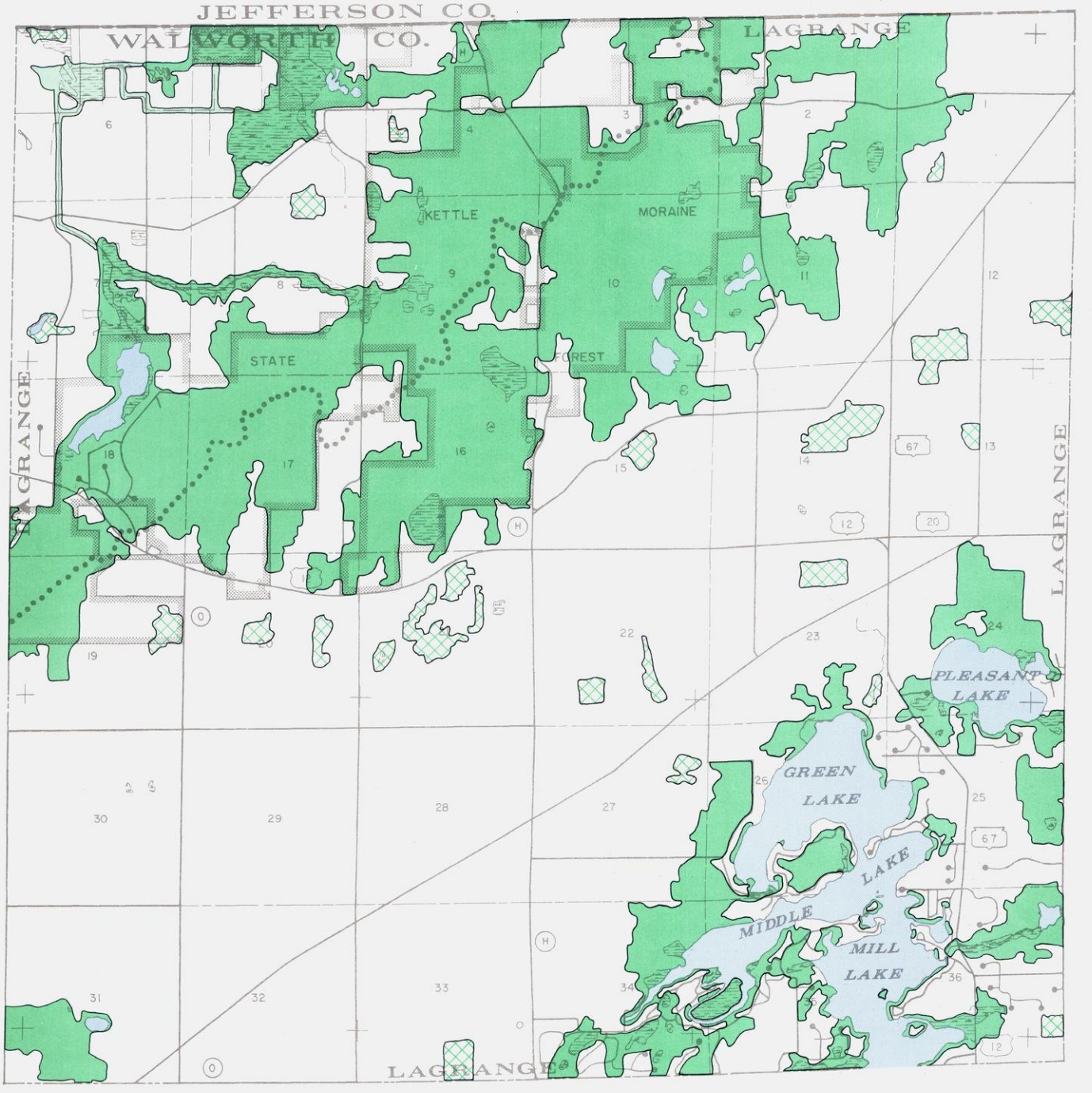
Source: SEWRPC.

   - Isolated natural areas also have a cumulative point value of 10 or more, with a minimum size of five acres. Isolated natural areas are generally separated physically from primary and secondary environmental corridors by intensive urban or agricultural land uses.

The primary and secondary environmental corridors in the Town of LaGrange, as well as the other environmentally significant isolated natural areas, are shown on Map 14.

Map 14

ENVIRONMENTAL CORRIDORS AND ISOLATED NATURAL AREAS IN THE TOWN OF LAGRANGE: 1989



Source: SEWRPC.

It is important to note that, because of the many interacting relationships existing between living organisms and their environment, the destruction or deterioration of any one element of the total natural resource base may lead to a chain reaction of deterioration and destruction. The drainage and filling of wetlands, for example, may destroy fish spawning grounds, wildlife habitat, groundwater recharge areas, and the natural filtration action and floodwater storage functions which contribute to maintaining high levels of water quality and stable stream flows and lake stages in a watershed. The resulting deterioration of surface water quality may, in turn, lead to the deterioration of the quality of the groundwater which serves as a source of domestic, municipal, and commercial water supply and on which low flows in rivers and streams may depend. Similarly, the destruction of woodland cover may result in soil erosion and stream siltation, more rapid storm water runoff and attendant increased flood flows and stages, as well as destruction of wildlife habitat.

Although the effects of any one of these environmental changes may not in and of itself be overwhelming, the combined effects will eventually create serious environmental and developmental problems. These problems include flooding, water pollution, deterioration and destruction of wildlife habitat, loss of groundwater recharge, and destruction of the unique natural beauty of the area. The need to maintain the integrity of the remaining environmental corridors and environmentally significant lands thus becomes apparent. The adopted Regional land use plan accordingly recommends that the remaining primary environmental corridors be maintained in essentially natural, open uses, which may, in some cases, include limited agricultural and low-density residential uses.

Primary Environmental Corridors

The primary environmental corridors in the Town of LaGrange are generally located in the Kettle Moraine State Forest—Southern Unit, in the northwestern portion of the Town, and around Pleasant Lake and the Lauderdale Lakes. The primary environmental corridors contain the best remaining woodlands, wetlands, and wildlife habitat areas in the Town, and are, in effect, a composite of the best individual elements of the natural resource base. They have truly immeasurable environmental and recreational value. The protection of the primary environmental corridors from intrusion by incompatible rural and urban uses, and thereby from degradation and destruction, should be one of the principal objectives of a local land use plan. Preservation of these primary corridors in an essentially open, natural state (including park and open space uses, limited agricultural uses, and rural estate-type residential uses) will serve to maintain a high level of environmental quality in the area, protect the natural beauty of the area, and provide valuable recreational opportunities. Such preservation will also avoid the creation of serious and costly environmental and developmental problems such as flood damage, poor drainage, wet basements, failing pavements and other structures, and water pollution. About 7,152 acres, or about 31 percent of the Town, are encompassed in the primary environmental corridors shown on Map 14. This total includes 1,045 acres of surface water located in the primary environmental corridor.

Secondary Environmental Corridors

The secondary environmental corridors in the Town of LaGrange are generally located along intermittent streams or serve as links between segments of primary environmental corridors. These secondary environmental corridors often contain remnant resources from former primary environmental corridors which have been developed for intensive agricultural purposes or urban land uses. Secondary environmental corridors facilitate surface water drainage, maintain pockets of natural resource features, and provide for the movement of wildlife, as well as for the movement and dispersal of seeds for a variety of plant species. Such corridors should be preserved in essentially open, natural uses as urban development proceeds in the planning area, particularly when the opportunity is presented to incorporate such corridors into stormwater detention areas, associated drainageways, and parks and open spaces. As shown on Map 14, about 80 acres, or about 0.4 percent of the Town, are encompassed in the secondary environmental corridors.

Isolated Natural Areas

In addition to the primary and secondary environmental corridors, other, small concentrations of natural resource base elements exist in the planning area. These resource base elements are isolated from the environmental corridors by urban development or agricultural uses and,

although separated from the environmental corridor network, may have important residual natural values. Isolated natural areas may provide the only available wildlife habitat in an area, provide good locations for parks and nature study areas, and lend aesthetic character and natural diversity to an area. Important isolated natural areas in the Town of LaGrange include a geographically well-distributed variety of isolated wetlands, woodlands, and wildlife habitats. These isolated natural areas should also be protected and preserved in a natural state whenever possible. Isolated natural areas five acres or greater in size are also shown on Map 14, and encompass about 389 acres, or about 2 percent of the Town.

PRIME AGRICULTURAL SOILS DELINEATION

Prime agricultural lands in the Region were first defined and delineated in 1964 by the Regional Planning Commission in cooperation with the County agricultural agents and the U. S. Department of Agriculture, Soil Conservation Service (SCS) district staff. In late 1976, the SCS developed a classification system for use in the preparation of agricultural suitability maps, which were used to classify lands as "National Prime Farmland" or "Farmland of Statewide Significance."

National Prime Farmland is defined as land that is well suited for producing food, feed, forage, fiber, and oilseed crops, and that is available for these uses; the existing land use could be cropland, pastureland, rangeland, forest land, or other land, but not urban land or water. National Prime Farmland has the soil quality, growing season, and moisture supply needed to produce sustained high yields of crops economically under proper treatment and management. Farmland of Statewide Significance is defined as land, in addition to national prime lands, that is of statewide importance for the production of food, feed, fiber, forage, and oilseed crops.

The rapid conversion of farmland to urban use has become a matter of increasing public concern. Partly in response to this concern, the Wisconsin Legislature in 1977 adopted a law commonly known as the "Farmland Preservation Act." The act is designed to encourage individuals in local units of government to take action toward preserving the State's farmland. Under the act, owners of farmland zoned for exclusive agricultural use become eligible for certain tax relief in the form of an income tax credit on state taxes.

For purposes of implementing the Wisconsin Farmland Preservation Act, prime agricultural lands have been defined by the Regional Planning Commission as those lands which are well suited for agricultural use and which meet specific criteria regarding agricultural soil capabilities and farm size. These criteria include: 1) the farm unit must be at least 35 acres in size; 2) at least 50 percent of the farm unit must be covered by soils that meet SCS standards for national prime farmland or farmland of statewide importance; and 3) the farm unit should be located in a block of farmland at least 100 acres in size. Areas in the Town of LaGrange that meet these criteria are shown on Map 15. In 1985, about 11,281 acres, or about 49 percent of the Town, was classified as prime agricultural land.

SUMMARY

The natural resources of the Town of LaGrange are vital to its continued sound physical, social, and economic development and to its ability to provide a pleasant and habitable environment for human life. Natural resources not only condition, but are conditioned by, growth and development. Any meaningful planning effort must, therefore, recognize the existence of a limited natural resource base to which urban development must be properly adjusted if serious and costly environmental problems are to be avoided. The principal elements of the natural resource base that require careful consideration in planning for the Town include its soils; surface water resources, related drainage basins, and floodlands; topographic features; scenic vistas; scientific and natural areas; woodlands; wetlands; prairie vegetation; wildlife habitat; and aquatic plants and fishery resources.

Soils

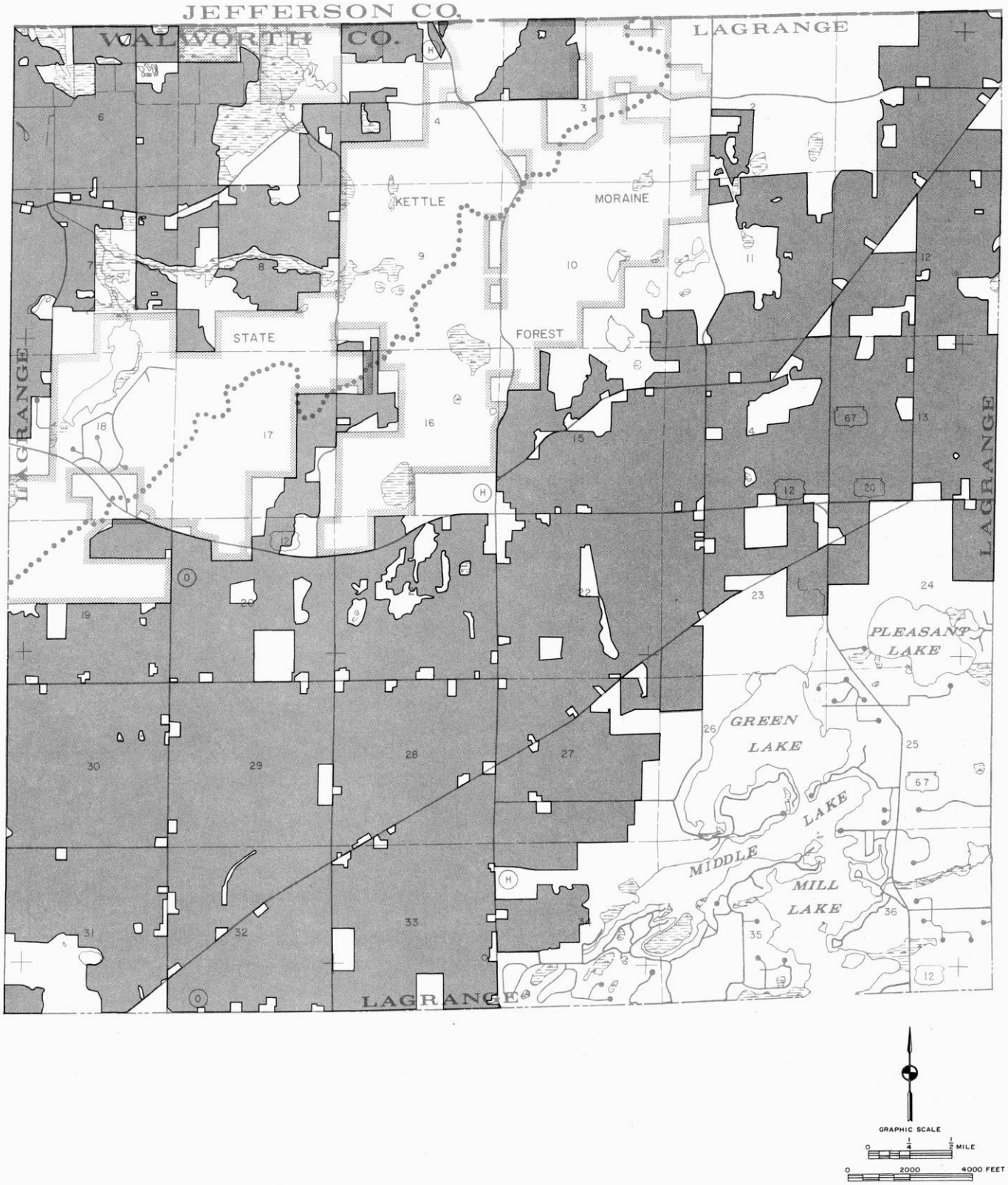
Soil properties exert a strong influence on the manner in which people use land. Soil suitability maps of the Town of LaGrange were prepared and analyzed, and used in conjunction with other information during preparation of the land use plan.

Topographic Features

The topography, or relative elevation of the land surface, in the Town of LaGrange is generally

Map 15

PRIME AGRICULTURAL LANDS IN THE TOWN OF LAGRANGE: 1985



Source: SEWRPC.

level to gently rolling, with the exception of areas with steep slopes in the Kettle Moraine State Forest—Southern Unit and adjacent to the Lauderdale and Pleasant Lakes. Lands with steep slopes are poorly suited for urban development as well as for most agricultural purposes and, therefore, should be maintained in natural cover for wildlife habitat and erosion control. Lands with less severe slopes may be suitable for certain agricultural uses, such as pasture lands, and for certain urban uses, such as carefully designed low-density residential areas. Lands that are gently sloping or nearly level are best suited to agricultural production. A slope analysis of the Town is provided on Map 6.

Surface Water Resources and Related Drainage Basins

Surface water resources, consisting of lakes, streams, associated floodlands, and wetlands, form a particularly important element of the natural resource base of the Town. Surface water resources and their related watersheds, or drainage areas, influence the physical development of the Town of LaGrange, provide it with recreational opportunities, and enhance its aesthetic quality. Surface water resources and drainage basins in the Town are shown on Map 7.

Scenic Overlooks

Scenic overlooks are defined as areas that provide a panoramic or picturesque view of a variety of natural resource features. Within the Town of LaGrange, 66 areas having scenic overlooks were identified. These overlooks are located throughout the Town, generally occurring on long, continuous ridge lines, primarily along the major lakes and in the Kettle Moraine State Forest—Southern Unit.

Scientific and Natural Areas

Scientific and natural areas, as defined by the Wisconsin Scientific Areas Preservation Council, are tracts of land or water which have been little changed by human activity, or have sufficiently recovered from the effects of such activity. Such areas generally contain intact native plant and animal communities believed to be representative of the pre-European settlement landscape. In 1985, there were 12 scientific and natural area sites in the Town, encompassing about 230 acres, or about 1 percent of the Town, as shown on Map 8.

Prairie Vegetation

Prairies are open, or generally treeless, areas in the landscape that are dominated by native grasses. Such areas have important ecological and scientific values. Prairies covered about 110 acres, or 0.5 percent, of the the Town in 1985. Most of the remaining prairies in the Town are in the Kettle Moraine State Forest—Southern Unit, protected by the Wisconsin Department of Natural Resources, and have been designated as scientific and natural area sites.

Woodlands

Located primarily on ridges and slopes and along streams and lakeshores, woodlands provide an attractive natural resource of immeasurable value. Woodlands accentuate the beauty of the lakes, streams, and topography of the area, and are essential to the maintenance of the overall environmental quality of the area. In addition to contributing to clean air and water, limiting stormwater runoff, and enhancing groundwater recharge, the maintenance of woodlands can contribute to the preservation of a diversity of plant and animal life in association with human life, and can provide important recreational opportunities. Woodlands in the Town of LaGrange cover about 5,231 acres, or about 23 percent of the Town.

Wildlife Habitat Areas

Wildlife in the Town of LaGrange includes upland game such as squirrel, game birds including pheasant, and waterfowl. The remaining wildlife habitat areas and the wildlife living there provide valuable recreation opportunities and constitute an invaluable aesthetic asset to the Town. As shown on Map 9, wildlife habitat areas generally occur in association with the existing surface waters, wetlands, and woodland resources, and cover about 7,686 acres, or about 34 percent of the Town.

Aquatic Plants and Fishery Resources

In the Town of LaGrange, the Lauderdale Lakes, Green and Middle and Mill Lakes, along with Pleasant Lake, provide a good environment for desirable and sometimes unique plant and animal life. Failure to properly protect the lakes from the harmful affects of the adjacent urban land uses could lead to the deterioration of lake quality and plant and animal life in the lake. Rooted aquatic plants and algae play an important role in the ecology of the Lauderdale Lakes and Pleasant

Lake. Dominant rooted aquatic plants, or macrophytes, in the Lauderdale Lakes include coontail, water milfoil, muckgrass, and American elodea. Map 10 identifies the location of aquatic macrophytes in the Lauderdale Lakes. The dominant macrophytes in Pleasant Lake include American pondweed, white-stem pondweed, white water lilies, and yellow pond lilies. Maps 10 and 11 identify the location of aquatic macrophytes in Pleasant Lake. The dominant algal genera sampled in Middle Lake consisted of diatoms and blue-green and yellow-green algae.

The Lauderdale Lakes and Pleasant Lake support a large and diverse fish community, including a variety of both panfish and game fish. Historically, the Lauderdale Lakes and Pleasant Lake have been stocked with game fish, northern and walleyed pike. Each lake has areas that are well suited for spawning.

Other Resource Elements

Park and Open Space Sites: Existing outdoor recreation and open space sites in the Town were classified into three general categories: general-use outdoor recreation sites, special-use outdoor recreation sites, and rural open space sites. General-use outdoor recreation sites may be defined as areas of land and water whose primary function is the provision of space and facilities for outdoor recreational activities. Sites classified as general-use outdoor recreation sites include publicly owned parks, school-related outdoor recreation sites, playfields, private golf courses, and campgrounds. In 1985 there were 12 general-use outdoor recreation sites, encompassing a total of 602 acres, or about 2.6 percent of the Town. These sites are shown on Map 12, and listed in Table 14.

Scenic Drives and Recreational Trails: The Kettle Moraine Scenic Drive and the Ice Age Trail, shown on Map 12, provide opportunities for extensive land-based outdoor recreation activities, such as bicycling, hiking, nature study, pleasure driving, and ski-touring, in park and open space sites in the Town.

Kettle Moraine State Forest—Southern Unit: The Kettle Moraine State Forest—Southern Unit is a rural open space site extending from southwestern Waukesha County through southeastern Jefferson County into northwestern Walworth County. This State Forest is generally managed for natural resource preservation and limited outdoor recreation purposes. Map 13 shows the portions of the Kettle Moraine State Forest—Southern Unit recreational trail system in the Town of LaGrange.

Environmental Corridors

Environmental corridors are defined by the Regional Planning Commission as linear areas in the landscape that contain concentrations of remaining high-value elements of the natural resource base. Such corridors should, to the maximum extent practicable, be preserved in essentially natural, open uses in order to maintain a sound ecological balance, to protect the overall quality of the environment, and to preserve the unique natural beauty and cultural heritage of the Town of LaGrange as well as of the Southeastern Wisconsin Region.

Environmental corridors generally include one or more of the following elements of the natural resource base: 1) lakes, rivers, streams, and their associated shorelands and floodlands; 2) wetlands; 3) woodlands; 4) prairies; 5) wildlife habitat areas; 6) wet, poorly drained, or organic soils; and 7) rugged terrain and high-relief topography. Related resources such as parks, recreational areas, and historic sites are also considered in the identification of environmental corridors.

The protection of the primary environmental corridors from additional intrusion by urban development should be one of the principal objectives of this land use plan. The primary environmental corridors contain almost all of the best remaining woodlands, wetlands, and wildlife habitat areas in the Town and are, in effect, a composite of the best remaining elements of the natural resource base. The primary environmental corridors encompassed about 7,152 acres, or about 31 percent of the Town, in 1989, as shown on Map 14.

Secondary environmental corridors contain fewer natural resource base elements than primary corridors, and are usually remnants of former primary environmental corridors that have been developed for agricultural purposes or intensive urban land uses. Secondary environmental corridors are generally located along intermittent streams, and typically serve as links between segments of primary environmen-

tal corridors. As shown on Map 14, secondary environmental corridors encompassed about 80 acres, or about 0.4 percent of the Town, in 1989.

Isolated natural areas generally consists of those natural resource base elements that have an inherent natural value, such as wetlands, woodlands, wildlife habitat areas, and surface waters, but are separated physically from the primary and secondary environmental corridors by intensive urban or agricultural land uses. Isolated natural areas are at least five acres in size. As shown on Map 14, isolated natural areas encompassed about 389 acres, or about 2 percent of the Town, in 1989.

Agricultural Land

Prime agricultural land is an important component of the natural resource base and, as such, should be preserved and protected as a matter of sound public policy. In August 1974, prior to the enactment of the Wisconsin Farmland Preservation Act, the Walworth County Board of Supervisors adopted a new county zoning ordinance, with protection of the agricultural resource base of the County as one of its primary objectives. This ordinance provides for an exclusive use agricultural district, permitting only agricultural and related uses and prohibiting development of single-family homes not associated with agricultural production activities. Prime agricultural lands, which are located on parcels at least 35 acres in size and generally consist of lands suitable for agricultural production, are shown on Map 15. In 1985, about 11,281 acres, or about 49 percent of the Town of LaGrange, were classified as prime agricultural land.

Chapter IV

EXISTING LAND USE AND LAND USE REGULATIONS

INTRODUCTION

Any long range land use plan, if it is to be sound and realistic, must be based on careful consideration of the existing land use pattern as well as the physical character of the land itself. In addition, the plan should take into account the local land use objectives reflected in existing land use control ordinances. Accordingly, this chapter describes the findings of inventories of existing land use and land use control in the Town of LaGrange.

EXISTING LAND USE

In 1985, the Regional Planning Commission conducted detailed inventories of existing land use in the Town of LaGrange in order to determine the type, amount, and spatial distribution of existing urban development and rural land uses. The data gathered in this land use survey were mapped and analyzed to provide an analysis of land use need and a basis for appropriate patterns of future land use development in the Town.

The existing land uses in the Town are shown on Map 16. The amount of land devoted to each use in 1985 is set forth in Table 16. The total area of the Town is about 22,857 acres, or about 35.7 square miles. In 1985, urban land uses accounted for about 1,542 acres, or about 7 percent of the Town. Rural land uses, which include waters, wetlands, woodlands, prime and other agricultural lands, and unused lands, totaled about 21,315 acres, or about 93 percent of the Town.

Several important aspects of the character of the Town can be drawn from an examination of Table 16 and Map 16. First, the largest single land use in the Town is still agricultural, comprising about 13,785 acres and representing about 60 percent of the Town area. Second, the next largest land use in the area are waters, wetlands, and woodlands, covering about 6,890 acres, and representing about 30 percent of the Town area. Third, residential development is scattered and, except for the area adjacent to the Lauderdale Lakes, is generally not characterized by the type of concentration that would be termed urban.

Urban Land Use

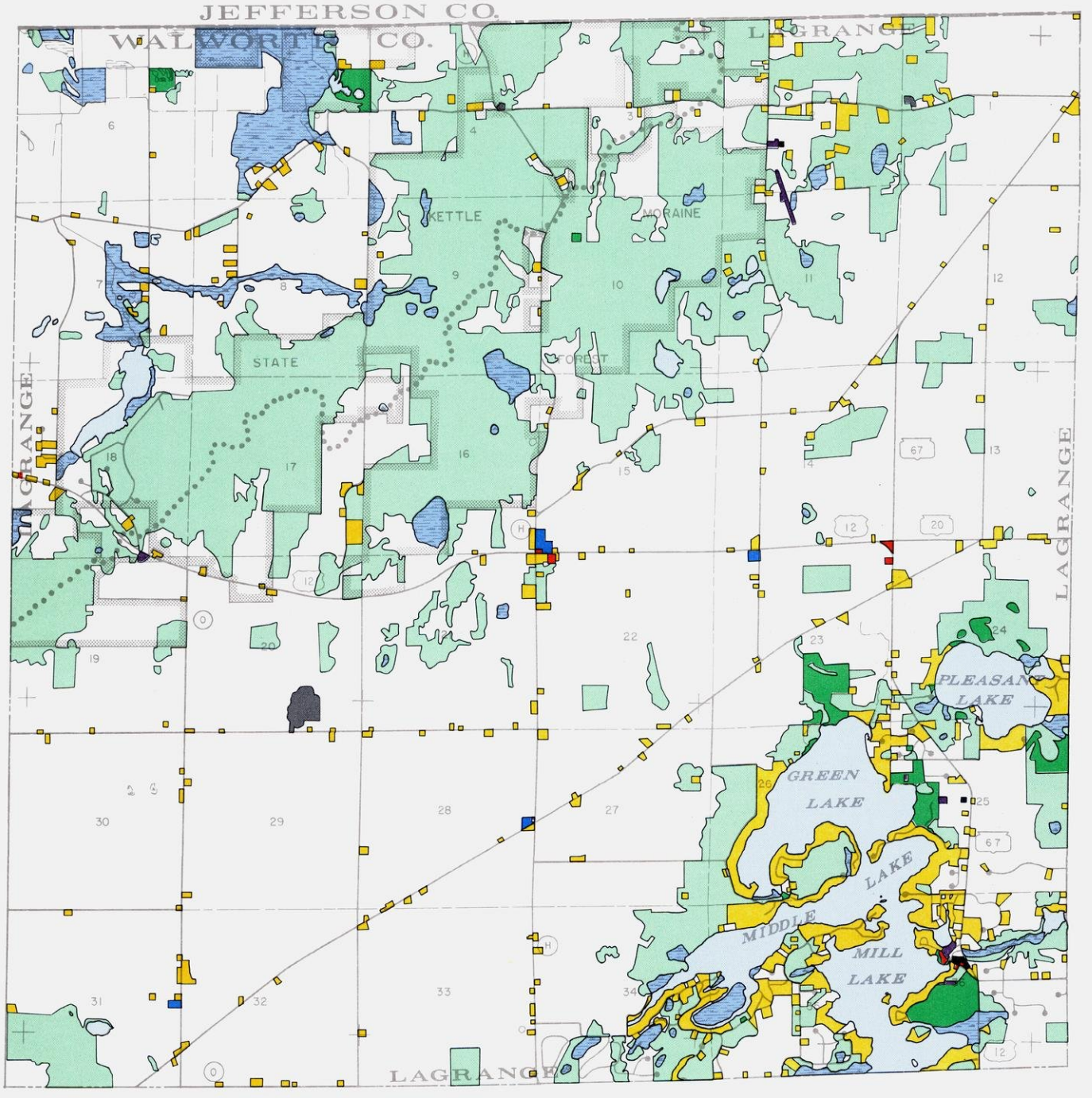
The urban land use category includes residential, commercial, industrial, extractive, transportation and utilities, governmental and institutional, and park and recreational uses. In 1985, urban land uses totaled about 7 percent of the total area of the Town of LaGrange.

Single-Family Residential Land Use: Of all the elements of a community land use plan, that portion of the plan which normally holds the interest of the largest number of residents is residential land use. Since the residential land use element of the land use plan seeks primarily to provide a safe, attractive, and comfortable setting for residential development, it is important that this element be given careful and thoughtful consideration. In 1985, residential land use accounted for about 691 acres, or about 45 percent of the developed urban area, but only about 3 percent of the Town area. As shown on Map 16, single-family residential land uses were concentrated along the Lauderdale Lakes and Pleasant Lake and in scattered locations throughout the Town.

A review of the platting activity in the Town, as shown in Table 17, indicated the availability of platted lots in the Town as of December 1985. The table provides data on the developed and vacant residential subdivision lots platted between 1920 and 1985 in the Town. Between 1920 and 1985, the residential lot size in the Town of LaGrange has averaged 18,472 square feet. As shown in Table 17, the total number of residential subdivision lots platted in the Town of LaGrange during the 1920 through 1985 period was 932, of which 586, or about 62 percent, remained undeveloped, that is, vacant and unused, in 1985. This number indicates that the supply of buildable land is keeping well ahead of the demand for new construction sites. It should be noted, however, that some of the undeveloped lots in the Town may not be suitable for development due to existing site constraints on the lot, or may be under the ownership of adjoining developed residential lots. Town officials estimate that in Spring 1990

Map 16

LAND USE IN THE TOWN OF LAGRANGE: 1985



Source: SEWRPC.

Table 16

SUMMARY OF LAND USE IN THE TOWN OF LAGRANGE: 1985

Land Use Category	Total Acres	Percent of Subtotal	Percent of Total
Urban			
Single-Family Residential	691	44.8	3.0
Commercial	5	0.3	--[a]
Wholesaling and Storage	3	0.2	--[a]
Extractive	23	1.5	0.1
Transportation and Utilities			
Arterial Streets and Highways	174	11.3	0.8
Local and Collector Streets	433	28.1	1.9
Off-Street Parking	5	0.3	--[a]
Airports	5	0.3	--[a]
Communications and Utilities	1	--[a]	--[a]
Subtotal	618	40.0	2.7
Governmental and Institutional	9	0.6	--[a]
Parks and Recreational	193	12.6	0.8
Urban Land Use Subtotal	1,542	100.0	6.6
Rural			
Prime Agricultural Lands	11,281	52.9	49.4
Other Agricultural Lands[b]	2,504	11.8	11.0
Unused and Open Lands	640	3.0	2.8
Surface Water	1,045	4.9	4.6
Wetlands	614	2.9	2.7
Woodlands	5,231	24.5	22.9
Rural Land Use Subtotal	21,315	100.0	93.4
Total	22,857	--	100.0

[a]*Less than 0.1 percent.*

[b]*Includes croplands, pastures, orchards and nurseries, and farm buildings.*

Source: SEWRPC.

there were 385 vacant lots in the Town suitable for residential development.

Other Urban Land Uses: In 1985, commercial, industrial, extractive, transportation and utilities, governmental and institutional, and park and recreational land uses accounted for about 851 acres, or about 55 percent of the urban land uses and about 4 percent of the total land uses in the Town. The Town of LaGrange has no commercial center, and the commercial uses that in 1985 totaled about five acres are scattered throughout the Town. While this represents a minimal use of land for commercial development, a range of shopping areas is available to Town residents in the nearby Cities of Whitewater and Elkhorn and the Village of East Troy.

Industrial land uses in the Town totaled about 26 acres in 1985. Industrial activity was confined entirely to wholesale, storage, and extractive uses, with no manufacturing of finished products. The wholesaling and storage land uses, which totaled about three acres, were concentrated in two firms in the eastern portion of the Town; a boat sales and storage operation on the west side of STH 67 and an egg farm on the east

Table 17

HISTORIC RESIDENTIAL LAND SUBDIVISIONS IN THE TOWN OF LAGRANGE: 1920-1985

Subdivision	Year Recorded	U. S. Public Land Survey Location	Number of Lots	Gross Acres	Net Acres	Typical[a] Lot Size (square feet)	Number of Lots Developed	Number of Lots Vacant
Lauderdale Park Addition No. 1	1920	T4NR16E NW one-quarter Section 25	16	3.29	2.75	7,500	14	2
Fifields Subdivision	1921	T4NR16E NE one-quarter Section 26	10	1.40	1.40	6,400	9	1
Solid Comfort	1924	T4NR16E SE one-quarter Section 26	10	6.00	2.48	10,800	7	3
Froederts Green Lake Park	1925	T4NR16E NW one-quarter Section 26	45	10.03	7.49	7,250	22	23
Lauderdale Heights	1925	T4NR16E SW one-quarter Section 36	71	15.30	10.19	6,250	58	13
Coopers Mid-Lakes Subdivision	1926	T4NR16E NW one-quarter Section 35	96	21.95	16.53	7,500	14	82
Arrowhead Park	1954	T4NR16E SE one-quarter Section 35	10	6.84	4.94	21,525	10	0
Arrowhead Park Addition No. 1	1956	T4NR16E SE one-quarter Section 35	6	3.70	3.14	22,800	6	0
Bubbling Springs Subdivision	1958	T4NR16E SW and SE one-quarter Section 34	31	19.82	8.88	12,474	14	17
Bubbling Springs Subdivision Addition No. 1	1959	T4NR16E SE one-quarter Section 34 NW and SW one-quarter Section 35	47	24.18	17.70	16,400	29	18
Bayview Manor	1961	T4NR16E NW one-quarter Section 36	62	21.88	15.94	11,200	34	28
Bubbling Springs Subdivision Addition No. 2	1961	T4NR16E NE and SE one-quarter Section 34	70	33.15	19.52	12,150	42	28
Cool Hill Park	1962	T4NR16E NW and SW one-quarter Section 35	43	26.24	21.31	21,590	27	16
Strawberry Banke Plantation[b]	1962	T4NR16E SW one-quarter Section 36 T3NR16E NW one-quarter Section 01	20	15.17	11.34	24,700	10	10
Hillview Park	1971	T4NR16E NW one-quarter Section 35	16	13.25	12.12	33,000	7	9
Pebble Beach	1975	T4NR16E NW one-quarter Section 25 NE one-quarter Section 26	50	44.42	27.77	24,192	14	36
Gladhurst	1976	T4NR16E SE one-quarter Section 23 SW one-quarter Section 24	25	50.25	42.18	73,500	7	18

Table 17 (continued)

Subdivision	Year Recorded	U. S. Public Land Survey Location	Number of Lots	Gross Acres	Net Acres	Typical[a] Lot Size (square feet)	Number of Lots Developed	Number of Lots Vacant
Westmoor Subdivision	1976	T4NR16E SW one-quarter Section 25	5	5.00	4.92	42,900	5	0
Farm Village Subdivision	1977	T4NR16E SW and SE one-quarter Section 25	15	88.58	82.07	238,329	2	13
Southmoor Subdivision	1977	T4NR16E SW one-quarter Section 25	24	24.24	18.48	33,540	2	22
Spring Valley Subdivision	1977	T4NR16E NE one-quarter Section 36	9	21.15	18.02	87,193	1	8
Walnut Hills Subdivision	1977	T4NR16E NE and NW one-quarter Section 36	21	46.66	42.67	88,502	6	15
Cloverleaf Acres	1978	T4NR16E NW one-quarter Section 18	16	19.10	17.10	42,900	9	7
Dunbar Estates Subdivision	1978	T4NR16E SE one-quarter Section 36	28	74.63	66.22	95,882	0	28
Point View Park	1979	T4NR16E SE one-quarter Section 35	7	13.01	4.59	28,560	0	7
Lake Shores	1981	T4NR16E SE one-quarter Section 35	29	30.00	17.98	27,000	1	28
Probst	1983	T4NR16E NW one-quarter Section 26	6	15.28	--[c]	84,390	1	5
Green Lake	1984	T4NR16E NW one-quarter Section 25	23	15.00	11.35	21,500	1	22
Mariner Hills	1985	T4NR16E SW and SE one-quarter Section 34	127	124.08	--[c]	--[c]	0	127
Total	--	--	938	793.60	--[c]	--	352	586

[a]*The average developed lot size in the Town of LaGrange between 1920 and 1985 was 18,472 square feet.*

[b]*Subdivision is located partially in the Town of Sugar Creek.*

[c]*Data not available.*

Source: SEWRPC.

of Tamarack Road. As shown on Map 16, extractive land uses, which totaled about 23 acres, were located in three sites in the Town in 1985. Two are located in the northern portion of the Town along Bluff Road; and one, Mann Brothers Sand and Gravel, is located on Kettle Moraine Drive in the western portion of the Town.

In the Town of LaGrange, transportation and utility land uses totaled about 617 acres. Transportation and utility land uses, consisting primarily of the highway network system, the Tamarack Airport, and off-street parking, were distributed throughout the Town. Of this total, approximately 607 acres were devoted to arterial streets, highways, and collector and local streets. In terms of miles, the highway network in the Town totals about 83.5 miles, 21.6 miles of which are designated arterials, and 61.9 miles of nonarterial collector and local access streets.

About nine acres of land in the Town of LaGrange are in governmental and institutional land uses. These include: the LaGrange Town Fire Station, located on the northeast corner of USH 12 and CTH H; the LaGrange Town Hall, located at the northwest corner of Territorial Road and CTH H; the Heart Prairie Cemetery, located in the southwestern corner of the Town along CTH O, and the Round Prairie Cemetery, located at the southwest corner of USH 12 and Tamarack Road.

Park and recreational land uses in the Town of LaGrange, excluding woodlands and wetlands, totaled about 193 acres. The largest park and recreational areas, primarily campsites and resorts, included Singing Hills Camp, Juniper Knolls Camp, Camp Pottawatomi Hills, Lutherdale Camp, Luebkes Resort, and the Lauderdale Country Club.

Trail-oriented recreational land uses in the Town were identified in the adopted regional park and open space plan. The plan proposes that the Ice Age recreational corridor continue be maintained as part of an intercounty trail system. The Ice Age Trail, located in the Kettle Moraine State Forest—Southern Unit, encompasses areas of scenic, historic, and other cultural interest which provide opportunities for a variety of nonmotorized, trail-oriented outdoor recreation activities such as backpacking, hiking, horseback riding, nature study and cross-country skiing. Additional information on the park and open space sites and recreational corridors is included in Chapter III of this report, "Natural Resource Base Inventory and Analysis."

Rural Land Use

The rural land use categories discussed in this section are surface waters, wetlands, woodlands, and agricultural and open lands. The agricultural and open lands category includes croplands, pastures, orchards, nurseries, farm buildings, and unused lands. Rural land uses totaled about 21,315 acres, or about 93 percent of the total area of the Town of LaGrange. The existing rural land uses in the Town in 1985 are shown on Map 16; the amount of land devoted to each use is set forth in Table 16.

Surface Waters, Wetlands, and Woodlands: In 1985, surface waters totaled about 1,045 acres, or about 5 percent of the total area of the Town. This category included all inland lakes, streams, rivers, and canals more than 50 feet in width. The chief surface water areas are the Lauderdale Lakes and Pleasant Lake, located in the southwestern portion of the Town. In 1985, wetland areas totaled about 614 acres, or about 3 percent of the total area of the Town. Wetlands were scattered throughout the northwestern and southeastern portions of the Town. In 1985, woodland areas totaled about 5,231 acres, or about 25 percent of the Town's total area. Woodlands were located primarily in the north-central portion of the Town, in the Kettle Moraine State Forest—Southern Unit.

Agricultural and Open Lands: Agricultural land uses are the largest single land use in the Town, with about 13,785 acres, or about 60 percent of the total area of the Town devoted to this use. Of this total, approximately 11,281 acres, or about 49 percent, is comprised of prime agricultural lands. The agricultural and open land use categories include all nonprime agricultural land, including croplands, pasturelands, orchards, nurseries, and agriculture-related farm buildings. The agricultural and open land uses totaled about 3,144 acres, or about 14 percent of the total area of the Town.

COMMUNITY UTILITIES

Public utility systems are one of the most important and permanent elements influencing growth and development in a community. Moreover, certain utility facilities are closely linked to the surface water and groundwater resources of the area and may, therefore, affect the overall quality of the natural resource base. This is particularly true of sanitary sewerage, water supply, and stormwater drainage facilities, which are, in a sense, modifications or extensions of the natural lake, stream, and watercourse systems of the area and of the underlying groundwater reservoir. The provision of certain public utilities to a largely rural area is normally impractical. Conversely, the development of areas for extensive urban use without certain utilities may create serious and costly environmental and public health problems.

Sanitary Sewer Service

The Town of LaGrange is not currently served by a public sanitary sewerage system. All the urban land uses in the Town rely on the use of private onsite sewage disposal systems. The installation and maintenance of this type of sewage disposal and water supply system is

monitored by the Walworth County Planning, Zoning and Sanitation Department. Intensive urbanization along lake shorelines has generated some concerns about the proper operation of septic tank systems because of small lots and high ground water levels in some areas. Additional information on the management of these systems is provided in Chapter V of this report.

Public Water Supply System

The Town of LaGrange does not have a public water supply system. Water for domestic and other uses is supplied by groundwater through the use of private wells.

Engineered Stormwater Drainage System

The Town of LaGrange does not have an engineered storm sewer system. At present stormwater drainage is handled by natural watercourses and roadside ditches and culverts.

COMMUNITY FACILITIES

Schools

The Town of LaGrange is served by four school districts: the Whitewater School District, the Palmyra-Eagle School District, the East Troy School District, and the Elkhorn School District. The location of these four school districts in the Town of LaGrange is shown on Map 17. The Whitewater School District operates five schools: Whitewater High School, Franklin Junior High School, and Lakeview, Lincoln, and Washington Elementary Schools. The Palmyra-Eagle School District operates three schools: Palmyra-Eagle High School and Eagle and Palmyra Elementary Schools. The East Troy School District operates five schools: East Troy High School, East Troy Junior High School, and East Troy, Stone, and Troy Center Elementary Schools. There are no public schools located in the Town of LaGrange. The 1988-1989 school enrollments for the four districts are shown in Table 18. Based on the optimistic future scenario population forecasts by age group presented in Table 3 of this report, the Town of LaGrange will experience slight decreases in the number of school-age children during the planning period. The school-age population forecast for the Town of LaGrange would not warrant the construction of public school facilities during the plan design period.

Police and Fire Protection

Primary law enforcement in the Town of LaGrange is provided by the Walworth County Sheriff's Office. The Town is served by the Lauderdale-LaGrange Fire Department, whose facility is located at the northeast corner of USH 12 and CTH H. The existing Fire Department facility is adequate for current, as well as probable future, spatial needs over the planning period. Fire and rescue services in the Town are provided by about 40 volunteer fire fighters. The Town has mutual aid agreements with the nearby Cities of Elkhorn and Whitewater and the Villages of Eagle, East Troy, and Palmyra for reciprocal aid in fire protection.

The Lauderdale Lakes and Pleasant Lake in the Town of LaGrange are served by a part-time, seasonal Water Safety Patrol. The Patrol is responsible for monitoring water-related activities by patrolling for water safety, monitoring boat speed levels and slow, no-wake areas, patrolling for vandalism, and issuing citations for unsafe practices. The water-related protection services are provided by a volunteer chief and six paid officers.

EXISTING LAND USE REGULATIONS

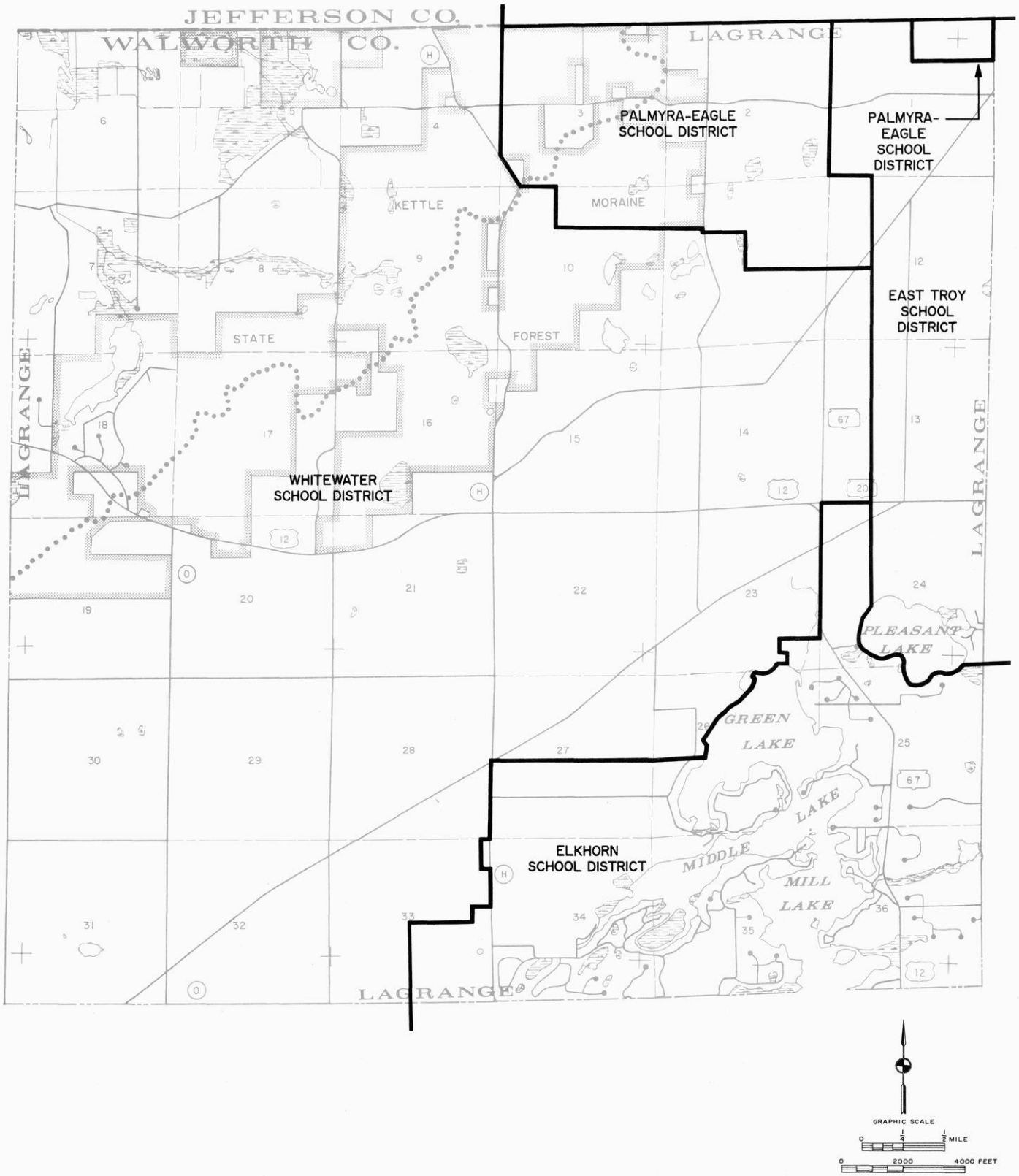
Existing Zoning

Good community development depends not only on sound long-range planning at all levels of government, but on practical plan implementation as well. Zoning is one of the major plan implementation devices available to any community. The primary function of zoning should be to implement the community land use plan. A secondary function should be to protect desirable existing development. Zoning should be a major tool for the implementation of community plans and not a substitute for such plans.

A zoning ordinance is a public law which regulates and restricts the use of private property in the public interest. A zoning ordinance divides a community into districts for the purpose of regulating: 1) the use of land and structures; 2) the height, size, shape, and placement of structures; and 3) the density of population. Zoning seeks to confine certain land uses to those areas of the community which are well suited to those uses, and seeks to set aside land for these particular uses, thereby encouraging the most appropriate use of land throughout the community. Zoning seeks to assure adequate light, air, and open space for each building; to reduce fire hazard; to prevent the overcrowding of land, traffic congestion, and the overloading of the

Map 17

SCHOOL DISTRICT BOUNDARIES IN THE TOWN OF LAGRANGE: 1988



Source: SEWRPC.

utility systems. Zoning should also seek to protect and preserve the natural resource base.

A single set of regulations applying to the entire community could not achieve these objectives of zoning, since different areas of the community differ in character and function. In this respect the zoning ordinance differs from building, housing, and sanitation codes which, in general, apply uniformly to all lands or buildings of like use wherever they may be located in a community. Zoning regulations for various types of districts in the Town may be different, but regulations in any given district must be uniform. Accordingly, a zoning ordinance consists of two parts: 1) a text setting forth regulations that apply to each of the various zoning districts, together with related procedural, administrative, and legal provisions; and 2) a map delineating the boundaries of the various districts to which the differing regulations apply.

All land development and building activities in the Town of LaGrange are regulated by the Walworth County Zoning Ordinance and the Walworth County Shoreland Zoning Ordinance. The Walworth County Zoning Ordinance applies to all structures, lands, and waters in the unincorporated areas of Walworth County, except the shorelands. In Wisconsin, general county zoning does not become effective in any town in the county until the town, at its own initiative, adopts the county ordinance. The Walworth County Zoning Ordinance was adopted by the County Board of Supervisors on August 13, 1974. The Town of LaGrange adopted the Walworth County Zoning Ordinance on November 12, 1976. The zoning map for the Town of LaGrange was also adopted on November 12, 1976.

The Walworth County Shoreland Ordinance regulates those lands lying in the County's shorelands, that is, those lands located within 1,000 feet of the high-water mark of navigable lakes or within 300 feet of the high-water mark of navigable streams, or to the edge of the 100-year floodplain when the floodplain extends more than 300 feet from the high-water mark of a navigable stream. The primary difference between the County Shoreland Zoning Ordinance and the County Zoning Ordinance is that the Shoreland Zoning Ordinance contains a C-4, Lowland Resource Conservation District, to regulate lakes, streams, and wetlands located within shorelands; while the Zoning Ordinance contains a C-1, Lowland Resource Conservation District, to regulate nonnavigable lakes and streams, as well as nonshoreland wetlands. Unlike general County zoning, the County Shoreland Zoning Ordinance and any amendments to it do not require Town approval. The Walworth County Shoreland Zoning Ordinance was adopted by the Walworth County Board of Supervisors on August 13, 1974. Amendments to the Shoreland Regulations in the Ordinance were adopted on March 13, 1990. Added information on the Shoreland Regulations contained in the Ordinance is provided in Chapter V of this report.

The Walworth County Park and Planning Commission was designated as the County's zoning agency for the purpose of making zoning studies, preparing tentative zoning regulations and districts, holding public hearings, recommending the zoning ordinance to the Walworth County Board of Supervisors, and making subsequent recommendations to the Board on petitions for changes and amendments to the zoning ordinance. The County's Park and Planning Commission was the body designated as the County Zoning Agency since it has responsibilities for county park and highway planning. The Park and Planning Commission also has the power and administrative responsibility to grant conditional uses and approve subdivision plats. The role of the LaGrange Town Board is, in nature, advisory to the Park and Planning Commission with respect to approving conditional use permits in the Town.

Table 18

SCHOOL ENROLLMENTS FOR SCHOOL DISTRICTS SERVING THE TOWN OF LAGRANGE: 1988-1989

School District	Enrollment
East Troy	1,944
Elkhorn	1,796
Palmyra-Eagle	1,229
Whitewater	1,888

Source: Wisconsin Department of Public Instruction, 1988.

The Walworth County Board has the authority to amend or change the County's zoning ordinance or zoning map; however, such actions are subject to approval by the Town Board of the affected area. Any comprehensive rezoning amendment to the Walworth County Zoning Ordinance must meet the approval of a majority of the Towns in the County.

Zoning District Structure: In August 1974, prior to the enactment of the Wisconsin Farmland Preservation Act, the Walworth County Board of Supervisors adopted a new county zoning ordinance. The adoption and ratification of the Walworth County zoning ordinance followed a broad and lengthy public education and participation process carried on cooperatively by the County Park and Planning Commission, the Agricultural Committee of the County Board, the Walworth County office of The University of Wisconsin-Extension, the U. S. Soil Conservation Service, and the Southeastern Wisconsin Regional Planning Commission. Over a period of seven years, more than 500 meetings and hearings were held on the proposals contained in the ordinance. County Park and Planning and University of Wisconsin-Extension staffs made many presentations about the proposed ordinance to local garden clubs, conservation groups, lake associations, agricultural associations, and other groups that expressed an interest in the rezoning effort. As a result, strong support for the ordinance came from various citizen groups, including the Walworth County Farm Council, a coalition of representatives of the various farm organizations in the County. This Council assisted greatly in drafting the agricultural district provisions of the ordinance. Fifteen of the sixteen Towns in Walworth County adopted the joint county-town zoning ordinance after its adoption by the County, and the sixteenth, Lafayette Town, adopted an almost identical local ordinance.

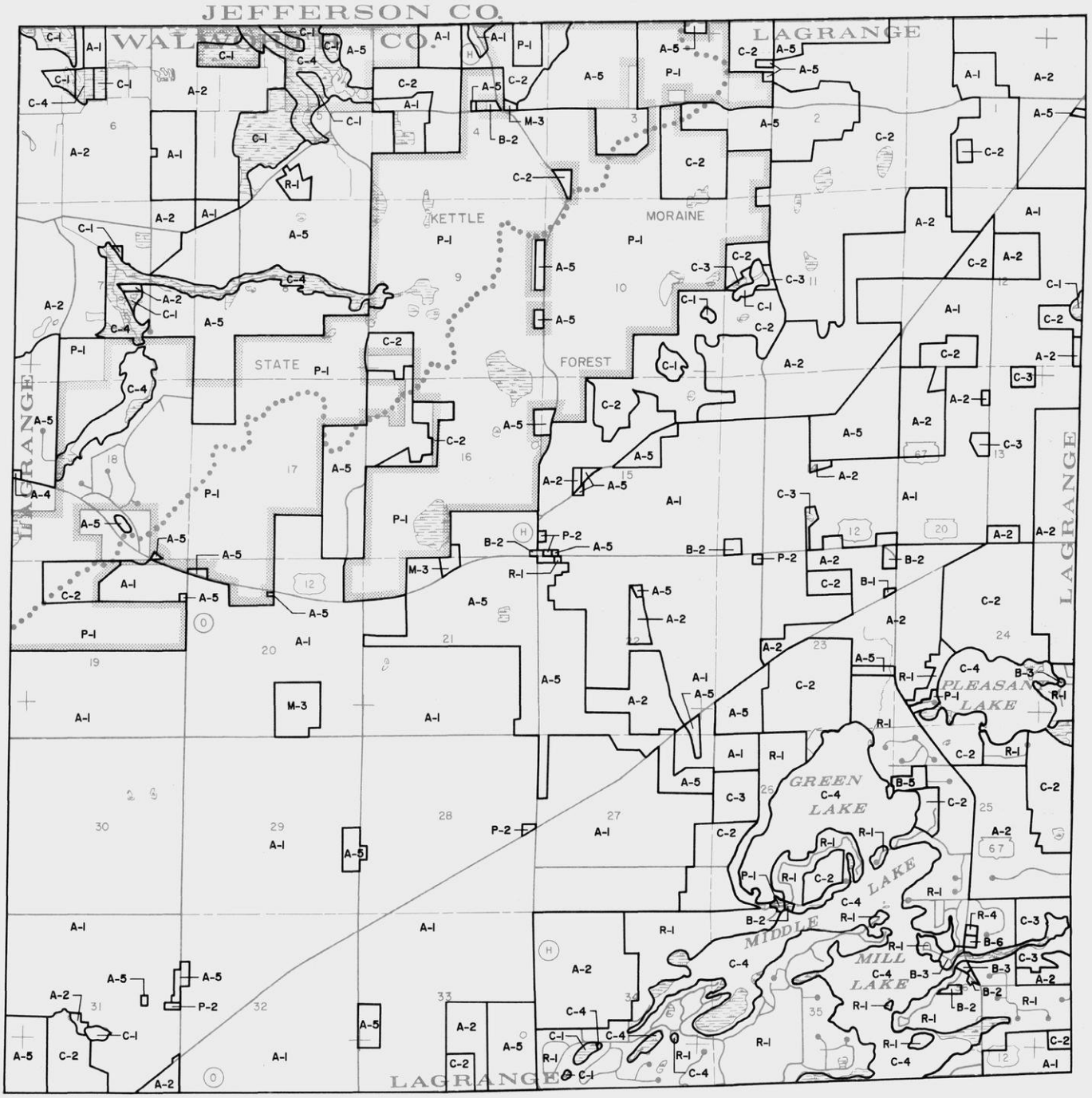
Protection of the agricultural resource base of the County was one of the primary objectives of the county rezoning effort. Historically, Walworth County had placed the bulk of its farmlands into an agricultural zoning district, but had failed to make that district an exclusive district. The previous agricultural district permitted single-family, nonfarm homes. Furthermore, the district contained no effective minimum farm size, and allowed these single-family homes to be built on parcels as small as one acre. As urban development pressures mounted, local governments found themselves unable to control indiscriminate urban development on scattered parcels throughout what was generally considered to be prime agricultural land. The result was scattered urban development accompanied by generally rising local property tax rates and an increasing set of problems for the remaining farmers, including complaints about agricultural odors and agricultural operations like late-night harvesting from nonfarm residents. The only effective way to resolve this problem was to make the agricultural district an exclusive-use district, that is, a district which permits only agricultural and related uses and prohibits the development of single-family homes not associated with agricultural activities. The Walworth County Zoning Ordinance now defines the A-1, Prime Agricultural Land, district, which provides for exclusive agricultural uses on parcels of a minimum size of 35 acres.

The Walworth County Zoning Ordinance and the Walworth County Shoreland Zoning Ordinance together define 28 districts, 18 of which are currently applied in the Town of LaGrange. The applicable zoning districts in the Town of LaGrange are shown on Map 18. The zoning districts in the Town include three agricultural districts, one agricultural/residential district; four conservancy districts, two park districts, two residential districts, five business districts, and one quarrying district. The regulations applicable to each zoning district are summarized in Table 19.

Lot Sizes and Width Requirements: Walworth County and the Town of LaGrange regulate population density primarily by means of minimum lot size requirements. Minimum lot size and setback requirements in the Walworth County Zoning Ordinance and the Walworth County Shoreland Zoning Ordinance are presented in Table 19 and Section 2.5 of the Walworth County Shoreland Zoning Ordinance. The lot size, lot width, and setback requirements vary with the zoning district. Width and area of all lots not served by a public sanitary sewerage system or other approved system should be adequate to permit the use of an onsite soil absorption sewage disposal system designed in accordance with the Walworth County Private Sewage System and Sanitation Ordinance, adopted by the Walworth County Board of Supervisors on June 15, 1982.

Map 18

ZONING IN THE TOWN OF LAGRANGE: 1990



LEGEND

ZONING DISTRICTS

A-1	PRIME AGRICULTURAL LAND
A-2	AGRICULTURAL LAND
A-4	AGRICULTURAL-RELATED MANUFACTURING, WAREHOUSING AND MARKETING
A-5	AGRICULTURAL-RURAL RESIDENTIAL
C-1	LOWLAND RESOURCE CONSERVATION
C-2	UPLAND RESOURCE CONSERVATION
C-3	CONSERVANCY-RESIDENTIAL
C-4	LOWLAND RESOURCE CONSERVATION (SHORELAND)
P-1	RECREATIONAL PARK
P-2	INSTITUTIONAL PARK
R-1	SINGLE-FAMILY RESIDENCE [UNSEWERED]
R-4	MULTIPLE-FAMILY RESIDENCE
B-1	LOCAL BUSINESS
B-2	GENERAL BUSINESS
B-3	WATERFRONT BUSINESS
B-5	PLANNED COMMERCIAL-RESIDENTIAL BUSINESS
B-6	BED AND BREAKFAST
M-3	MINERAL EXTRACTION

GRAPHIC SCALE
0 1/4 1/2 MILE
0 2000 4000 FEET

Source: Walworth County Planning, Zoning and Sanitation Department and SEWRPC.

Table 19

WALWORTH COUNTY ZONING DISTRICTS APPLICABLE TO THE TOWN OF LAGRANGE: 1990

District	Principal Uses	Conditional Uses[a]	Minimum Lot Size		Street Yard (feet)	Side Yard (feet)	Rear Yard (feet)	Maximum Building Height (feet)
			Total Area	Lot Width (feet)				
A-1 Prime Agricultural Land	Two single- or one two-family farm dwellings, farming, grazing, orchards, vegetable raising, dairying, equestrian trails	Housing for workers, commercial feed lots, fur farms and egg production, livestock sales facilities, land restoration, schools, churches	35 acres	--	Varies[b]	20[c,d]	100	35
A-2 Agricultural Land	All A-1 principal uses, except only one single-family farm dwelling is permitted	Housing for workers, commercial feed lots, fur farms or egg production, ski hills, recreation camps, riding stables, airports, schools, churches	20 acres	300	Varies[b]	20[c,d]	100	35
A-4 Agricultural-Related Manufacturing, Warehousing, and Marketing	All uses are conditional uses	Contract sorting, grading, and packaging, corn shelling, hay baling and threshing services, milk production, production of flour and grain mill products, production of meat products, sales or maintenance of farm implements, kennels, schools, churches	Sufficient area as required by ordinance	--	Varies[b]	75	75	60
A-5 Agricultural-Rural Residential	Single-family dwellings, home occupations, orchards, vegetable raising, plant nurseries, greenhouses, roadside stands	Sanitary sewage treatment plants, governmental and cultural uses, utilities, schools, churches	40,000 square feet	150	Varies[b]	15[d]	25[d]	35
C-1 Lowland Resource Conservation (nonshoreland)	Farming, boat landings, fish hatcheries, forest and game management, park and recreation areas, beaches, trails	Land restoration, golf courses, yachting clubs, recreation camps, campgrounds, sanitary sewage treatment plants, utilities	--[e]	--[e]	--[e]	--[e]	--[e]	--[e]
C-2 Upland Resource Conservation	Farming, forest preservation, hunting and fishing clubs, park and recreation areas, stables, single-family detached dwellings	Animal hospitals, golf courses, ski hills, camps, riding stables, planned residential developments, governmental and cultural uses, utilities	Five acres	300	Varies[b]	20[d]	100	35
C-3 Conservancy-Residential	Forest preservation, forest and game management, single-family detached dwellings	Animal hospitals, land restoration, planned residential developments, sanitary sewage treatment plants, governmental and cultural uses, utilities	100,000 square feet	200	Varies[b]	20[d]	50[d]	35
C-4 Lowland Resource Conservation (shoreland)	Farming, boat landings, fish hatcheries, forest and game management, park and recreation areas, beaches, trails	Land restoration, golf courses, yachting clubs, recreation camps, campgrounds, sanitary sewage treatment plants, utilities	--[e]	--[e]	--[e]	--[e]	--[e]	--[e]
P-1 Recreational Park	Parks, forest preserves, boat rentals, golf courses, gymnasiums, ice skating, picnic grounds, playfields	Country clubs, ski hills, yachting clubs, cultural activities, archery ranges, firearm ranges, sports fields, schools, and churches	Sufficient area as required by ordinance	--	Varies[b]	50[d]	50[d]	35
P-2 Institutional Park	Churches, convents, hospitals, schools, colleges, nursing homes, town buildings	Golf courses, public assembly uses, sports fields, airports, utilities, cemeteries, cultural uses	Varies[f]	Varies[f]	Varies[b]	25[d]	25[d]	35
R-1 Single-Family Residential (unsewered)	Unsewered single-family detached dwellings, parks, and playgrounds	Golf courses, country clubs, planned residential developments, sanitary sewer treatment plants, utilities, schools, churches	Varies[f]	Varies[f]	Varies[b]	15[d]	25[d]	35
R-4 Multi-Family Residential	All uses are conditional uses	One-, two-, and multi-family dwellings, golf courses, country clubs, planned residential developments, utilities, schools, churches	Varies[f]	Varies[f]	Varies[b]	10[d]	25[d]	35

Table 19 (continued)

District	Principal Uses	Conditional Uses[a]	Minimum Lot Size		Street Yard (feet)	Side Yard (feet)	Rear Yard (feet)	Maximum Building Height (feet)
			Total Area	Lot Width (feet)				
B-1 Local Business	Barber and beauty shops, business and professional offices, clinics, clothing, grocery and liquor stores, lodges, restaurants	Residential dwellings, nursing homes, vehicle sales and service, governmental and cultural uses, schools, churches	Varies[f]	Varies[f]	Varies[b]	10[d]	30[d]	35
B-2 General Business	All B-1 principal uses, antique shops, furniture stores, hotel and motels, bars and taverns, private clubs and schools, boat and marine supplies, variety stores	Residential dwellings, public assembly uses, drive-in theaters, public parking lots, nursing homes, funeral homes, utilities, schools, churches	Varies[f]	Varies[f]	Varies[b]	10[d]	30[d]	45
B-3 Waterfront Business	All uses are conditional uses	Boat rental, boat and marine supplies, bait shops, restaurants, bath houses, dance halls, off-season storage, vehicle sales and services, drive-ins, public parking lots	Sufficient area as required by ordinance	Varies[f]	Varies[b]	10[d]	50[d]	35
B-5 Planned Commercial-Recreational Business	All uses are conditional uses	Planned residential developments, amusement parks, boat rentals and access sites, campgrounds, recreational resorts, hotels, restaurants, retail stores, professional offices, personal services	--	--	25[g]	15[d,g]	40[d,g]	75[h]
B-6 Bed-and-Breakfast	Bed-and-breakfast establishments	None	Varies[f]	Varies[f]	Varies[b]	15[d]	25[d]	35
M-3 Mineral Extraction	All uses are conditional uses	Aggregate or ready-mix plant, clay, ceramic and refractory minerals mining, crushed and broken stone quarrying, processing of top soil, governmental and cultural uses, utilities	--	--	--[i]	--[i]	--[i]	--

[a] *More restrictive lot area, width, and yard requirements may apply to conditional uses under Section 4.0 of the Shoreland Zoning Ordinance.*

[b] *For a subdivision road—minimum 25 feet; town road—minimum 50 feet; county road—minimum 65 feet; state and federal highways—minimum 85 feet.*

[c] *Except structures used for housing of animals must be a minimum of 100 feet from lot lines.*

[d] *Except shoreyards must be a minimum of 75 feet.*

[e] *No requirements for principal uses since no buildings or structures are permitted.*

[f] *Lot area and width as determined by Section 2.5 of the Shoreland Zoning Ordinance.*

[g] *Except all perimeter yards must be a minimum of 100 feet.*

[h] *Except height of residential structures cannot exceed 35 feet.*

[i] *All excavation must be a minimum of 200 feet from the right-of-way of any public or approved street, property line, or shoreline. All accessory uses, such as offices, parking areas, and stockpiles, must be a minimum of 100 feet from the right-of-way of any public or approved street, property line, or shoreline.*

Source: Walworth County Shoreland Zoning Ordinance and SEWRPC.

For unsewered lots in the R-1, R-3, R-4, R-5, R-7, and R-8 residential zoning districts, and the B-1, B-2, and B-4 business zoning districts in the County, the lot width and area must meet the site regulations listed in Section 2.5 of the County Zoning Ordinance. Section 2.5 requires that all lots not served by a public sanitary sewerage system be sufficient in size to permit the use of an onsite soil absorption sewage disposal system designed in accordance with the County Sanitary Ordinance. In addition, all lots must be at least 150 feet wide and have a minimum area of 40,000 square feet. In the R-2 district, which is only applicable in areas served by public sanitary sewerage systems, the minimum lot width is 100 feet and the minimum lot area is 15,000 square feet. In the R-6, Planned Mobile Home Park Residential District, the minimum lot width is 450 feet and the minimum lot area is 10 acres for the mobile home park.

Dwelling Unit Sizes: Construction of one-family and two-family dwellings in the State is regulated by the Wisconsin Uniform Dwelling Code (UDC), which took effect in June 1980. The UDC is a state regulation enforced by local governments. The UDC does not specify any minimum size requirement for one-family and two-family dwellings. Local governments are not required to adopt the UDC, but if they choose to adopt the Code it must be adopted in its entirety. Local governments cannot impose additional requirements on any specific activity or standard governed by the UDC; however, local governments can adopt additional regulations related to construction of one-family and two-family dwellings if the activity or standard is not specifically regulated by the UDC. Examples of items that can be regulated through local building codes include minimum dwelling size, requirements for accessory buildings, and regulation of excavation for dwelling construction.

The Town of LaGrange, which has adopted the Wisconsin Uniform Dwelling Code, does not require a minimum size for dwelling units constructed in the Town.

Minimum dwelling unit sizes can also be regulated through local zoning ordinances; and, in fact, such regulations are generally included in the zoning ordinance rather than the building code. The Walworth County Zoning Ordinance and the Walworth County Shoreland Zoning Ordinance, however, do not regulate minimum floor area for dwelling units.

Preservation of Natural Resources and Open Space: Zoning regulates the kinds of buildings that can be erected in each zoning district and the uses to which they can be put. However, it is also possible to regulate open lands without buildings. At present, the Walworth County Zoning Ordinance and Shoreland Zoning Ordinance have four zoning districts that regulate the use and preservation of environmentally sensitive open space areas. They are the C-1, Lowland Resource Conservation District, utilized in the nonshoreland areas; the C-2, Upland Resource Conservation District; the C-3, Conservancy-Residential District; and the C-4, Lowland Resource Conservation District, utilized in shoreland areas.

The primary purpose of the C-1, Lowland Resource Conservation District, is to preserve, protect, and enhance wetland areas located outside shoreland areas. The primary purpose of the C-2, Upland Resource Conservation District, is to preserve, protect and enhance, and restore significant woodlands, related scenic areas, submarginal farmlands, and abandoned mineral extraction lands in the County. The primary purpose of the C-3, Conservancy-Residential District, is essentially the same as the C-2 district, namely the protection and preservation of environmentally significant uplands. It is intended that the C-3 district be applied to those upland environmental corridors that have already been divided into relatively small parcels or have a very high residential potential because of their proximity to urban areas. The primary purpose of the C-4, Lowland Resource Conservation District, is to preserve, protect, and enhance the lakes, streams, and wetlands in shoreland areas of Walworth County. The C-1 and C-4 districts include all areas under the jurisdiction of the County's Zoning and Shoreland Zoning Ordinances which are designated as wetlands on the Final Wisconsin Wetland Inventory Maps prepared by the Wisconsin Department of Natural Resources and adopted by Walworth County on June 27, 1983. The conservancy districts adequately provide for open space preservation, natural resource protection, and environmental enhancement in the County.

Walworth County Subdivision Ordinance

A land subdivision ordinance is a public law regulating the division of land, and is necessary to ensure that:

1. The subdivision of land will fit properly into the existing and proposed land use pattern and the overall plan for the physical development of the community;
2. Adequate provision is made for necessary community facilities so that a harmonious and desirable environment will result;
3. Adequate standards are met in the design of the land division and the improvement of the land being subdivided, with particular attention to such requirements as utilities, stormwater drainage, street improvements, and lot improvements;
4. A sound basis is provided for clear and accurate property boundary line records; and

5. The health, safety and general welfare of all the citizens in the community, as well as the future occupants of the land to be subdivided, are protected.

The division and improvement of lands in the Town of LaGrange are currently regulated by the Walworth County Subdivision Control Ordinance. This ordinance requires the platting of divisions of land when five or more parcels or building sites of 35 acres in size or less are created, or when five or more parcels or building sites of 35 acres in size or less are created by successive land divisions within a period of five years. The County Ordinance also requires that a division of land, other than a subdivision, resulting in the creation of less than five lots or building sites of 35 acres or less, be surveyed and a certified survey map be prepared and recorded.

Walworth County Private Sewage System and Sanitation Ordinance

Section 59.065 and Section 145.20 of the Wisconsin Statutes allow any County to establish a private sewage system and sanitation ordinance to regulate private sewage systems in its unincorporated areas. The Walworth County Private Sewage System and Sanitation Ordinance and subsequent amendments are designed to:

1. Regulate the location, construction, installation, alteration, design, use, and maintenance of all private water supply and private waste disposal systems;

2. Regulate the discharge of all waste materials onto lands, or onto surface or ground waters;

3. Regulate large public assembly areas and facilities in order to protect the health and safety of residents, participants, and natural resources;

4. Protect the health of residents and visitors;

5. Further the appropriate use and conservation of land and water resources; and

6. Stabilize and protect the County's natural beauty and property values.

The Sanitation Ordinance applies to all lands and waters in the unincorporated areas of Walworth County, as well as those incorporated areas which have not adopted their own sanitation ordinance. The Ordinance outlines the general provisions for the installation, operation, and maintenance of private water supply systems, septic tanks, effluent disposal systems, holding tanks, and septic sludge disposal. The Ordinance also regulates public bathing places, public assembly places, sanitary facilities, medical facilities and services, and waste disposal.

The Sanitation Ordinance was adopted by the Walworth County Board of Supervisors on June 15, 1982, and has been variously amended since its effective date. The County Ordinance complies with the applicable requirements of the Wisconsin Administrative Code.

Walworth County Construction Site Erosion Control Ordinance

Erosion from construction sites is recognized as a major contributor to water pollution in southeastern Wisconsin. Much of the soil eroded from construction sites is transported by water and eventually deposited in streams and lakes as sediment. Sediments often settle to the bottom of the lake or stream bed, where they can cover and smother benthic organisms, eggs and larvae, and food supplies for fish. Sediment particles also act as transport mechanisms for other substances, such as nutrients, metals, and pesticides, which can have an additional detrimental effect on the water quality of lakes and streams.

There are several management practices that can greatly reduce the amount of sediment eroded from a construction site. These include minimizing the area and duration of site disturbance to the smallest area and shortest possible time; diverting upstream flows around disturbed areas; using sod, seed, and mulch to reduce the amount of sediment washed from disturbed sites; and protecting runoff channels and drainage ditches from erosion.

The Walworth County Board adopted a Construction Site Erosion Control Ordinance on June 12, 1990. The Ordinance was enacted to protect the quality of waters in the County and the State by reducing the amount of sediment and other pollutants leaving construction sites during land development and land disturbance activities. The Ordinance applies in the unincorporated areas of the County.

The Ordinance requires a landowner or tenant to get a permit before undertaking certain "land

disturbing" or "land developing" activities. These activities include, but are not limited to, the construction of any building or other structure; removal of vegetation or ground cover, grading, excavation, or filling affecting 4,000 square feet or more; and construction or reconstruction of roads or bridges. As part of the permit application, the landowner or tenant or other user of the land must submit a site map, a schedule of construction activities, and a description of planned erosion control measures. All approved permits require the permittee to notify the County within 72 hours of commencing any land disturbing activity, and within 14 days after the installation of erosion control measures. The Ordinance requires the County to inspect all construction sites at least once a month during the months of March through October, and at least twice a month during the months of November through February, to ensure compliance with the approved erosion control plan. The Ordinance also specifies enforcement procedures for situations where an approved control plan is not being followed, and where land disturbance or development are being carried out without a permit.

Chapter V

LAKE MANAGEMENT ACTIVITIES

INTRODUCTION

There are five major lakes, defined as lakes with a surface area of 50 acres or more, in the Town of LaGrange. The five major lakes are LaGrange Lake, a 55-acre lake located in the Southern Unit of the Kettle Moraine State Forest in Sections 7 and 18; Pleasant Lake, a 155-acre lake located on the east side of STH 67 in Sections 24 and 25; and Green, Middle, and Mill Lakes, located on the west side of STH 67 in Sections 23, 25, 26, 34, 35, and 36. The latter three lakes are connected and are known collectively as the Lauderdale Lakes. The Lauderdale Lakes have a combined surface area of 841 acres, with 14.2 miles of shoreline.

This chapter describes means of access to, and existing uses of, the major lakes in the Town of LaGrange. The chapter focuses on uses and activities in and surrounding the Lauderdale Lakes, and the effect of those uses and activities on those lakes. Current and potential lake management activities are also described.

DESCRIPTION OF LAKES

LaGrange Lake

LaGrange Lake is located in the Kettle Moraine State Forest. As a result, there is no urban development adjacent to or near the Lake. Furthermore, there is no developed drive-in access to the Lake at this time. Because it is relatively small and shallow, there is little pressure for developed public access for motorboat-related activities.

There are a number of recreational trails surrounding the Lake. The Ice Age Trail is located on the west and north sides of the Lake. There are also two trails for horseback riding and snowmobiling, one on the west side and the other on the south and east sides of the Lake.

Pleasant Lake

Pleasant Lake is surrounded by residential development on the east, south, and northwest shorelines. The minimal residential development around Pleasant Lake is generally limited to one tier of lots immediately adjacent to the water's edge, and subdivision activity has been limited. As a result, there are few vacant, existing lots available for development around the Lake. The northern and southeastern portions of the Pleasant Lake shoreline are relatively undisturbed. The Kenosha County Girl Scout Council owns a private camp, Camp Pottawatomi Hills, adjacent to the southeastern shore of the Lake. The Chicago Girl Scouts own the Juniper Knolls Camp on the north side of the Lake. The Girl Scout camps are used for nature-related activities such as camping, swimming, hiking, cross-country skiing, and nature study. There is also a privately-owned undeveloped parcel, approximately 40 acres in size, located adjacent to the southwestern portion of the lakeshore. This parcel is zoned C-2, Upland Resource Conservation District.

The Town of LaGrange has adopted a boat-control ordinance for Pleasant Lake that limits boat speeds to five miles per hour. High-speed boating activities, such as waterskiing, are therefore absent from the Lake. These favorable conditions enhance opportunities for fishing and other slow-boating activities such as canoeing and wildlife viewing. The speed limit has effectively lessened conflicts between competing lake users and limited the number of boats using the lake. Public access is provided by a Town park and boat ramp on the west side of Pleasant Lake.

Swimming is also an important use of Pleasant Lake. There are almost 900 feet of improved beach frontage. Most of the improved beaches, however, are associated with private camps surrounding the Lake, and are not open to the general public.

Lauderdale Lakes

The Lauderdale Lakes are a focus of significant urban development in the Town of LaGrange. Approximately 70 percent of the Lauderdale Lakes' shoreline has been developed, primarily with single family homes on relatively small lots. In some cases, land up to 3/4 mile from the shoreline has been subdivided and developed. Nonresidential uses around the Lakes include a golf course, a motel, and a large boat sales and storage operation, all located on the eastern shore of Mill Lake. There is a large, private

outdoor recreation camp, the Singing Hills Camp, owned by the Racine County Girl Scout Council, on the northern shore of Green Lake. Another large, private outdoor recreation camp, owned by the Lutherdale Lutheran Bible Camp Association, is located on the eastern shoreline of Green Lake. A restaurant and recreational vehicle condominium park are located north of the Lutherdale Camp. There is a restaurant on the southwest side of Green Lake. The only major undeveloped area adjacent to the shoreline of the Lauderdale Lakes is on the northwestern shoreline of Middle Lake.

Management of uses occurring on the Lauderdale Lakes, as well as uses and activities on adjacent lands, has become an increasing concern of many Town residents and property owners in recent years. As already noted, urban development in the Town has become centered in this area, and continues to increase. Declining water quality, attributed to failing private sewage disposal systems, and conflicts among fast-boating and other recreational uses of the Lakes are the main concerns.

LAKE USE AND ACCESS

The Lauderdale Lakes receive heavy use by all types of boaters, including fisherman, waterskiers, and pleasure boaters. The Lake is also used for swimming and wildlife viewing. Concern about the number of boats, boat speeds, and the variety of lake uses competing for a fixed and limited amount of lake surface has been increasing in recent years. The Town of LaGrange adopted an ordinance in April 1983 to help manage development and use of the Lauderdale Lakes. The ordinance regulates water traffic, boating, and water sports, as well as the number, size, and use of wharves and piers along the lakeshore. The ordinance prohibits boat speeds faster than those necessary to maintain boat steering control within 100 feet of the shoreline. Swimming is not allowed outside this 100 foot strip of water unless the swimmer is accompanied by a boat. Mooring buoys cannot be placed in the lake without a permit from the Town Board. A permit from the Town Board is also required to construct, enlarge, or replace a wharf, pier, or other mooring facility. Permits for mooring facilities are limited to one per 22 feet of shoreline, or fraction thereof, owned by an applicant.

The Town Board also established a "Slow—No Wake" area in 1989 for the western portion of Middle Lake, which is also known as the Bubbling Springs. This area is the principal source of water for the Lauderdale Lakes, which receive most of its water by groundwater recharge. The area also supports a variety of valuable aquatic plants, which provide habitat and food for fish and wildlife. The Department of Natural Resources has identified the Bubbling Springs area as a critical area for fisheries, wildlife, and water quality. The "Slow—No Wake" designation is intended to alleviate problems resulting from high-speed boat traffic in the area. These problems include suspension of roiled bottom suspended in the water and subsequently distributed throughout the lake, resulting in turbidity, algal blooms, and a decrease in water quality; and also the destruction of the very aquatic plants which provide spawning and nursery habitat for fish and food for wildlife.

The Lauderdale Lakes provide excellent fishing and other recreational opportunities. The Department of Natural Resources stocked walleye fingerlings into the Lakes throughout the 1950s and early 1960s. More recently, in 1988 the Lauderdale Lakes Improvement Association has stocked walleyed pike and in 1989, northern pike.

Public access to the Lauderdale Lakes is provided at three boat ramps owned by the Town. Ramps are located on the southwestern shore of Sterlingworth Bay on Mill Lake; on the southwestern shore of Green Lake; and on the southwestern shore of Middle Lake. A total of 24 car and trailer spaces are provided at the Town boat ramps. Boat-access points to the Lauderdale Lakes were upgraded by the Town in 1990. A launch fee of $25.00 took effect in 1990 at public boat launches operated by the Town.

Boat-access points, both public and nonpublic, provide opportunities for those who do not own land on a body of water to participate in several water-related recreation activities, such as motorboating, waterskiing, sailing, fishing, and canoeing. The Regional Park and Open Space Plan, adopted by the Southeastern Wisconsin Regional Planning Commission in 1977, recommends that all inland lakes with a surface area of 50 acres or more ("major lakes") be provided with adequate public boat access consistent with safe and enjoyable participation in various boating activities. Commission studies con-

ducted in 1975 concluded that, with the exception of LaGrange Lake, which has no developed drive-in access, all lakes in the Town of LaGrange were heavily utilized. Therefore, the Regional Park and Open Space Plan did not recommend any additional boating access facilities, such as access points and car and trailer parking spaces, in the Town of LaGrange to accommodate fast-boating activities such as motorboating and waterskiing.

It should be noted that the Wisconsin Department of Natural Resources, in keeping with State Statutes and regulations which seek to assure that all Wisconsin residents have access to publicly owned inland waters, surveyed all the major lakes in the State in 1989 to determine if adequate public access to each was provided and maintained. Access is considered adequate by the State if the general public is provided entry to a water body at a reasonable charge, defined as the fee charged for daily entrance to a state park or forest ($3.50), or a higher fee justified by high operating costs and approved by the Department of Natural Resources. Draft guidelines were developed by the Department to determine if there were adequate car and trailer parking spaces within one-quarter mile of identified public-access points. Adequacy of the number of car and trailer parking spaces needed was based solely on the surface area of the lake and did not take into account such factors as riparian use or water depth, which could impair the safe and enjoyable use of the water body.

A statewide system has been established by the the Department to prioritize navigable bodies of water to guide the acquisition and development of public-access sites for the public. The system, which classified water bodies into categories of high, medium, and low priority, gave preference to water bodies having inadequate public access; large size; or high recreation potential; and those water bodies located in areas of the State with high summer outdoor recreation populations. Based on this system, the Lauderdale Lakes and Pleasant Lake received a high-priority rating for acquisition and development of public-access sites, and LaGrange Lake received a medium-priority rating. Under current Department guidelines, acquisition and development projects to provide access on all high-priority water bodies will be implemented by the State, over time, utilizing available state funding. Implementation of these projects on medium-priority water bodies will be dictated by the Department's project priority system and by funding limitations.

Draft guidelines for selecting public-access sites were also proposed by the Department. The guidelines propose that public-access sites be a minimum of one-half acre in size and provide adequate area for parking, maneuvering, and buffer areas. The location should also adjoin a public roadway and allow safe access to the roadway. Development of the site should require a minimal disturbance of shoreline and upland, and its location should avoid disturbing existing land uses.

SHORELAND DEVELOPMENT AND RESULTING LAKE IMPACTS

Lake shorelands are defined as lands within 1,000 feet of the ordinary high-water mark of a lake. A delicate and complex relationship exists between shorelands and adjacent water bodies, which can be greatly affected by uses located within the shoreland. Uses located within a lake's watershed, which usually extends beyond the shorelands, can also affect the health and quality of the lake.

The Lauderdale Lakes, and, to a lesser extent, Pleasant Lake, have been affected by intensive residential development within their shorelands and watersheds. Residential development reduces the natural vegetative cover of an area when vegetation is cleared for homes, roadways, driveways, parking areas, drainage systems, and accessory uses like trails and boathouses. Clearing of vegetation, particularly on steep slopes, can cause soil erosion and sedimentation problems, reduce wildlife cover and food sources, and allow nutrients and other pollutants to run into the lake. Cutting, filling, and grading activities during road and building pad construction can also result in erosion and sedimentation.

Indiscriminate dredging of lakes and associated wetlands and placement of dredged material on shorelands disturbs lake bottoms, destroys natural banks, and may result in sedimentation and increased water turbidity, as well as impair wildlife habitat. These impacts are most likely to occur during the construction of roads and structures located on or near the shoreline, such as docks, piers, boathouses, and bridges.

The adverse effects of the intensive development of shorelands on water quality is substantially increased when private sewage disposal systems are used. A private onsite sewage disposal system may be either a conventional septic tank system, a mound septic system, or a holding tank. Holding tanks are used to temporarily store wastewater, which is periodically pumped into a truck and conveyed to a sewage treatment plant or land disposal site. The septic tank system consists of two components, a septic tank proper to provide partial treatment of the raw wastes by skimming, settling, and anaerobic decomposition, and a soil-absorption field for final treatment of liquid discharged from the septic tank. The soil-absorption field absorbs and treats sewage effluent before it reaches the groundwater table. A mound system differs from a conventional system in that the soil-absorption field is located above ground and covered with soil, as opposed to conventional systems, which are located beneath the ground. A conventional septic tank system distributes sewage through the absorption field by gravity, while a mound system uses a pump to purge the absorption field two or three times a day.

If a septic tank system is located, installed, used, and maintained properly, the system should operate with few problems for up to 20 years. Proper location requires that the system be situated in an area where there is at least three feet, and preferably four to five feet, of moderately permeable, unsaturated soil between the drainage field and either the water table or an impervious layer of soil or bedrock. Much of the area surrounding Pleasant Lake and the Lauderdale Lakes is located on soils of low permeability, and some sites have high water tables as well.

Failure of a septic tank system occurs when the soil-absorption field becomes saturated and can no longer accept or properly stabilize the septic tank effluent, or when age or lack of proper maintenance causes the system to malfunction. Soils surrounding the system can become saturated if the system is located in soils with a slow permeability rate, or in an area where the water table is too close to the system. In many older, improper installations, the septic tank effluent is discharged directly from the septic tank through a drain tile or culvert to a ditch or other surface waters. Such discharges can be a health hazard and add excessive nutrients to lake waters. A precise identification of failing private disposal systems requires a sanitary survey, such as the one conducted for the Lauderdale Lakes Improvement Association in 1988. The survey findings are described in the following section.

EXISTING LAKE MANAGEMENT AND STUDIES

Zoning Regulation

Zoning regulations represent one of the most important and effective tools for directing the proper use of land. Zoning in the Town of LaGrange outside of shoreland areas is under the joint jurisdiction of Walworth County and the Town. Within shoreland areas, zoning is solely under the jurisdiction of the County. Existing zoning in the Town is shown on Map 18. A summary of the uses allowed within each zoning district is contained in Table 19 in Chapter IV of this report.

The Walworth County Board of Supervisors adopted a Shoreland Zoning Ordinance in 1974. This ordinance, prepared pursuant to the requirements of the Wisconsin Water Resources Act of 1965, imposes special land use regulations on all unincorporated lands in the County located within 1,000 feet of the shoreline of navigable lakes, or within 300 feet of the shoreline of navigable rivers and streams. If the 100-year floodplain extends more than 300 feet from the shoreline of the river or stream, the shoreland zoning regulations apply to the edge of the floodplain. The regulations include restrictions on lot size and building setbacks, types of structures that can be located adjacent to a shoreline, removal of vegetation, filling, grading, and dredging. The regulations were revised in March 1990 to clarify restrictions on accessory uses and to expand the type of activities within shorelands subject to the approval of a zoning permit. The Shoreland Zoning Ordinance was also reorganized to group regulations applying specifically to shorelands in Section 2.8 of the Ordinance. Key provisions of Walworth County Ordinances affecting development in shorelands are listed below. Unless otherwise indicated, all citations refer to the Walworth County Shoreland Zoning Ordinance.

- A minimum lot size of 40,000 square feet and minimum lot width of 150 feet for residential lots using onsite soil-absorption sewage disposal systems (Sec. 2.5);

- A minimum setback of 75 feet between the ordinary high-water mark and a dwelling. The setback may be reduced to the average setback of existing homes, but in no case to less than 40 feet (Sec. 2.8);

- Restrictions on accessory structures allowed within the required 75-foot setback from the ordinary high-water mark. The only structures allowed within this area are boathouses, boat hoists, piers, wharves, patios, bridges, dams, and walkways. The Ordinance contains specific requirements regarding the size, height, and location of accessory structures allowed within the 75-foot setback (Sec. 2.8);

- A minimum 50-foot setback between the ordinary high-water mark and a sewage disposal field (Walworth County Private Sewage System and Sanitation Ordinance Sec. 5.7);

- Restrictions on tree-cutting, shrubbery-clearing, and earth-moving within shorelands. These activities require prior approval of a zoning permit and a conservation plan (Sec. 2.8);

- Restrictions on removal of vegetation within 35 feet of the ordinary high-water mark. Clearcutting within this 35-foot strip is limited to no more than 30 feet for each 100 feet of shoreline, or a 30 percent portion of a lot with less than 100 feet of shoreline. Additional cutting requires prior approval of a Conditional Use Permit by the County Park and Planning Commission (Sec. 2.8).

Chapter NR 115 of the Wisconsin Administrative Code requires counties to protect wetlands five acres or larger within shoreland areas by placing these wetlands into a special shoreland-wetland zoning district. All shoreland wetlands in Walworth County have been placed within the C-4, Lowland Resource Conservation Zoning District. The purpose of this zoning is to preserve, protect, and enhance streams, lakes, and wetlands in the County. Uses permitted within this zone are limited to such low-intensity uses as agriculture, gathering of wild crops, silviculture, hiking, hunting, and similar uses. Filling, dredging, draining, ditching, and similar activities are very restricted.

Control of Aquatic Nuisances

Aquatic nuisances include rooted aquatic plants and algae. Algae are small, generally microscopic plants that are found in all lakes and streams. Algae, which form the base of the aquatic food chain, are necessary to support life in the aquatic system. If lakes become too fertile, however, algae can reach nuisance proportions and accumulate as surface scum or slime. Chemical treatment of the lake is currently the only method for controlling algae problems. Algae levels were well within acceptable limits during the most recent lake surveys, which were conducted in 1982 for Pleasant Lake and in 1979 for the Lauderdale Lakes.

Rooted aquatic plants, also known as macrophytes, play an important role in the ecology of lakes. Just as algae, macrophytes can be either a nuisance or a benefit, depending on distribution and abundance. Macrophytes growing in the proper locations and in reasonable densities in lakes are beneficial because they provide habitat for other forms of aquatic life and may remove nutrients from the water that could otherwise contribute to excessive algae growth. Macrophytes can become a nuisance, however, when heavy densities interfere with swimming and boating. Surveys of Pleasant Lake have found that macrophyte growth in the main lake basin is healthy and not excessive, but that growth in the small bay on the northeastern side of the lake is excessive by late summer. Surveys of the Lauderdale Lakes have determined that macrophyte growth is excessive in the shallower bays of the lakes, and that the Eurasian water milfoil is displacing other macrophytic species in the Lakes. Increased dominance by Eurasian water milfoil could result in a lower diversity of aquatic plants and in a general increase in the severity of nuisance growth conditions. The distribution and types of macrophytes found in the Lauderdale Lakes are described in greater detail in Chapter III of this report.

There is no macrophyte-control program currently being carried out for Pleasant Lake. Macrophyte growth increased in Pleasant Lake the summers of 1988 and 1989, particularly in the small bay on the northeastern side of the lake. Many lakes in Southeastern Wisconsin experienced unusually high macrophyte growths during these two years because of the severe drought during the summer of 1988. Lower water levels and higher water temperatures during the

drought enhanced macrophyte growth rates. The recent increase in macrophyte growth has prompted the Pleasant Lake District to consider instituting a macrophyte-control program; however, no action has yet been taken to establish such a program.

Large-scale macrophyte harvesting was conducted on the Lauderdale Lakes in the early 1950s. Harvesting since that time has been limited to activities on the part of individual homeowners or small groups of homeowners working together. A report entitled Lauderdale Lakes Aquatic Plant Distribution, prepared in July 1989 by the firm Integrated Lakes Management, Waukegan, Illinois, identified areas in the Lakes that are experiencing heavy, medium, and light growth of macrophytes. The report recommended that macrophyte-control programs be considered for those areas experiencing heavy- and medium-macrophyte growth, estimated to be 70 and 116 acres respectively. Integrated Lakes Management, on behalf of the Lauderdale Lakes Improvement Association, developed detailed harvesting plans during 1990, with actual harvesting planned for 1991.

Water Quality Monitoring Programs

The Pleasant Lake District measures the lake's water quality on a monthly basis, and contracts for comprehensive testing of water quality conditions every other year. There are no known significant problems of sewage effluent reaching the lake; however, sedimentation from street and farmland runoff has been a concern. The Lake District, with assistance from the Walworth County Land Conservation Committee, has begun to work with the landowners concerned to improve farming practices and to reduce farmland runoff. Street runoff, particularly from the access road leading from STH 67 to the Town boat ramp, continues to concern the Lake District.

Intensive urbanization of the land surrounding the Lauderdale Lakes has raised concerns about the detrimental effects of development on the water quality of the lakes. The Lauderdale Lakes Improvement Association has taken an active role in protecting water quality since the mid-1970s. The Association began its monitoring program with shoreline bacterial sampling, conducted weekly throughout the summer for several years. These measurements indicated that there could be a problem of failing sewage disposal systems near the Lake.

Once failing sewage disposal systems were identified as a concern, the Association began additional testing to identify the areas where the systems might be failing. The Association contracted with a local consultant, the firm of Swanson Environmental, Inc., of Brookfield, Wisconsin, in 1982, to scan lake waters near the shoreline with a device called a septic leachate detector. The device measures conductivity and fluorescence in the water. Simultaneous high conductivity and fluorescence readings are an indication of local septic failure. The Association purchased its own detector in 1985, and regularly tests lake waters during the summer months. The detector confirmed that many sewage disposal systems around the lake were failing, and indicated that failing systems in low-lying areas on the west side of the Lakes were having the greatest impact on water quality. Information obtained from the water quality monitoring program led the Association to ask the State of Wisconsin to survey sewage disposal systems in the suspected problem areas. The resulting survey and its findings are described in the following section.

Lauderdale Lake Sanitary Survey

The Lauderdale Lakes Improvement Association, together with the Towns of LaGrange and Sugar Creek, asked the Wisconsin Department of Industry, Labor and Human Relations to survey and evaluate the condition of sewage disposal systems located near the Lauderdale Lakes and to make recommendations for eliminating public health and environmental hazards caused by inadequate systems. The findings and recommendations of the study, which was conducted in August 1988, are documented in a report entitled Sanitary Survey for Lauderdale Lakes. This survey was funded jointly by the Association, the U. S. Environmental Protection Agency, and the Towns of LaGrange and Sugar Creek.

A sample of 114, or about 13 percent, of all the private sewage disposal systems serving residential, recreational, and commercial land uses around the Lauderdale Lakes, was selected by the Association for sampling, targeting suspected problem areas. The following criteria were used to select the survey sample: 1) the presence of septic leachate plumes along the lake shoreline as determined by the Association's septic leachate scanning program; 2) the presence of a high fecal bacterial count as determined from the Association's weekly sampling

program; 3) the presence of severe or very severe limitations for septic tank absorption fields as identified in the regional soil survey; 4) the direction of groundwater flow into the lake; and 5) the elevation of the septic system drainage field above the lake surface.

About 50 percent of the sewage disposal systems surveyed were found to meet state requirements. A significant percentage, about 40 percent of the survey sample, or 46 systems, were found to be located less than three feet above the groundwater table and were considered serious health and environmental hazards as probable pollutants of the groundwater. About 4 percent of the survey sample, or four systems, were identified as systems possibly failing because of seasonally high groundwater levels. In these situations the system is less than three feet above the groundwater table for a few weeks or months each year. There was insufficient information on the system design, system location, or system installation depth to determine the condition of the remaining 6 percent of the septic systems surveyed. The locations of failing sewage disposal systems identified by the state survey are shown on Map 19.

The Department of Industry, Labor and Human Relations identified the following measures that could be used to correct the failing sewage disposal systems: 1) construct a new conventional, in-ground pressure, at-grade or mound sewage disposal system at an alternate location on the lot; 2) install a suds-saver device on clothes washers; 3) eliminate machine-washing of clothes; 4) consolidate sewage disposal into an off-lot community system; or 5) install a holding tank.

Cluster Sanitary System Feasibility Study

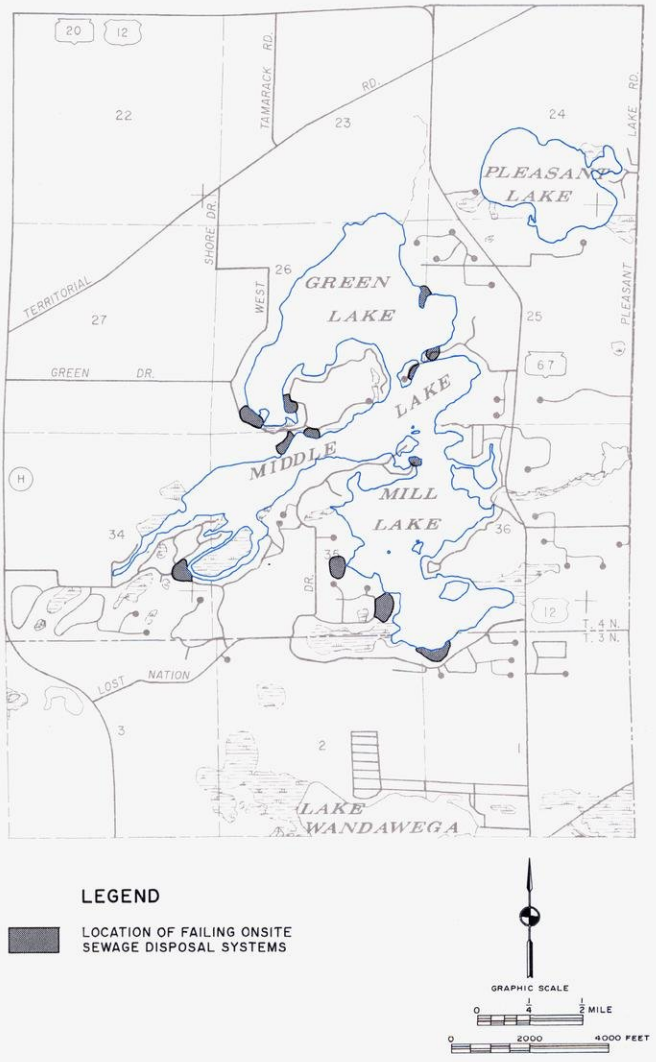
In May 1989 the Lauderdale Lakes Improvement Association commissioned the engineering firm R. A. Smith and Associates, Inc., Brookfield, Wisconsin, to conduct a "Cluster Sanitary System Feasibility Study" for the Lauderdale Lakes area. The study was undertaken as a follow-up study to the State-conducted Sanitary Survey of 1988, which, as described above, identified a number of failing private sewage disposal systems around the Lake. The feasibility study was conducted to identify effective ways to repair or replace the failing systems. The study focused on the feasibility of using a single treatment system to treat the combined effluent from multiple dwellings in a given area. Four areas around the lake, each identified by the State as having a number of failing systems, were investigated. Study areas, potential soil-absorption areas, and future study areas are shown on Map 20. The feasibility study determined that all of the system failures were due to high groundwater levels.

The first study area is located on the east side of Green Lake, including the Lauderdale Shores Condominium and a portion of the Highland Park Subdivision. This area was found to pose the greatest potential for lake contamination because of the high population density. The study report recommended that sanitary sewers be installed to each condominium unit to transport wastewater to large community septic tanks. The partially-treated effluent discharged from the septic tanks would be pumped to an off-site soil-absorption field, three to four acres in size, for final treatment. The study report identified a potential area for the soil-absorption field on the east side of STH 67, south of Pleasant Lake. The cost of the recommended cluster system was estimated to range between $290,000 and $320,000. A second, less desirable alternative identified would be to connect the condominium units to large community holding tanks, which would be pumped on a weekly basis. This alternative system would be cheaper to install but would be more expensive to operate because of the costs associated with weekly pumping and transport to, and treatment at, an approved sewage treatment plant.

The second study area is located along the southwest bay of Green Lake and the north shore of Middle Lake, and includes the Green Lake Park and Merrill Park subdivisions. The study report recommended that, where possible, failing systems be repaired or replaced. In cases where it is not possible to repair or replace a failing system, the study recommended that holding tanks be installed as an interim solution. The recommended long-term solution was the installation of sanitary sewers along the lakeshore in Morris Park and along the roadways in Green Lake Park and Merrill Park to collect effluent discharged from individual septic tanks. The effluent would be transported to a two-acre soil-absorption system for treatment and disposal. The site recommended for the absorption system is located along Green Lake Drive approximately 1,000 feet west of the intersection of Green Lake and West Shore

Map 19

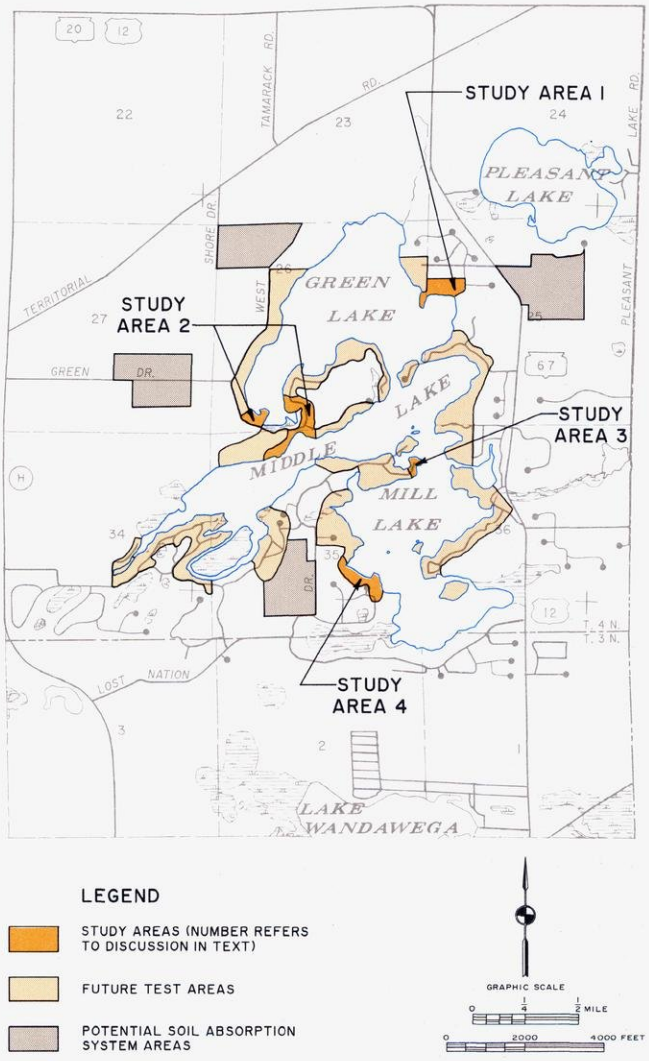
1988 SANITARY SURVEY FINDINGS



Source: Wisconsin Department of Industry, Labor and Human Relations and SEWRPC.

Map 20

1989 CLUSTER SANITARY SYSTEM FEASIBILITY STUDY FINDINGS



Source: R. A. Smith and Associates, Inc., and SEWRPC.

Drives. The costs for the recommended system was estimated to range from $250,000 to $1,000,000, depending on the number of homes to be served by the system, which varied from 30 to 200.

The third study area is located on the point south of Jansky Island, between Middle and Mill Lakes, in the Carswell Park subdivision. Because the State identified only four failing systems in this area, the study recommended that the four homes with failing systems be connected to a single large holding tank. The study also recommended that other suspect systems in the area be investigated for failure. If more widespread failures are found, the study recommended that sanitary sewers be installed to transport effluent discharged from individual septic tanks to a three- to four-acre community soil-absorption field. The cost of the recommended cluster system was estimated at $410,000.

The fourth study area is located on the west shore between Mill Lake and Don Jean Bay, including the Baywood Park and Lake Shore subdivisions. Failing systems in this area are not concentrated, as they were in the other three areas investigated. Because the failing systems

are relatively dispersed and lots in the area are relatively large, the study recommended that the failing systems be replaced by improved onsite systems. The study found that, in a few instances, it may be necessary to install small cluster systems to serve two or three homes. The replacement costs for each site's individual system were estimated to range from $3,000 to $8,000.

Final report recommendations called for comprehensive testing of all soil-absorption systems adjacent to the lake; formation of a sanitary district for lakeshore properties, including those with failing or suspect systems; correction of identified failing systems; advice to homeowners with failing systems on how to obtain financial assistance to make repairs; and initiation of a study on the feasibility of obtaining a Wisconsin clean water fund priority rating.

GOVERNMENTAL AGENCIES AND LOCAL ORGANIZATIONS RESPONSIBLE FOR WATER QUALITY MANAGEMENT

A number of local, state, and federal agencies and organizations have water quality management responsibilities including protection of the lakes in the Town of LaGrange. In addition, Town residents can form a variety of organizations to assume more responsibility and authority for managing the lakes. These organizations could include lake improvement associations, inland lake protection and rehabilitation districts, and sanitary districts. An "inland lake protection and rehabilitation district," or "lake district," was established in 1979 for Pleasant Lake. A similar district was formed in 1991 for the Lauderdale Lakes area. Organizers of the district hope to obtain sanitary district powers as well during 1991. Powers and responsibilities of lake districts and sanitary districts are discussed later in this chapter.

In addition to the two lake districts, existing government agencies with water quality-management authority include the Town of LaGrange, Walworth County, the Wisconsin Department of Natural Resources, the Wisconsin Department of Industry, Labor and Human Relations, the University of Wisconsin Extension, the Southeastern Wisconsin Regional Planning Commission, the U. S. Environmental Protection Agency, and the U. S. Soil Conservation Service. A description of the roles of these agencies in water quality management is presented in SEWRPC Planning Report No. 30, A Regional Water Quality Management Plan for Southeastern Wisconsin: 2000. A brief summary of the roles of each agency follows. A discussion of broader lake area governance options is included later in this chapter.

Lake Improvement Associations

Lake associations are voluntary organizations of owners of lake property who join together to undertake group activities relating to lake improvement. The members of these organizations have a common desire to maintain the quality of lakes in which they share a common interest. Many voluntary lake property owners associations organize as nonstock, nonprofit corporations under Chapter 181 of the Wisconsin Statutes. This corporate form of organization provides tax incentives, limits members' personal liability, and allows the association to own property. Incorporation as a nonprofit corporation with membership open to those willing to pay dues is a common procedure. The bylaws contain rules governing the activities of the association, including the specific voting rights and procedures; the powers and duties of the board of directors; the time and place of membership meetings; and the establishment of various committees.

Property owners on the Lauderdale Lakes formed the Lauderdale Lakes Improvement Association in 1902. In 1988, the Association had a membership of 530 families, representing well over half the estimated 900 families owning property around the Lakes. Some of the projects undertaken in the early years of the Association included the removal of over 1,000 stumps, weed control, fish stocking, dam improvements, and acquisition of a forest preserve. Current Lauderdale Lake Improvement Association projects include:

1. Investigation of water quality conditions to determine the causes of water quality problems and to provide baseline data measuring changes in water quality over time;

2. Continuation of a comprehensive bacteriological sampling program;

3. Identification and evaluation of malfunctioning private sewage disposal systems;

4. Provision of informational and educational materials to lake property owners;

5. Cooperation with local officials to encourage adoption of lake management functions, such as the regulation of boating activities;

6. Providing information to lake property owners about potential projects to benefit lake water quality through periodic meetings and newsletters; and

7. Preparation of ways for more direct lake management activities to be undertaken by a successor organization, such as a sanitary district or a lake district.

Inland Lake Protection and Rehabilitation Districts

Inland lake protection and rehabilitation districts are "special-purpose" units of government created pursuant to Chapter 33 of the Wisconsin Statutes. In its initial declaration of intent, the Wisconsin Legislature summarized the underlying philosophy behind the creation of these special-purpose districts:

> The legislature finds environmental values, wildlife, public rights in navigable waters, and the public welfare are threatened by the deterioration of public lakes; . . . that the current state effort to abate water pollution will not undo the eutrophic and other deteriorated conditions of many lakes; and that the positive duty of this State as trustee of waters requires affirmative steps to protect and enhance this resource and protect environmental values. (33.001)

A lake district has statutory powers, according to Wisconsin Statutes Chapter 33, to enter into contracts; to own property; to disburse money; and to bond, borrow, and levy special assessments to raise money. The more specific lake management powers include the right to:

1. Study existing water quality conditions and determine the causes of existing or expected future water quality problems;

2. Control aquatic macrophytes, algae, and swimmer's itch;

3. Implement lake rehabilitation techniques, including aeration, diversion, nutrient removal or inactivation, selective discharge, dredging, sediment covering, and drawdown;

4. Construct and operate structures to control water levels;

5. Control nonpoint source pollution; and

6. Undertake dredging and activities to control erosion.

This Chapter of the Statutes does not specifically authorize lake districts to exercise authority in the area of facilities for treatment of waste. Lake protection and rehabilitation districts that do not exercise sanitary district powers are, therefore, limited in their authority to control point-source pollution. Lake districts do not have police powers, but may ask counties, towns, villages, or cities to enact ordinances necessary to improve or protect the lake.

Pleasant Lake property owners, as mentioned above, formed a lake protection and rehabilitation district in 1979. Shortly thereafter, the district applied for technical and financial assistance from the Wisconsin Department of Natural Resources. The Department initiated a one-year study of Pleasant Lake in 1981 to determine water and nutrient loading of the lake, inlake chemistry and biological processes, and lake management alternatives to protect and improve lake water quality. Study findings were published in 1983 in a Department report entitled Pleasant Lake, Walworth County, Feasibility Study Results; Management Alternatives. The study found that the lake provided excellent fishing, swimming, and boating opportunities. Although the lake's water quality was good, the study concluded that additional phosphorus loading could not be tolerated. The study recommended that the lake district encourage landowners, particularly those owning property adjacent to the lake, to manage their properties better so as to minimize phosphorus and sediment contributions to the lake. Proper maintenance of septic systems and establishment and maintenance of vegetative buffers along the shoreline were noted as being particularly important. The report also recommended that the lake district work with the Walworth County Land Conservation Committee and owners of

nearby agricultural lands to improve management of agricultural land. The lake district subsequently contacted the County, which has worked with landowners to improve agricultural practices.

Efforts were initiated in 1990 to establish a lake district for the Lauderdale Lakes area. The Walworth County Board approved formation of the district in February 1991. These efforts are discussed later in this chapter.

Utility Districts

Utility districts may be established under Section 66.072 of the Wisconsin Statutes by towns, villages, and cities of the third or fourth class. Utility districts in towns can be established by a majority vote of the town board after a public hearing is held on the matter. The governing body of a utility district in a town is the town board. The utility district does not constitute a separate unit of government, nor does it have independent authority to plan, construct, or operate services. The town provides services through the utility district, which is created to allocate the cost of providing the services to the owners of property in the district served. Authority to plan, construct and operate services provided in the district resides with the town board.

Sanitary Districts

Sanitary districts may be created under Section 60.71 of the Wisconsin Statutes to plan, construct, and maintain centralized sanitary sewer systems. Town sanitary districts also have authority to construct and maintain public water supply and storm sewer systems and to provide garbage and refuse collection and disposal. Sanitary districts are also authorized to provide chemical or mechanical treatment of waters in the district for the suppression of swimmer's itch, algae and other aquatic nuisance growths.

The sanitary district has the power to sell any of its services; to require the installation of private sewage disposal systems; to inspect private sewage disposal systems; to issue rules of order; to provide an office for the district; to fix and collect charges for solid waste collection and disposal, sewage service and water supply service; to enter into contracts; to bond, borrow and levy special assessments to finance activities of the district; and to obtain or sell real or personal property to carry out the duties of the district.

As previously mentioned, the Lauderdale Lakes area lake district was formed in February 1991. Organizers of the lake district hope to obtain sanitary district status during 1991.

Towns

Towns have statutory authority to undertake a wide variety of activities with respect to the abatement of pollution from both point and nonpoint sources. Towns have authority to construct and operate sewerage systems for the entire town area, or to establish sanitary districts to provide sewer services to selected areas of the town. Towns may also acquire land for shore protection; construct and maintain shore protection structures; undertake lake improvement projects; and regulate subdivision, construction erosion, and boating activities.

Cities and Villages

Cities and villages possess authority to implement both point and urban nonpoint pollution abatement plans. Cities and villages possess the general authority of home rule and have specific authority to construct, operate, and maintain a sanitary sewer system. Cities and villages can undertake nonpoint source pollution abatement activities, such as litter and leaf control, animal waste control, and street sweeping and cleaning. Those powers may be exercised through the development and enforcement of construction erosion control, urban sanitation, and refuse control ordinances, and more directly by the construction, operation, and maintenance of sanitary sewer systems and treatment facilities. Cities and villages may also adopt and enforce ordinances to regulate the use and development of land, including zoning and subdivision ordinances.

Counties

Counties are authorized to engage in soil and water conservation projects, lake and river improvements, property acquisition, water protection, and solid waste management. In addition, counties directly and indirectly regulate nonpoint source pollution through their planning, zoning, subdivision, building, and health code authorities. Walworth County has adopted its zoning ordinance, shoreland zoning ordinance, subdivision ordinance, private sewage system and sanitation ordinance, and construction erosion control ordinance. These ordinances influence water quality in the Town of LaGrange because they regulate uses that occur near lakes

and streams, the size of lots, the location of buildings and structures, the clearing of vegetation, and the installation of private sewage disposal systems. More information about these ordinances is provided in Chapter IV.

Regional Planning Commission

In its role as the coordinating agency for water pollution control activities in southeastern Wisconsin, the Regional Planning Commission reviews federal and state grants-in-aid, discharge permits, and sanitary sewer extensions to ensure compliance with requirements in the adopted regional plan. The Commission also provides technical assistance on water quality management topics and further promotes plan implementation through community assistance planning services. In addition, the Commission stands ready to provide a forum for the discussion of intergovernmental issues which may become critical to the orderly and timely implementation of water quality management projects.

Wisconsin Department of Natural Resources

The responsibility for water pollution control in Wisconsin is centered in the Wisconsin Department of Natural Resources. The basic authority and accompanying responsibilities relating to the water pollution control function of the Department are set forth in Chapter 144 of the Wisconsin Statutes. Under this chapter, the Department is given broad authority to prepare as well as to approve or endorse water quality management plans; to establish water use objectives and supporting water quality standards; to review and approve all plans and specifications for components of sanitary sewer systems; to conduct research and demonstration projects on sewerage and water treatment matters; to regulate water level elevations; and to administer a financial assistance program for the construction of pollution prevention and abatement facilities. The Department also oversees County administration of the State Statutes and other regulations covering protection of shorelands, including shoreland wetlands and shoreline vegetation.

Wisconsin Department of Industry, Labor and Human Relations

The Department of Industry, Labor and Human Relations, Safety and Buildings Division, administers state regulations relating to building codes and inspections, including requirements for plumbing fixtures and devices. The Department develops requirements for the design, installation, and inspection of private sewage systems. State regulations require a property owner to acquire a sanitary permit before installing a private sewage system, and specify the information that must be provided to obtain that permit. Many state requirements related to private sewage systems are administered on the Department's behalf by the counties in the State. Walworth County administers the state regulations through the Walworth County Private Sewage System and Sanitation Ordinance.

University of Wisconsin-Extension

The University of Wisconsin Extension Service operates on a contractual basis with counties to provide technical and educational assistance in the counties. Of particular importance for implementation of the areawide water quality plan is the provision of technical assistance by the Extension Service to county soil and water conservation districts, county boards, and county zoning and planning committees. The Extension Service also provides educational services in the areas of nonpoint source pollution and sludge management.

U. S. Environmental Protection Agency

The U. S. Environmental Protection Agency has broad powers under the federal Water Pollution Control Act to administer federal grants-in-aid for the construction of publicly owned water treatment works and related sewer facilities; to set and enforce water quality standards, including effluent limitations, through the establishment of water quality inventories and inspection and monitoring programs; and to establish a national pollutant discharge elimination system. The Agency acts as the key federal water pollution control agency and must approve all basin and areawide water quality management plans as certified to it by the appropriate state agencies.

U. S. Department of Agriculture, Soil Conservation Service

The U. S. Department of Agriculture, Soil Conservation Service, administers resource conservation and development projects under Public Law 566. Through land conservation committees, the Service provides technical and financial assistance to landowners planning and constructing land treatment measures, agricultural water management projects, and flood

prevention measures. It also provide technical assistance for public fish, wildlife, and recreational development. The Soil Conservation Service also conducts detailed soils surveys and provides interpretation of soil survey data to guide local planning and development.

POTENTIAL LAKE MANAGEMENT MEASURES

Potential measures for management of the major lakes in the Town of LaGrange include land use and zoning ordinance modifications, nonpoint source pollution control, lake rehabilitation, and management of inlake uses. Land use and zoning modifications consist of regulations designed to allow development in an environmentally sound manner. Nonpoint source pollution control consists of the improved management of both urban and rural land uses to reduce pollutant discharges to the lakes by direct overland flow, by drainage through natural and man-made channels, and by groundwater inflow. Lake rehabilitation techniques either directly treat the symptoms of lake eutrophication or address the characteristics of the lake basin which may be interfering with lake water quality. Management of inlake uses can include limitations on the type of uses that can occur on a lake, can set limitations on the time certain activities can occur, or can limit certain activities to specific areas of the lake.

Future Land Use and Land Use Regulations

A fundamental element of any good water quality management effort is the promotion of controlled land use development in the tributary watershed. The type and location of future urban and rural land uses in the watershed will determine, to a large degree, the character, magnitude, and distribution of nonpoint sources of pollution; the need for land use controls; and the water quality of lakes and streams. Existing land uses in the Town of LaGrange are described in Chapter IV. Proposed land uses to the year 2010 are described in Chapter VI. Modifications to existing land development ordinances, which will help protect the water quality of Pleasant Lake and the Lauderdale Lakes, are presented in Chapter VII. Recommendations include rezoning lands within upland environmental corridors to the C-2, Upland Resource Conservation District; rezoning undeveloped and unplatted lands to require minimum lot sizes of five acres; and rezoning prime agricultural lands to allow only agricultural and related uses, with a minimum parcel size of 35 acres.

Nonpoint Source Pollution Control

The adopted regional water quality management plan recommends that a new urban nonpoint source management agency be created in the Town of LaGrange to manage urban development surrounding Pleasant Lake and the Lauderdale Lakes. The plan recommended that the new management agency be either a sanitary, utility, or lake protection and rehabilitation district. The plan recommended a 25 percent reduction in pollutant runoff in Pleasant Lake's and the Lauderdale Lakes' watersheds. Measures designed to achieve this reduction, as listed in the regional plan, include:

- Improved performance monitoring and management of septic tanks.
- Establishment of a public educational program to raise the level of awareness of the need for nonpoint source pollution control as an integral element of both public and private land management practices.
- Establishment of a construction erosion control program.
- Improvement of timing and efficiency of street sweeping, leaf collection and disposal, and cleaning of catch basins.
- Establishment of a litter and pet waste control program to prevent the accumulation of litter and pet wastes.
- Control of fertilizer and pesticide use.
- Additional protection practices and measures for stream banks and other critical areas in erosion-prone areas.
- Implementation of, and construction of, measures to control runoff from materials storage facilities.

Lake Management Techniques

The applicability of specific inlake rehabilitation techniques is dependent on the physical and chemical characteristics of a lake, the effectiveness of the method for improving lake water quality, the need for instituting an inlake restoration or rehabilitation program, and the costs

involved. The need for aquatic plant harvesting on the Lauderdale Lakes has recently been identified as a needed lake management measure. Additional management techniques can be properly identified only through specific water quality management studies.

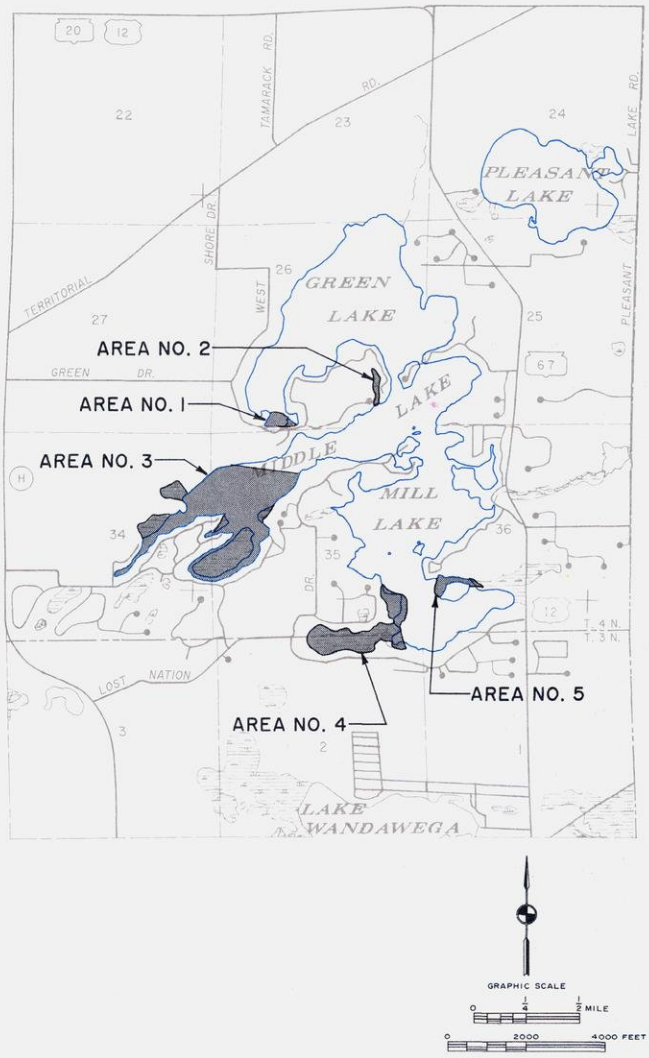
Chapter NR 107 of the Wisconsin Administrative Code, which took effect on March 1, 1989, authorizes the Department of Natural Resources to restrict chemical treatment of aquatic plants in sensitive areas on lakes. Sensitive areas are defined by NR 107 as "areas of aquatic vegetation identified by the Department as offering critical or unique fish and wildlife habitat, including seasonal or lifestage requirements, or offering water quality or erosion control benefits to the body of water." Sensitive areas can be located in and immediately adjacent to bodies of water. NR 107 also requires that alternatives to chemical treatment of aquatic plants be evaluated.

The Department has begun surveying water bodies to identify sites that meet the criteria for designation as "sensitive areas." As part of the designation process, the Department will identify uses that should and should not be allowed to occur in each sensitive area. It should be noted, however, that sensitive area designation does not expand the Department's authority to approve or deny proposed activities that are not currently subject to Department regulation. Mechanical weed harvesting is one such activity that is not currently subject to Department review and approval. Activities that are regulated by the Department and which could be affected by the sensitive area designation include chemical weed treatment, dredging, the placement of sand or gravel on a lakebed, and the construction of shoreline protection structures.

The Department surveyed the Lauderdale Lakes in 1990 to evaluate potential sensitive areas. Five sensitive areas were designated in June 1990, and are shown on Map 21. Department management recommendations include prohibiting chemical treatment, filling, wetland alteration, aquatic plant screens, and boardwalks in the sensitive areas. Dredging and depositing sand blankets or pea gravel on the lakebed is prohibited in some of the sensitive areas and restricted in the others. The Department also recommends that mechanical harvesting be limited or avoided in the sensitive areas.

Map 21

LAUDERDALE LAKES SENSITIVE AREAS: 1990



Source: Wisconsin Department of Natural Resources and SEWRPC.

Although no comprehensive aquatic plant management program is currently being conducted on the Lakes, the Lauderdale Lakes Improvement Association plans to initiate a harvesting program in the summer of 1991 and some lake property owners have engaged in aquatic plant harvesting or chemical treatment on an individual basis in recent years.

Management of In-Lake Uses

Conflicts among lake users are increasing on the Lauderdale Lakes. If problems continue to worsen, the Town of LaGrange could choose to adopt more stringent regulations regarding boat speeds, limit the hours for certain types of water activities, or "zone" the lake to prohibit competing uses within the same part of the lake.

LAKE AREA GOVERNANCE OPTIONS

Problems brought about by intensive development of lake shorelands, such as declining water quality and competing lake uses, are generally dealt with most effectively through a local governmental structure that reflects the interests shared by those who live or own property on or near the lake. Existing local organizations and agencies include the Lauderdale Lakes Improvement Association, the Pleasant Lake Protection and Rehabilitation District, and the Towns of LaGrange and Sugar Creek. In some cases, and for some purposes, these existing local entities lack the authority needed to implement programs for improved lake management. For example, state law prevents the Town of LaGrange from adopting and implementing its own private sewerage system code. That authority is reserved exclusively for Walworth County. The Lauderdale Lakes Improvement Association, which is a voluntary organization, has no authority to establish a mandatory septic system monitoring program, nor can it construct or maintain such community facilities as community soil-absorption fields.

It does not appear that concerns related to the management of Pleasant Lake are significant enough at this time to warrant a different form of governance. Existing management concerns, which include control of sediments entering the lake from land and street runoff and the possible removal of macrophytes, can be addressed through the existing lake district, which may wish to assume more authority, such as sanitary district powers, if failing septic tanks around the lake become a major problem in the future. In the interim, the lake district could request that the Town adopt ordinances to better control runoff into the lake, and could also work with the Town to control runoff flowing down the public boat ramp into the lake.

Options for improved governance of the Lauderdale Lakes include formation of a lake district, formation of a sanitary district, formation of a combined lake and sanitary district, increased land development regulation by the Town of LaGrange, or incorporation of the Lauderdale Lakes area.

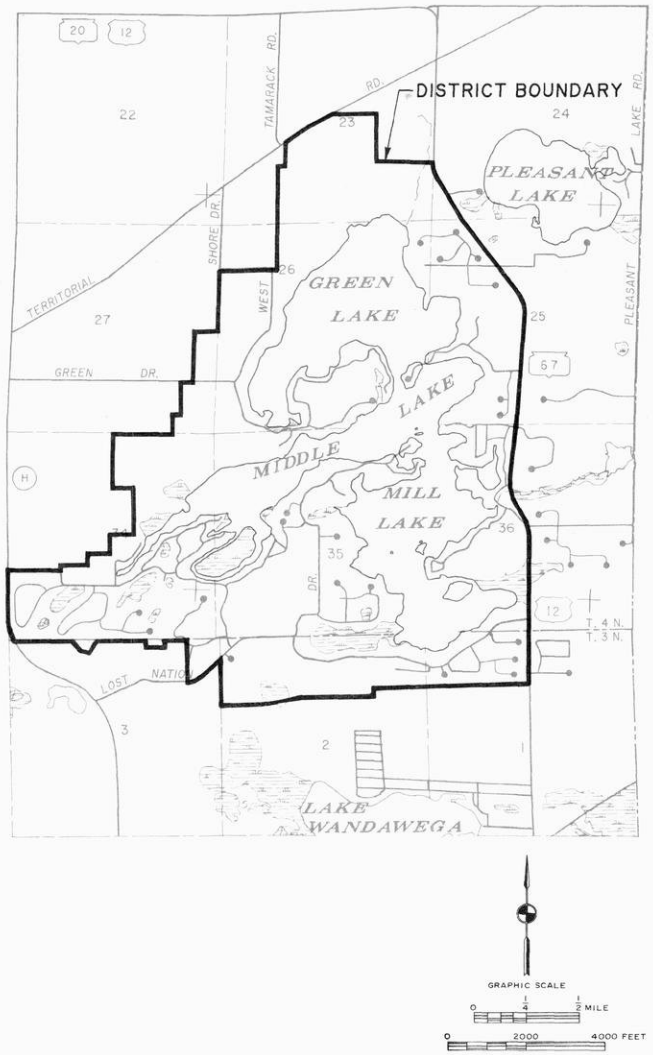
It should, however, be noted that concurrent with the preparation of this plan, an ad hoc joint committee of the Town, the Lauderdale Lakes Improvement Association, and the Lauderdale Lakes Yacht Club, (this last referred to as the "Friends of the Lake Committee,") has been actively evaluating the lake governance options and has both made decisions and taken action. The Friends of the Lake Committee rapidly concluded that the two most critical short-term issues, not addressable by current organizations, were the need for aquatic weed harvesting and the correction of failing lake area septic systems. The Committee concluded in early 1990 that an inland lake protection and rehabilitation district, or lake district, endowed with adopted sanitary district powers would be the most effective new governance unit to address these issues. As discussed later in this chapter, the power to conduct septic system inspections has recently been granted to sanitary districts; lake districts have the authority to conduct aquatic weed harvesting programs.

In May 1990 the Friends of the Lake Committee established boundaries for the proposed lake district and developed detailed information regarding the proposed weed harvesting and septic system inspection activities. The cost of providing these services was estimated at $50.00 per year for each parcel in the proposed lake district. This information was communicated by newsletter to both area property owners and residents in late June 1990. The newsletter included a questionnaire soliciting property-owner opinion on the desirability of forming the proposed lake district. About 40 percent of the 1,200 questionnaires distributed were returned, and, of these, over 95 percent supported the proposed lake district.

The very favorable questionnaire response led the Friends of the Lake Committee to solicit worker support for the required petition effort. Petitions regarding the formation of a lake district were circulated during the summer and fall of 1990. A public hearing on the question was held at the LaGrange Town Hall in December 1990. The Walworth County Park and Planning Commission held a second public hearing in January 1991. At the close of that hearing, the Commission voted to recommend formation of the district to the County Board, but also recommended that several agricultural parcels be removed from the proposed lake district. The County Board approved formation of the district, with the reduced boundary, in February 1991. The approved district boundary is shown on Map 22.

Map 22

LAUDERDALE LAKES PROTECTION AND REHABILITATION DISTRICT BOUNDARY: 1991



Source: Walworth County Planning, Zoning and Sanitation Department and SEWRPC.

Lake District

Inland lake protection and rehabilitation districts are formed at the local level. The district organizers, who may be any local property owners, propose an appropriate boundary that encompasses the riparian property and as much of the lake watershed as deemed necessary. Once the district boundary has been proposed, the organizers must obtain a petition signed by at least 51 percent of the property owners or by the owners of at least 51 percent of the land in the proposed district. The petition is presented to the town board if the entire lake frontage and the proposed district are located within one town, or to the county board if the lake frontage or the proposed district are located in more than one town. Because the southern portion of the Lauderdale Lakes lies in the Town of Sugar Creek, a petition to form a lake district for the Lauderdale Lakes area had to be submitted to the Walworth County Board. The County Board was required by state law to notify all property owners within the proposed district and to hold a public hearing before deciding whether or not to create the district.

The governing body of a lake district, the board of commissioners, has the following five members:

- Three persons, one of whom is a resident of the district and two of whom are either residents or property owners within the district, elected by all residents and property owners within the district;
- One person appointed by the county board, who is a member of the county land conservation committee or has been nominated by the committee; and
- A town board, village board, or city council member appointed by the governing body of the town, village or city having the highest assessed valuation in the district.

Once formed, the district holds annual meetings to elect commissioners and to adopt a budget for the coming year. The district board of commissioners is authorized to plan, adopt, and carry out lake protection and rehabilitation projects. The district has the power to issue contracts, to hold property, and, in general, to carry out a program of lake protection and rehabilitation. It may raise money through taxation, special assessment, user charges, bonds, or loans.

In many cases, lake districts undertake projects that are eligible for state financial and technical assistance. Generally, the Department of Natural Resources will need to conduct a feasibility study to determine whether a proposed project is appropriate and likely to succeed before the State will agree to provide funding.

Lake districts are authorized to conduct "any work in the lake or its watershed which will protect or enhance the opportunities for public enjoyment of the lake." Lake management powers include the right to study the causes of

existing or potential lake problems; to reduce macrophytes and algae; to divert, remove or inactivate nutrients; and to control erosion. Lake districts can also acquire property; for example, a district may want to acquire important wetlands to insure their protection from development and thus help to protect the lake's water quality and wildlife habitat.

The benefits of a lake district, compared to a voluntary lake association, are that the lake district has legal authority to assume management responsibility for the lake as well as the power to assess costs equitably to district residents and property owners. Importantly, if the boundaries of the district are drawn to encompass the entire watershed, a lake district can undertake projects within the watershed of the lake to address problems affecting lake water quality. Formation of a lake district also allows nonresident property owners to participate in lake management activities through elections and possible service on the district's board of commissioners.

State law does not clearly give lake districts the authority to establish the sewage treatment facilities, such as effluent collection systems and community soil-absorption systems, that have been contemplated for portions of the Lauderdale Lakes area. A sanitary district could be organized for this purpose. Lake districts also lack the authority to adopt and implement land use development regulations, such as zoning and subdivision ordinances.

Sanitary District

The purpose of a sanitary district is to allow property owners in unincorporated areas to form a special-purpose unit of government to provide some of the services a city or village might furnish if the area was incorporated. A town sanitary district has authority to plan, construct, and maintain systems for garbage removal, water supply, and sewage disposal. The district is also authorized to treat aquatic nuisances, such as macrophytes and algae, and can construct and maintain stormwater and drainage collection facilities.

A sanitary district can fund its services through property taxes, special assessments, and service charges. Districts also have bonding and borrowing powers.

A sanitary district could investigate the need for community sewerage facilities and sewage treatment facilities, identify the types of facilities needed, and construct, operate and maintain needed facilities. A sanitary district could, for example, construct and maintain the cluster soil-absorption fields that have been considered for the Lauderdale Lakes area, described in the section entitled "Cluster Sanitary System Feasibility Study" earlier in this chapter. The district could also establish a solid waste collection and disposal program, particularly leaf collection and disposal, to reduce the amount of nutrients flowing into the lakes.

A sanitary district can be established by a town board for the unincorporated areas of one or more towns. If a proposed sanitary district is located in more than one town, the town board of the town containing the largest portion of the equalized value of taxable property within the proposed district has exclusive jurisdiction to establish the sanitary district. Before a town board can establish a sanitary district, there must be an initiating petition signed by at least 51 percent of the property owners or by the owners of at least 51 percent of the land within the proposed district. The petition is presented to the town board, which holds a public hearing after notifying all proposed district property owners and the Wisconsin Department of Natural Resources and the Wisconsin Department of Industry, Labor and Human Relations. Following the hearing and notifications, the town board may establish a district.

An existing lake district, such as the Lauderdale Lakes Protection and Rehabilitation District, can ask the town board of the town having the largest portion of the equalized value of taxable property in the district to grant sanitary district powers to the lake district. The LaGrange Town Board would have the authority to grant sanitary district powers to the Lauderdale Lakes district. The lake district must first pass a resolution at its annual meeting requesting sanitary district powers. The lake district resolution is then submitted to the Town Board, which provides public notice; notifies the Wisconsin Departments of Natural Resources and of Industry, Labor and Human Relations; and holds a public hearing. After the public hearing, the Town Board may adopt a resolution granting sanitary district powers to the lake district.

Legislation approved by the Wisconsin Legislature and signed by the Governor in March 1990, known as the 1989 Wisconsin Act 159, authorizes town sanitary districts to conduct inspections of private sewage disposal systems, such as septic tanks, that have already been installed in order to determine whether they comply with the state plumbing code. The legislation also authorizes the district to report violations of the code to the appropriate local governmental unit for enforcement. Violations in the Town of LaGrange would be reported to Walworth County for enforcement.

Sanitary districts are fully empowered to provide needed sanitary facilities, but lack authority to control other types of nonpoint pollution, such as sedimentation, that could also affect lake water quality. Sanitary districts also lack authority to enact zoning, subdivision, and other land development control regulations. The role of nonresident property owners in management of the sanitary district is more limited than it is in management of a lake district. Except for a few instances, state law requires that sanitary district commissioners reside in the district. Nonresidents cannot vote for either town board members or sanitary district commissioners.

Combined Lake and Sanitary District

As previously discussed, a lake protection and rehabilitation district for the Lauderdale Lakes area was formed in February 1991. Organizers of the lake district hope to obtain sanitary district powers during 1991. A combined lake and sanitary district unites the broad authorities of a lake district to conduct activities in lake waters and to manage activities in the watershed of a lake with the direct authority of a sanitary district to provide necessary sanitation services, such as storm and sanitary sewers, a public water distribution system, and solid waste collection and disposal. The combined district also allows nonresident property owners to participate in management of the district. Short of incorporation as a city or village, the combined lake and sanitary district provides the most options for lake area management on the town level.

Formation of a combined lake and sanitary district will give residents and property owners in the Lauderdale Lakes area the means to manage uses and activities in the lake's watershed, to undertake activities to protect and rehabilitate lake waters, and to provide any necessary community sewage treatment and related facilities, including clustered soil-absorption fields. In addition, 1989 Wisconsin Act 159, passed by the Legislature in 1990, allows combined lake and sanitary districts to conduct mandatory inspections of private sewage disposal systems, including septic tanks.

Although combined lake and sanitary districts have broad authority to manage the lake and surrounding uses, they do not have authority to enact and enforce ordinances regulating land use development, such as zoning, subdivision, and erosion control ordinances.

Additional Town Authority

Towns have legal authority to undertake a wide variety of activities to manage lake and water uses. The Town of LaGrange could establish sanitary sewerage and public water supply systems for the Town, or create a sanitary district to provide these services to a portion of the Town. The Town is also authorized to acquire property, which could be done to protect important areas or resources such as wetlands or stream banks. The Town also has the authority to adopt and implement ordinances regulating subdivision of land and controlling construction erosion, provided the regulations adopted by the Town are at least as restrictive as the current County regulations. The Town can also adopt ordinances to regulate activities on lake waters, such as maximum boat speeds and hours of use. The Town has already adopted some lake-use regulations. The Town has also adopted a building code, which is enforced by the Town Building Inspector.

In some areas, however, the authority of the Town is limited. One of the more important such limits is the limitation on adoption of certain zoning regulations. For example, counties have exclusive jurisdiction over zoning in shoreland areas. Even outside the shoreland areas, the Town can adopt its own zoning ordinance only with the consent of the County Board. Even then, any changes to that ordinance would have to be approved by both the Town Board and the County Board.

Lake Area Incorporation

Another governance option for the Lauderdale Lakes area would be incorporation of the area as an independent municipality, most likely as a village. Under the Wisconsin Constitution,

villages are granted home-rule authority, which empowers them to determine their local affairs subject only to the limitations of the Constitution. Villages can construct, operate, and maintain such public facilities as sewer and water systems; can monitor and regulate onsite sewage disposal systems; can acquire property; can enact zoning, subdivision, erosion control, and other types of ordinances to control land development; plus an additional range of other activities and authorities. Although this is not a land use issue, villages also have the authority to provide police protection, a concern in the Lauderdale Lakes area.

The procedure for incorporation as a village is shown in Figure 2. The process involves the submittal of a petition to the Walworth County Circuit Court by at least 50 persons who are both residents and property owners of the area proposed for incorporation. The Court holds a hearing on the petition, and determines whether the petition requirements have been met and if certain minimal statutory standards relating to area, population, and population density have been met. If the standards have been met, the Court formally refers the petition to the Wisconsin Department of Development (DOD).

The DOD evaluates the incorporation petition according to specific standards set forth in Wisconsin law relating to the characteristics of the area to be incorporated and the general public interest as measured by such considerations as property tax rates and revenues, levels of government service, and impacts on any remnant towns. The DOD makes a series of findings and issues a determination to the Circuit Court. If the DOD finds that the statutory requirements for incorporation have been met, the Court orders a referendum. If the DOD determines that the statutory requirements have not been met, the Court dismisses the petition.

If the Court ordered a referendum on incorporation, the Town of LaGrange would hold the referendum election. Electors in the Town would vote on the issue, which would be determined by a simple majority. If the outcome of the referendum is favorable, the Court certifies the results to Wisconsin's Secretary of State, who issues a certificate of incorporation. The assets of the affected town or towns are then divided by an apportionment board.

Although incorporation would afford the greatest degree of local control to residents of the Lauderdale Lakes area, the incorporation process is a long and complex one, may not be legally feasible, and is often extremely controversial. In addition, incorporation would not provide nonresident property owners with as strong a voice in area management as would formation of a lake district, or of a combined lake and sanitary district.

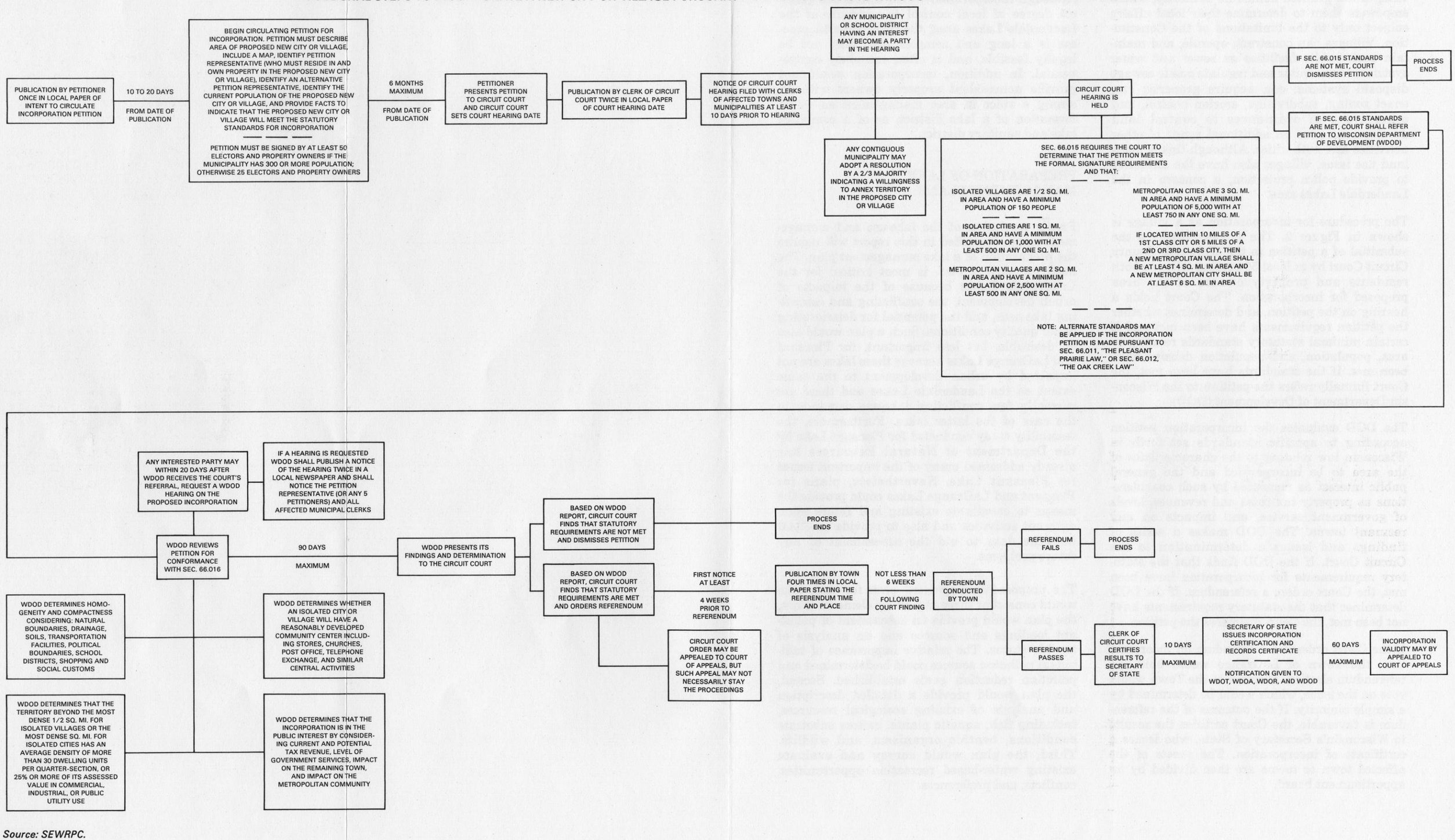
PREPARATION OF LAKE MANAGEMENT PLANS

Proper resolution of the lake-use and management issues identified in this report will require the preparation of a lake management plan. The need for such a plan is most critical for the Lauderdale Lakes because of the impacts of urban development, the conflicting and competing lake uses, and the potential for deteriorating water quality conditions. Such a plan would also be desirable, but less important, for Pleasant and LaGrange Lakes because these lakes are not impacted by urban development to the same extent as the Lauderdale Lakes and there are currently few conflicting lake-use demands in the case of the latter lakes. Furthermore, the feasibility study conducted for Pleasant Lake by the Department of Natural Resources has already addressed many of the important issues for Pleasant Lake. Nevertheless, plans for Pleasant and LaGrange Lakes could provide the means to coordinate existing and future management activities and also to provide excellent baseline data to aid the assessment of any future problems.

The proposed management plan for each lake would consist of three important elements. First, the plan would provide an assessment of pollutant loadings and sources and an analysis of trophic status. The relative importance of individual pollution sources could be determined and pollution reduction goals established. Second, the plan would provide a detailed description and analysis of existing ecological resources, including fish, aquatic plants, bottom substrate conditions, benthic organisms, and wildlife. Third, the plan would survey and evaluate existing water-based recreation opportunities, conflicts, and preferences.

Figure 2

PROCEDURAL STEPS TO INCORPORATE A NEW CITY OR VILLAGE PURSUANT TO SECTIONS 66.013 THROUGH 66.019 OF THE WISCONSIN STATUTES



Source: SEWRPC.

A recommended plan would be developed for each lake, addressing the water quality, ecological, and recreational concerns. The plans may recommend different management strategies for different portions of each lake.

Plan recommendations could include:

- Modifications of the area treated, and of the timing and intensity of aquatic nuisance controls;
- Fishery enhancement measures such as stocking, rough fish control, and protection of feeding and spawning areas;
- Protection of valuable ecological habitats; and
- Measures to abate nonpoint sources of pollution, so as to meet long-term water quality objectives.

Because of the technical nature of a lake management plan, such a plan should be prepared by a qualified consultant working under contract to an existing or proposed agency or organization active in lake management. The Regional Planning Commission, Department of Natural Resources, or University of Wisconsin Extension Service could also be retained to prepare the needed lake management plans.

SUMMARY

Currently, the water quality of all the major lakes in the Town of LaGrange is good. There is concern, however, that the water quality of the Lauderdale Lakes may be declining because of the amount of urban development occurring around them, and the failure of many private sewage disposal systems associated with the urban development. There is also concern regarding the amount of shoreline development around the Lauderdale Lakes, primarily boat docks; the amount of boating traffic on the Lakes; and the recent increase in the amount of aquatic plant growth.

Many options are available to resolve problems associated with intensive development in the Lauderdale Lakes area. Lake area residents, property owners, and the affected Town governments have been working together to determine the best way to organize in order to address lake-oriented problems. As a result of these efforts, a lake district for the Lauderdale Lakes area was formed in February 1991. It has authority to conduct weed-harvesting activities; and, if sanitary district powers are granted to the district by the Town Board, will have the authority to monitor septic systems in the district. Formation of the lake district was a significant step towards resolving the concerns of area residents and property owners regarding the water quality of the Lauderdale Lakes.

Chapter VI

LAND USE PLAN

INTRODUCTION

The Town of LaGrange is still essentially a rural community. Agriculture and single-family residences are the predominant types of land uses and constitute a major portion of the tax base of the Town. With a few exceptions, the resident population of the Town has shown a slow but steady rate of growth through the first century of the its existence. The resident population of the Town grew from 915 residents in 1950 to 1,661 residents in 1980. Between 1980 and 1985, however, the population of the Town declined about 6 percent, to an estimated 1,560 residents. The Town's resident population is expected to reach about 1,810 persons by the year 2010, an increase of approximately 16 percent over the 1985 level. If the Town is to preserve its natural and agricultural heritage, as well as avoid developmental, environmental, and fiscal problems, it will have to plan carefully for desired growth and avoid undesired growth. Continued urban development in the Town on soils that are not suitable for such development when served by onsite sewage disposal systems and private wells may lead to the creation of severe and costly water pollution and public health problems.

Recent development in the Town has been almost entirely residential in character, with extremely limited commercial and industrial development. Agricultural land, in recent years, has been converted at an increasing rate to residential use. This change deserves careful consideration by the officials and citizens of the Town. Thought should be given to the type and character of development desired and to the best location and arrangement of that development in order to meet the needs of the Town of LaGrange's residents.

In order to guide land use development in the Town effectively into a pattern which is efficient, stable, safe, healthful, and attractive, it is necessary to consider carefully both the existing and probable future amount and location of the various land uses as they relate to the natural resource base of the area and to the existing transportation system and community facilities. The natural setting of the Town makes it highly desirable to protect the environmental corridors and isolated natural areas as well as the remaining prime agricultural lands from urban development. "Urban development" includes industrial and commercial uses, as well as residential development at densities higher than five acres per housing unit.

OBJECTIVES

Planning is a rational process for formulating and meeting objectives. Therefore, the formulation of objectives is an essential task which must be undertaken before plans can be prepared. In the initial stage of the land use planning process undertaken by the Town, physical development problems and issues were identified and discussed by public officials and concerned citizens at a meeting held for this purpose at the Town Hall on August 27, 1988. A description of this process and a list of the issues identified at the meeting is contained in Appendix A. The issues identified at that meeting, together with regional development objectives applicable to the Town of LaGrange, were used to develop a set of land use development objectives for the Town. The objectives relate to the allocation and distribution of land uses and the provision of community facilities and supporting services to meet the needs of the existing and probable future resident population of the Town to the design year 2010.

The recommended land use plan is intended to achieve the following objectives:

1. Objective No. 1: To provide a balanced allocation of space to each land use category in order to meet the social, physical, and economic needs of the Town.

2. Objective No. 2: To encourage residential development only at densities and in locations compatible with the basically rural character of the Town and thus to avoid the need to provide urban facilities and services to such development.

3. Objective No. 3: To encourage residential development only on soils that are well suited to such development when served by

onsite soil-absorption sewage disposal systems and private wells in order to avoid the creation of water pollution and public health problems.

4. Objective No. 4: To preserve the lands best suited to agricultural use within the Town so as to protect both the rural character and economic base of the Town.

5. Objective No. 5: To discourage development in the undeveloped floodland and shoreland areas of the Town in order to avoid the creation of serious developmental and environmental problems, including flood damage.

6. Objective No. 6: To discourage development in the primary environmental corridors of the Town in order to maintain the unique beauty of the Town and to avoid creating serious developmental and environmental problems.

7. Objective No. 7: To provide reasonable access to community and regional services; to employment, commercial, industrial, cultural, and governmental centers; and to educational facilities through the appropriate component of the transportation system.

8. Objective No. 8: To promote good soil and water conservation practices and thus reduce erosion and pollution of streams, lakes, and groundwater.

9. Objective No. 9: To provide opportunities for participation by residents of the Town in extensive water-based outdoor recreations on inland lakes and streams, consistent with safe and enjoyable lake and stream use and the maintenance of good water quality.

10. Objective No. 10: To provide the facilities necessary for maintaining high-quality fire and police protection within the Town.

PLAN DETERMINANTS

As has been noted, the population forecasts presented in Chapter II of this report indicate that the Town of LaGrange may be expected to about 250 persons, or 16 percent, over the 1985 level. Accommodating this increase will require the addition of approximately 120 year-round housing units to the 1985 total of about 1,200 such units in the Town. As noted in Chapter II, for plan preparation purposes it has been assumed that the current proportion of 1.5 seasonal units per year-round housing unit will remain constant during the planning period. Based on that assumption, an additional 180 seasonal-occupancy housing units will be needed by the year 2010, for a total increase of 300 housing units in the Town between 1985 and the year 2010.

RECOMMENDED LAND USE PLAN FOR THE TOWN OF LAGRANGE

The recommended land use plan for the Town of LaGrange is presented graphically on Map 23. Quantitative data relative to the plan are provided in Table 20. The plan recommends that existing, primarily market-driven, development trends be rechanneled by discouraging urban development within primary environmental corridors and on the most productive agricultural lands within the Town. The plan also recommends that additional residential development at urban densities occur on vacant lots in existing subdivisions. New residential lots created in the Town should be at a very low density, at least five acres per housing unit, to allow more flexibility in siting and designing onsite sewage disposal systems, private wells, and other residential structures. This will help to protect the rural character of the Town and thus preserve and protect the natural resource base.

A 1985 land use inventory of the Town of LaGrange determined that there were 586 vacant lots within existing subdivisions. All but seven of these vacant lots were located in the southeastern portion of the Town. From 1985 through 1989, zoning permits for single family home construction were issued by the County for 148 of these lots. Thus, at the beginning of 1990 there were about 430 vacant lots within existing subdivisions in the environs of the Lauderdale Lakes and Pleasant Lake. An additional 52 lots were made available for urban residential development in June 1990, when the Cali Acres Subdivision, in Section 35, west of Mill Lake, was approved.

Not all the vacant lots in the Town are suitable or available for development. In Spring 1990, Town officials estimated that there were 385 such vacant lots in the Town. This figure does not include the 52 lots in the recently approved Cali Acres Subdivision. It would therefore appear that there are enough existing lots to accommodate the forecast demand for 300 additional dwellings by the year 2010. New residential development at urban densities should be encouraged to locate on existing vacant lots, thus infilling the existing urban areas in the Town, provided the soils and size of each lot proposed for development are capable of accommodating an onsite sewage disposal system and a private well without adverse effects on public health or water quality.

In addition to the approximately 430 vacant lots existing in the Town in 1990 and the 52 lots in the Cali Acres Subdivision, the existing zoning in the Town has the potential to allow over 2,000 additional lots smaller than five acres to be platted. The majority of these potential lots are located in areas zoned A-5, Agricultural-Rural Residential.

There are approximately 2,100 acres in the Town that are zoned A-5 and are currently undeveloped or being used for agriculture. The A-5 zoning regulations would allow these areas to be converted to residential use, with a minimum lot size of 40,000 square feet. If all the undeveloped areas now zoned A-5 were divided into 40,000-square-foot lots, over 1,800 additional lots would result. Most of the areas zoned A-5 are in the northwestern and central portions of the Town, and many are located on prime agricultural soils.

The large blocks of land zoned A-5 and the placement of some prime agricultural lands in the A-5 district indicate that the A-5 district may have been misapplied in some cases. According to Section 3.3 of the Walworth County Shoreland Zoning Ordinance, the primary purpose of the A-5 district is to "permit the utilization of relatively small quantities of land in predominately agricultural areas for rural residential use. As a matter of policy, it is intended that this district be applied solely to those lands that have marginal utility for agricultural use for reasons related to soil, topography, or severance from larger agricultural parcels. It is not intended that this district be utilized to accommodate residential subdivisions as defined in the Walworth County Land Division Ordinance."

There are also approximately 180 acres of land zoned R-1, Single-Family Residence District, which have not yet been subdivided. The R-1 zone allows land to be subdivided for urban residential uses, also with a minimum lot size of 40,000 square feet. Areas zoned R-1 which have not yet been subdivided include 20 acres in Section 26, west of the Probst Subdivision; 110 acres in Section 34, on the west side of Middle Lake; and 50 acres in Section 36, now developed as the Lauderdale Shores Country Club. Approximately 160 additional lots could be created if the areas now zoned R-1 were fully developed.

There are also approximately 150 acres in the Town that are zoned C-3, Conservancy-Residential District. The zoning allows land zoned C-3 to be subdivided, provided each lot created is at least 100,000 square feet. Under the current zoning, approximately 50 additional lots could be created on lands zoned C-3.

The large number of small lots that could be created under existing zoning regulations greatly exceeds the number of lots necessary to meet any foreseeable need in the Town. Moreover, a reasonable forecast demand for additional lots smaller than five acres can be fulfilled by directing new development to vacant lots within existing subdivisions. It is therefore recommended that existing undeveloped and unplatted land currently zoned for residential lots smaller than five acres be rezoned. Areas currently zoned R-1 in environmental corridors should be rezoned C-2, Upland Resource Conservation District. Areas currently zoned C-3 that have not been subdivided should also be rezoned to C-2. Areas zoned A-5 located in prime agricultural areas should be rezoned A-1, Prime Agricultural Land District. Areas zoned A-5 that are located in environmental corridors should be rezoned to C-2. Areas currently zoned A-5 that are not located on prime agricultural land or in environmental corridors should be rezoned to A-2, Agricultural Land District, if existing parcel sizes are 20 acres or more in size, and to C-2 if existing parcel sizes are between five and 20 acres. Rezonings recommended to implement the land use plan are described and mapped in Chapter VII.

Table 20

SUMMARY OF EXISTING AND PLANNED LAND USE IN THE TOWN OF LAGRANGE: 1985-2010

Land Use Category[a]	Existing Land Use: 1985		Plan Change		Planned Land Use: 2010	
	Total Acres	Percent of Total	Total Acres	Percent Change 1985-2010	Total Acres	Percent of Total
Urban						
Residential						
Suburban (65,341 to 217,800 square feet per dwelling)	240	1.1	--	--	240	1.1
Low-Density (18,981 to 65,340 square feet per dwelling)	387	1.7	103	26.6	490	2.1
Medium-Density (6,230 to 18,980 square feet per dwelling)	310	1.4	--	--	310	1.4
Subtotal	937	4.2	103	11.0	1,040	4.6
Residential-Recreational	0	--	50	--	50	0.2
Commercial	13	--[b]	13	100.0	26	0.1
Agricultural-Industrial	3	--[b]	--	--	3	--[b]
Extractive and Landfill	25	0.1	20	80.0	45	0.2
Governmental and Institutional	12	--[b]	--	--	12	--[b]
Parks and Recreational	200	0.9	-50	-25.0	150	0.7
Other Urban Related[c]	6	--[b]	--	--	6	--[b]
Urban Subtotal	1,196	5.2	136	11.4	1,332	5.8
Rural						
Prime Agricultural Lands	11,485	50.2	-200[d]	-1.7	11,285	49.4
Other Agricultural and Open Lands[e]	2,555	11.2	110	4.3	2,665	11.6
Primary Environmental Corridor	6,107	26.7	-57[f]	-0.9	6,050	26.5
Secondary Environmental Corridor	80	0.4	--	--	80	0.4
Isolated Natural Area	389	1.7	11	2.8	400	1.7
Surface Water	1,045	4.6	--	--	1,045	4.6
Rural Subtotal	21,661[g]	94.8	-136	-0.6	21,525[h]	94.2
Total	22,857	100.0	--	--	22,857	100.0

[a]Each land use category area is expressed in gross acres and includes associated street rights-of-way and off-street parking.

[b]Less than 0.1 percent.

[c]Includes existing airfields, communications, and utilities.

[d]These 200 acres of prime agricultural land were acquired by the Wisconsin Department of Natural Resources in 1990 as part of the Kettle Moraine State Forest expansion and will no longer be farmed.

[e]Includes nonprime croplands, pastures, orchards, nurseries, farm buildings and farm residences, and vacant, unused land outside environmental corridors and isolated natural areas.

[f]These 57 acres of primary environmental corridor were located in the area now developed as the Mariner Hills Subdivision. Of the 57 acres, 11 acres are now classified as isolated natural areas; the remaining 46 acres have been converted to urban use.

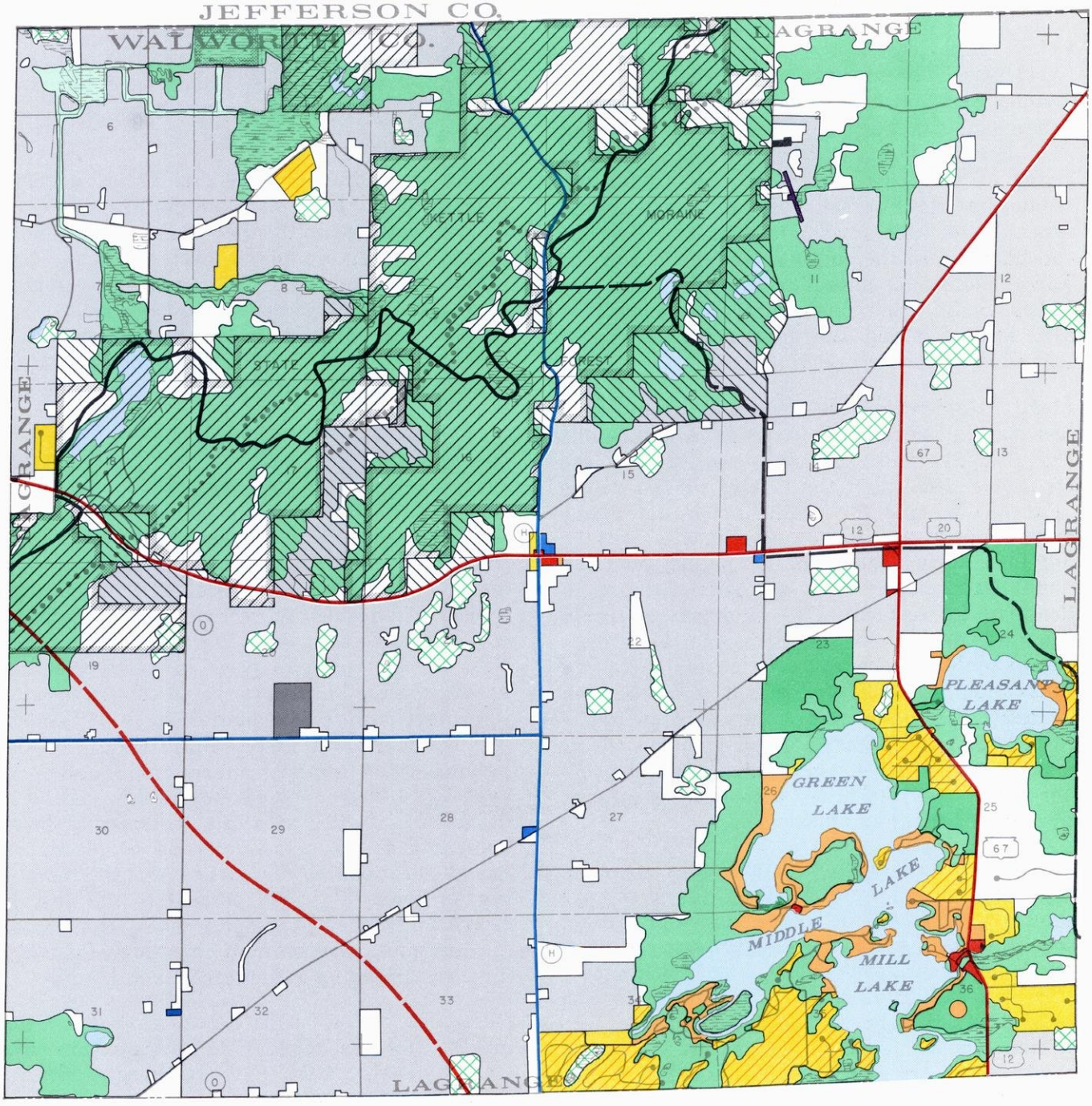
[g]Includes approximately 4,665 acres of existing Kettle Moraine State Forest lands.

[h]Includes approximately 5,415 acres of existing and proposed Kettle Moraine State Forest lands.

Source: SEWRPC.

Map 23

RECOMMENDED LAND USE PLAN FOR THE TOWN OF LAGRANGE: 2010



Source: SEWRPC.

PLAN DESCRIPTION

Urban Land Uses

Residential: The medium-, low-, and suburban-density residential categories are considered urban densities. The plan recommends confining any new development of these types to those areas of the Town in which urban-density residential development already exists. Most urban residential development in the Town is concentrated in the southeastern portion of the Town, along the shoreline of the Lauderdale Lakes. Some urban residential development is also located along the south and northwest shoreline of Pleasant Lake.

Ideally, residential development at urban densities should occur only in areas where public water supply and sanitary sewer services are available. Because of the lack of these services in the Town and the unlikelihood that public water supply and sewerage facilities will be provided during the planning period, no additional undeveloped areas are recommended in the plan for residential development at urban densities. New urban-density residential development should be encouraged to locate on existing vacant lots, provided the soils and size of each lot can either properly accommodate an onsite sewage disposal system and a private well or make a connection to an offlot community soil-absorption field or other acceptable means of sewage treatment and disposal.

Areas of suburban-density residential development, totaling approximately 240 acres, are shown in yellow on the recommended plan map. Dwelling units per net residential acre in such development range from 0.20 to 0.69, yielding lot sizes ranging from about 1.5 acres up to five acres. In 1985, there were 74 vacant platted lots of this size in the Town, located chiefly in the Gladhurst, Spring Valley, Walnut Hills, and Dunbar Estates subdivisions.

Areas of low-density residential development, totaling approximately 490 acres, are shown in yellow with orange cross-hatching on the recommended plan map. Dwelling units per net residential acre in such development range from 0.70 to 2.29, with lot sizes ranging from about 19,000 square feet up to 1.5 acres. In 1985, there were 284 vacant, platted lots of this size in the Town. Some 127 of these lots were located in the Mariner Hills Subdivision. An additional 52 lots in the low-density residential category are located within the Cali Acres Subdivision in Section 35. These 52 lots are in addition to the 284 low-density residential lots existing in 1985. Lot sizes in the Cali Acres Subdivision, approved in June 1990, range from 40,007 to 57,254 square feet.

Areas of medium-density residential development, which total approximately 310 acres, are shown in orange on the map of the recommended plan. Dwelling units per net residential acre range from 2.30 to 6.99, yielding lot sizes ranging from about 6,200 up to about 19,000 square feet. In 1985, there were 215 vacant platted lots of this size in the Town. Many of these vacant lots are located in the Bubbling Springs Addition 2 and the Bayview Manor subdivisions.

Residential-Recreational: At the July 2, 1990, Plan Commission meeting, Town officials reviewed the draft plan and modified it to show the 56-acre parcel currently developed as the Lauderdale Shores Country Club for redevelopment as a unified residential and recreational project. The residential-recreational designation, which is shown in dark green with an orange circle on the plan map, is intended to allow approximately 14 acres, or 25 percent of the site, to be developed for residential use in 48 residential condominium units, while retaining the balance of the property in recreational and open-space uses. The condominium units would be so designed and integrated into the existing development that the present use as a golf course would continue. In order to preserve the remaining 42 acres, about 75 percent of the site, in recreational and open-space uses, the condominium units will be built in clusters of buildings containing up to four units each.

Currently, about three acres of the existing 56-acre site are zoned C-4, Lowland Resource Conservation District; about three acres are zoned B-2, General Business District; and the remainder of the site, about 50 acres, is zoned R-1, Single Family Residence District. Under the existing R-1 zoning, which allows one housing unit for each 40,000 square feet of site area, up to 54 units could be located on this site, provided that sanitary ordinance requirements could be met. Although it would be possible to cluster the units in an R-1 zone with an approved conditional use permit for a planned residential development, the R-1 zone does not allow any of the units to be attached. Under the R-4 zone, also with an approved conditional use permit, up to

four dwellings could be attached. Overall density under the R-4 zone in unsewered areas is limited to one housing unit per 40,000 square feet, pursuant to Section 2.5 of the Walworth County Zoning Ordinance, the same density as allowed under the R-1 zone. The major difference between the R-1 and R-4 zones in unsewered areas is that the R-4 zone allows up to four attached units, whereas the R-1 zone allows only detached units. Golf courses are allowed as a conditional use in both the R-1 and the R-4 districts.

In order to accommodate the proposed 48 attached condominium units under the current Walworth County Zoning Ordinance, approximately 44 acres of the golf course property will have to be rezoned R-4. However, it is recommended that the existing zoning of the property be left in place until a definitive plan for redevelopment of the site is prepared and formally submitted to Town and County officials for review and approval. At that time, any portion of the site not needed to attain the needed density for the 48 condominium units should be rezoned to P-1, Recreational Park District, with the exception of that portion of the site that is currently zoned C-4, which should remain unchanged.

Town officials have expressed several concerns regarding redevelopment of the Country Club to be addressed during preparation of the redevelopment plan. These concerns include boat storage on, and boat access to, the Lauderdale Lakes by condominium owners; assurances that the golf course will be maintained in recreational use after construction of the condominium units; location of the condominium units in relation to the golf course, the lake shoreline, and the existing wetland on the southern boundary of the site; and adequate water-supply and sewage-disposal facilities for the condominium units.

Commercial and Industrial: Commercial retail and service areas are identified in red on Map 23. The commercial areas cover about 26 acres of land, and include retail stores, two bed-and-breakfast establishments, a boat sales and service operation, a hotel, the golf course clubhouse, restaurants and taverns, and associated parking areas. Limited expansion of the existing commercial area at the intersection of USH 12 and STH 67 is the only new commercial development recommended in the plan. The plan's recommendation of limiting commercial areas stem from two considerations. First, the population of the Town of LaGrange is not forecast to reach a level necessary to support a full range of commercial services by the plan design year; and second, several community shopping areas exist within a short distance of the Town. Communitywide services are available in the Cities of Elkhorn and Whitewater and in the Villages of Eagle and East Troy.

There is an existing 25-acre industrial site on the north side of Kettle Moraine Drive in the south-central portion of Section 20, shown in medium grey on the plan map. This site is part of a 45-acre parcel zoned M-3, Mineral Extraction, and is intended to be used for continued sand and gravel mining operations.

Other industrial uses in the Town are shown in dark grey on the recommended plan map. These industrial uses are associated with agricultural development, and include a welding shop in Section 12 on the north side of USH 12 and a large egg farm on the east side of Tamarack Road, about one-quarter mile south of Bluff Road. Agricultural-related industrial uses associated with the egg farm, such as parking and warehousing areas, and the welding shop together occupy approximately three acres.

The industrial areas shown on the plan map represent a continuation of the existing conditions in the Town, and do not signify a shift in land use policy in order to attract new industrial development.

Governmental Land Uses: No additional land for governmental or institutional land uses is identified on the plan map because of the insignificant amount of additional land area that is expected to be required for such uses during the planning period. Possible additions to the existing Town Hall and the Lauderdale-LaGrange Fire Department buildings can be accommodated in areas adjacent to existing facilities and would not conflict with plan objectives. These governmental land uses, shown in blue on the plan map, represent a total of about 12 acres.

The Town is attempting to locate a suitable site for use as a composting area for yard waste and for vegetation harvested from Pleasant Lake and the Lauderdale Lakes. The Town has identified a possible site on the north side of USH 12, across from the existing highway rest stop and near the western boundary of the Town.

Park, Recreation, and Related Open Space: The park and recreation plan element for the Town of LaGrange is the same as that set forth in the adopted Regional Park and Open Space Plan. The regional plan recommends the preservation, acquisition, and development of park and open-space sites. The plan recommends that about 77 miles of recreational trails be provided in Walworth County as part of a 500-mile region-wide system of trail corridors. Trail corridors provide opportunities for such recreational activities as hiking, biking, horseback riding, nature study, and cross-country skiing.

Portions of two trail corridors, one existing and one proposed, are located in the Town of LaGrange, and are shown on the recommended plan map. The Ice Age Trail is an existing trail located in the Kettle Moraine State Forest—Southern Unit. The regional plan recommends that the Department of Natural Resources (DNR) continue to acquire land where needed to complete the trail. The proposed Sugar Creek Trail would connect the Honey Creek Trail in Racine County on the east to the Ice Age Trail. The regional plan recommends that Walworth County acquire the land necessary to establish the Sugar Creek Trail.

The regional plan also recommends that lands within, and adjacent to, the Kettle Moraine State Forest—Southern Unit be acquired by the Department of Natural Resources for limited outdoor recreation uses, as well as for important forest, fish, and game preservation purposes. Specific recommendations contained in the existing DNR master plan for additional land acquisitions as well as areas recommended for continued maintenance by the Department in the Town of LaGrange are shown with a cross-hatch pattern on the plan map. Existing State Forest lands in the Town total approximately 4,665 acres. An additional 750 acres are proposed to be acquired under the existing master plan, for a new total of 5,415. No private development is recommended by the plan on lands proposed to be acquired by the Department.

The Department plans to adopt a new master plan for the Kettle Moraine State Forest—Southern Unit in mid-1991. The new master plan will probably show additional areas in the Town for acquisition by the State for expansion of the Forest.

Park and recreational uses, other than Kettle Moraine State Forest lands, are shown in dark green on the recommended plan map. These uses occupy approximately 150 acres. Park and recreational lands owned by the Town include a ball diamond adjacent to the Town Hall, at the intersection of Territorial Road and CTH H, and a park located on the west side of Pleasant Lake. Park improvements include a boat launch and picnic areas. The Town also operates three boat launches on the Lauderdale Lakes. Two small areas on the north side of Ridge Road in Section 34 were donated to the Town in 1990 by a private landowner for public park and open-space uses. The Town has not yet determined how these parcels will be used.

Private parks and recreational uses in the Town, which are also shown in dark green on the recommended plan map, include the Lauderdale Shores Recreational Vehicle Condominium and the Lutherdale Bible Camp on the east side of Green Lake; and three large Girl Scout camps, one on the north side of Green Lake, one on the north side of Pleasant Lake, and one on the southeast side of Pleasant Lake.

Rural Land Uses

Rural-Estate Residential: The areas shown in white on the recommended plan map include nonprime agricultural lands and other open lands. There are about 740 acres of such lands outside the existing and proposed boundaries of the Kettle Moraine State Forest. The areas shown in white and outside the Forest boundary are generally intended for agricultural use, but are not located on prime agricultural soils, and could thus be converted to residential development at a rural-estate density of at least five acres per housing unit if a market demand is demonstrated. Residential development at rural-estate densities could also be permitted within environmental corridors, provided the development is carefully planned to protect the elements of the resource base found in the corridor. Rural residential development should be carefully designed to avoid steep slopes, poorly drained soils, and other physical constraints.

Any new residential subdivisions in the Town should be developed at densities of no more than 0.2 housing units per acre, that is, a minimum lot size of five acres per housing unit. Large-lot residential development can be sustained without public sanitary sewer and water supply facilities, which are not available in the Town.

Larger lot sizes increase the likelihood that suitable areas, with good soils and level topography, exist on the lot for proper siting of private sewage disposal systems, building pads, driveways, and other residential structures. Large-lot development can be accommodated without significant alteration of the natural drainage system. The larger lot sizes will also help protect the rural nature of the Town, because they allow woodlands, wetlands, and wildlife habitats to be preserved and permit wildlife to sustain itself in the area.

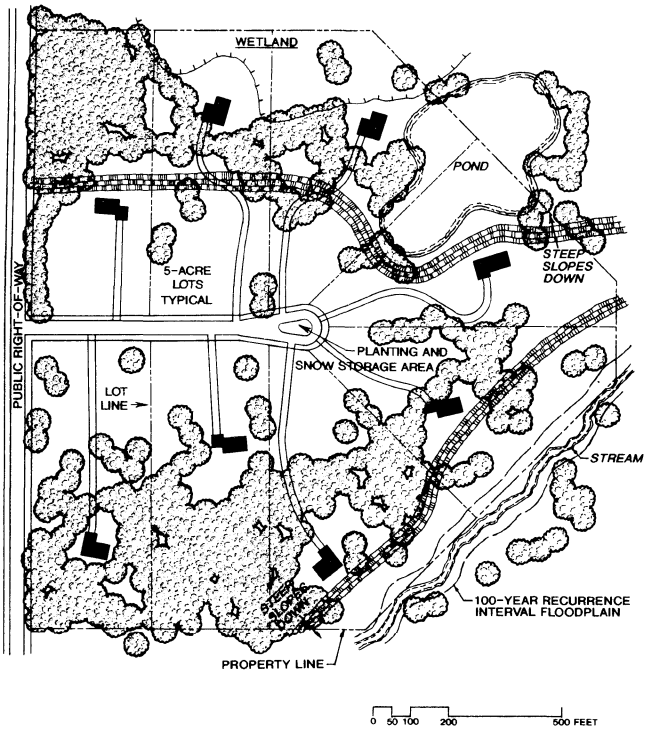
Cluster residential development is encouraged as an alternative to conventional subdivisions at the rural-estate density, particularly in areas with physical limitations, such as steep slopes or poorly-drained soils, or in environmentally sensitive areas, such as woodlands. Clustering of housing units allows greater flexibility in residential development design by allowing reduced lot sizes smaller than those normally required by the underlying zoning district, in order to concentrate the dwellings on a smaller part of the parcel being developed. The smaller area covered by buildings and appurtenances is left as open space, protected from future development through deed restrictions. Open space in the cluster development provides common areas for recreational use by property owners in the development, and limits development on steep slopes, in wooded areas, in drainageways, and in other areas that should not be developed because of physical or environmental constraints.

Advantages of cluster development include preservation of open space, protection and conservation of natural drainageways and other environmentally sensitive areas in the development, reduction in impervious surfaces, and reduction in road and utility installation costs. Clustering of dwellings can also facilitate use of community sewage disposal systems. Effluent from individual septic tanks can be collected and transported to a community soil-absorption field located in the open area.

Figures 3 through 5 show three alternative site design options for rural estate residential development. All the design options provide a means of preserving environmentally sensitive areas while maintaining an overall density of 0.2 housing units per acre. Figure 3 shows the site divided into eight five-acre lots. Each housing unit is carefully located to avoid environmentally significant areas. Figure 4 shows the same

Figure 3

PRESERVED PRIMARY ENVIRONMENTAL CORRIDOR AND COMPATIBLE RESIDENTIAL DEVELOPMENT—SITE DESIGN 1



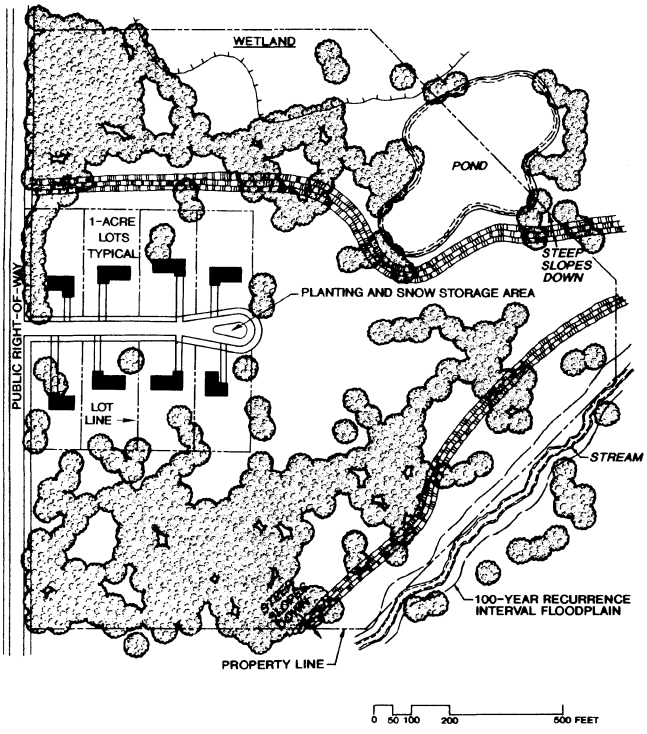
Source: SEWRPC.

site with the housing units clustered on eight contiguous one-acre parcels, which allows most of the site to remain undisturbed while still providing each homeowner with a private residence and lot. Figure 5 shows the site with the eight housing units clustered in two buildings, each containing four condominium units. This option would be most appealing to those who prefer living in a relatively undeveloped area, but are unwilling or unable to care for a detached housing unit and attendant yard.

Environmental Corridors: Primary environmental corridors are shown in medium green on the recommended plan map. There are approximately 6,050 acres of primary environmental corridors in the Town, most of which are located in the Kettle Moraine State Forest and surrounding the Lauderdale Lakes and Pleasant Lake. Most of the primary environmental corridors consist of woodlands, or are associated with streams, lakes, and wetlands. An additional 1,045 acres of surface water, primarily lakes, are

Figure 4

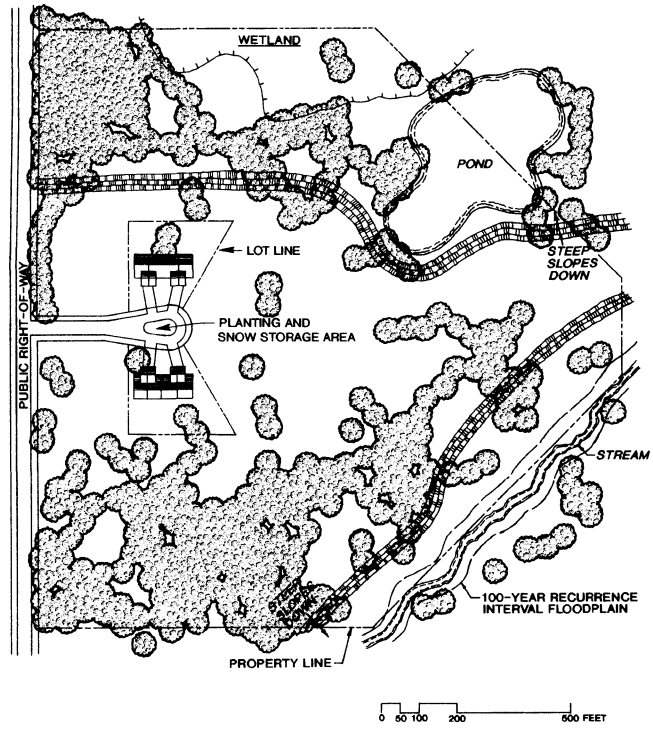
PRESERVED PRIMARY ENVIRONMENTAL CORRIDOR AND COMPATIBLE RESIDENTIAL DEVELOPMENT—SITE DESIGN 2



Source: SEWRPC.

Figure 5

PRESERVED PRIMARY ENVIRONMENTAL CORRIDOR AND COMPATIBLE RESIDENTIAL DEVELOPMENT—SITE DESIGN 3



Source: SEWRPC.

also considered part of the primary environmental corridor. Surface water areas are shown as light blue on the plan map. Primary environmental corridors should be preserved in essentially natural, open uses throughout the plan period.

There are approximately 80 acres of secondary environmental corridors in the Town, shown as light green on the recommended plan map. Secondary environmental corridors are associated with the large wetland areas in the northwestern corner of the Town, and serve as links between portions of the primary environmental corridor. Secondary environmental corridors should also be preserved in natural, open uses, but may also serve as drainageways or stormwater detention and retention areas.

Isolated natural areas consist of small areas with important natural resource values, separated geographically from primary and secondary environmental corridors. There are approximately 400 acres of isolated natural areas within the Town, which are generally isolated wooded areas. These areas, which are shown as white with a green hachure on the map, should be preserved in natural, open uses whenever possible.

Prime Agricultural Lands: Prime agricultural lands are shown in light grey on the recommended plan map, and total approximately 11,285 acres. The lands included in this category generally have the soil quality, growing season, and moisture supply needed to produce sustained high yields of food and fiber, and meet the minimum parcel size and other criteria established for designation as prime agricultural lands. These lands should remain in agricultural use throughout the plan period.

TOWN TRANSPORTATION SYSTEM

The road network in the Town of LaGrange provides efficient access to the transportation system serving the entire region. IH 43 is approximately eight miles east of the eastern

town line; STH 20 and USH 12 provide the primary east-west routes through the Town; and STH 67 and CTH H provide the primary north-south routes through the Town.

The arterial highway network needed to serve the existing and probable future traffic demands in the Town to the year 2010 is shown on the recommended land use plan map. The arterial network in the plan is the same as that set forth for the Town of LaGrange in the currently adopted Jurisdictional Highway System Plan for Walworth County.[1] The plan envisions a network of approximately 25 miles of arterial highways to serve the Town. All but 3.5 miles of the arterial network have been constructed. The existing 21.7 miles of arterial highways include 12.3 miles of state and federal highways (STH 20, STH 67, and USH 12); 6.3 miles of county trunk highway (CTH H); and 3.1 miles of local road (Kettle Moraine Drive). An additional arterial highway segment, approximately 3.5 miles in length, is proposed for the southwestern portion of the Town. This segment, proposed in the County jurisdictional highway system plan as a state trunk freeway, would be part of the USH 12 freeway, from the City of Elkhorn to the City of Whitewater. The planned alignment of the proposed freeway is shown on Map 23.

The existing USH 12 through the Town currently carries approximately 6,000 vehicles per average weekday and has an estimated design capacity of 7,000 vehicles per day. Although no current weekend traffic counts for USH 12 through the Town are available, seasonal traffic counts conducted by the Wisconsin Department of Transportation in 1989 and early 1990 on USH 12 north of CTH A in the Town of Sugar Creek indicate that Saturday traffic volumes were up to 11 percent higher than average weekday volumes, and Sunday traffic volumes were up to 15 percent higher than average weekday volumes. If these ratios apply to USH 12 in the Town of LaGrange, then traffic volumes during the weekends closely approach, and during the summer season may exceed, the design capacity of the existing route.

By the year 2010, forecast average weekday traffic volumes on USH 12 through the Town of LaGrange may be expected to range between 7,000 to 10,000 vehicles; thus exceeding the design capacity of the existing facility and warranting the provision of additional capacity in the USH 12 corridor. Additional capacity could be provided by reconstructing the existing roadway to a four-lane divided roadway, or by constructing the long-planned USH 12 freeway.

Reconstruction to provide a four-lane divided roadway may be expected to reduce congestion and improve traffic safety. Construction of a four-lane divided roadway between Elkhorn and Whitewater, which would include reconstruction of the roadway through the Town of LaGrange, is estimated to cost $31.6 million, including about $7.7 million for right-of-way acquisition.

Reconstruction to a four-lane roadway may be expected to entail the acquisition of about 80 acres of right-of-way in the Town, including about 43 acres of prime agricultural lands. The road improvement would also be expected to cross about 500 feet of primary environmental corridor and about 800 feet of isolated natural area and would displace three residences in the Town.

In comparison, construction of the long-planned USH 12 freeway would also be expected to reduce congestion and improve traffic safety on the existing route of USH 12 by diverting substantial traffic from the existing route. If the freeway were constructed, average weekday traffic volumes for the existing route of USH 12 through the Town may be expected to range between 3,000 and 6,000 vehicles by the year 2010. Traffic volumes on the freeway through the Town may be expected to be approximately 22,000 vehicles per average weekday. Travel on the freeway would be substantially safer than on a four-lane divided rural roadway, with 56 percent fewer accidents expected. The decrease in the number of accidents would be due to superior vertical and horizontal alignment, grade-separated interchanges, and full access control.

Construction of the freeway would be expected to entail the acquisition of 120 acres of right-of-way in the Town, including 97 acres of prime agricultural lands. The freeway would also be expected to cross approximately 2,500 feet of primary environmental corridor and 1,150 feet of isolated natural area. No residences or businesses in the

[1] *The adopted Jurisdictional Highway System Plan for Walworth County is currently being revised. An advisory committee has been formed to prepare the revised plan. The Town of LaGrange is represented on that committee.*

Town would be displaced. Construction of the freeway from the City of Elkhorn around the City of Whitewater is estimated to cost a total of $60.0 million, including $2.5 million for right-of-way acquisition. However, construction of the freeway could be staged, with the initial phase providing a two-lane, at-grade roadway at an estimated cost of $23.0 million, including right-of-way acquisition. This alternative could provide the necessary capacity relief for the existing USH 12 route at a lower initial cost than reconstruction on the existing alignment.

An efficient arterial street and highway network provides the necessary means of access from both rural and urban areas to supporting service, employment, and recreational areas. It is essential, therefore, that land use development be designed with the objective of preserving the safety and efficiency of the arterial street and highway system and utilizing as much of the existing system as possible. It is therefore recommended that the Town of LaGrange comply with the recommendations contained in the County jurisdictional highway system plan in the development of its arterial street and highway network.

There are approximately 62 miles of nonarterial roads in the Town. CTH O comprises 3.5 miles of the nonarterial network. The remaining 58.5 miles of the nonarterial network are local roads.

Some roads in the Town offer winding drives through scenic landscapes. Portions of two roads in the Town have been designated as part of the Kettle Moraine Scenic Drive. That portion of the Kettle Moraine Scenic Drive in the Town of LaGrange is shown on Map 12 in Chapter III.

CONCLUSION

The principal function of this land use plan is to provide information that local officials can use over time in making decisions about growth and development in the Town of LaGrange. The plan identifies the significant characteristics of the Town and recommends the preservation of existing environmentally sensitive areas and prime agricultural lands. At the same time, the plan provides for an adequate amount of residential growth that is compatible with and reinforces the objective of retaining the basically rural character of the Town.

If, during the planning period, proposals for commercial, governmental and institutional, or industrial uses are made before the Town Plan Commission, several factors should be carefully considered in reviewing such proposals. These factors include topography and related soil characteristics, utility services such as sewer and water, transportation services, and labor force availability. Since it is unlikely that sanitary sewer or public water services will be provided in the Town during the planning period, the potential impact on local natural resources must be a major concern when considering development proposals.

Any land use plan adopted by the Town should not be considered as rigid or unchangeable. Such a plan is intended to be used as a guide in the public review of development proposals and a tool to help officials make decisions concerning such proposals. As conditions change from those used as a basis in the plan preparation, the plan should be revised. Accordingly, the plan should be reviewed periodically to determine whether the objectives are still valid and the extent to which these objectives are being realized. The adopted plan should, however, represent a commitment by the Plan Commission and Town Board to strive for the selected land use objectives.

The recommended land use plan, together with the supporting implementation measures, provides an important means for promoting the orderly development of the Town of LaGrange, as well as providing for a safe, healthful, attractive, and efficient environment. Consistent application of the plan will help assure protection of the Town's natural resource base, including environmental corridors and prime agricultural lands, while maintaining the rural character of the Town.

Chapter VII

PLAN IMPLEMENTATION

INTRODUCTION

The recommended land use plan for the Town of LaGrange is described in Chapter VI of this report. In a practical sense, however, the recommended land use plan is not complete until the steps to implement that plan are specified. After formal adoption of the land use plan, realization of the plan will require faithful, long-term dedication to the underlying objectives by the Town officials concerned with its implementation. Thus, the adoption of the plan is only the beginning of a series of required actions necessary to achieve the objectives expressed in this report. The plan is intended to be used as a guide when making decisions concerning land development in the Town. In addition to its regular use as a reference document, the plan should be reevaluated regularly to ensure that it continues to reflect properly current conditions. It is recommended that such reevaluation take place at five year intervals, or more frequently if warranted by changing conditions.

Attainment of the goals set in the recommended land use plan for the Town will require some changes in the development policies of the Town. Since the attainment and maintenance of the desired character of the Town is dependent to a considerable extent upon the preservation and protection of the natural resource base, new residential development in the Town on lots smaller than five acres should be directed to existing subdivisions where vacant lots exist and infilling is possible. Development should be avoided if it would entail the conversion of prime agricultural lands to urban use; the intrusion of urban development into primary environmental corridors; the draining and filling of wetlands; or the heavy grading of hilly wooded areas. These policies are central to a sound development strategy for the Town. Development policies and practices that respect the limitations of the natural environment will, in the long term, not only preserve the overall quality of the environment in the Town, but will also avoid the creation of serious and costly environmental and developmental problems and the need to provide costly urban facilities and services within the Town.

PUBLIC INFORMATIONAL MEETINGS AND HEARINGS

The Town of LaGrange Plan Commission held a public informational meeting on October 20, 1990, to acquaint residents and landowners with the proposed plan and to solicit public reaction to the plan proposals. The Plan Commission heard additional citizen comments regarding the plan at the November 5 and December 4, 1990, Plan Commission meetings.

As a result of the information provided and the comments made at the public meetings, the Town Plan Commission acted to modify some of the zoning districts initially proposed to implement the land use plan. All the changes involved proposed zone changes to the A-1, Prime Agricultural Land District, since landowners indicated that the characteristics of the land did not warrant the prime agricultural designation. In most cases, the Plan Commission determined that the lands concerned were better suited to the C-2, Upland Resource Conservation District, which is intended to protect woodlands and scenic areas as well as to restore submarginal farmlands.

PLAN ADOPTION

An important step in plan implementation is the formal adoption of the plan by the Town Plan Commission and certification of the adopted plan to the Town Board, pursuant to the State's enabling legislation. After adoption by the Town Plan Commission, the plan becomes an official guide intended to be used by town officials in making development decisions. The Town Plan Commission adopted the recommended land use plan on December 4, 1990. A copy of the adopting resolution is set forth in Appendix B.

Although formal adoption of the plan by the Town Board is not legally required, this is a step recommended to demonstrate acceptance and support by the governing body. The LaGrange Town Board adopted the recommended land use plan on December 10, 1990. A copy of the adopting resolution is set forth in Appendix C.

ZONING

Of all the devices presently available to implement land use plans, perhaps the most important is the zoning ordinance. As discussed in Chapter IV, land use regulation by zoning in the Town of LaGrange is under the jurisdiction of the Walworth County Zoning Ordinance and the Walworth County Shoreland Zoning Ordinance. The Walworth County zoning districts applicable to the Town have been summarized in Table 19 in Chapter IV of this report and the current application of those districts within the Town is shown on Map 18 in Chapter IV.

In order for the Town to implement the recommended land use plan, changes in the existing Walworth County Zoning Ordinance and Walworth County Shoreland Zoning Ordinance will be required. These changes are of two types: 1) modifications to the text of the zoning ordinance to accommodate rural residential development with an overall density of five acres or more per housing unit, and 2) revisions to the zoning district map to reflect land use plan recommendations. The Town may also wish to request an amendment to the text of the County's zoning ordinance and shoreland zoning ordinance requiring minimum floor areas, or square footage, for new housing units. This last change is not as critical to implementation of the land use plan as the two previously noted changes are, but adoption of minimum floor areas would help to assure the protection of existing residential neighborhoods in the Town and the County. Alternatively, the Town could choose to add minimum floor area requirements to the Town Building Code, which is discussed in more detail later in this chapter.

Zoning Text Changes

It is recommended that the Town of LaGrange initiate action to revise the text of the existing C-2, Upland Resource Conservation District, in the Walworth County Zoning Ordinance and the Walworth Shoreland Zoning Ordinance, in order to accommodate rural residential development; to allow, at limited densities, the keeping of large animals for domestic use; and to limit the amount of natural vegetation that can be removed from land within the C-2 district. A suggested draft of the ordinance changes is set forth in Appendix D.

Rural residential development at an overall density of 0.2 housing units per net acre, or five acres per housing unit, would provide an alternative means of preserving environmental corridors while allowing private development to occur in such corridors. Several site design options are available that would allow rural residential development to occur while maintaining the natural resource values found within environmental corridors. Three options that reflect environmentally sensitive site designs are illustrated in Figures 3, 4, and 5 in Chapter VI of this report. The C-2 zoning district allows planned residential developments, or clustering of housing units, as a conditional use. It is recommended that Section 4.6 of the zoning ordinance be amended to allow up to four housing units per structure to be located within planned residential developments in C-2 zoning districts, provided that the overall density of one dwelling per each five-acre site is not exceeded. This change would provide greater flexibility in locating dwellings outside environmentally sensitive areas and would allow for more open space. This recommended ordinance change is also set forth in Appendix D.

In order to incorporate these changes into the existing Walworth County Zoning Ordinance and the Walworth County Shoreland Zoning Ordinance, it will be necessary for the Town Board to petition the County Board to amend the ordinances. Assuming that the Park and Planning Commission finds the proposed ordinance amendments acceptable and the County Board adopts the proposed text changes to the ordinances, the 16 towns under the jurisdiction of the county ordinances will have 40 days in which to accept or reject each amendment. If a simple majority of the towns do not reject the amendments within the 40-day period, the amendments will take effect.

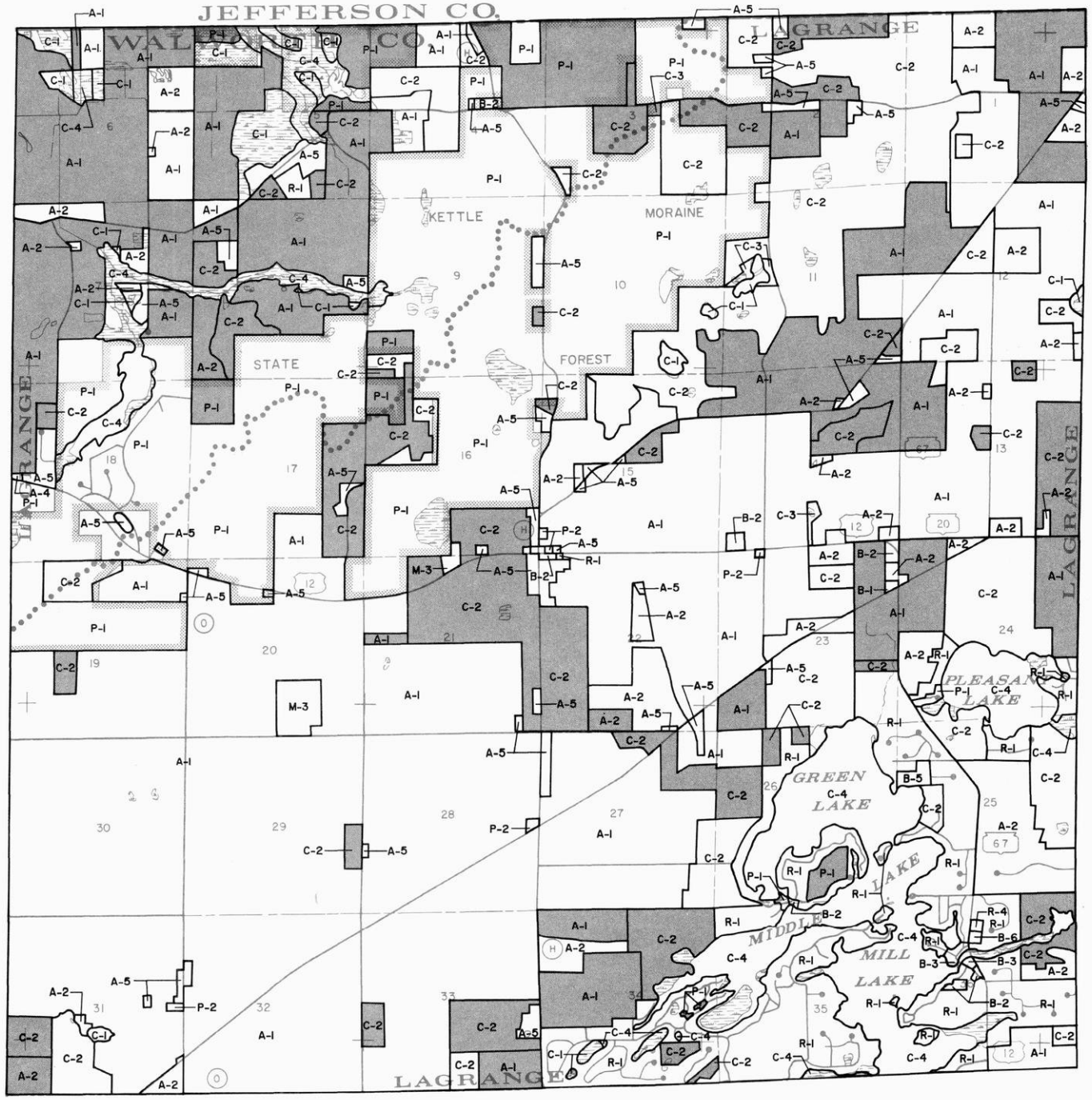
Zoning Map Changes

Once the County's zoning ordinance has been amended, the Town of LaGrange can proceed to seek amendments to the zoning district maps as they apply to the Town. Map 24 shows the zoning changes recommended to implement the land use plan.

The zoning districts shown on Map 24 largely represent an accommodation of existing land uses in the Town, with consideration given to existing parcel sizes. Substantial changes from the existing zoning district map are proposed, the most important of which include the placement of most prime agricultural lands in the A-1,

Map 24

INITIALLY RECOMMENDED ZONING MAP FOR THE TOWN OF LAGRANGE: 1991



LEGEND

ZONING DISTRICTS

A-1	PRIME AGRICULTURAL LAND
A-2	AGRICULTURAL LAND
A-4	AGRICULTURAL-RELATED MANUFACTURING, WAREHOUSING AND MARKETING
A-5	AGRICULTURAL-RURAL RESIDENTIAL
C-1	LOWLAND RESOURCE CONSERVATION
C-2	UPLAND RESOURCE CONSERVATION
C-3	CONSERVATION-RESIDENTIAL
C-4	LOWLAND RESOURCE CONSERVATION (SHORELAND)
P-1	RECREATIONAL PARK
P-2	INSTITUTIONAL PARK
R-1	SINGLE-FAMILY RESIDENCE (UNSEWERED)
R-4	MUTIPLE-FAMILY RESIDENCE
B-1	LOCAL BUSINESS
B-2	GENERAL BUSINESS
B-3	WATERFRONT BUSINESS
B-5	PLANNED COMMERCIAL-RECREATION BUSINESS
B-6	BED AND BREAKFAST
M-3	MINERAL EXTRACTION
	RECOMMENDED ZONING CHANGE

GRAPHIC SCALE

0 1/4 1/2 MILE

0 2000 4000 FEET

Source: SEWRPC.

Prime Agricultural Land District; the placement of existing Kettle Moraine State Forest lands and other lands used for public recreation in the P-1, Recreational Park District; the placement of primary environmental corridor lands in the C-2, Upland Resource Conservation District; and the placement of a substantial portion of the remaining nonurban lands in the Town into the A-2, Agricultural Land District, or the C-2 zoning district. Map 24 reflects changes in the recommended zoning districts made by the Town of LaGrange Plan Commission in response to public review and comment.

The recommended zoning districts shown on Map 24 are intended to protect desirable existing land uses until such time as a specific development proposal is made to the Town and the Town's officials determine that the proposal is consistent with the objectives of the Town's land use plan and other development policies. However, zoning districts in the year 2010, the plan design year, should not vary significantly from the recommended zoning districts shown on Map 24. Lands acquired by the Wisconsin Department of Natural Resources as additions to the Kettle Moraine State Forest after adoption of the plan should be rezoned to the P-1, Recreational Park District. In addition, areas not classified as prime agricultural land could be rezoned to allow rural residential uses, with a minimum density of at least five acres per housing unit, if specific development proposals are submitted to the Town and found to be consistent with the Town's land use plan objectives and other development policies.

It is suggested that the recommended zoning districts shown on Map 24 be carefully reviewed by the Town Plan Commission and the Town Board, and that, following such review, the Board formally petition the Walworth County Board to amend the Town of LaGrange zoning district map. The County Board should then forward the request to the County Park and Planning Commission for a formal public hearing, after which that Commission should recommend it to the County Board. The County Board may then adopt the proposed changes to the zoning district map, the changes to take effect 40 days after County Board action, unless the Town Board would act within that time to reject the changes.

MINIMUM HOME SIZES

Some residents of the Town have expressed concern regarding minimum home sizes and would like to ensure that new homes built in the Town are compatible in size with existing homes. Requirements for minimum floor areas for dwellings are generally set forth in local zoning ordinances. As discussed in Chapter IV of this report, the Walworth County Zoning Ordinance does not regulate minimum floor areas.

Many counties and other local governments in or adjacent to the Southeastern Wisconsin Region require, in their zoning ordinances, a minimum floor area for new dwellings in residential zoning districts. These regulations vary according to the minimum lot size required in each zoning district, with larger homes generally required on the larger size lots. For example, Waukesha County requires a minimum floor area of 1,300 square feet for homes within the R-1 district, which requires a minimum lot size of one acre. Homes built within the R-3 zone, which requires a minimum lot area of 20,000 square feet, must have a minimum floor area of 1,100 square feet. In Kenosha County, minimum floor area requirements for single-family homes range from 800 square feet on a minimum 6,000-square-foot lot in the R-6 zoning district to 1,400 square feet on a minimum five-acre lot in the R-1 district. In Jefferson County, minimum floor area requirements are based on the number of bedrooms in the dwelling. A minimum floor area of 800 square feet is required for one- and two-bedroom dwellings; a minimum of 930 square feet is required for three-bedroom dwellings; and a minimum of 1,100 square feet is required for dwellings with four or more bedrooms.

Although there is no minimum floor area requirement in the Walworth County Zoning Ordinance, six of the 16 Towns within the County regulate minimum home size through local ordinances. The Towns of Richmond, Sharon, Spring Prairie, Troy, and Walworth include a minimum floor area requirement in the Town building code. The Town of Sharon and the Town of Walworth both require a minimum home size of 1,200 square feet. The Town of Spring Prairie requires a minimum floor area of 1,000 square feet for homes with attached garages, and 1,200 square feet for homes without

attached garages. The Town of Troy requires a minimum home size of 1,000 square feet. The Town of Richmond requires a minimum home size of 600 square feet on the ground floor. The Town of East Troy requires a minimum home size of 1,200 square feet; however, this requirement is not included in the building code.

SUBDIVISION REVIEW

Properly applied, sound land division regulations can be an important means of implementing a land use plan and of coordinating the layout, design, and improvement of private land development proposals within the Town. The existing Walworth County Subdivision Control Ordinance, which governs the division of land in the Town of LaGrange, is basically sound; however, the Town Plan Commission is exploring the possibility of adopting its own Land Division Ordinance. Adoption of such a local ordinance would give the Town direct authority to regulate land division in the Town and would allow the Town to include more specific design criteria in its ordinance, such as requirements for road widths and construction. The Town, if it so desired, could also require improvements like underground placement of utilities, shoreland plantings, and street signs. Requirements in such a land division ordinance, if adopted, would be in addition to those in the Walworth County Subdivision Control Ordinance. The Town of LaGrange Land Division Ordinance would supplement, but not replace, the County's ordinance. Both the Town of LaGrange Land Division Ordinance, if one is adopted, and the Walworth County Subdivision Control Ordinance would apply to any subdivision proposed within the Town.

Following the adoption of the Town's land use plan, the plan should serve as a basis for the review of all preliminary subdivision plats and certified survey maps in the Town, regardless of whether the Town adopts its own ordinance or continues to work under the Walworth County ordinance. Each proposed land division should be properly related to existing and proposed land uses. Land divisions should consider the proper layout of streets, blocks, and lots as well as the topography and soils. The design should achieve internal unity by recognizing that the subdivision is an integral part of the larger community.

Land divisions resulting in lots smaller than five acres, or at an average density of more than 0.2 dwellings per acre, should not be approved in areas recommended to remain in nonurban uses unless the developer can fully justify changing the land use plan. Any such proposed departures from the land use plan should be carefully considered by the Town Plan Commission and the County Park and Planning Commission and should be made only when both bodies find that such departures are in the public interest.

SUMMARY

The land use plan implementation measures available to the Town include public informational meetings and hearings; plan adoption; subdivision plat review, either under the existing Walworth County ordinance or through adoption and implementation of a Town of LaGrange Land Division Ordinance; review and comment on proposed zoning actions; and, perhaps most importantly, working with the Walworth County Board to amend the existing Walworth County Zoning Ordinance and Shoreland Zoning Ordinance. Recommended changes to the former ordinance include revising the existing C-2 zoning district to accommodate rural residential and cluster development, and amending the Town's zoning map to afford greater protection to its natural resources while providing for a reasonable amount of growth.

Chapter VIII

SUMMARY

INTRODUCTION

In March 1988, the Town of LaGrange requested that the Southeastern Wisconsin Regional Planning Commission (SEWRPC) assist the Town in preparing a land use plan. The plan was intended to provide LaGrange officials with a tool to help better guide and shape land use development and redevelopment in the Town. This report sets forth the findings and recommendations of the planning effort undertaken in response to that request. The plan identifies the land use development objectives of the Town and the means for achieving those objectives over time.

The planning effort involved extensive inventories and analyses of the factors and conditions affecting the Town's land use development, including the preparation of projections of the possible range of future resident and seasonal population levels in the Town; of extensive inventories of the Town's natural resources, including inventories of soil capabilities, flood hazards, woodlands, wildlife habitats, and wetlands; of an inventory of existing land uses and of local land use regulatory devices; of careful analyses of the inventory findings; and, finally, the development of a land use plan that may be expected to accommodate probable future population levels in a manner consistent with the Town's objectives for land use development. The plan, which was adopted by the Town Plan Commission and the Town Board in December 1990, is intended to serve as a guide for the protection, over time, of the Town's prime agricultural lands and environmentally significant areas and to direct future land use development in the Town in a manner consistent with the promotion of the public health, safety, and general welfare. The plan, as set forth in this report, is summarized below.

CHAPTER SUMMARY

Chapter I: Introduction

Chapter I briefly describes the size and location of the Town of LaGrange; its early history; how the regional land use, transportation, and park and open space plans relate to the Town; the purpose of the land use plan; and the procedure used to prepare the plan.

Chapter II: Population and Employment Inventory, Analysis, and Forecasts

The forecasts of population and employment and, ultimately, related land use requirements, used in the preparation of the land use plan for the Town of LaGrange were based on consideration of alternative population and employment projections developed at the regional level for the design year 2010. Two alternative population and employment projections were developed: an optimistic future scenario-decentralized development pattern and an intermediate future scenario-centralized development pattern. Under the alternative projections, the resident population of the Town may be expected to increase from 1,560 persons, in 1985, to between a minimum of about 1,610 persons and a maximum of about 1,810 persons by the year 2010. Employment in the Town may be expected to remain at the 1985 level of 240 jobs in the year 2010 under the intermediate forecast and increase to about 270 jobs in the year 2010 under the optimistic forecast. The optimistic future scenario population and employment projections were selected as the forecasts for this planning effort.

In 1980, the average number of resident persons per household in the Town of LaGrange was 2.83, compared to 2.74 in Walworth County and 2.75 in the Region. The average household size in the Region, County, and Town may be expected to decrease somewhat by the plan design year. Based on a decrease in average household size in the Town from 2.83 persons per household in 1980 to 2.57 by 2010, an additional 120 housing units may be expected to be needed by the year 2010 to meet the housing needs of the resident population of about 1,800 persons in the Town of LaGrange. Based on the current proportion of approximately 1.5 seasonal housing units to each year-round housing unit, an additional 180 housing units may be needed by the year 2010 to meet the demand for seasonal, that is, vacation or second-home, housing. Thus, the total demand for additional housing units

forecast for the period between 1985 and plan year 2010 is 300 units.

Chapter III: Natural Resource Base Inventory and Analysis

Chapter III presents information pertaining to the natural resources of the Town, including soils, topography, surface water, aquatic plants and animals, wildlife habitat, environmental corridors, and agricultural lands. The protection of primary environmental corridors and prime agricultural lands from the intrusion of urban uses is one of the principal objectives of the Town's land use plan.

Primary Environmental Corridors: The primary environmental corridors in the Town of LaGrange are generally located within the Kettle Moraine State Forest—Southern Unit, in the northwestern portion of the Town, and surrounding Pleasant Lake and the Lauderdale Lakes chain, in the southeastern portion. The primary environmental corridors contain the best remaining woodlands, wetlands, and wildlife habitat areas in the Town; and are, in effect, a composite of the best individual elements of the natural resource base. These corridors have truly immeasurable environmental and recreational values. Their preservation in an essentially open, natural state, including in park and open space uses, limited agricultural uses, and rural estate-type residential uses, will do much to maintain a high level of environmental quality in, and to protect the natural beauty of, the Town. Such preservation can also avoid the creation of serious and costly environmental and developmental problems such as flood damage, poor drainage, failing foundations of roadways and buildings, wet basements, and water pollution. In 1989, about 7,150 acres, or about 31 percent of the Town, lay within the primary environmental corridors shown on Map 14 in Chapter III of this report, including about 1,050 acres of surface water.

Secondary Environmental Corridors and Isolated Natural Areas: Map 14 in Chapter III of this report also delineates secondary environmental corridors in the Town of LaGrange. Secondary environmental corridors, while not as significant as the primary environmental corridors in terms of the overall resource values, should be considered for preservation as development proceeds, because such corridors often provide economical drainageways and wildlife travel routes through residential and agricultural areas. About 80 acres, or less than 1 percent of the Town, lay within the secondary environmental corridors in 1989.

Isolated natural areas are also identified on Map 14 in Chapter III. Isolated natural areas generally consist of natural resource base elements that have inherent natural value, such as woodlands, wetlands, and surface water, but are separated from primary and secondary environmental corridors by intensive residential or agricultural land uses. Since isolated natural areas lend natural diversity to, and may provide the only available wildlife habitat in, an area, they should be protected and preserved to the extent practicable. About 400 acres, or about 2 percent of the Town, lay within isolated natural areas in 1989.

Agricultural Land: Prime agricultural lands are an important component of the natural resource base and, as such, should be preserved and protected as a matter of sound public policy. In August 1974, prior to the enactment of the Wisconsin Farmland Preservation Act, the Walworth County Board of Supervisors adopted a new zoning ordinance for the County. Protection of the agricultural resource base of the County was one of the primary objectives of this rezoning effort. The zoning ordinance provides for an exclusive-use agricultural district, that is, a district that permits only agricultural and related uses and which prohibits the development of single-family homes not associated with agricultural production activities. Prime agricultural lands, which generally consist of lands well suited for agricultural production on parcels of at least 35 acres, are shown on Map 15 in Chapter III of this report. In 1989, about 11,280 acres of prime agricultural lands within the Town, representing about 49 percent of the Town's area, were inventoried.

Chapter IV: Existing Land Use and Land Use Regulations

Existing Land Uses: In 1985, the Southeastern Wisconsin Regional Planning Commission conducted inventories of the existing land use in the Town of LaGrange to determine the type, amount, and spatial distribution of the existing urban development and the rural land uses. The data gathered in this survey were mapped and analyzed to present both land use need and appropriate patterns of future land use development in the Town.

The existing land uses in the Town are shown on Map 16 in Chapter IV of this report and the amount of land devoted to each use in 1985 is provided in Table 16 in the same chapter. Agriculture was the largest single land use in the Town in 1985, encompassing about 13,790 acres, or about 60 percent of the 22,860 acre area of the Town. Among urban land uses, single-family residential development comprised the largest single category, with almost 700 acres devoted to this use. Residential development in the Town of LaGrange is concentrated in the area of the Lauderdale Lakes.

Existing Vacant Lots: A 1985 land use inventory of the Town determined that there were 586 vacant lots within existing subdivisions. From 1985 through 1989, zoning permits for single-family home construction were issued for 148 of these lots. Thus, as of the beginning of 1990, there were about 430 vacant lots in existing subdivisions in LaGrange Town. This does not include an additional 52 lots in the Cali Acres Subdivision west of Mill Lake, a subdivision approved by Walworth County in May 1990 and by the LaGrange Town Board in June 1990.

Not all vacant lots in the Town are suitable or available for development. Town officials estimated that, in Spring 1990, there were 385 vacant lots in the Town suitable for residential development. This does not include the 52 lots created with the recent approval of Cali Acres. It would appear that there are enough existing vacant lots in the Town to accommodate the forecast demand for 300 additional housing units by the year 2010. New urban residential development should therefore be encouraged to locate on existing vacant lots, infilling the existing urban areas of the Town, provided the soils and size of each lot proposed for development are capable of accommodating an onsite sewage disposal system and a private well without adverse effects on public health or water quality.

Existing Land Use Regulations: Land use development can be guided and shaped in the public interest through the sound application of public land use controls. The most important of these are comprehensive zoning and land subdivision control.

The Walworth County Zoning Ordinance and the Walworth County Shoreland Zoning Ordinance together define 28 different districts, 18 of which are currently applied in the Town of LaGrange. Existing zoning districts within the Town are shown on Map 18 in Chapter IV. The existing zoning districts include three agricultural, one agricultural-rural residential, four conservation, two park, two residential, five business districts, and one industrial district. The regulations applicable to each zoning district are summarized in Table 19 in Chapter IV of this report. Land divisions within the Town are regulated by the Walworth County Subdivision Control Ordinance.

Chapter V: Lake Management Activities
Chapter V describes the five major lakes in the Town, providing pertinent information about lake use and access, shoreland development, and existing lake management practices and studies. Lake management practices and studies include zoning regulations, aquatic nuisance control, water quality monitoring, the Lauderdale Lakes Sanitary Survey, and the Cluster Sanitary System Feasibility Study.

The chapter identifies governmental agencies and local organizations responsible for water quality management and lake management measures. It also sets forth a discussion of governance options for the Lauderdale Lakes area. These include: 1) formation of a lake district, 2) formation of a sanitary district, 3) formation of a combined lake and sanitary district, 4) addition of authority for the Town, and 5) incorporation of the lakes area as a village.

While this plan was in preparation, a committee representing the LaGrange Town Board, the Lauderdale Lakes Improvement Association, and the Lauderdale Lakes Yacht Club, this last referred to as the Friends of the Lake Committee, had been actively evaluating lake governance options. The Friends Committee concluded that the two most critical near-term issues, which could not be addressed by current organizations, were the need for aquatic weed harvesting and the correction of failing lake-area septic systems. The committee concluded in early 1990 that an inland lake protection and rehabilitation district, or lake district, with sanitary district powers, would be the most effective new governance unit to manage these issues.

Petitions to form the inland lake district were circulated in Summer and Fall 1990. A public hearing regarding district formation was held at

the LaGrange Town Hall in December 1990. The Walworth County Park and Planning Commission held a second public hearing in January 1991. At the close of the second hearing, the Park and Planning Commission voted to recommend formation of the district to the County Board, but also recommended that several agricultural parcels be removed from the proposed lake district. The County Board approved formation of the district on February 12, 1991. The approved district boundary is shown on Map 22 in Chapter V of this report.

Chapter VI: The Land Use Plan

Chapter VI presents a recommended land use plan for the Town of LaGrange for the year 2010. It recommends the preservation of environmental corridors and prime agricultural lands. It also recommends that new urban residential development, that is, development on lots smaller than five acres, take place on existing vacant lots or in areas currently zoned R-1 outside environmental corridors. Except for areas of these types, any new lots should be at least five acres in size. The plan also supports the use of cluster subdivisions on individual lots smaller than five acres, provided the overall density of the subdivision is five acres or more per housing unit.

Existing zoning in the Town can allow more than 2,000 new additional lots smaller than five acres in the Town. Most of this potential development could take place on lands in the A-5, Agricultural-Rural Residential, zoning district, which allows homes to be constructed on 40,000 square foot lots. In many cases, the A-5 district includes prime agricultural lands. The plan recommends that these lands be rezoned to the A-1, Prime Agricultural Land, zoning district. The plan also recommends that vacant, unsubdivided land located within environmental corridors be rezoned C-2, Upland Resource Conservation. Specific recommendations for rezoning lands within the Town are provided in Chapter VII of this report.

Chapter VII: Plan Implementation

Plan Adoption: An important step in plan implementation is the formal adoption of the plan by the Town's Plan Commission and certification of the adopted plan to the Town Board, pursuant to the State's enabling legislation. The plan was adopted by the Town of LaGrange Plan Commission on December 4, 1990, and by the LaGrange Town Board on December 10, 1990. After its adoption by the Town Plan Commission, the plan became the official guide for officials of the Town in making development decisions.

Zoning Regulations: Of all the devices presently available for land use plan implementation, perhaps the most important is the zoning ordinance. Land use regulation by zoning in the Town of LaGrange is under the jurisdiction of the Walworth County Zoning Ordinance and the Walworth County Shoreland Zoning Ordinance. The Walworth County zoning districts applicable to the Town are listed and their regulations summarized in Table 19 in Chapter IV of this report. The current application of these districts within the Town is shown on Map 18 in Chapter IV of the plan report.

In order for the Town to fully implement the recommended land use plan, changes in the existing Walworth County Zoning Ordinance and the Walworth County Shoreland Zoning Ordinance will be needed. These changes are of two types: 1) modifications to the text of the zoning ordinance to revise the C-2 zoning district to accommodate rural residential development with a five acre minimum lot size, and 2) revisions to the official zoning map to reflect the recommendations in the land use plan. Recommendations for zoning redistricting to implement the Town's land use plan are depicted on Map 24 in Chapter VII of this report. Now that the land use plan has been adopted, the Town Board should formally petition the Walworth County Board to amend the Town's zoning map. All zoning changes in the Town must be approved by both the Town Board and the County Board.

The zoning districts shown on Map 24 in Chapter VII are generally based on existing land uses and existing lot sizes. Substantial changes from the existing zoning district map are proposed, the most important of which include placing most prime agricultural lands into the A-1, Prime Agricultural Land District; placing existing Kettle Moraine State Forest lands into the P-1, Recreational Park District; placing the upland portions of the primary environmental corridor lands into the C-2, Upland Resource Conservation District; and placing a substantial portion of the remaining nonurban lands in the Town into the A-2, Agricultural Land District, or into the C-2 zoning district.

Zoning districts in the year 2010, the plan design year, should not vary significantly from the recommended zoning districts shown on Map 24. Lands acquired by the Wisconsin Department of Natural Resources as additions to the Kettle Moraine State Forest subsequent to adoption of the plan should be rezoned into the P-1, Recreational Park District. In addition, areas not classified as prime agricultural land could be rezoned to allow rural residential uses, with an overall density of at least five acres for each housing unit, provided that specific development proposals are submitted to the Town and found to be consistent with the land use plan objectives and other development policies of the Town.

Land Division Regulations: Properly applied, sound land division regulations can be an important means of implementing the land use plan and of coordinating the layout, design, and improvement of private land development proposals within the Town. The existing Walworth County Subdivision Control Ordinance, which governs the division of lands in the Town, is basically sound; however, the Town of LaGrange Plan Commission is exploring the possibility of adopting its own land division ordinance. Adoption of such an ordinance would give the Town direct authority to regulate land division within the Town, and would include more design-specific criteria, such as requirements for road widths and construction. The Town could also require such improvements as placement of utilities underground, shoreland plantings, and street signs. Requirements in the Town's land division ordinance, if adopted, would be at least as restrictive as those contained in the Walworth County Subdivision Control Ordinance. The Town's land division ordinance would supplement, but not replace, the County's. Both the Town's ordinance, if one is adopted, and the County Subdivision Control Ordinance would apply to any proposed subdivision within the Town.

CONCLUSIONS

A Land Use Plan for the Town of LaGrange: 2010, as documented in this report, recommends that the rural character of the Town be retained and that prime agricultural lands and primary environmental corridors be protected. No new industrial or commercial areas are recommended. It is also recommended that additional urban-density residential growth, that is, development on lots smaller than five acres, be directed to existing vacant lots or to areas currently zoned R-1 and outside environmental corridors.

The recommended land use plan, together with supporting implementation devices, provide a means for promoting the orderly growth and development of the Town of LaGrange and will serve to protect the public health and safety, as well as property values within the Town. Consistent application of the plan will assure that individual development proposals are properly related to the development of the Town as a whole; will help to maintain the overall quality of the environment in, and the natural beauty of, the Town; and will help to avoid costly developmental and environmental problems.

APPENDICES

Appendix A

SUMMARY OF NOMINAL GROUP PROCESS MEETING

In the initial stage of the land use planning process undertaken by the Town of LaGrange, problems and issues of physical development were identified and discussed by public officials and concerned citizens at a meeting held for this purpose at the Town Hall on August 27, 1988. About 85 public officials and citizens were involved in the process. The assembly divided into seven subgroups of 10 to 12 persons each. Each group was then assigned a facilitator to record the responses in the group and answer any questions that members of the group had about the process.

The process began with each person of each subgroup independently listing their response to the question, "What problems and opportunities are being experienced by the Town of LaGrange now or in the future?" on paper. Within each subgroup, the answers were read aloud, one at a time, in a round-robin fashion and then listed by the facilitator on a flipchart in full view of the entire subgroup. The process continued until all the participants indicated that they had no additional ideas to share.

The next step in the process was a discussion of these items for clarity, elaboration, or to add new items to the list generated on the flipchart. After discussing each problem, concern, and opportunity listed, a secret ballot was taken within each subgroup to prioritize the concerns. The votes or "points" for each problem were counted and recorded, establishing priority rankings for each group. The eight major areas of concern of the seven subgroups, identified at this meeting, in order of priority, were:

1. Regulation of lake-related activities;
2. Provision and implementation of a more restrictive zoning ordinance and building code;
3. Coordination of planning activities and the encouragement of citizen participation;
4. Preservation of the natural resource base;
5. Management of onsite sewage disposal systems;
6. Regulation of housing construction and maintenance;
7. Provision for planned urban growth; and
8. Diversification of land uses to broaden the tax base and lower local property taxes.

A number of other related problems and issues emerged at the meeting, such as reducing the lake-use conflicts, protecting the water quality of lakes and streams, revising the existing zoning ordinance to limit residential densities by creating a minimum building lot and dwelling unit size, controlling nonpoint and point-source pollution, and coordinating year-round police protection services.

Land use development objectives were formulated based on the identified problems and issues and on those objectives in regional plans considered applicable to the Town. Land use development objectives used to prepare the plan are listed in Chapter VI.

Appendix B

TOWN PLAN COMMISSION RESOLUTION ADOPTING THE TOWN OF LAGRANGE LAND USE PLAN

WHEREAS, The Town of LaGrange, pursuant to the provisions of Section 60.10(2)(c) of the Wisconsin Statutes, has been authorized to exercise village powers; and

WHEREAS, the Town of LaGrange, pursuant to the provisions of Section 62.23 of the Wisconsin Statutes, has created a Town Plan Commission; and

WHEREAS, it is the duty and function of the Town Plan Commission, pursuant to Section 62.23(2) of the Wisconsin Statutes, to make and adopt a master plan for the physical development of the Town of LaGrange; and

WHEREAS, the Town of LaGrange requested the Southeastern Wisconsin Regional Planning Commission to prepare a land use plan for the Town; which plan includes:

1. Collection, compilation, processing, and analyses of various types of demographic, natural resource, recreation and open space, land use, transportation and other information pertaining the the Town.

2. A forecast of growth and change.

3. A land use and arterial street system plan map.

4. Suggested revisions to the Walworth County Zoning Ordinance and Shoreland Zoning Ordinance, and additional Town ordinances for the implementation of the recommended plan; and

WHEREAS, the aforementioned inventories, analyses, objectives, forecasts, land use plan, and implementing ordinance revisions are set forth in a published report entitled SEWRPC Community Assistance Planning Report No. 168, A Land Use Plan for the Town of LaGrange: 2010; and

WHEREAS, the Town Plan Commission considers the plan to be a valuable guide to the future development of the Town.

NOW, THEREFORE, BE IT RESOLVED, that pursuant to Section 62.23(3)(b) of the Wisconsin Statutes, the Town of LaGrange Plan Commission on the 4th day of December, 1990, hereby adopts SEWRPC Community Assistance Planning Report No. 168, entitled A Land Use Plan for the Town of LaGrange: 2010, as a guide for the future development of the Town of LaGrange.

BE IT FURTHER RESOLVED that the Secretary of the Town of LaGrange Plan Commission transmit a certified copy of this resolution to the Town Board of the Town of LaGrange.

Neal J. Kedzie
Chairman
Town of LaGrange Plan Commission

ATTEST:

Secretary
Town of LaGrange Plan Commission

Appendix C

TOWN BOARD RESOLUTION ADOPTING THE TOWN OF LAGRANGE LAND USE PLAN

WHEREAS, The Town of LaGrange, pursuant to the provisions of Section 60.10(2)(c) of the Wisconsin Statutes, has been authorized to exercise village powers; and

WHEREAS, the Town of LaGrange, pursuant to the provisions of Section 62.23(1) of the Wisconsin Statutes, has created a Town Plan Commission; and

WHEREAS, the Town Plan Commission has prepared, with the assistance of the Southeastern Wisconsin Regional Planning Commission, a plan for the physical development of the Town of LaGrange, said plan embodied in SEWRPC Community Assistance Planning Report No. 168, A Land Use Plan for the Town of LaGrange: 2010; and

WHEREAS, the Town Plan Commission on the 4th day of December, 1990, did adopt SEWRPC Community Assistance Planning Report No. 168 and has submitted a certified copy of that resolution to the Town Board of the Town of LaGrange; and

WHEREAS,the Town Board of the Town of LaGrange concurs with the Town Plan Commission and the objectives and recommendations set forth in SEWRPC Community Assistance Planning Report No. 168.

NOW, THEREFORE, BE IT RESOLVED that the Town Board of the Town of LaGrange, on the 10th day of December, 1990, hereby adopts the Land Use Plan for the Town of LaGrange; and

BE IT FURTHER RESOLVED that the Town Plan Commission shall review the Town land use plan every five years, or more frequently if necessary, and shall recommend extensions, changes, or additions to the Plan which the Commission considers necessary. Should the Plan Commission find that no changes are necessary, this finding shall be reported to the Town Board.

Chairman
Town of LaGrange

ATTEST:

Clerk
Town of LaGrange

Appendix D

RECOMMENDED CHANGES TO THE WALWORTH COUNTY ZONING ORDINANCE AND THE WALWORTH COUNTY SHORELAND ZONING ORDINANCE REGARDING THE C-2, UPLAND RESOURCE CONSERVATION DISTRICT

1. It is recommended that the text of the existing C-2, Upland Resource Conservation District, contained in Section 3.4 of the Walworth County Zoning Ordinance and the Walworth County Shoreland Zoning Ordinance, be amended as follows to accommodate rural residential uses at a density not to exceed one housing unit per five acres. Recommended additions are underlined, and recommended deletions are marked with an overstrike.

C-2, UPLAND RESOURCE CONSERVATION DISTRICT

The primary purpose of this district is to preserve, protect, enhance, and restore all significant woodlands, related scenic areas, submarginal farmlands, and abandoned mineral extraction lands within the County; and to provide for limited residential development in predominately rural areas at densities not to exceed one dwelling unit per five acres. Regulation of these areas will serve to control erosion and sedimentation and will promote and maintain the natural beauty of the County, while seeking to assure the preservation and protection of areas of significant topography, natural watersheds, ground and surface water, potential recreation sites, wildlife habitat, and other natural resource characteristics that contribute to the environmental quality of the County.

(A) PRINCIPLE USES:

1. Farming and related agricultural uses when conducted in accordance with the County Conservation Standards
2. Forest Preservation
3. Forest and Game Management
4. Parks and Recreation Areas; Arboreta; Botanical Gardens
5. Keeping of domestic livestock, provided that the following limitations are followed:
   a) No more than one head of livestock, including cows, horses, swine, and sheep; or 20 head of poultry, including chickens, turkeys, ducks, and geese; shall be permitted for each two acres of lot area; and
   b) Barnyards and structures used for the housing of animals shall be located at least 100 feet from a lot line and at least 100 feet from the ordinary high water line of a navigable water body, and shall not be located in a floodplain

~~5.~~ ~~Stables~~
6. Household Occupations
7. Single-Family Detached Dwellings

(B) CONDITIONAL USES: (See Section 4.0)

1. Animal Hospitals, Shelters and Kennels
2. Land Restoration
3. Golf Courses
4. Ski Hills
5. Yachting Clubs and Marinas
6. Hunting and Fishing Clubs
7. Recreation Camps
8. Public or Private Campgrounds
9. Riding Stables
10. Planned Residential Developments
11. Sewage Disposal Plants

12. Governmental and Cultural Uses, such as Fire and Police Stations, Community Centers, Libraries, Parks, Playgrounds, and Museums
13. Utilities

(C) AREA, HEIGHT & YARD REQUIREMENTS:

Lot:	Area:	Minimum 5 acres
	Width:	Minimum 300 feet
Building:		
Dwelling	Height:	Maximum 35 feet
Other structures	Height:	Maximum two times the distance from the nearest lot line
Yards:		
Dwelling and accessory structures	Rear:	Minimum 100 feet
	Side:	Minimum 20 feet
	Street:	
	Subdivision road:	Minimum 25 feet
	Town road:	Minimum 50 feet
	County road:	Minimum 65 feet
	State and federal highways:	Minimum 85 feet
	Shore:	Minimum 75 feet

(D) TREE CUTTING AND SHRUBBERY CLEARING LIMITED:

Lands lying within the Upland Resource Conservation District shall not be clear cut of trees, shrubbery, or underbrush. No more than 10 percent of the natural vegetation shall be removed from a parcel in any one calendar year. Normal pruning, trimming, and shearing of vegetation, removal of dead, diseased, or insect infested vegetation, and silvicultural thinning conducted under the recommendation of a forester shall be exempt from this restriction.

2. In order to promote cluster development in environmentally sensitive areas, it is recommended that the Walworth County zoning ordinances be changed to allow up to four dwelling units to be attached, when they are located within Planned Residential Developments. It is therefore recommended that Paragraph 2 of Section 4.6 of the Walworth County Zoning Ordinance and the Walworth County Shoreland Zoning Ordinance be amended as follows. Recommended additions are underlined.

Planned Residential Developments in the R-1, R-2, R-3, R-4, R-5, R-7, R-8, C-2 and C-3 Districts, provided that no planned development shall be approved which includes residential uses not permitted as a principal use in the given district, with the exception that multi-family dwellings not exceeding four units per structure may be permitted in the C-2 zone. The district regulations may be varied provided that adequate open space shall be provided so that the average intensity and density of land use shall be no greater than that permitted for the district in which it is located. The proper preservation, care, and maintenance by the original and all subsequent owners of the exterior design shall be assured by deed restriction. All common structures, facilities, essential services, access and open spaces shall also be assured by deed restrictions.