

## REFINING THE DELINEATION OF ENVIRONMENTAL CORRIDORS IN SOUTHEASTERN WISCONSIN

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### INTRODUCTION

In SEWRPC Planning Report No. 27, A Regional Park and Open Space Plan for Southeastern Wisconsin: 2000, published in 1977, it was noted:

The natural resource base of an area is a primary determinant of its development potential and its ability to provide a pleasant and habitable environment for all forms of life. Thus, the preservation, protection, and wise use of the natural resource base is of vital importance to sound social and economical development, as well as to the preservation of environmental quality in that area.

In southeastern Wisconsin the preservation, protection, and wise use of the natural resource base is particularly important because increasing numbers of urban residents are becoming year-round residents of outlying areas of southeastern Wisconsin, seeking both the varied outdoor recreational opportunities offered by the natural resource amenities present in these outlying areas and the open space that these areas provide for residential development. The need to protect valuable natural resource amenities, therefore, has become increasingly important to the maintenance of the general well being and environmental quality of the Southeastern Wisconsin Region.

In an effort to identify those natural resources that should be protected and preserved in southeastern Wisconsin, the Southeastern Wisconsin Regional Planning Commission (SEWRPC) has identified environmental corridors, which are linear areas in the landscape containing concentrations of natural resource amenities, as well as scenic, recreational, and historic resource amenities. These corridors generally lie along the major stream valleys, around major lakes, and in the Kettle Moraine area of southeastern Wisconsin. Almost all of the remaining high-value woodlands, wetlands, wildlife habitat areas, major bodies of surface water, and delineated floodlands and shorelands are contained within these corridors. In addition, significant groundwater recharge and discharge areas, many of the important recreational and scenic areas, and the best remaining potential park sites are located within the environmental corridors. Such environmental corridors are, in effect, a composite of the most important individual elements of the natural resource base in southeastern Wisconsin and have immeasurable environmental and recreational value.

Recognizing the importance and value of environmental corridors, the Commission, in its initial comprehensive land use plan and in succeeding planning programs, has recommended the protection and preservation of environmental corridors in essentially natural open uses. This recommendation is based on the conviction that failure to provide for the protection and preservation of the natural resources found in southeastern Wisconsin, and primarily within the environmental corridors, could result in serious environmental degradation and the creation of difficult and costly problems, such as flooding and water pollution.

In recommending that environmental corridors be preserved and protected in their natural state, the Commission has recognized that, because of the many interlocking and interacting relationships existing between living organisms and their environment, the destruction or deterioration of one natural resource element of the total environment may lead to a chain reaction of deterioration and destruction. For example, the drainage of wetlands could have far-reaching effects since such drainage can destroy fish spawning grounds, wildlife habitat, groundwater recharge areas, and natural filtration and floodwater storage areas of interconnecting lake and stream systems. 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 industrial water supply and on which low flows of rivers and streams may depend. Such drainage may also cause increased flood flows and stages with attendant damages. As another

example, destruction of woodland cover, which may have taken a century or more to develop, may result in soil erosion, stream siltation, more rapid runoff, and increased flooding, as well as the 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 must eventually lead to the serious deterioration of the underlying natural resource base and the overall ability of the environment to support life. The need to maintain the integrity of the remaining environmental corridors thus becomes apparent.

In its application of the environmental corridor concept to various regional planning programs, the Commission has refined and detailed the environmental corridor delineations to meet specific planning and plan implementation needs. The Commission has initiated an environmental corridor refinement process designed to provide for a precise and detailed delineation of environmental corridor lands. The purpose of this article is to describe this environmental corridor refinement process. The balance of this article is divided into sections on four central topics: 1) the evolution of the environmental corridor concept in southeastern Wisconsin, 2) the need to refine the delineation of environmental corridors, 3) the corridor refinement methodology, and 4) a case study comparing the location and size of primary environmental corridors derived from the refinement process described herein with the location and size of primary environmental corridors as identified in the Commission's initial regional land use plan.

## THE ENVIRONMENTAL CORRIDOR CONCEPT IN SOUTHEASTERN WISCONSIN

The Regional Planning Commission's emphasis in recent years on the delineation and preservation of environmental corridors should not obscure the fact that an urban version of the concept was originated and implemented in Milwaukee County almost 75 years ago by Charles B. Whitnall and other members of the Milwaukee County Park Commission. The urban version of the environmental corridor, the parkway, was a factor in Whitnall's thinking as early as 1906, although the first plans for a Milwaukee County parkway system did not appear until 1924.

Essentially conceived by Whitnall, the concept of the environmental corridor was re-articulated in Wisconsin in 1962 in a State Department of Resource Development report entitled, Recreation in Wisconsin. The concept was adopted and applied by the Southeastern Wisconsin Regional Planning Commission, which incorporated it into its regional land use plan as documented in SEWRPC Planning Report No. 7, The Regional Land Use-Transportation Study. This plan was adopted by the Commission in November 1966. Environmental corridors, as conceived by the SEWRPC under the initial regional land use plan, normally include one or more of the following seven elements of the natural resource base: 1) lakes, rivers, and streams and their associated undeveloped shorelands and floodlands, 2) wetlands, 3) woodlands, 4) wildlife habitat areas, 5) rugged terrain and high-relief topography, 6) significant geological formations and physiographic features, and 7) wet, poorly drained, and organic soils. In addition, there are certain other elements which, although not part of the natural resource base per se, are closely related to that base and important to the identification of environmental corridors. These elements are: 1) existing outdoor recreation sites, 2) potential outdoor recreation and related open space sites, 3) historic sites and structures, and 4) significant scenic areas and vistas. Primary environmental corridors, as conceived by the Commission, are those linear areas in the landscape encompassing at least three of the above-mentioned 11 resource or resource-related elements. Secondary corridors are linear features in the landscape encompassing only one or two of these resource elements. In recognition of the ability of primary environmental corridor lands to contribute to the maintenance of the ecological balance, natural beauty, and economic well being of the Region, the Commission has, since 1966, recommended that the designated primary environmental corridors in southeastern Wisconsin be preserved for essentially natural, open uses.

## NEED FOR REFINEMENT OF ENVIRONMENTAL CORRIDORS

Regional plans prepared by the Commission are not envisioned as static documents, but rather are continuously updated, revised, and refined to reflect changing conditions and needs. The same is true for the various components of plans prepared by the Commission, including the primary environmental corridor component of the original regional land use plan. Since its adoption of the regional land use plan in 1966, the Commission has made several refinements to the primary environmental corridors as originally

delineated. These refinements have resulted primarily from the Commission watershed studies, which have provided more detailed information upon which to base delineations of the corridors, as well as from the Commission's regional park and open space planning program. While certain refinements of the environmental corridor delineations have been made as a result of major planning programs undertaken by the Commission, such refinements have all been made at the systems level of planning. Consequently, the resulting environmental corridor delineations are relatively general. A more detailed delineation of environmental corridors designed to implement the recommendations of the adopted regional land use plan, park and open space plan, and watershed plans concerning environmental corridors is needed. This need stems from: 1) increased involvement by the Commission in the preparation of local plans and plan implementation devices; 2) increased requests from private landowners and developers, and from land surveyors, engineers, and planners associated with owners and developers, for detailed natural resource-related information, and 3) changes in state and federal government policies regarding sanitary sewer service extensions and wetland preservation.

#### Increased Involvement by the Commission in the Preparation of Local Plans

The Commission has always maintained a community assistance planning function of assisting local units of government in the Region in local planning efforts. It thereby promotes coordination of local and regional plans and plan implementation actions, as well as sound community development. Since the adoption of the initial regional land use plan in 1966, the Commission has completed other regional or subregional plan elements related to transportation, sanitary sewerage, parks and open space, housing, and air and water resource management. The preparation of such regional plans has generated numerous requests from local units of government for more detailed local plans designed to implement the recommendations contained in the regional plans. As these requests to the Commission staff have increased, so also has the need for more precise planning data—data that can be used in local project-level planning—including the need for more precise data on the natural resource base and the location and extent of the environmental corridors.

#### Increased Requests from Local Units of Government and the Private Sector for More Detailed Information Concerning the Natural Resource Base and Environmental Corridors

The natural resource base is subject to great misuse through improper land use development. Such misuse may lead to severe environmental and developmental problems, which are difficult and costly to correct, and to deterioration and destruction of the natural resource base itself. Local decision-makers, whether officials of local units of government or private concerns, must have detailed information on the resource base in order to make sound decisions that will serve to preserve the best remaining elements of the resource base while promoting a more efficient, economical, healthful, and attractive urban environment. The Commission is increasingly called upon to provide this detailed data on the natural resource base and on the location and extent of the environmental corridors. For example, in response to requests for detailed data, the Commission in the past year has: 1) provided information on natural resource base elements and environmental corridor delineations in the vicinity of the Retzer Nature Center in Waukesha County, Wisconsin, to the Waukesha County Park and Planning Commission to enable that agency to define project boundaries for a potential expansion of that park site; 2) assisted a land developer in the redesign of a preliminary plat for a residential subdivision in the Village of Williams Bay, Walworth County, to preserve the significant woodlands, wetlands, and wildlife habitat within the identified environmental corridor on the parcel in question while accommodating the number of housing units proposed in the preliminary plat; and 3) provided detailed delineations of environmental corridors to the City of Hartford, Washington County, to be used by the community in the making of day-to-day decisions on local plat reviews, subdivision regulations, and zoning changes. Requests such as these are received almost daily by the Commission. Therefore, it is imperative that the detailed information required to adequately respond to such requests in a timely manner be readily available in the Commission's data files.

#### Changes in State and Federal Government Policies Governing Sanitary Sewer Service Extensions and Wetland Preservation

Under rules adopted by the Wisconsin Natural Resources Board in 1979, the Wisconsin Department of Natural Resources (DNR) may approve only those sanitary sewer extensions that are found to be in conformance with the adopted regional water quality management plan, as documented in SEWRPC Planning

Report No. 30, A Regional Water Quality Management Plan for Southeastern Wisconsin: 2000. Prior to the adoption of these rules, DNR review and approval of sanitary sewers was limited primarily to engineering considerations. The broadened scope of the DNR review now requires that water quality-related considerations be taken into account in the review and approval of proposed sanitary sewer extensions. The areawide water quality management plan provides the basis for such review and approval. The water quality plan contains explicit recommendations with respect to the preservation of environmental corridors within the Region. Thus, in order for proposed sanitary sewer extensions to be reviewed properly, detailed information concerning the location and extent of the environmental corridors is required to ensure that the proposed sewer service areas do not promote the development of incompatible urban land use in the corridors and thereby destroy the corridors.

Recent changes in federal law have important implications for the development of wetlands, whether located inside or outside environmental corridors. The U. S. Army Corps of Engineers, jointly with the U. S. Environmental Protection Agency, is responsible for implementing Section 404 of the federal Water Pollution Control Act as it pertains to the protection and preservation of the nation's water resources, including wetlands. Under Section 404, these agencies may restrict or prohibit the filling and development of wetlands if such filling and development would have a deleterious effect on water supplies, fish spawning and water fowl breeding areas, wildlife habitat, natural plant communities, or recreational areas. The identification of high-value wetlands, whether located inside or outside environmental corridors, is thus important to local decision-makers. Such information will enable better development decisions to be made at the local level and will minimize problems that can occur through violations of Section 404 of the federal Water Pollution Control Act.

## THE ENVIRONMENTAL CORRIDOR REFINEMENT PROCESS

It should be emphasized that the concept of the environmental corridors espoused by the Commission for almost 20 years, namely that environmental corridors are linear features in the landscape which represent a composite of the best remaining elements of the natural resource base, has not changed. The environmental corridor refinement process proposed herein is simply a technique to be used in applying the environmental corridor concept to local project-level planning or, more specifically, a technique to enable environmental corridors heretofore delineated only on relatively small-scale maps to be delineated in greater detail for use in detailed project planning and development-related decision-making at the local level.

### Natural Resource Base and Natural Resource Base-Related Elements

Under the refinement process, certain elements of the natural resource base that were utilized in identifying environmental corridors under the original regional land use planning program are redelineated in a more precise manner. These elements include: lakes, rivers, streams and their associated shorelands and floodlands; wetlands; areas covered by wet, poorly drained, and organic soils; woodlands; wildlife habitat areas; and areas of steep slopes. In addition, prairies, although not included as a separate element in the original corridor delineation program, are considered to be an important element of the natural resource base in the environmental corridor refinement process. Additional elements closely related to or centered on the natural resource base are considered important both in the original identification and in the corridor refinement program. These are: existing park and open space sites, potential park and open space sites, historic sites, and scenic viewpoints. In addition, areas with scientific, natural, or educational value, although not separately identified in the original corridor delineation process, are considered important in the refinement process.

Inventory data on the natural resource base and natural resource base-related elements considered necessary to the environmental corridor refinement process were compiled from a variety of sources, and were subsequently delineated and mapped on ratioed and rectified aerial photographs at a common scale of 1" = 400' using a color code. Such mapping at a common scale permitted analysis of the relationship among the various elements. The colors used to map the natural resource base and natural resource base-related elements on aerial photographs are given in Table 1. A sample compilation for a four-square-mile area—U. S. Public Land Survey sections 1, 2, 11, and 12, Township 2 North, Range 22 East, Town of Somers, Kenosha County—showing the identified natural resource and related elements in that area is presented in Figure 1. The natural resources mapped are discussed below.

Table 1

**NATURAL RESOURCE BASE ELEMENTS AND NATURAL RESOURCE BASE-RELATED ELEMENTS DELINEATED ON 1" = 400' AERIAL PHOTOGRAPHS**

Element	Pencil Type <sup>a</sup> and Color
<b>Natural Resource Base</b>	
Lake	
Major (50 acres or larger) . . . . .	C2125 (medium blue)
Minor (5-49 acres) . . . . .	C2125 (medium blue)
River or Stream (perennial) . . . . .	C2125 (medium blue)
Shoreland	
Perennial (lake, river, or stream) . . . . .	C2125 (medium blue)
Intermittent Stream . . . . .	C2198 (light green)
100-Year Floodland . . . . .	P915 (lemon yellow)
Wetland . . . . .	P909 (grass green)
Wet, Poorly Drained, and Organic Soils . . . . .	(Not delineated) <sup>b</sup>
Woodland . . . . .	C2123 (dark brown)
Wildlife Habitat	
High Value . . . . .	P918 (orange)
Medium Value . . . . .	P918 (orange)
Low Value . . . . .	P918 (orange)
Steep Slope	
20 Percent or Greater . . . . .	P929 (pink)
12 Percent to 19 Percent . . . . .	P929 (pink)
Prairie . . . . .	C2126 (medium red)
<b>Natural Resource Base-Related</b>	
Existing Park or Other Open Space Site	
Rural Open Space Site . . . . .	P942 (yellow ochre)
Other Park or Recreation Site . . . . .	P942 (yellow ochre)
Potential Park Site	
High Value . . . . .	BV750 (vermillion)
Medium Value . . . . .	BV750 (vermillion)
Low Value . . . . .	BV750 (vermillion)
Historic Site	
Structural . . . . .	P931 (purple)
Other Cultural . . . . .	P931 (purple)
Archeological . . . . .	P931 (purple)
Scenic Viewpoint (combine with area of steep slope) . . . . .	BV761½ (nonphoto blue)
Natural and Scientific Area	
State Scientific Area . . . . .	P931 (purple)
Natural Area of Statewide or Greater Significance . . . . .	P931 (purple)
Natural Area of Countywide or Regional Significance . . . . .	P931 (purple)
Natural Area of Local Significance . . . . .	P931 (purple)

<sup>a</sup>C = Colorbrite; P = Prismacolor; BV = Berol Verithin.

<sup>b</sup>Wet, poorly drained, or organic soils were identified on 1" = 1000' scale soils maps.

Source: SEWRPC.

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Figure 1

**SAMPLE DELINEATION OF NATURAL RESOURCE BASE ELEMENTS AND NATURAL RESOURCE  
BASE-RELATED ELEMENTS ON AN AERIAL PHOTOGRAPH: SECTIONS 1, 2, 11, AND 12,  
TOWNSHIP 2 NORTH, RANGE 22 EAST, TOWN OF SOMERS, KENOSHA COUNTY**



LEGEND

NATURAL RESOURCE BASE ELEMENTS

LAKES, RIVERS, STREAMS, AND FLOODLANDS AND SHORELANDS

NONE MAJOR LAKE

NONE MINOR LAKE

NONE RIVER OR STREAM (50 FEET OR MORE IN WIDTH)

NONE LAKE OR RIVER SHORELAND

PERENNIAL STREAM SHORELAND (LESS THAN 50 FEET IN WIDTH)

INTERMITTENT STREAM SHORELAND

100-YEAR RECURRENCE INTERVAL FLOODLAND

WETLAND

WOODLAND

PRAIRIE

NONE

WILDLIFE HABITAT

NONE HIGH VALUE

NONE MEDIUM VALUE

LOW VALUE

AREA OF STEEP SLOPE

20 PERCENT OR GREATER

12-19 PERCENT

NATURAL RESOURCE BASE RELATED ELEMENTS

EXISTING PARK OR OPEN SPACE SITE

NONE RURAL OPEN SPACE

PARK OR RECREATION AREA

POTENTIAL PARK SITE

NONE HIGH VALUE

MEDIUM VALUE

NONE LOW VALUE

NATURAL AND SCIENTIFIC AREA

NONE STATE SCIENTIFIC AREA

STATEWIDE SIGNIFICANCE

NONE COUNTY OR REGIONAL SIGNIFICANCE

NONE LOCAL SIGNIFICANCE

HISTORIC SITE

NONE STRUCTURAL

CULTURAL

ARCHEOLOGICAL

SCENIC VIEWPOINT

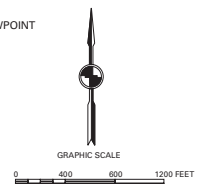
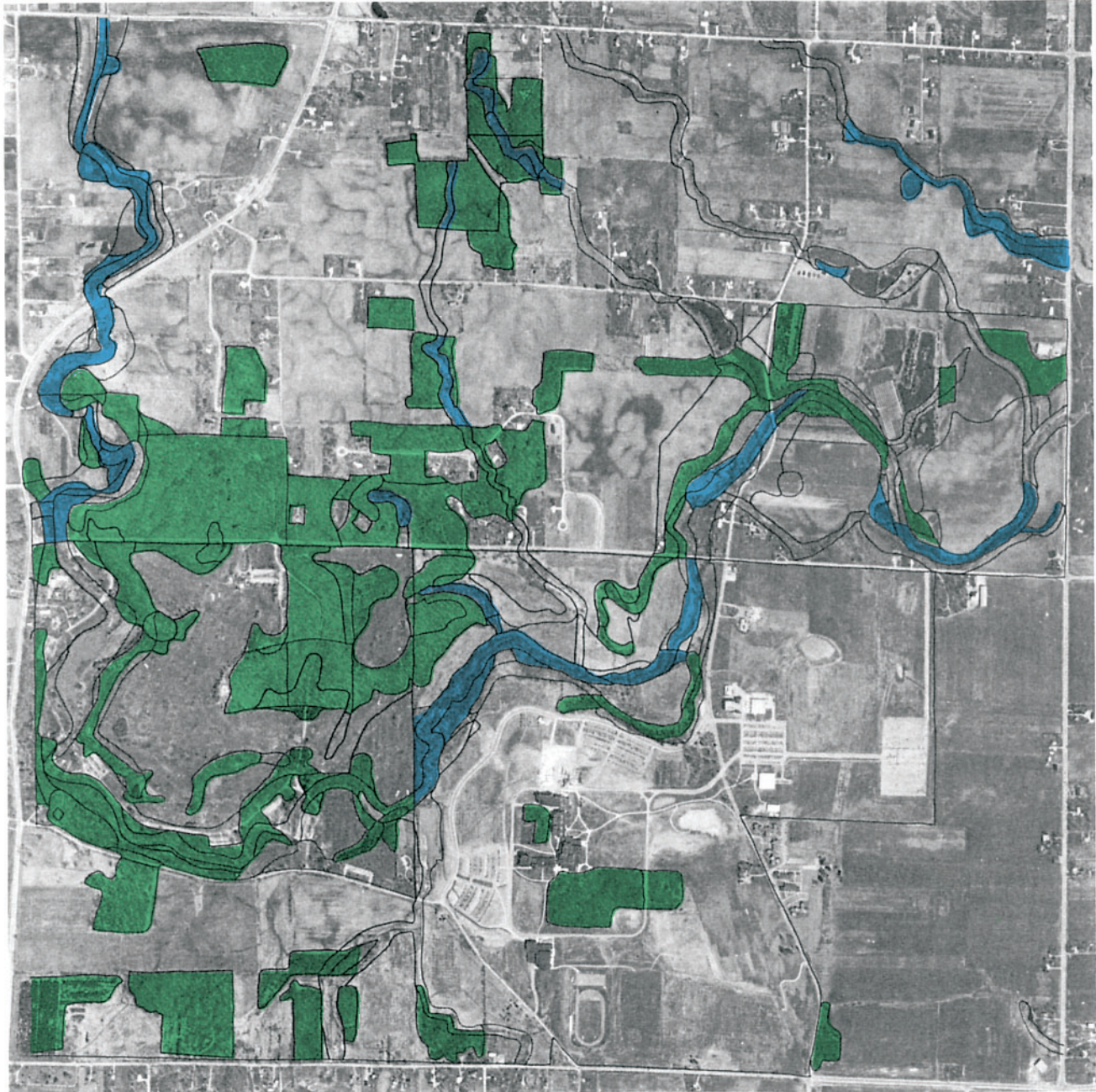




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NATURAL RESOURCE BASE ELEMENTS

LAKES, RIVERS, STREAMS, AND FLOODLANDS AND SHORELANDS

NONE MAJOR LAKE

NONE MINOR LAKE

NONE RIVER OR STREAM (50 FEET OR MORE IN WIDTH)

NONE LAKE OR RIVER SHORELAND

PERENNIAL STREAM SHORELAND (LESS THAN 50 FEET IN WIDTH)

INTERMITTENT STREAM SHORELAND

100-YEAR RECURRENCE INTERVAL FLOODLAND

WETLAND

WOODLAND

PRAIRIE

NONE

WILDLIFE HABITAT

NONE HIGH VALUE

NONE MEDIUM VALUE

LOW VALUE

AREA OF STEEP SLOPE

20 PERCENT OR GREATER

12-19 PERCENT

NATURAL RESOURCE BASE RELATED ELEMENTS

EXISTING PARK OR OPEN SPACE SITE

NONE RURAL OPEN SPACE

PARK OR RECREATION AREA

POTENTIAL PARK SITE

NONE HIGH VALUE

MEDIUM VALUE

NONE LOW VALUE

NATURAL AND SCIENTIFIC AREA

NONE STATE SCIENTIFIC AREA

STATEWIDE SIGNIFICANCE

NONE COUNTY OR REGIONAL SIGNIFICANCE

NONE LOCAL SIGNIFICANCE

HISTORIC SITE

NONE STRUCTURAL

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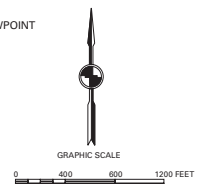
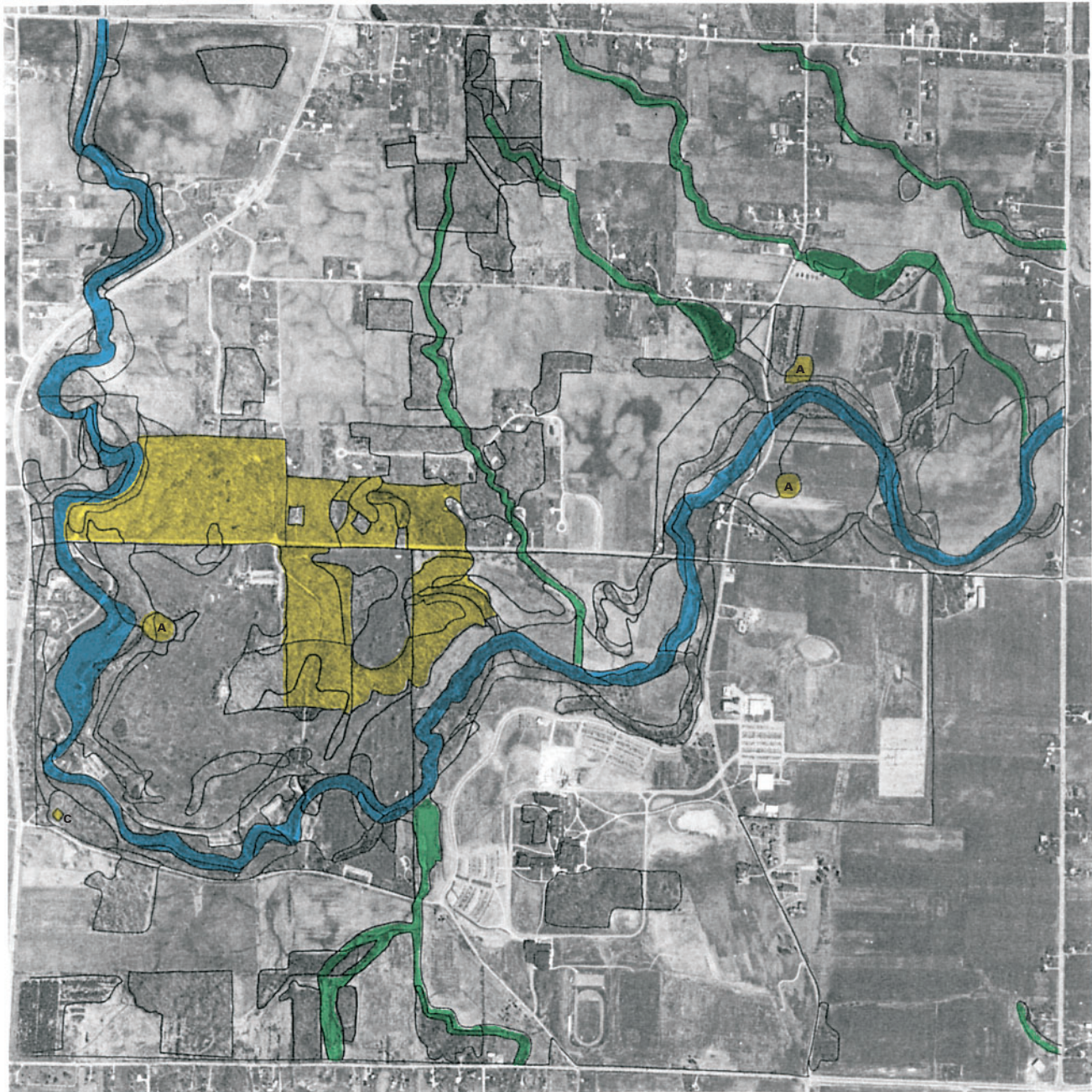




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LEGEND

NATURAL RESOURCE BASE ELEMENTS

LAKES, RIVERS, STREAMS, AND FLOODLANDS AND SHORELANDS

- NONE MAJOR LAKE
- NONE MINOR LAKE
- NONE RIVER OR STREAM (50 FEET OR MORE IN WIDTH)
- NONE LAKE OR RIVER SHORELAND
- PERENNIAL STREAM SHORELAND (LESS THAN 50 FEET IN WIDTH)
- INTERMITTENT STREAM SHORELAND
- 100-YEAR RECURRENCE INTERVAL FLOODLAND

- WETLAND

WOODLAND

- PRAIRIE
- NONE
- WILDLIFE HABITAT
- NONE HIGH VALUE
- NONE MEDIUM VALUE
- LOW VALUE
- AREA OF STEEP SLOPE
- 20 PERCENT OR GREATER
- 12-19 PERCENT

NATURAL RESOURCE BASE RELATED ELEMENTS

EXISTING PARK OR OPEN SPACE SITE

- NONE RURAL OPEN SPACE
- PARK OR RECREATION AREA
- POTENTIAL PARK SITE
- NONE HIGH VALUE
- MEDIUM VALUE
- NONE LOW VALUE
- NATURAL AND SCIENTIFIC AREA
- NONE STATE SCIENTIFIC AREA
- STATEWIDE SIGNIFICANCE

NONE COUNTY OR REGIONAL SIGNIFICANCE

NONE LOCAL SIGNIFICANCE

HISTORIC SITE

NONE STRUCTURAL

C

CULTURAL

A

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SCENIC VIEWPOINT

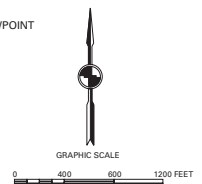
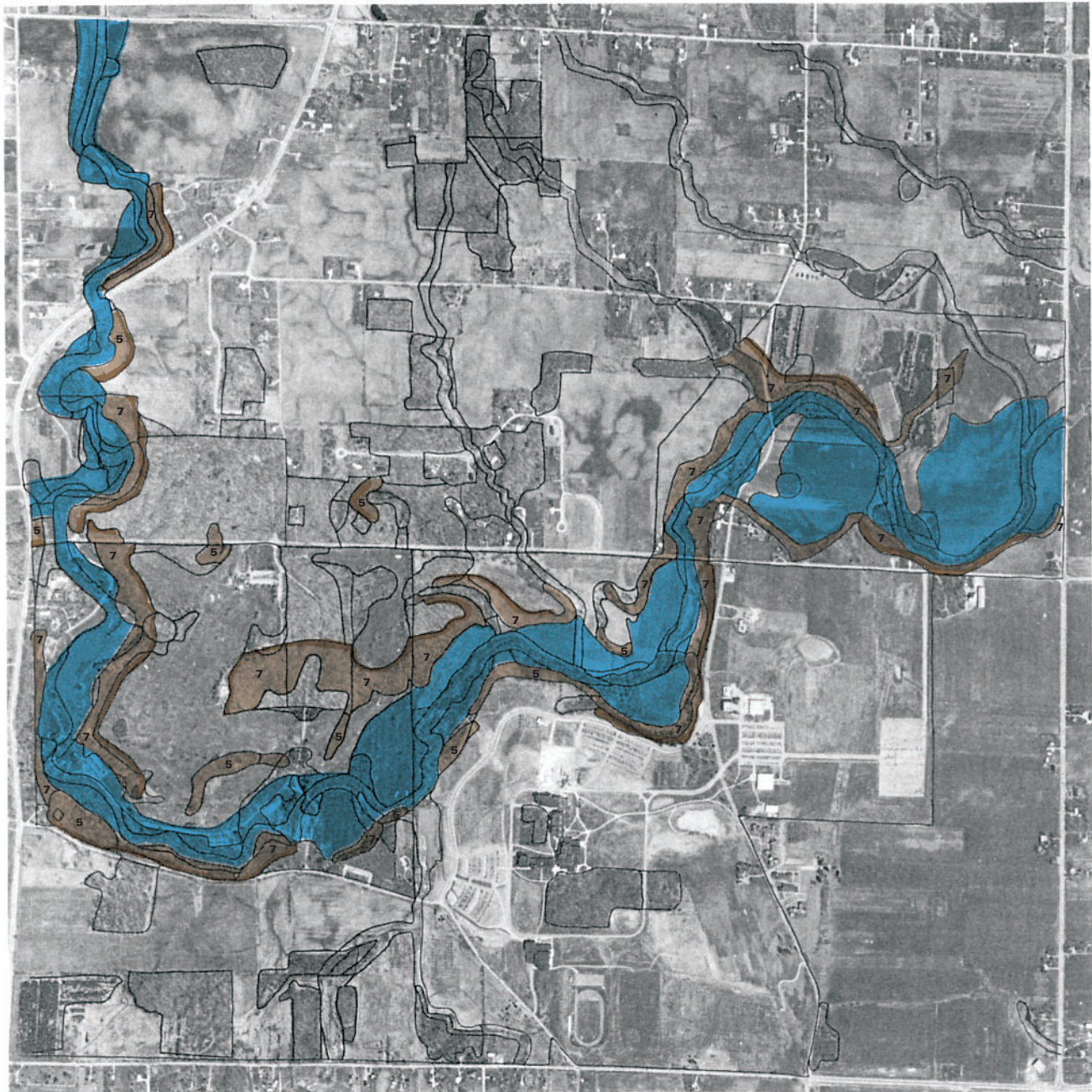




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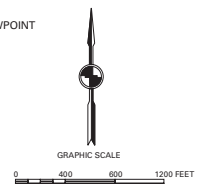
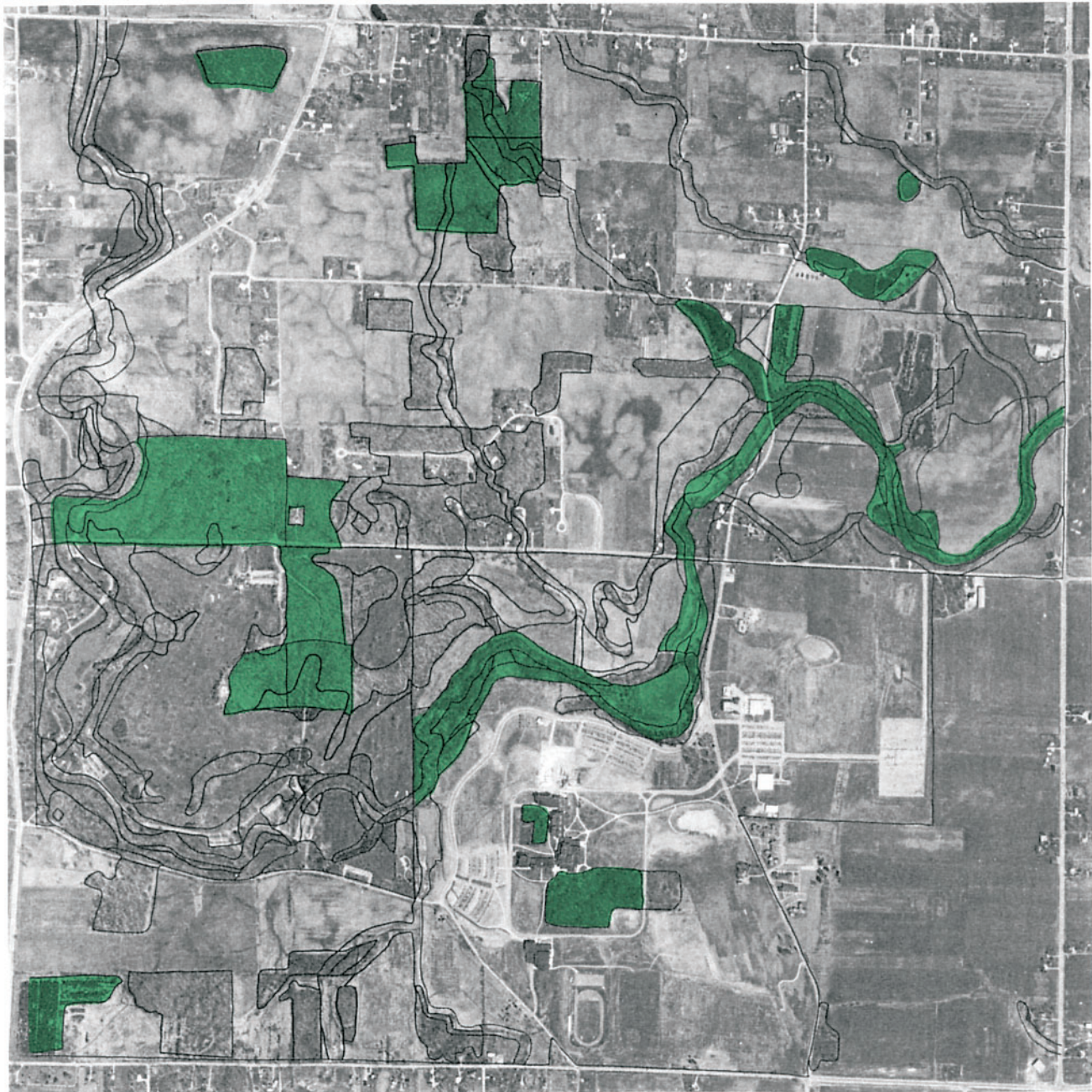




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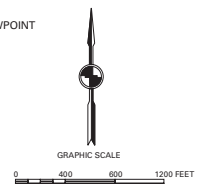
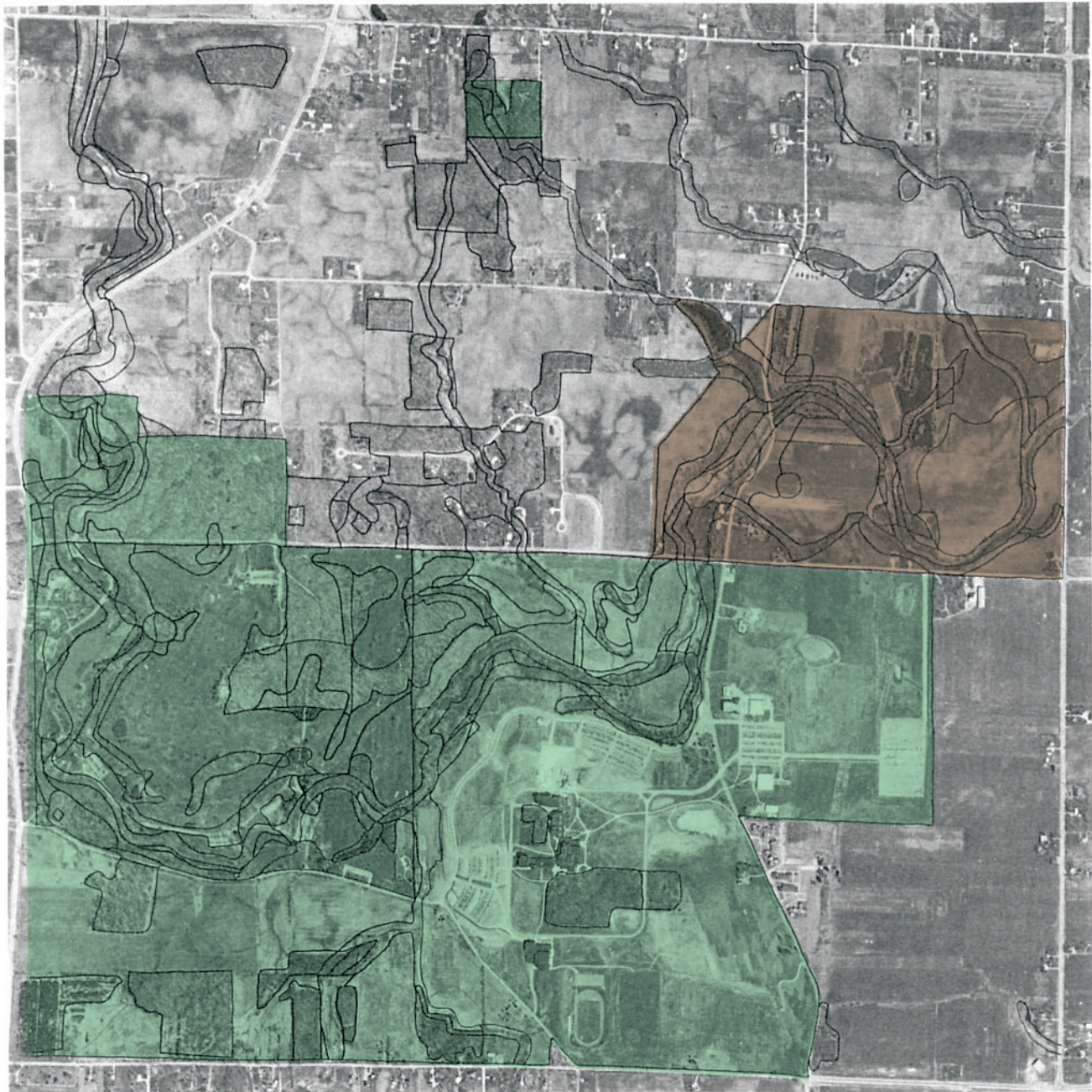




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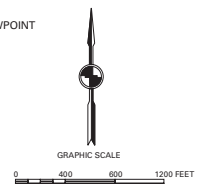
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Lakes: Lakes have been classified by the Commission as either major or minor. Major lakes have 50 acres or more of surface water area, while minor lakes have less than 50 acres of surface water area. All major lakes in southeastern Wisconsin are listed in Appendix C of SEWRPC Planning Guide No. 5, Floodland and Shoreland Development Guide. The surface area of each of these lakes is documented in a staff memorandum of April 15, 1977.

Minor lakes were identified under the corridor refinement process using aerial photographs. Only those minor lakes with a surface area in excess of five acres were identified. Minor lakes less than five acres in size were generally located within another natural resource base element, primarily wetlands, and were included within the delineation of such a related natural resource base element. It is also important to note that certain small surface water bodies such as sewage treatment lagoons and water-filled quarries were not identified as minor lakes.

Rivers and Streams: Rivers and streams have been classified by the Commission as perennial and intermittent. The identification of perennial and intermittent rivers and streams was made on the basis of the classifications shown on 7.5-minute quadrangle topographic maps published by the U. S. Geological Survey. Only rivers and streams having a width of 50 feet or more were delineated as separate natural resource base elements on the 1" = 400' scale aerial photographs. Rivers and streams less than 50 feet in width were included within the delineation of shorelands described below.

Shorelands: Shorelands associated with the identified major and minor lakes and with the identified perennial and intermittent rivers and streams were located and delineated. Because it is often difficult to identify the precise lateral extent of a shoreland area, a band of 50 feet in depth lying along both sides of and including all intermittent streams was delineated as the shoreland area; while a band 75 feet in depth lying along both sides of and including all perennial streams less than 50 feet in width was delineated as the shoreland area. For those perennial streams and rivers having a width of 50 feet or greater and for all major and minor lake shorelines, a band 75 feet in depth was delineated as the shoreland area. The shoreland area associated with Lake Michigan was delineated as a band 200 feet from the inland edge of the bluff when that bluff is within 200 feet of the lake itself. If the bluff is at a distance greater than 200 feet from the lake, as in the Town of Belgium in Ozaukee County, the shoreland area was delineated as a band 200 feet in depth from the inland edge of the beach.

Floodlands: The floodlands of a river or stream are the wide, gently sloping areas contiguous with, and usually lying on both sides of, a river or stream channel that are subject to inundation during a flood. For purposes of the environmental corridor refinement process, the areas inundated by the 100-year recurrence interval flood event were considered to comprise the floodlands of the Region. It is important to note that the limits of the 100-year recurrence interval flood can only be delineated on large-scale topographic maps based upon the hydrologic and hydraulic studies that together identify the stage—or elevation—of the design flood and the attendant extent of the floodlands. For purposes of delineation on the 1" = 400' scale aerial photographs, only those floodlands that were identified on large-scale—1" = 200' scale, 2' contour interval—topographic maps meeting National Map Accuracy Standards were mapped.

Wetlands: Wetlands are defined by the Commission as areas in which the water table is at, near, or above the land surface, and which are characterized by both hydric soils, such as peats or mucks or other organic soils, and by the growth of hydrophytes, such as sedges, cattails, red osier dogwood, and tamarack. A special inventory of wetlands conducted by the Commission in 1979 served as the basis for the identification of wetlands. In this special inventory, wetlands were identified on 1" = 400' scale ratioed and rectified aerial photographs. Supplementary data utilized in such identification included historic wetland information collected by the Game Management Division of the Wisconsin Conservation Department and documented in the Wisconsin Wetland Inventory dated 1956 through 1960; the SEWRPC land use inventories; U. S. Geological Survey 7.5-minute quadrangle topographic maps; other large-scale topographic mapping; and soils information as documented in SEWRPC Planning Report No. 8, Soils of Southeastern Wisconsin. It is important to note that a field examination was conducted to determine wetland boundaries where they could not be determined through analyses of the aforementioned data.

Wet, Poorly Drained, and Organic Soils: Certain soils tend to be well suited for supporting certain plant communities and wildlife habitat. These soils are generally wet, poorly drained, and organic, and when devoted to natural open space uses contribute significantly to the ecology of an area. Those soils which have been classified as wet, poorly drained, and organic in the detailed operational soil survey completed in the Region in 1965, as documented in SEWRPC Planning Report No. 8, were identified on 1" = 1000' scale aerial photographs. Use of these soils data in the refinement process is discussed later in this article in the section discussing the identification and delineation of environmental corridors and other resource areas.

Woodlands: Woodlands are defined by the Commission as those upland areas one acre or more in size having 17 or more deciduous trees per acre each measuring at least four inches in diameter at breast height and having at least a 50 percent canopy cover. In addition, coniferous tree plantations and reforestation projects were identified as woodlands by the Commission. Woodlands so defined were delineated on 1" = 400' scale ratioed and rectified aerial photographs. It is important to note that all 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 hydrophitic trees and shrubs.

Wildlife Habitat: Wildlife habitat is defined by the Commission as an area devoted to natural open uses of a size and with a vegetative cover capable of supporting a high and balanced diversity of wildlife. Such areas generally have vegetation that provides nesting opportunities, travel routes, concealment, and weather impact modification for a variety of wildlife species. Wildlife habitat areas within the Region were inventoried for the Commission in 1963 and again in 1970 by the Wisconsin Department of Natural Resources using as field work sheets 1" = 400' scale ratioed and rectified aerial photographs. Some adjustments were made to these wildlife habitat areas based upon a review of 1975 aerial photographs, particularly in areas where urban development and agricultural uses had encroached upon the habitat as identified on the 1963 and 1970 photographs. The wildlife habitat areas were rated in the inventories as being of high, medium, or low value.

High-value wildlife habitat areas contain a wide diversity of wildlife; are adequate in size to meet all of the habitat requirements of the species concerned—including territorial and vegetative composition requirements; and are generally located in proximity to other wildlife habitat areas. Medium-value wildlife habitat areas generally lack one of the three aforementioned criteria for a high-value wildlife habitat; however, such habitat areas do retain a good plant and animal diversity. Low-value wildlife habitats are remnant in nature in that they generally lack two or more of the three aforementioned criteria for a high-value wildlife habitat but may, nevertheless, be important if they are located close to medium- or high-value wildlife habitat areas, if they provide corridors linking higher value wildlife habitat areas, or if they provide the only available range in the area.

Steep Slopes: Under Commission standards, a slope of 12 percent or greater is considered unsuitable for all types of urban development as well as for most types of agricultural uses. Steep slopes are divided by the Commission into two categories: slopes 12 to 19 percent and slopes 20 percent or greater. Slope information was derived from the detailed operational soil survey information documented in SEWRPC Planning Report No. 8, Soils of Southeastern Wisconsin. Under the regional soil survey, percent of slope, in addition to soil type and erosion factor, was identified and delineated on 1" = 1000' aerial photographs. These aerial photographs, along with the U. S. Geological Survey 7.5-minute quadrangle topographic maps, serve as the basis for the delineation of areas of steep slopes on 1" = 400' scale ratioed and rectified aerial photographs.

Prairies: Prairies are defined by the Commission as open, generally treeless areas which are dominated by native grasses. There are three general types of prairies within the Region—wet prairies, mesic prairies, and dry prairies. The types correspond to soil moisture conditions. In addition, it is important to note that oak openings, which are savannahs—that is, park-like areas dominated by dry prairie grasses and forbs but having between one and 17 oak trees, usually burr oaks, per acre—are included in prairie inventories. Only those prairies and oak openings identified by the Wisconsin Scientific Areas Preservation Council and those known to local naturalists were included in the refinement process and delineated on the 1" = 400' ratioed and rectified aerial photographs.

Existing Park and Open Space Sites: A detailed classification of park and open space sites may be found in SEWRPC Planning Report No. 27, A Regional Park and Open Space Plan for Southeastern Wisconsin: 2000. For purposes of the corridor refinement process, park and open space sites were classified into one of two groups—the first group consisting of general-use outdoor recreation sites, special-use outdoor recreation sites, and urban open space sites, and the second group consisting of rural open space sites. The first group of sites generally provides developed outdoor recreation facilities for relatively intensive use, while the second group consists primarily of natural areas that are generally used only for extensive outdoor recreation and natural resource preservation purposes. All park and open space sites within the Region were identified, delineated, and categorized under the Commission's 1973 regional park and open space site inventory. This inventory information was transferred to the 1" = 400' scale ratioed and rectified aerial photographs for use in the corridor refinement process.

Potential Parks: A potential park site is a site which has been identified by the Commission as having the potential to provide opportunities for a variety of resource-oriented outdoor recreation activities. The sites evaluated for their recreation potential were assigned a high, medium, or low value rating. Sites rated as high value are those which possess the most favorable development potential for resource-oriented outdoor recreation facilities and which appear to have no serious development limitations. Sites rated as medium value possess certain minor development limitations, while sites rated as low value possess some major development limitations and, therefore, have relatively poor potential for development without major modification. A potential park site inventory was conducted by the Commission in 1963 and updated in 1968 and 1975. The potential park sites identified in the 1975 potential park inventory update were transferred to the 1" = 400' scale ratioed and rectified aerial photographs.

Historic Sites: Historic sites have been classified by the Commission into one of three categories—structures, archaeological features, and other cultural features. In general, historic structures include architecturally or historically significant homes, churches, inns, government buildings, mills, schools, and museums. Archaeological sites consist of areas occupied or utilized by man for a sufficient length of time to be marked by certain features—such as mounds—or to contain a number of artifacts. Such sites are generally associated with early American Indian settlements. Other cultural features include sites of early European settlements or are closely related to such settlements and include, for example, old plank roads and cemeteries. An inventory of historic sites within the Region was conducted by the Commission in 1973 under the regional park and open space planning program. This inventory served as the basis for the delineation of historic sites in the Region under the corridor refinement process. The Commission inventory was supplemented by inventory information gathered by the State Historical Society of Wisconsin in 1979. The locations of the historic sites identified in those two inventories were transferred to 1" = 400' scale ratioed and rectified aerial photographs.

Scenic Viewpoints: A scenic viewpoint is defined by the Commission as a vantage point from which a diversity of natural features can be observed. A special inventory of scenic viewpoints was conducted by the Commission in 1979 and 1980 for use in the identification and delineation of natural resource base and related elements. Three basic criteria were applied in identifying such viewpoints: 1) the variety of features viewed should exist harmoniously in a natural or rural landscape, 2) there should be one dominant or interesting feature, such as a river or lake, which serves as a focal point of the scenic area, and 3) the viewpoint should permit an observation area from which the variety of natural features can be seen. With the aid of the 1" = 2000' scale U. S. Geological Survey 7.5-minute quadrangle maps, areas with a relief greater than 30 feet and a slope of 12 percent or more were identified. Those areas of steep slopes so identified having a ridge of at least 200 feet in length and a view of at least three natural resource features—including surface waters, wetlands, woodlands, agricultural lands, or other significant geological features—within approximately one-half mile of the ridge were identified as scenic viewpoints. Areas so identified were then transferred to 1" = 400' scale ratioed and rectified aerial photographs.

Natural and Scientific Areas: Natural areas, as defined by the Wisconsin Scientific Areas Preservation Council, are tracts of land or water so little modified by man's activity or sufficiently recovered from the effects of such activity that they contain intact native plant and animal communities believed to be representative of the presettlement landscape. State Scientific Areas are those natural areas, geological sites, or archaeological sites identified as being of at least statewide significance and which have been so designated

by the Wisconsin Department of Natural Resources, Scientific Areas Preservation Council. Natural areas which have not been designated as State Scientific Areas by the Scientific Areas Preservation Council have been divided into three basic categories. They are:

1. **Natural Areas of Statewide or Greater Significance**—Natural areas of statewide or greater significance are those natural areas which have not been significantly modified by man's activity, or have sufficiently recovered from the effects of such activity so as to contain nearly intact native plant and animal communities which are believed to be representative of the presettlement landscape. These are areas which have not as yet been classified as State Scientific Areas.
2. **Natural Areas of Countywide or Regional Significance**—Natural areas of countywide or regional significance are defined as those natural areas which have been slightly modified by man's activities or which have insufficiently recovered from the effects of such activity, but which still contain good examples of native plant and animal communities representative of the presettlement landscape. These natural areas are of lesser significance because their quality is less than ecologically ideal, and because there is evidence of past or present disturbances such as logging, grazing, water level changes as a result of ditching or filling, or pollution. These areas may contain plant or animal community types common to the Region, in which case only the best examples would qualify for State Scientific Area recognition. These natural areas may also be of insufficient size to be of statewide significance. Such areas could serve local communities as educational sites, passive recreational areas, and ecological zones. In addition, such areas, if protected in an undisturbed condition, may be expected to increase in value over time. Therefore, some of these areas may eventually become natural or scientific areas of statewide significance.
3. **Natural Areas of Local Significance**—Natural areas of local significance are defined as those natural areas which have been significantly modified by man's activities but have, nevertheless, retained a modest amount of natural cover. Such natural areas are suitable for local educational use and should not be excluded from a natural area survey. Natural areas of local significance may reflect patterns of former vegetation or serve as examples of the influence of human settlement on vegetation. These natural areas may also be expected to increase in value if protected.

Classification of an area into one of the foregoing categories is based upon 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 man's activities such as logging, grazing, water level changes, and pollution; the commonness of the plant and animal communities present; any unique natural features within the area; the size of the area; and the area's educational value. Those natural areas identified by the Wisconsin Scientific Areas Preservation Council, the Wisconsin Department of Natural Resources, and SEWRPC were delineated on 1" = 400' scale ratioed and rectified aerial photographs.

Assignment of Numerical Point Values to Each Natural Resource Base and Resource Base-Related Element  
In order to facilitate the identification of those areas having the most significant concentrations of natural resource values, each natural resource base and natural resource base-related element was assigned a numeric value rating. The numeric value rating assigned was intended to reflect the "natural" characteristic of each resource component. Although this assignment process admittedly involved subjective judgments on the part of the Commission staff, it greatly facilitated the identification and delineation of environmental corridors as described in the following section of this article.

The value rating ultimately assigned to each resource element was based upon a consensus among Commission staff members having education and experience in a variety of disciplines, including biology, landscape architecture, water resource management, and land use planning. The interdisciplinary, consensus approach provided a broad base for the value-rating process and minimized the potential for rating one resource component excessively high or low as a result of the personal interest or concern of any one staff member. Those features of the landscape having "inherent natural resource values" were assigned a higher point value than features having "implied natural resource values." Thus, features such as surface water, woodlands, wetlands, high-value wildlife habitat, prairies, and scientific areas were assigned high point value ratings, while features like existing park sites, potential park sites, historic sites, and scenic viewpoints



were assigned relatively low point value ratings. It should be noted in this respect that floodlands, although a critical consideration in areawide and local planning, were assigned relatively low point value ratings. This was done for two reasons. First, significant portions of floodlands within the Region are not in a natural state, with some floodlands in urban areas being developed for urban uses and some floodlands in rural areas being utilized almost entirely for agricultural production. Such conditions were deemed to be inconsistent with the concept of environmental corridors as primarily natural areas. Second, those portions of floodlands that are not in intensive urban or agricultural uses and, thus, exist in a natural state are likely to be a part of an area having a relatively high composite point value rating and thereby ultimately included within a delineated environmental corridor by virtue of the fact that such floodlands probably are located within identified wetland, wildlife habitat, prairie, or other scientific or natural areas of the Region.

In order to identify concentrations of high-value natural resource features, the delineations of the individual natural resource base and resource base-related elements, as mapped on the 1" = 400' scale ratioed and rectified aerial photographs—an example of which is presented in Figure 1—were transferred to a single mylar transparency overlay drafted at the same 1" = 400' scale. All natural resource base and related elements were delineated in pencil on the composite, and a cumulative point total for each delineated area was calculated. Within each area delineated on the mylar, the total composite point value was recorded and the natural resource base and related elements within that area were identified through the use of code letters. The code letters, together with the point values assigned to each of the natural resource base and resource base-related elements, are presented in Table 2, while the mylar transparency covering the same area as that shown in Figure 1, indicating the cumulative point values of all resource components, is shown in Figure 2.

#### Identification and Delineation of Environmental Corridors and Other High-Value Resource Areas

The delineation of the detailed natural resource base and resource base-related inventory data on 1" = 400' scale ratioed and rectified aerial photographs, and the assignment of point values to each of the resource base and related elements facilitated the final step in the corridor refinement process—namely, the identification and delineation of environmental corridor and other high-value resource areas. As previously noted, an effort was made to ensure that the concept of environmental corridors as set forth in regional level system plans was carried through in the refinement process. Thus, a hierarchy of natural resource areas was identified—namely, primary environmental corridors, secondary environmental corridors, isolated high-value resource areas, and other natural resource or resource-related areas. These areas were identified through the application of criteria related to the point values assigned to the individual resource components, as well as of criteria established with respect to the acreage, width, and length of the resource components. These criteria are listed in Table 3.

A point value of 10 or more established an area as having "significant" natural resource value. As further shown in Table 3, areas with "significant" natural resource values include primary environmental corridors, secondary environmental corridors, and isolated high-value natural areas. Primary environmental corridors occupy an area of at least 400 acres and have a minimum length of two miles and a minimum width of 200 feet. Such corridors generally include a wide variety of natural resource base and related elements.

Secondary environmental corridors occupy an area of at least 100 acres and have a minimum length of one mile. Such corridors also include a variety of natural resource base and related elements, but are generally less diverse and are smaller in size, length, and width than primary environmental corridors.

Isolated high-value natural areas are at least five acres in size. Such areas generally consist of those natural resource base elements that have "inherent natural" value such as wetlands, woodlands, wildlife habitat areas, and surface water areas but that are separated physically from the environmental corridors by intensive urban and agricultural land uses. Other natural resource and related features have no minimum area, length, or width requirements. These features generally include those natural resource base-related elements that have "implied natural" value, such as an existing park, a potential park site, or an historic site.

In the classification and delineation of natural resource features, areas with significant natural resource values—areas with a point value of 10 or more points—that were located in proximity to other areas with significant natural resource values were often linked with such areas as a single natural resource feature,

Table 2

**CODE LETTERS AND POINT VALUES FOR NATURAL RESOURCE  
BASE AND NATURAL RESOURCE BASE-RELATED ELEMENTS**

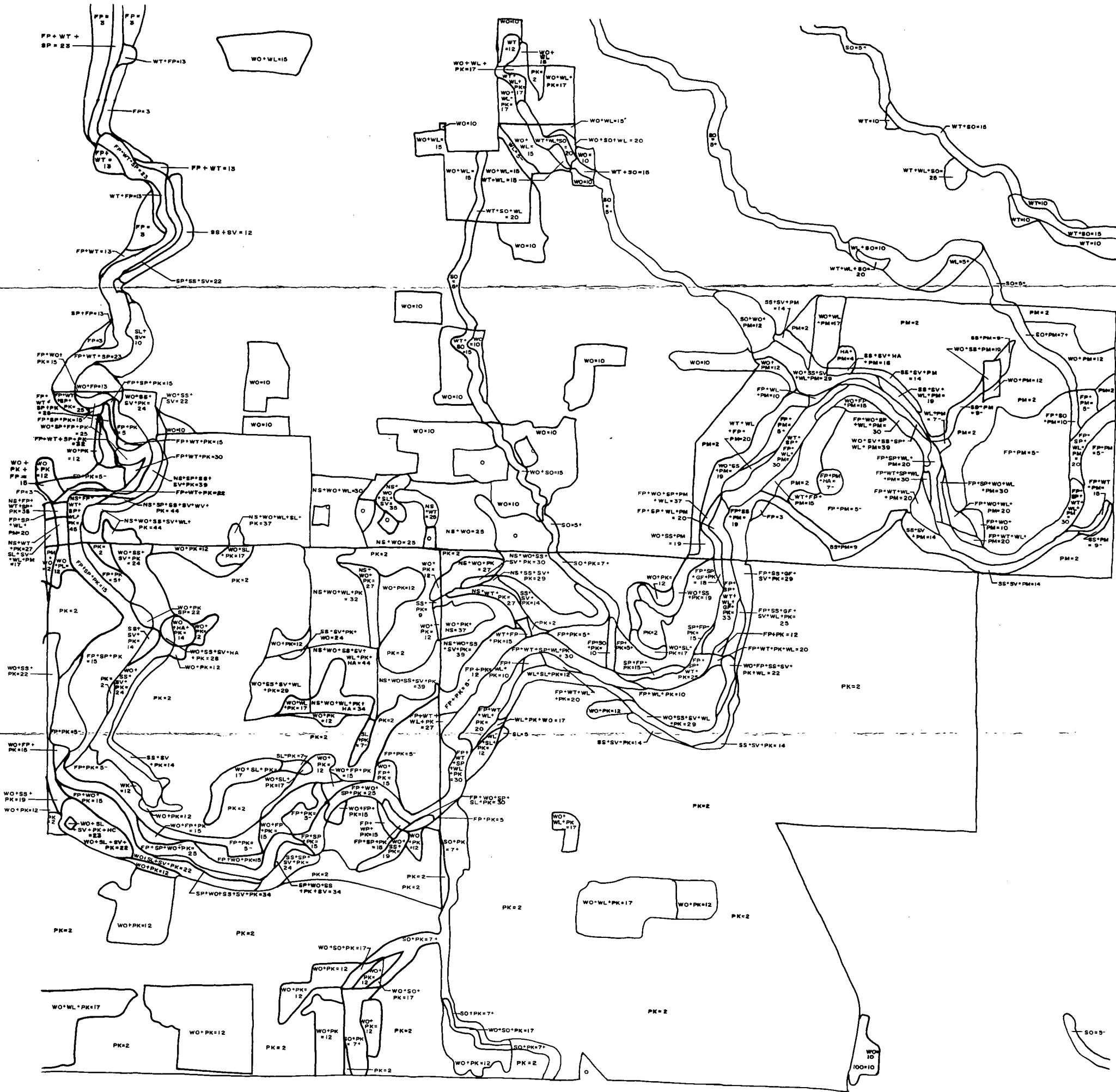
Element	Code	Point Value
<b>Natural Resource Base</b>		
Lake		
Major (50 acres or larger) . . . . .	LA	20
Minor (5-49 acres) . . . . .	LM	20
River or Stream (perennial) . . . . .	PS	10
Shoreland		
Perennial (lake, river, or stream) . . . . .	SP	10
Intermittent Stream . . . . .	SO	5
100-Year Floodland . . . . .	FP	3
Wetland . . . . .	WT	10
Wet, Poorly Drained, and Organic Soils . . . . .	.. <sup>a</sup>	.. <sup>a</sup>
Woodland . . . . .	WO	10
Wildlife Habitat		
High Value . . . . .	WH	10
Medium Value . . . . .	WM	7
Low Value . . . . .	WL	5
Steep Slope		
20 Percent or Greater . . . . .	SS	7
12 Percent to 19 Percent . . . . .	SL	5
Prairie . . . . .	PR	10
<b>Natural Resource Base-Related</b>		
Existing Park or Other Open Space Site		
Rural Open Space Site . . . . .	OS	5
Other Park or Recreation Site . . . . .	PK	2
Potential Park		
High Value . . . . .	PH	3
Medium Value . . . . .	PM	2
Low Value . . . . .	PL	1
Historic Site		
Structural . . . . .	HS	1
Other Cultural . . . . .	HC	1
Archeological . . . . .	HA	2
Scenic Viewpoint (combined with area of steep slope) . . . . .	SV	5
Natural and Scientific Area		
State Scientific Area . . . . .	SA	15
Natural Area of Statewide or Greater Significance . . . . .	NS	15
Natural Area of Countywide or Regional Significance . . . . .	NC	10
Natural Area of Local Significance . . . . .	NL	5

<sup>a</sup> Code letters and point values for wet, poorly drained, and organic soils were not assigned. The consideration of wet, poorly drained, and organic soils in the determination of environmental corridors is discussed in the section of this article on the identification and delineation of environmental corridors and other high-value resource areas.

Source: SEWRPC.

Figure 2

SAMPLE DELINEATION OF NATURAL RESOURCE BASE AND NATURAL RESOURCE BASE-RELATED ELEMENTS, ALONG WITH CORRESPONDING CODES AND CUMULATIVE POINT VALUES, ON A MYLAR TRANSPARENCY: SECTIONS 1, 2, 11, AND 12, TOWNSHIP 2 NORTH, RANGE 22 EAST, TOWN OF SOMERS, KENOSHA COUNTY



LEGEND

— NATURAL RESOURCE AREA BOUNDARY  
WO\*WL\*15 NATURAL RESOURCE IDENTIFICATION CODE (SEE TABLE 2)

Source: SEWRPC.

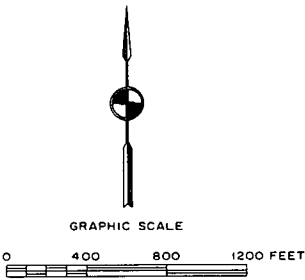


Table 3

## CRITERIA UTILIZED IN THE CLASSIFICATION OF NATURAL RESOURCE FEATURES

Natural Resource Feature	Minimum Point Value	Minimum Area (acres)	Minimum Length (miles)	Minimum Width (feet)
Primary Environmental Corridor . . . . .	10	400	2	200
Secondary Environmental Corridor . . . . .	10	100	1	--
Isolated High-Value Natural Area . . . . .	10	5	--	200
Other Natural Resource or Related Feature . . . . .	1	--	--	--

Source: SEWRPC.

thereby establishing continuity between adjacent areas with significant natural resource values. The distance across which such continuity could be provided was related to the acreage of the smaller of the two areas under consideration. The guidelines used for linking natural resource features are presented in Table 4. It is important to note that the continuity distance guideline was applied only to areas with significant natural resource values, namely areas with 10 or more assigned points.

As shown in Table 4, in order to establish continuity between a small area ranging from five to 19 acres in size and a larger area, the small area must be located within 220 feet of an adjacent area of equal or greater size. Similarly, a large area 640 acres in size may be linked to another area of equal or greater size up to a distance of one-half mile.

These distances are based upon consideration of such features as the dispersal of seed by animals and wind as well as the normal travel ranges of animal species common to southeastern Wisconsin, such as deer, rabbit, skunk, raccoon, muskrat, mink, songbirds, and waterfowl. Typically, animals occupying a smaller area, such as a habitat between five and 19 acres in size, will travel shorter distances to reach an area of similar size. For example, a population of between 50 and 100 Franklin ground squirrels occupying an area that ranges from eight to 10 acres in size will travel a distance of about 175 feet to an area of similar habitat to forage for food. On the other hand, some animals occupying larger areas typically have greater travel ranges and forage requirements. For example, mammals such as the raccoon, red fox, and skunk, whose home range includes areas 640 acres in size or greater, normally travel up to one-half mile in search of food or to seek a new habitat.

Having determined that two areas should be linked, the most suitable linking segment was identified. The most appropriate linking segment was determined by applying the following criteria:

1. When applicable, an area less than 200 feet wide with significant natural resource value should be widened to 200 feet;
2. Other areas possessing natural resource features—that is, areas with a value rating of less than 10 points—should be utilized; and
3. Open areas—agricultural or unused lands—should be utilized.

In addition, four rules were followed in special situations in the identification and delineation of environmental corridors and natural resource features:



1. In the identification and delineation of secondary environmental corridors, there were no minimum width considerations. However, the termination points of such corridors must contain a natural resource area at least five acres in size and 200 feet in width. A primary environmental corridor may serve as the termination point of a secondary environmental corridor.

2. Elongated, narrow—less than 200 feet wide—areas that had significant natural resource values and that “connected” two segments of primary environmental corridor lands were identified and delineated as secondary environmental corridors. This is the only situation where the minimum length and area requirements for secondary environmental corridors were not strictly applied. It should also be noted that such areas were generally located along intermittent or perennial streams that flowed from one primary environmental corridor to another.

3. Areas less than five acres in size—regardless of the resource point values assigned to them—that were surrounded by significant natural resource features—namely, primary environmental corridors, secondary environmental corridors, or isolated natural areas—were included in the delineation of those corridors or isolated natural resource features. Areas greater than five acres in size and surrounded by significant natural resource features but having less than 10 points were not included in the delineation of the primary or secondary environmental corridors or isolated natural areas.

4. As previously noted, areas covered by wet, poorly drained, and organic soils were not delineated on the 1" = 400' scale ratioed and rectified aerial photographs. In order to account for such soils as an element of the natural resource base in the environmental corridor refinement process, the soil characteristics of those areas having a point value between five and nine points inclusive were examined. If the soils in such an area were “wet, poorly drained, or organic,” the area was assigned a value equivalent to 10 points by affixing, on the mylar transparency, a plus (+) sign to the cumulative total point value of the other natural resource base and related elements. That area was thereby qualified for inclusion as a significant natural resource feature. If the soils in such an area were not “wet, poorly drained, or organic,” the area retained the cumulative total point value of the other natural resource and related elements, and a minus (-) sign was affixed to this total point value. Thus, while “wet, poorly drained, and organic” soils were not directly assigned a point value, such areas were given an effective point value of five.

As previously noted, natural resource base and related elements were identified and delineated on 1" = 400' scale ratioed and rectified aerial photographs (see Figure 1). These delineations were then composited on a mylar transparency overlay drafted at a scale of 1" = 400', on which were indicated the cumulative point value for all resource areas (see Figure 2). In order to complete the final step in the corridor refinement process—the identification and delineation of environmental corridors and high-value resource areas—a print of the mylar overlay was made and all of the areas with a value of 10 or more points were shaded in light green. This was followed by the application of the area, length, width, and continuity distance guidelines, as well as of the four aforelisted rules. Primary environmental corridors were then identified and delineated on this paper print by outlining in a continuous red line; secondary environmental corridors were identified and delineated by outlining in a continuous black line; and isolated natural features were identified and

Table 4

# DISTANCE GUIDELINES FOR LINKING NATURAL RESOURCE FEATURES

Acreage of Smaller Area with Significant Resource Value	Maximum Continuity Distance	
	Feet	Miles
640 or More . . . . .	2,640	1/2
320-639 . . . . .	1,760	1/3
160-319 . . . . .	1,320	1/4
80-159 . . . . .	880	1/6
40-79 . . . . .	660	1/8
20-39 . . . . .	440	1/12
5-19 . . . . .	220	1/24

Source: SEWRPC.

delineated by outlining in a broken black line. Those areas that were identified as continuity segments were outlined in the appropriate natural resource feature color and shaded (see Figure 3). Finally, these delineations were transferred back to the original 1" = 400' scale mylar transparency overlay to allow duplicate copies of the corridor information to be obtained for local project level planning purposes (see Figure 4).

Thus, as a result of the environmental corridor refinement process, there are three display maps on file in the Commission offices for each of the 692 four-square-mile aerial photographs covering the Region: 1) a 1" = 400' scale 1975 ratioed and rectified aerial photograph showing the natural resource base and natural resource base-related elements; 2) a 1" = 400' scale mylar overlay which a) summarizes the delineation of natural resource base and related elements, b) identifies the cumulative point total for each area with natural resource values, and c) shows the delineation of primary and secondary environmental corridors and other high-value resource areas; and 3) a 1" = 400' scale print of the mylar transparency which was utilized as a work map showing the application of criteria necessary to identify and delineate the corridor and other high-value resource areas.

#### A CASE STUDY: PRIMARY ENVIRONMENTAL CORRIDORS IN SALEM TOWNSHIP, KENOSHA COUNTY

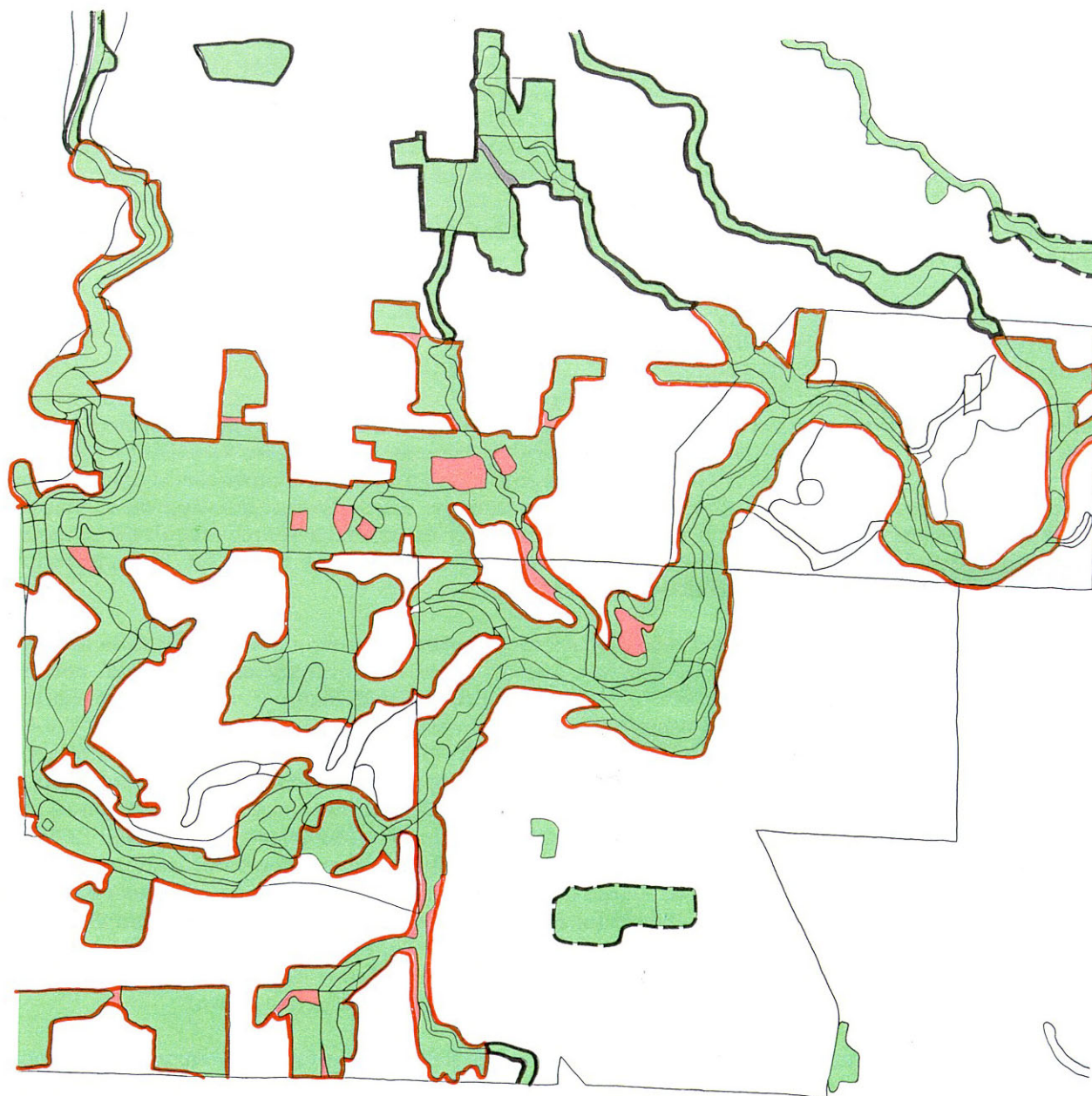
The purpose of this portion of the article is to provide—for a sample township—a comparison of the location and size of primary environmental corridors identified in the corridor refinement process herein described to the location and size of primary environmental corridors identified in the original regional land use plan prepared in 1966. The sample area chosen for this comparison is Salem Township, a 36-square-mile area located in south-central Kenosha County. Salem Township is typical of many townships in southeastern Wisconsin which possess a large variety of natural resource amenities. A number of major and minor lakes are located in Salem Township and a major river, the Fox River, flows in a southerly direction through the western portion of the Township.

The simplest way to compare the two spatial patterns of primary environmental corridors identified in Salem Township is through a review of Figure 5, which shows the primary environmental corridors in Salem Township as identified in the corridor refinement process, and Figure 6, which shows the primary environmental corridors in Salem Township as identified in the original land use plan. While the acreage of primary environmental corridors is virtually the same—7,360 acres as identified through the corridor refinement process versus 7,480 acres as identified in the original land use plan—the location and extent of the individual corridors vary significantly. Figure 6, for example, shows a large concentration of primary environmental corridor lands between the Camp Lake and the Fox River, south of Silver Lake to the Wisconsin-Illinois border, and only small amounts of primary environmental corridor land in the far northwest and northeast portions of the Town. Figure 5, prepared under the corridor refinement process, shows significantly fewer primary environmental corridor lands in the area between Camp Lake and the Fox River south of Silver Lake but significantly more corridor lands in the Paddock, Hooker, and Montgomery Lakes environmental corridor located in the northeast portion of the Town and in the Rock, Voltz, Cross, Shangrila, and Benet Lakes corridor area located in the southeast portion of the Town.







This case study clearly indicates the differences between the delineation of primary environmental corridor lands under regional system level plans and the delineation of such lands under the refinement process described herein. In addition, this case study indicates the importance of corridor refinement if the corridor concept is to be meaningfully integrated into local project level plans. For example, the series of detailed natural resource inventory maps and mylar transparency overlays developed in the environmental corridor refinement process could be utilized as a basis for the identification and application of appropriate zoning districts to preserve the natural resource features delineated. These natural resources and the primary environmental corridor lands which encompass them cannot be precisely delineated in regional system level planning.

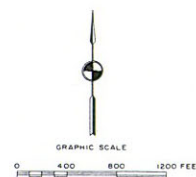
Figure 3

WORK MAP DISPLAYING APPLICATION OF CRITERIA UTILIZED IN THE IDENTIFICATION OF ENVIRONMENTAL CORRIDORS AND ISOLATED NATURAL FEATURES: SECTIONS 1, 2, 11, AND 12, TOWNSHIP 2 NORTH, RANGE 22 EAST, TOWN OF SOMERS, KENOSHA COUNTY



LEGEND

-  AREA WITH SIGNIFICANT NATURAL RESOURCE VALUE
-  PRIMARY ENVIRONMENTAL CORRIDOR
-  CONTINUITY SEGMENT WITHIN PRIMARY ENVIRONMENTAL CORRIDOR
-  SECONDARY ENVIRONMENTAL CORRIDOR
-  CONTINUITY SEGMENT WITHIN SECONDARY ENVIRONMENTAL CORRIDOR
-  ISOLATED NATURAL AREA

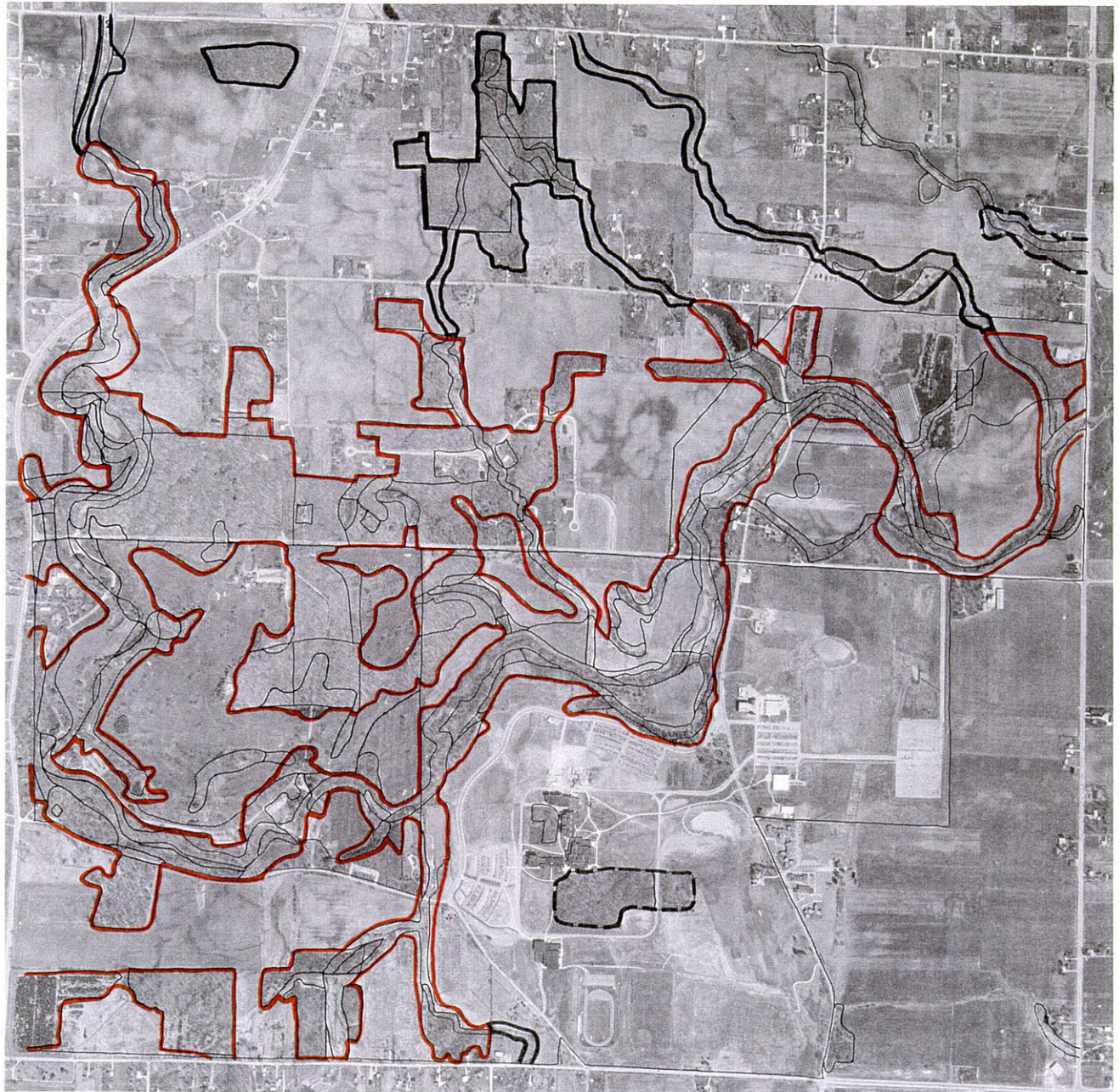


Source: SEWRPC.



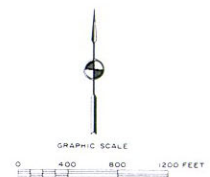
Figure 4

DELINEATION OF ENVIRONMENTAL CORRIDORS AND ISOLATED FEATURES: SECTIONS 1, 2, 11, AND 12, TOWNSHIP 2 NORTH, RANGE 22 EAST, TOWN OF SOMERS, KENOSHA COUNTY



LEGEND

- PRIMARY ENVIRONMENTAL CORRIDOR
- SECONDARY ENVIRONMENTAL CORRIDOR
- ISOLATED NATURAL AREA

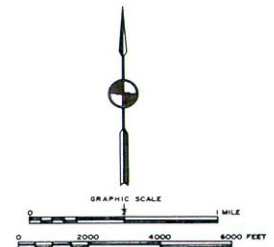
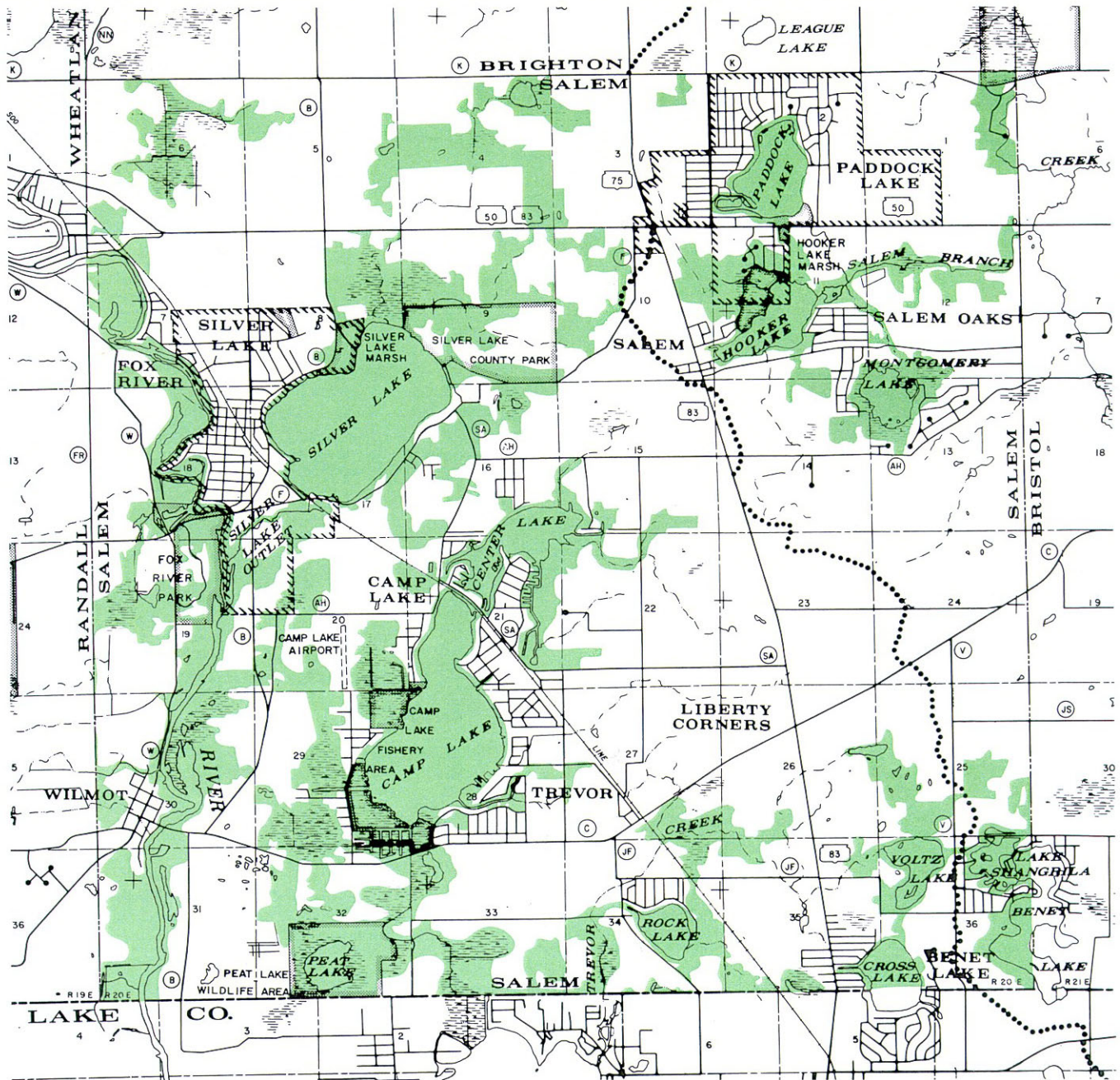


Source: SEWRPC.



Figure 5

PRIMARY ENVIRONMENTAL CORRIDORS IN SALEM TOWNSHIP  
AS IDENTIFIED IN THE CORRIDOR REFINEMENT PROCESS

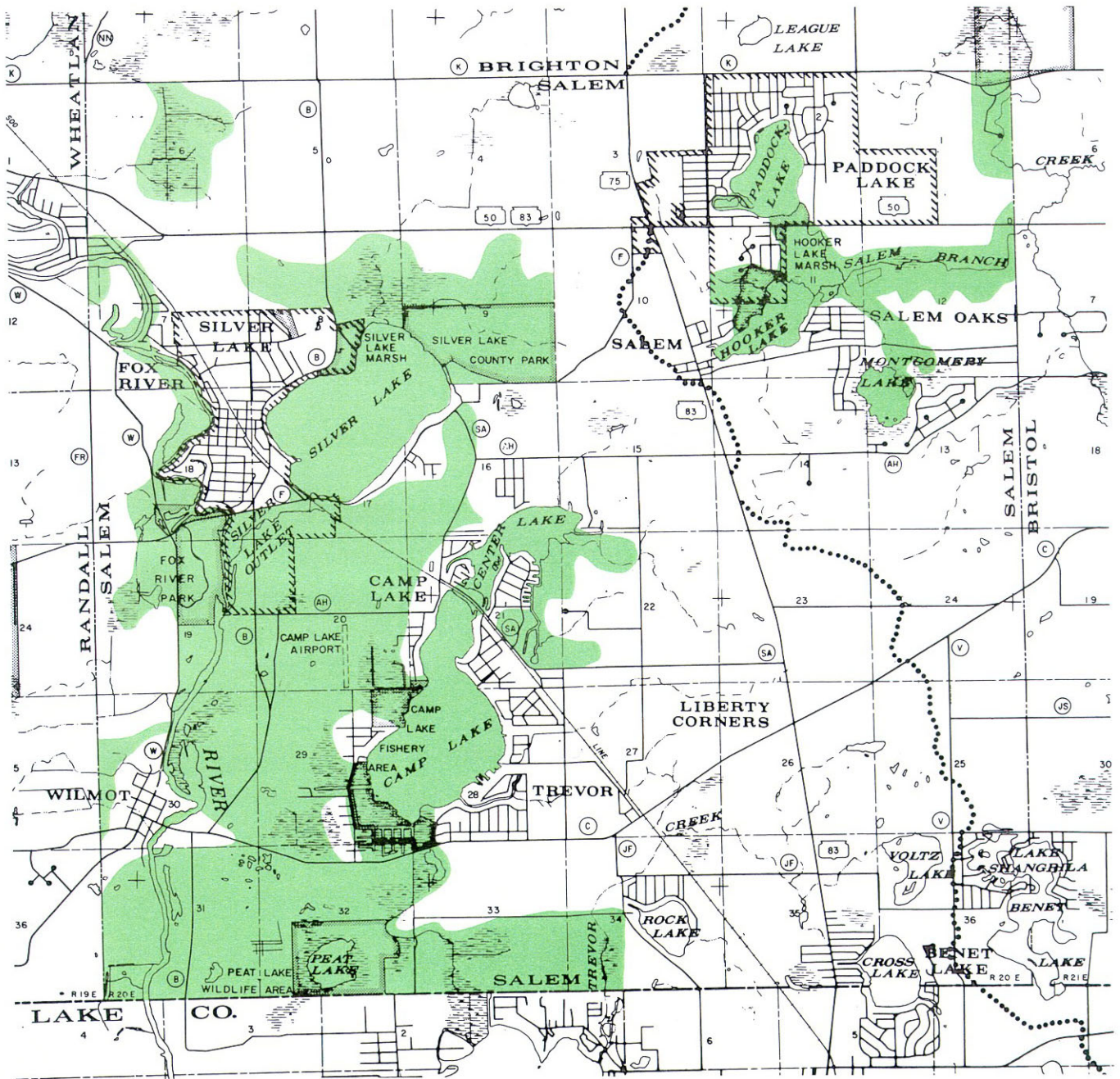


Source: SEWRPC.



Figure 6

PRIMARY ENVIRONMENTAL CORRIDORS IN SALEM TOWNSHIP  
AS IDENTIFIED IN THE ORIGINAL LAND USE PLAN



Source: SEWRPC.

