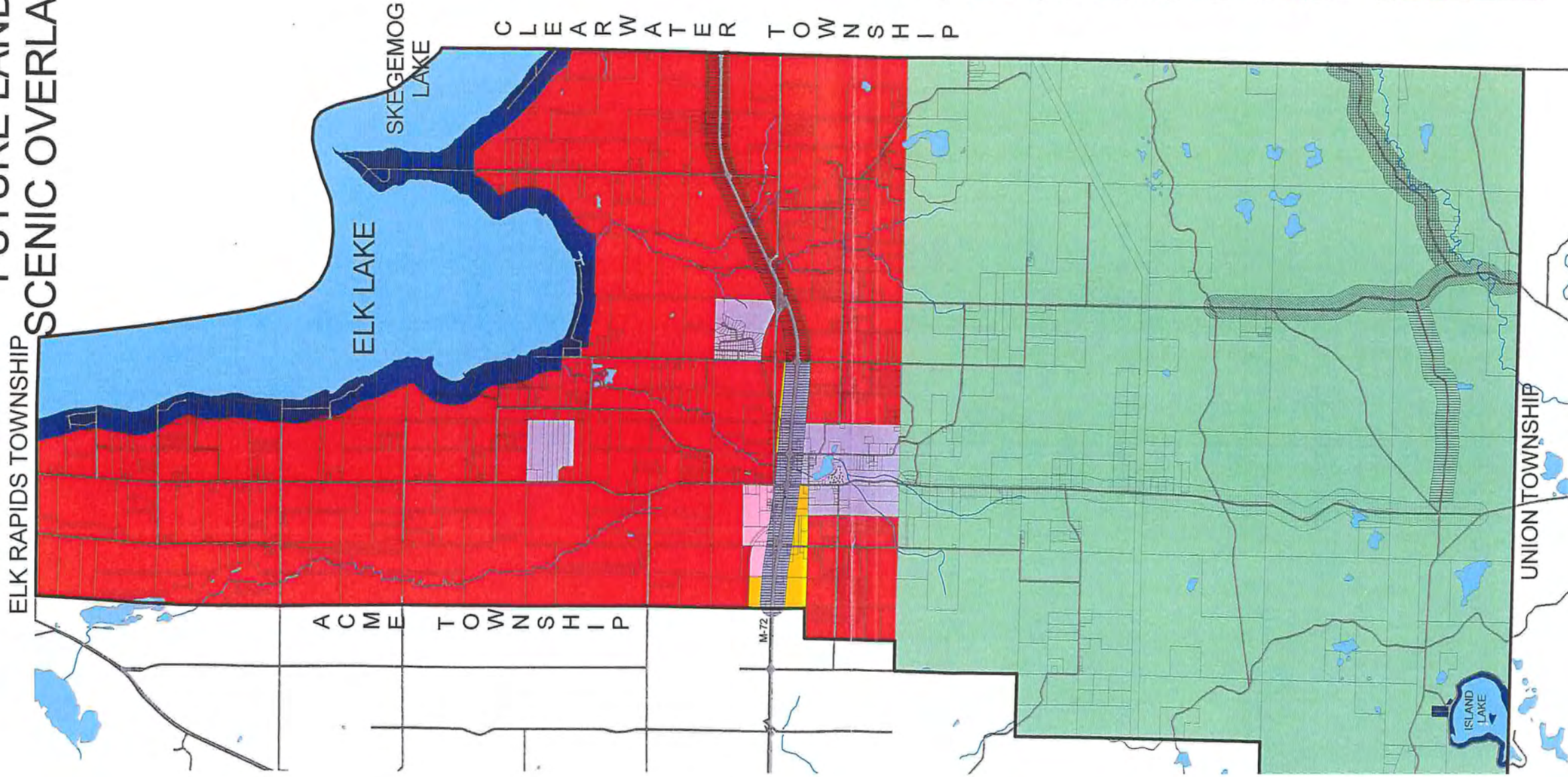


WHITEWATER TOWNSHIP

FUTURE LAND USE MAP SCENIC OVERLAY DISTRICTS

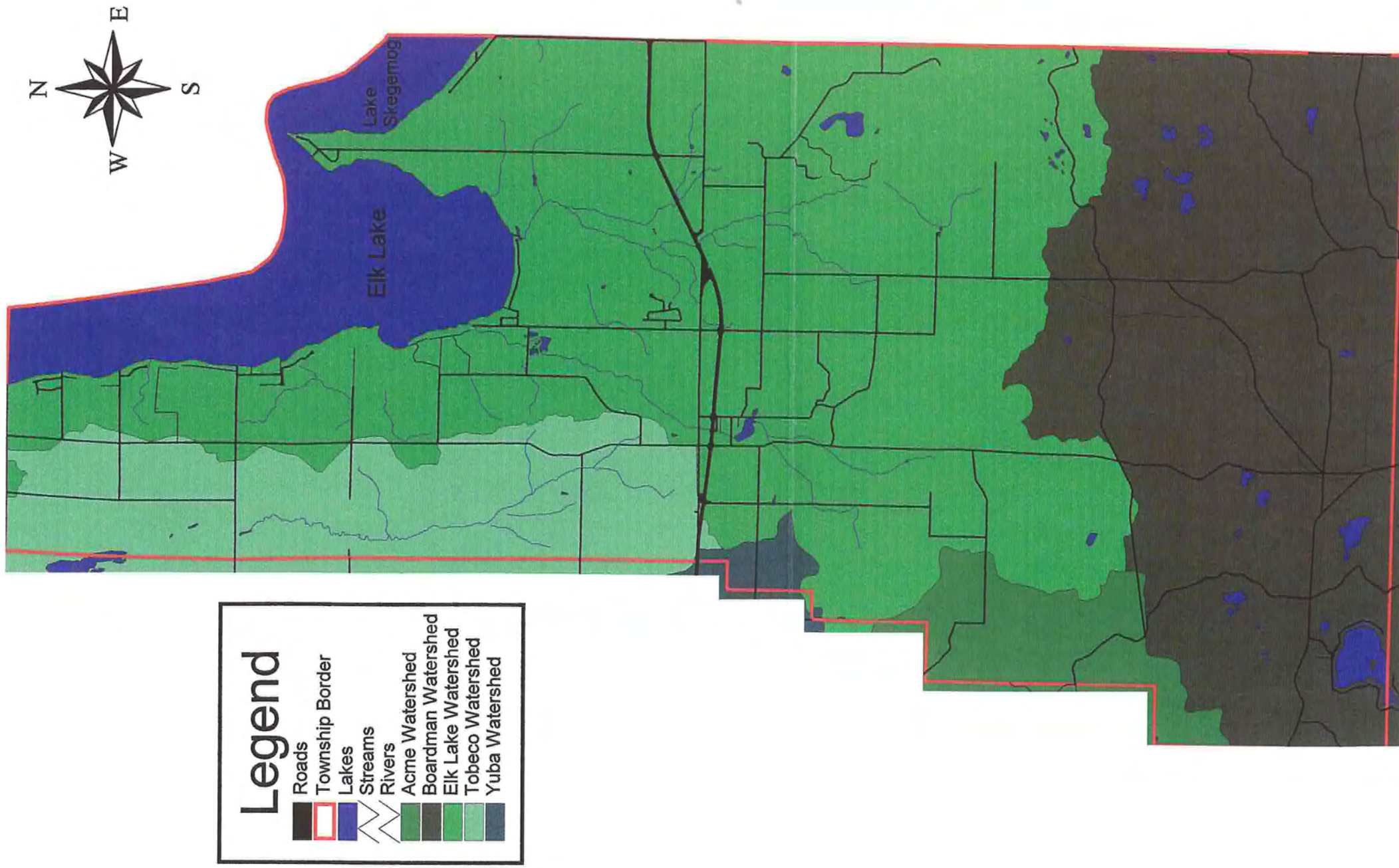


LEGEND

- Township Border
 - Lakes
 - Roads
 - Rivers
 - Parcel Boundaries
 - WILLIAMSBURG RD
 - Scenic Overlay
 - BROOMHEAD RD.
 - Scenic Overlay
 - GUERNSEY LAKE RD.
 - Scenic Overlay
 - DEADHORSE ROAD
 - Scenic Overlay
 - M-72
 - Scenic Overlay
 - M-72
 - C.O.P.U.D.
- Master Plan Districts
- Rural Agricultural
 - C/N
 - Lake Res.
 - Rural Forest
 - Suburban Res.
 - VILLAGE

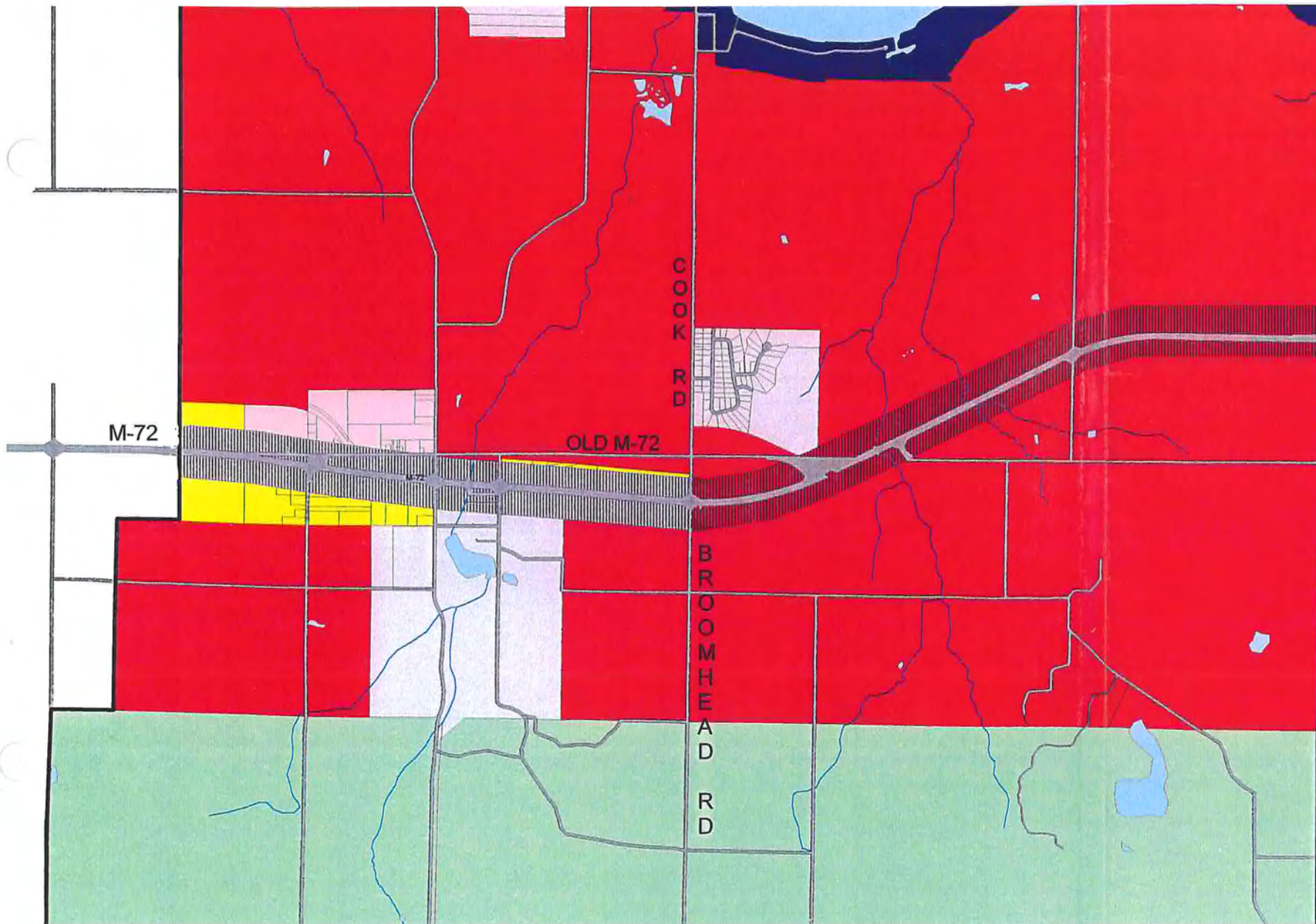
July 7, 1999 adopted

Whitewater Township Watersheds



WHITEWATER TOWNSHIP

FUTURE LAND USE MAP ENLARGEMENT OF M-72 OVERLAY DISTRICTS



LEGEND

- Township Border
- Lakes
- Roads
- Rivers
- M-72
- Scenic Overlay
- M-72
- C.O.P.U.D.

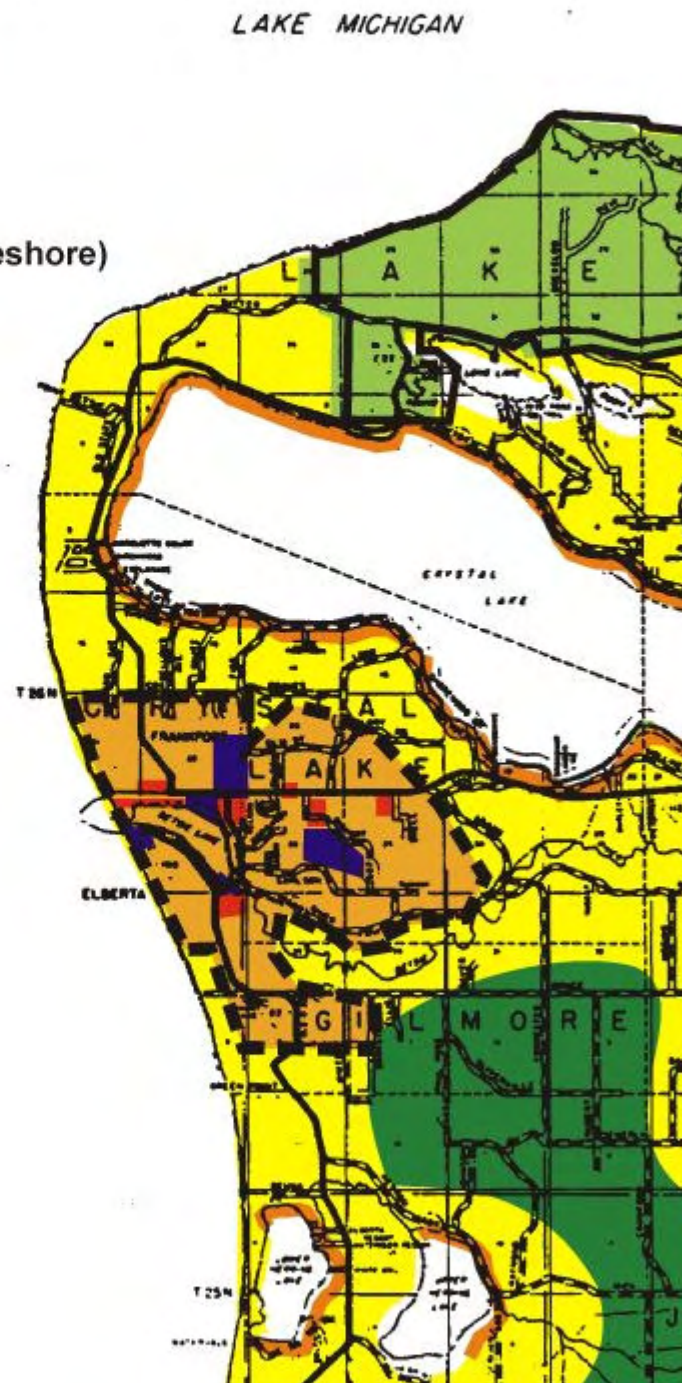
- Master Plan Districts
- Rural Agricultural
 - C/N
 - Lake Res.
 - Rural Forest
 - Suburban Res.
 - VILLAGE

**Antrim County, Michigan
Graphic Representaion of
Future Land Uses
Map 11-1**



Key

-  Farm Preservation
-  Rural Residential
-  Medium Density Residential
-  Recreation (Largely Forested)
-  Urban Services Boundaries
-  Industrial
-  Commercial
-  Public Lands
(State Forest and National Lakeshore)



↑ NORTH

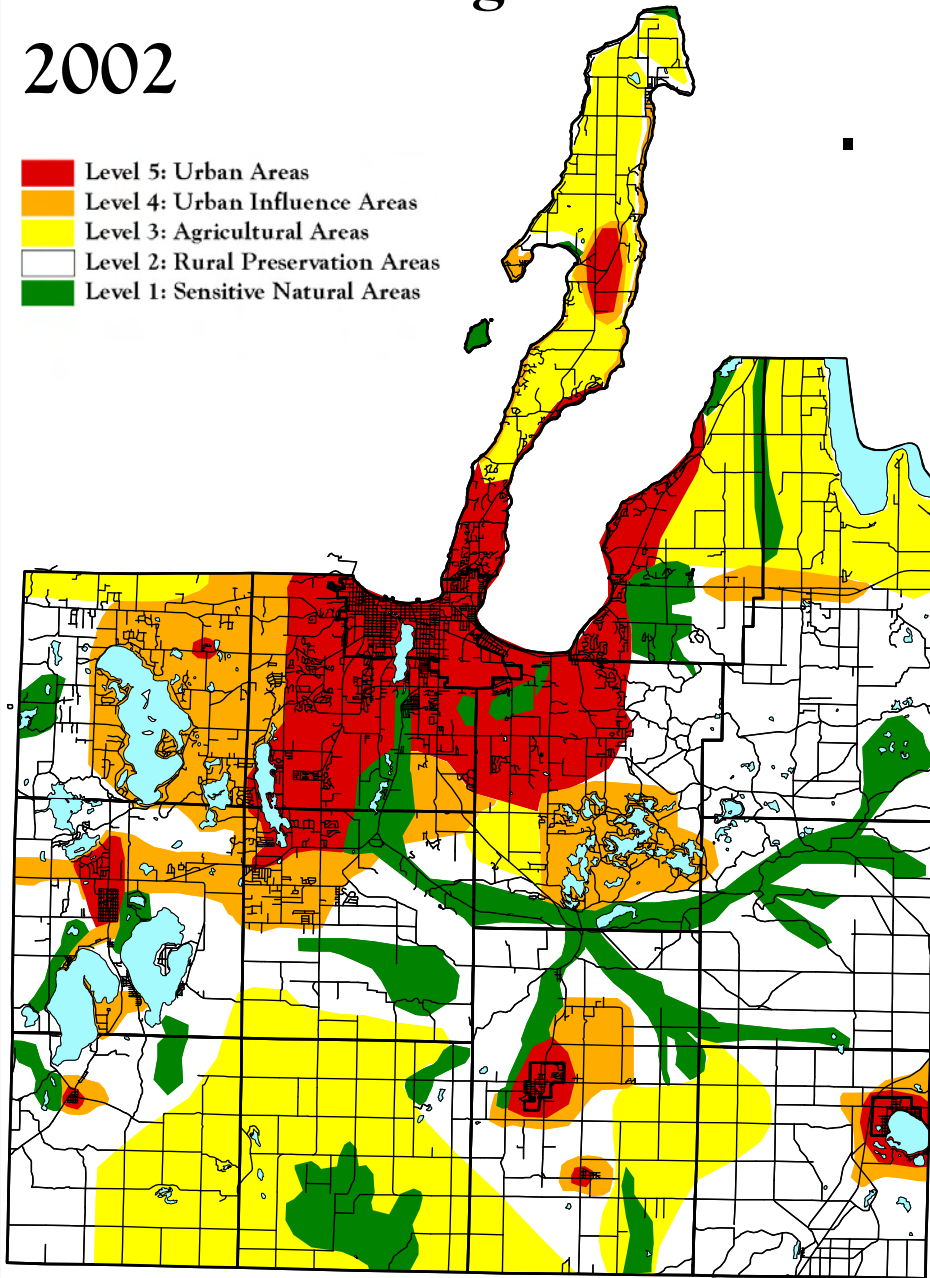
Map 12

Grand Traverse County

Growth Management Levels

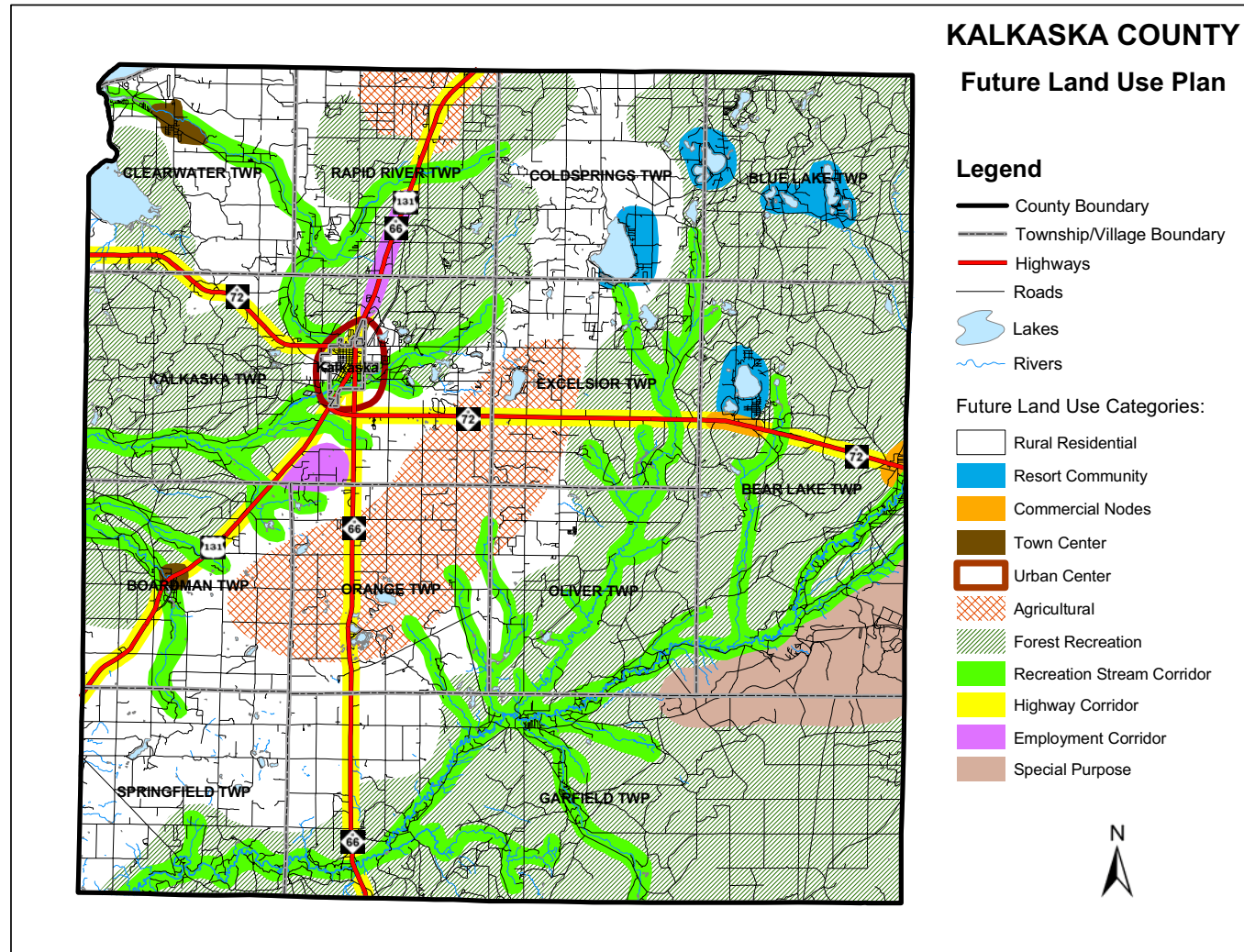
2002

- Level 5: Urban Areas
- Level 4: Urban Influence Areas
- Level 3: Agricultural Areas
- Level 2: Rural Preservation Areas
- Level 1: Sensitive Natural Areas

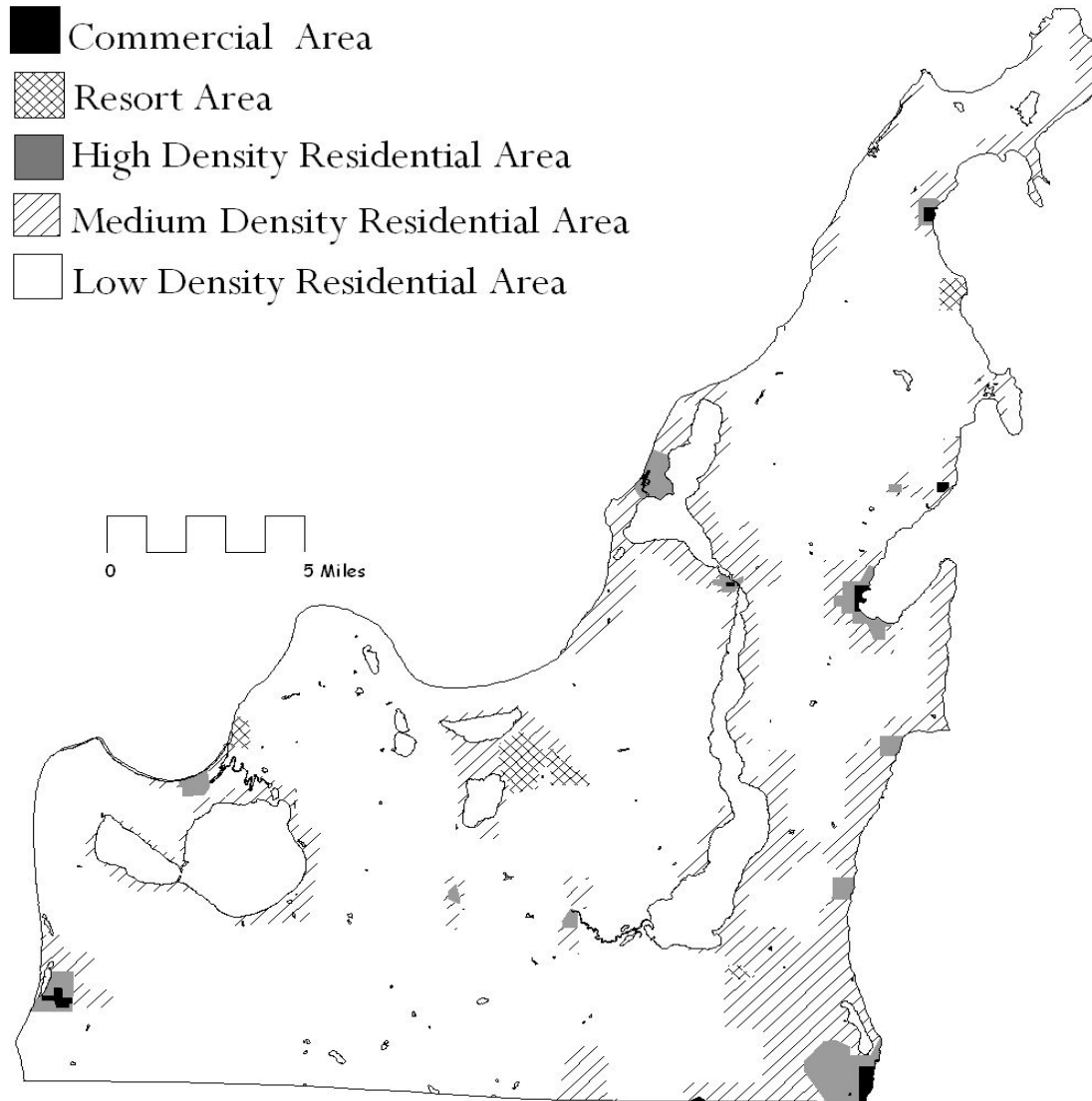


Williams & Works

HOW SHOULD WE LOOK IN 20 YEARS?



Map 5-2c
FUTURE LAND USE MAP
Urban Areas



MAP FOR REFERENCE PURPOSES ONLY
Data Compiled by the Steering Committee in 1994
Prepared by the Leelanau County Planning Department, Winter 2000



FUTURE LAND USE PLAN

Legend

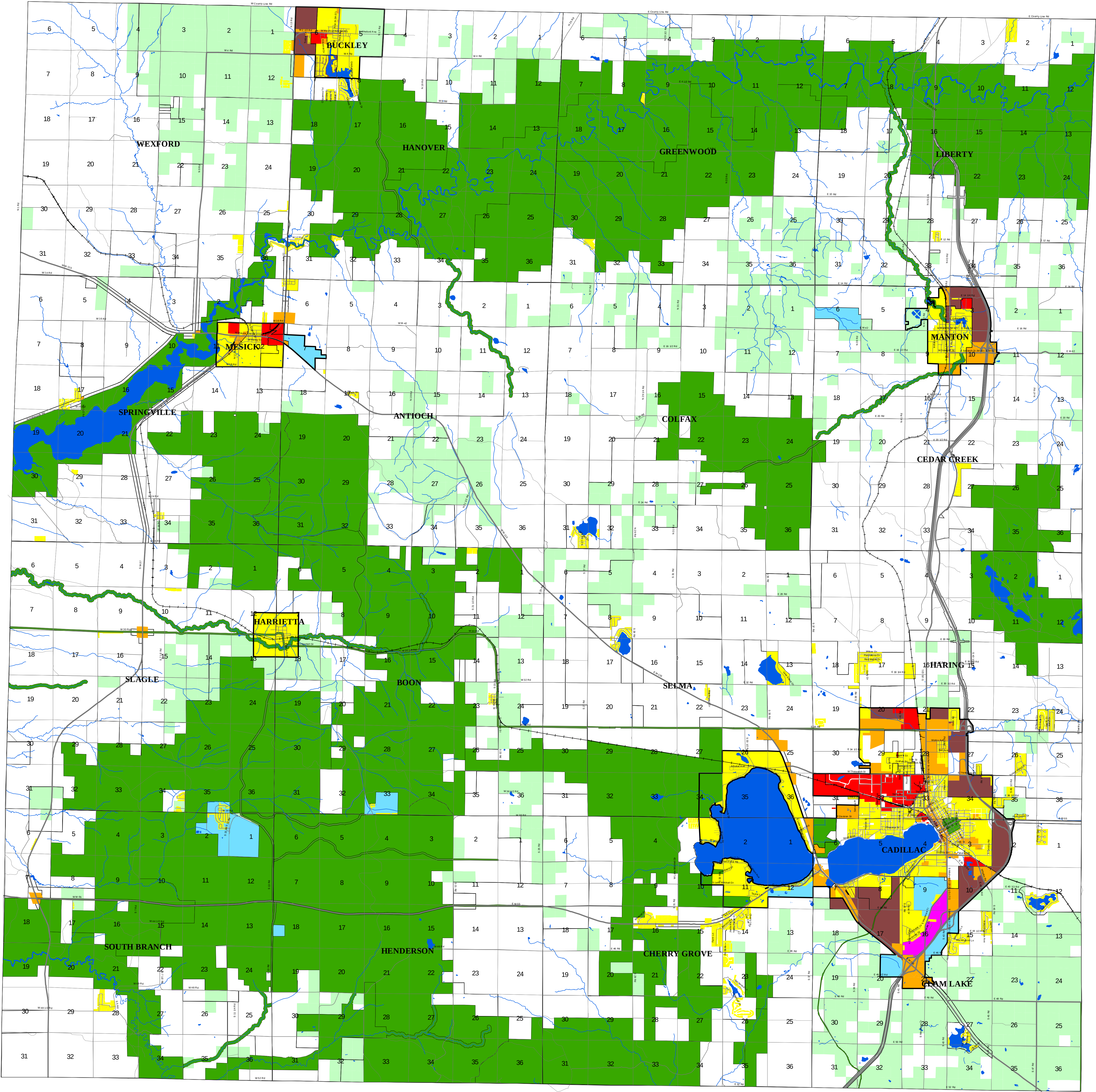
Urban Growth Areas

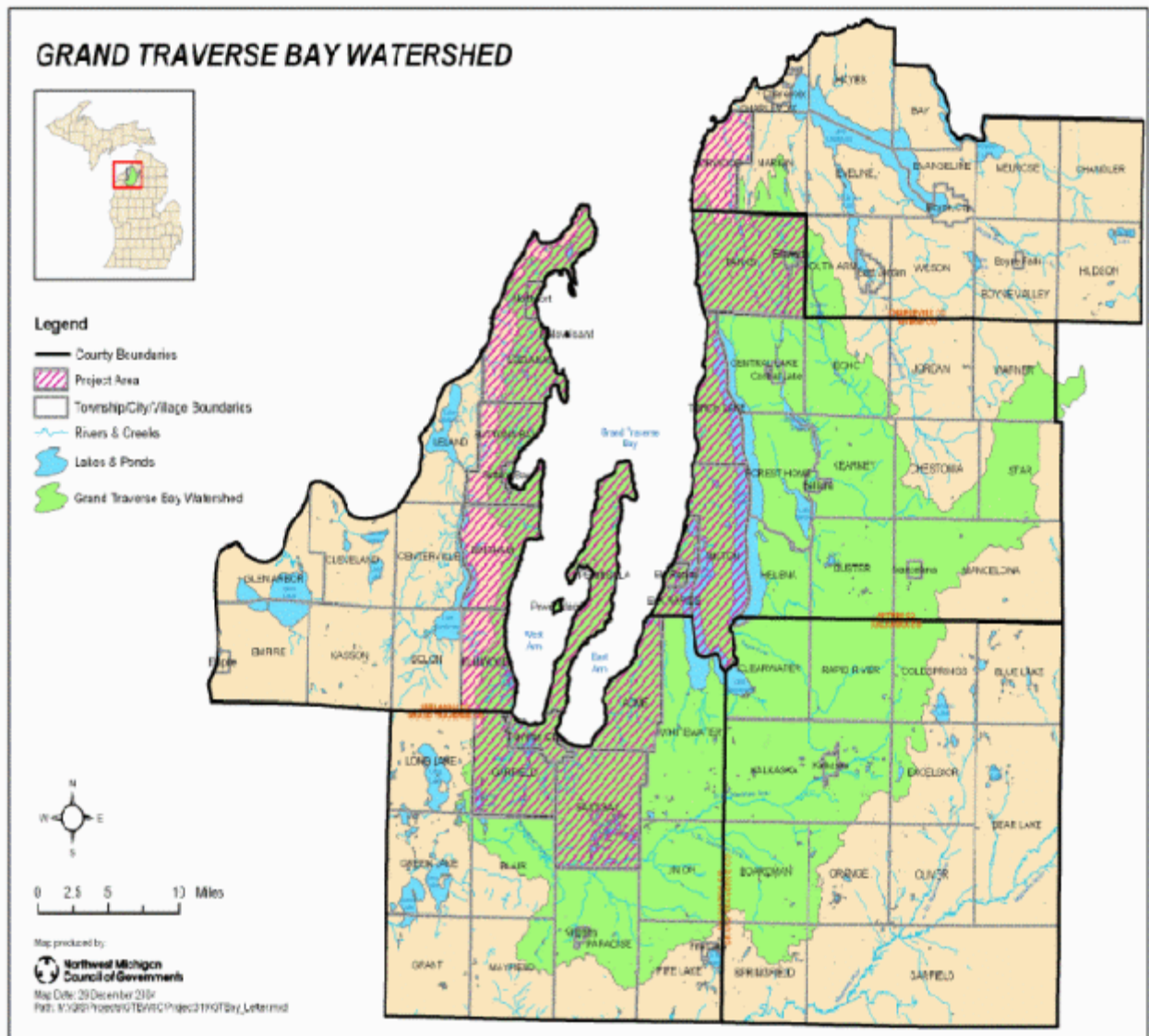
- Transportation
- All Season Route
 - Paved-Seasonal Restrictions
 - Gravel Roads
 - Seasonal Roads
 - Railroads

- Land Use Categories
- RESIDENTIAL
 - OFFICE SERVICE
 - RESORT
 - COMMERCIAL
 - INDUSTRIAL
 - TRANSITION
 - AGRICULTURAL-FOREST PRODUCTION
 - RURAL RESIDENTIAL
 - SPECIAL AND UNIQUE AREAS



0 3 6 Miles

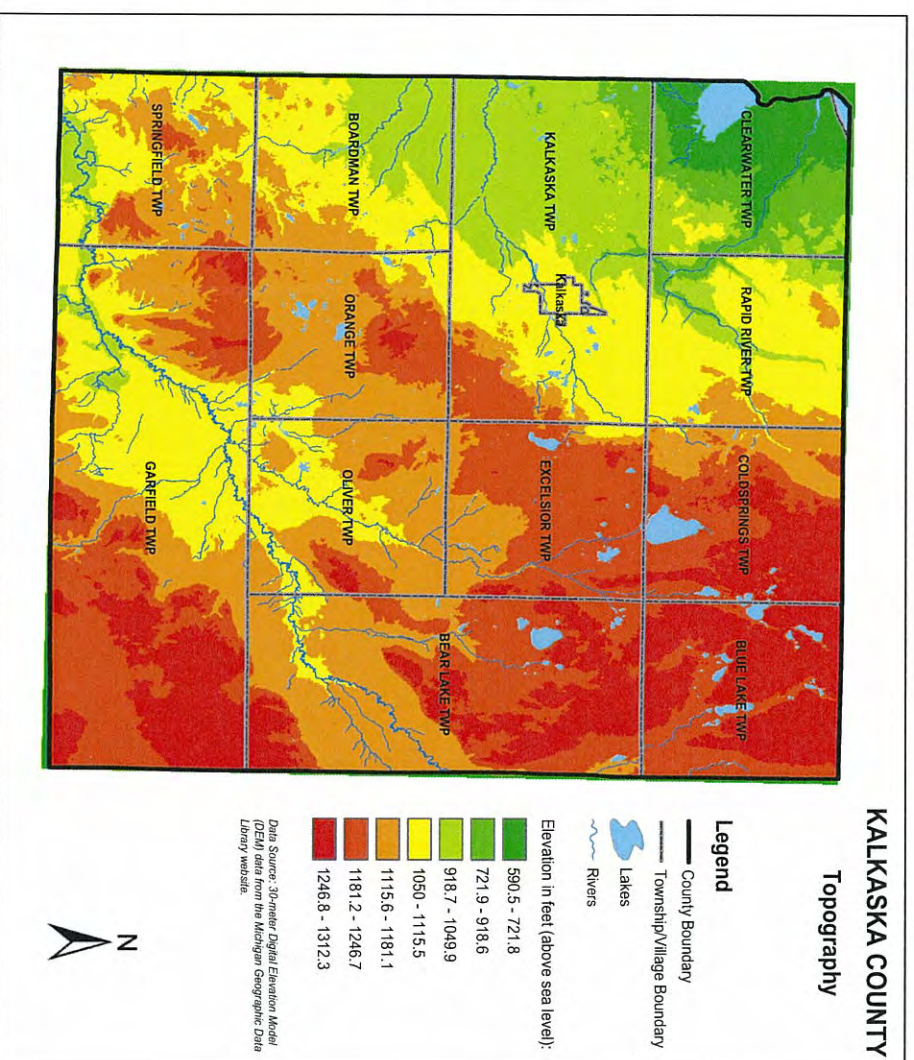




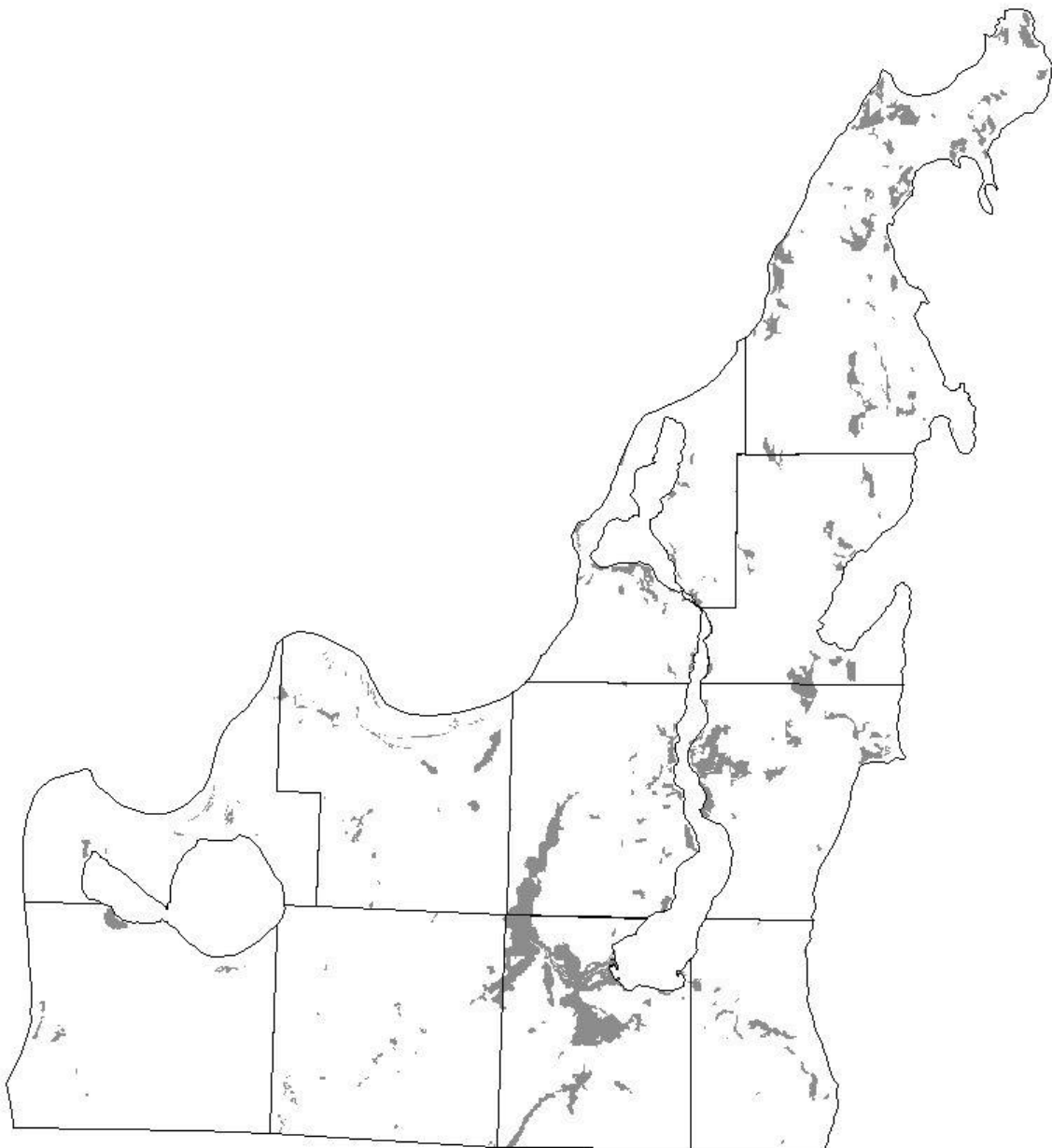
TOPOGRAPHY

(How is the land shaped?)

- Located over a geological formation known as the Salina-Niagaran Reef, Kalkaska County sits 7,000 feet above one of the most successful oil producing basins in the state.
- Kalkaska County is generally classified as hill-land, plains and upland plains. Level to gently rolling hills and slopes cover the mid-section of the County. Hills and ridges run through the east half and northwest section with elevations from 1,000 to 1,400 feet above sea level.
- A plateau divides the watershed in Kalkaska County from the Manistee River on the southeast and that of the Boardman and Rapid Rivers on the northwest.

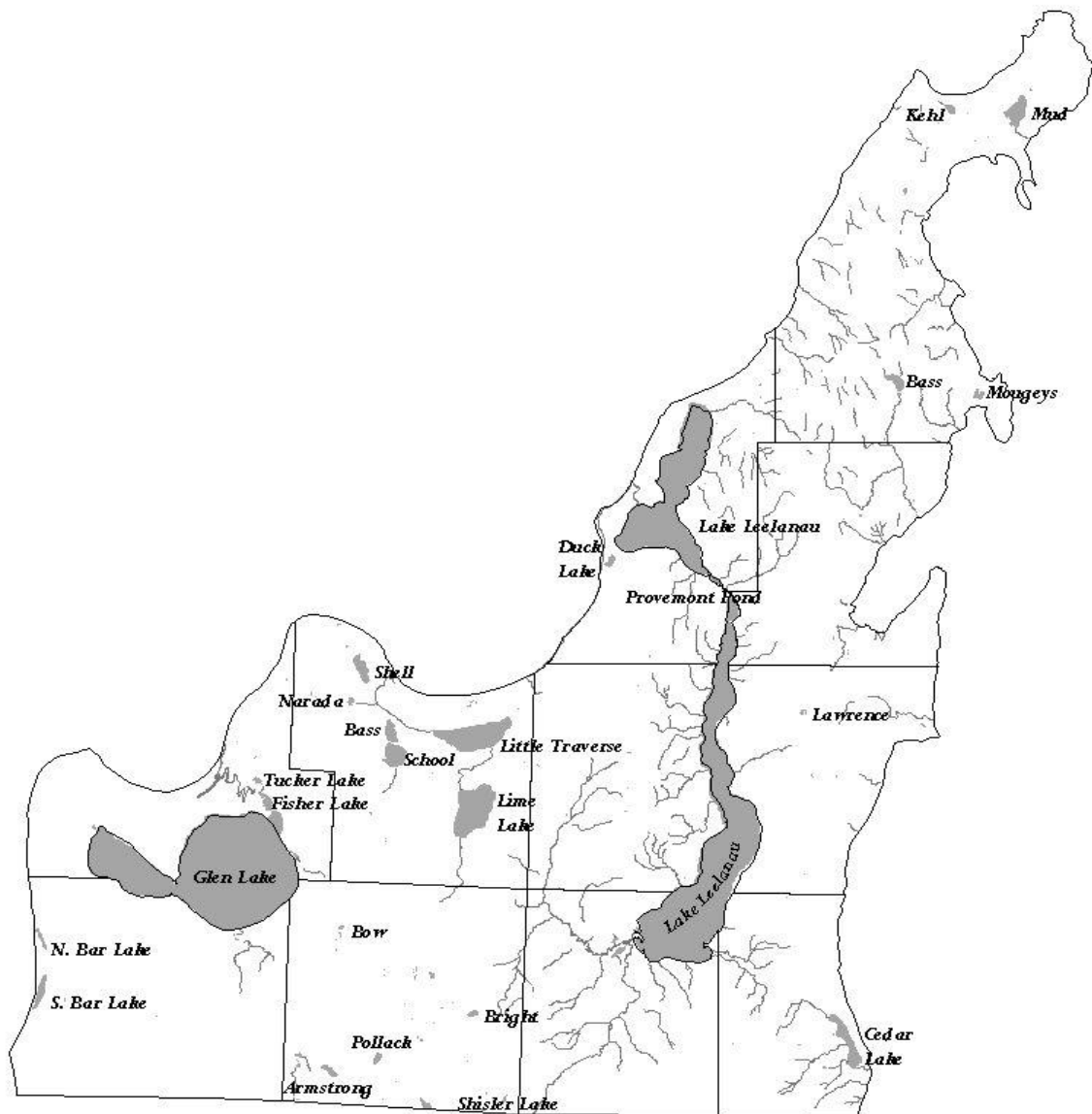


Leelanau County
WETLAND AREAS



Leelanau County

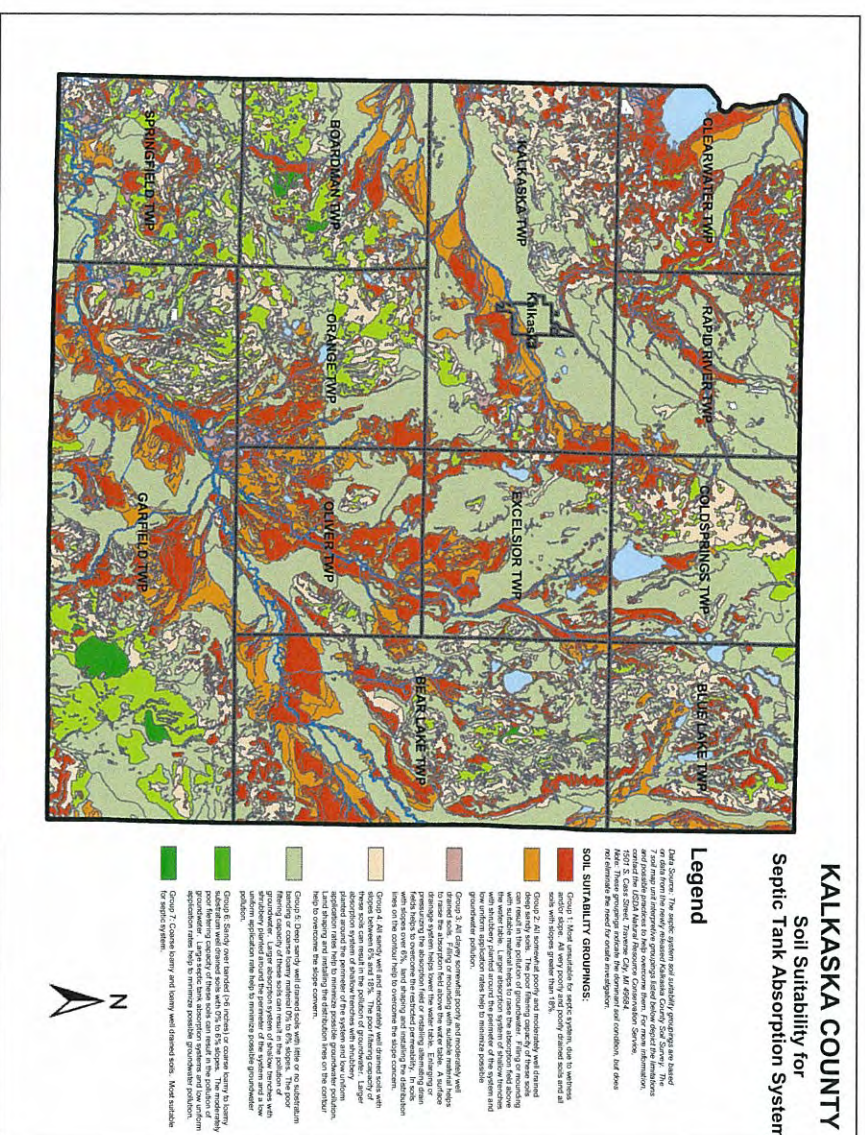
INLAND LAKES AND STREAMS



SOILS- #1

(How do they affect development?)

- To determine the nature and extent of future land uses in Kalkaska County, soil limitations become an important factor.
- Soil types determine the drainage conditions, erosion hazards, building suitability, plant fertility and the effectiveness of septic tank sewage disposal.
- Majority of the soils along the stream corridors and around the lakes are unsuitable for septic systems.
- The poor filtering capacity of Groups 4, 5, and 6 make them highly susceptible to groundwater pollution.

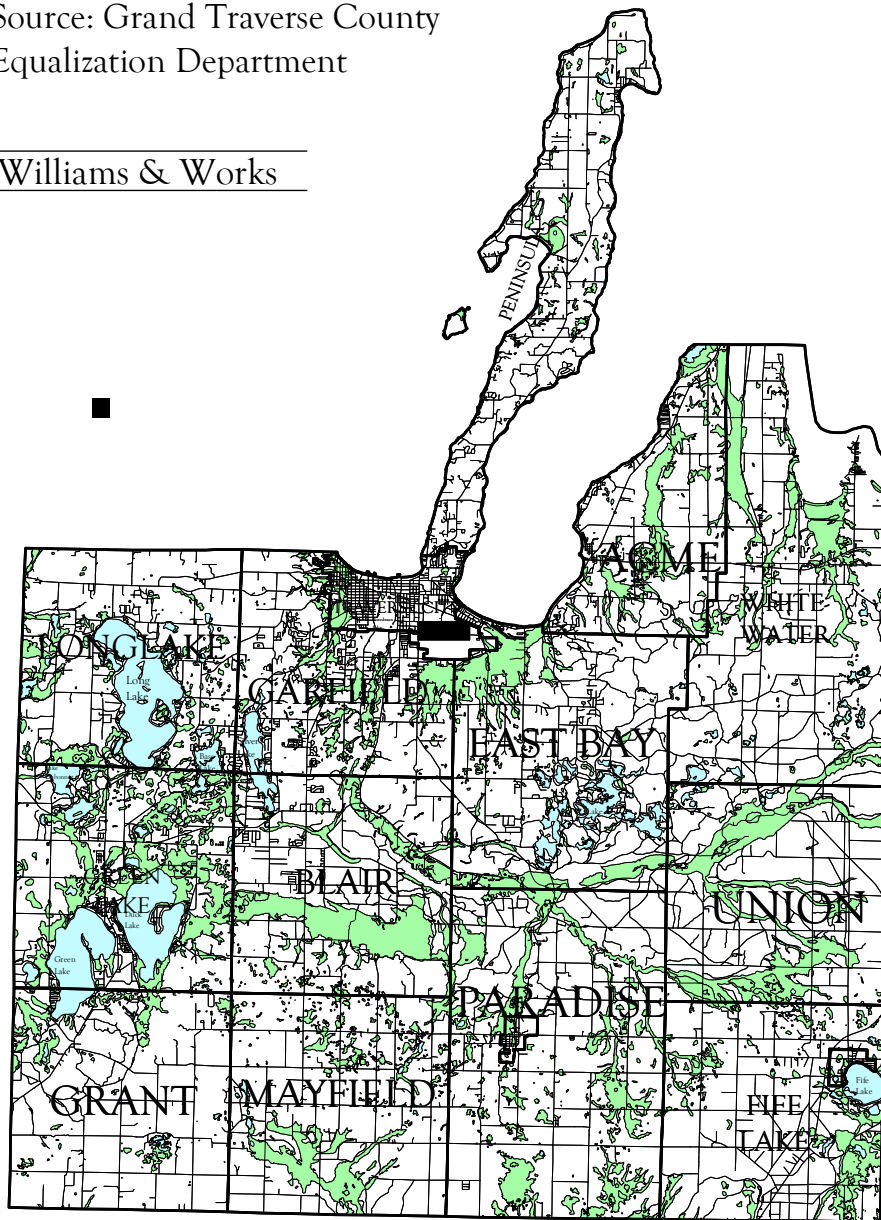


MAP 2 GRAND TRAVERSE COUNTY WETLANDS

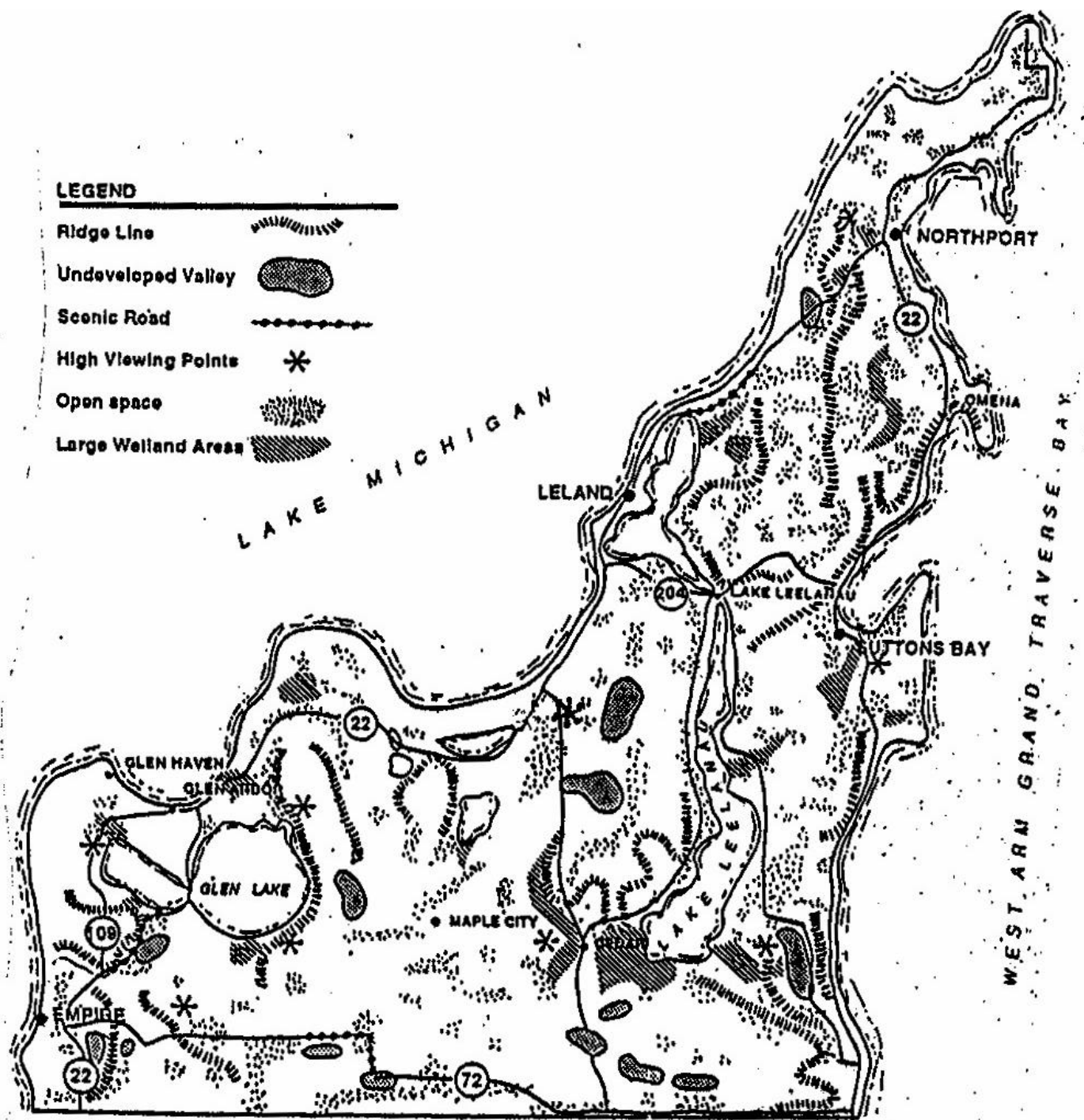
 Wetlands

Source: Grand Traverse County
Equalization Department

Williams & Works



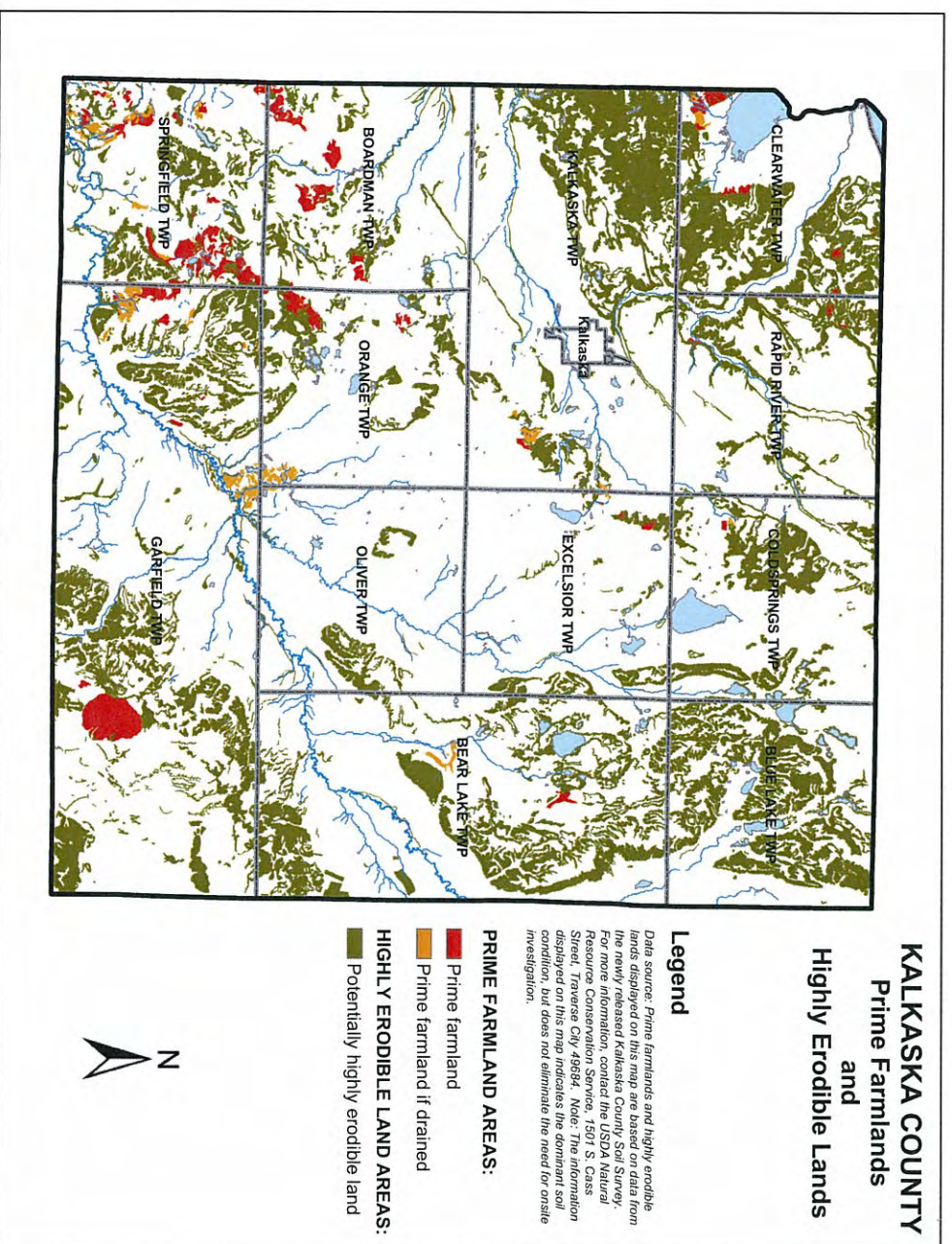
LANDFORMS AND OPEN SPACE



SOILS- #3

(How else do soils affect us?)

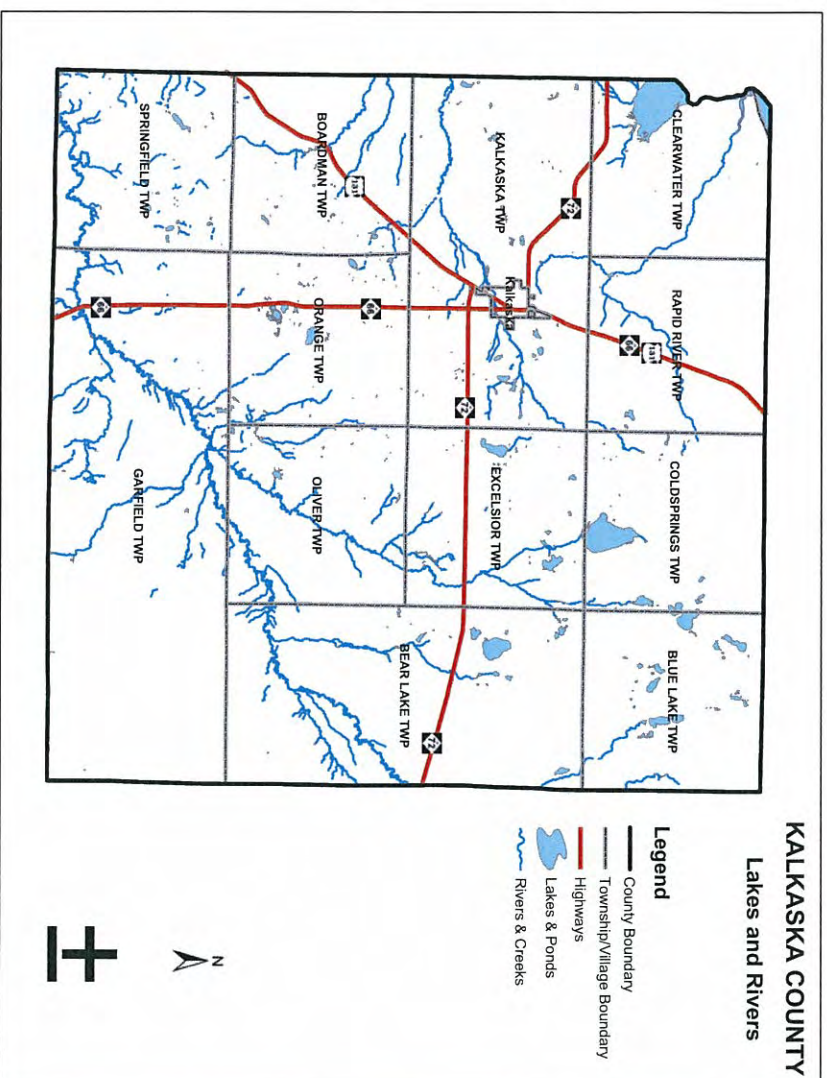
- There are 4,621 acres of prime farmland soil.
- There are 1,717 acres of prime farmland soil if drained.
- 68,193 acres of land are potential highly erodible.
- Current agricultural operations are not occurring in the locations that have been designated prime farmland.



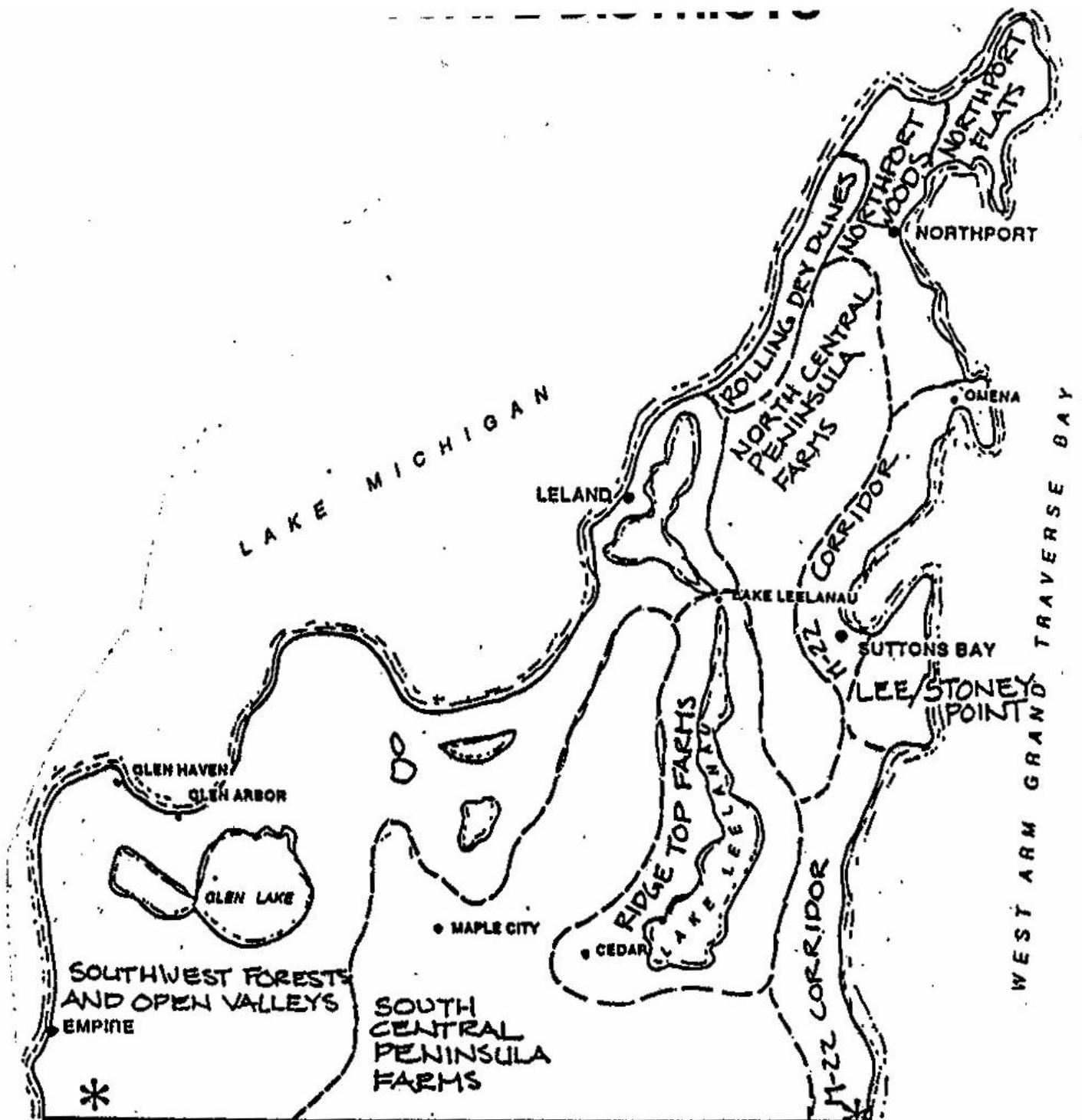
LAKES AND STREAMS

(What lakes and streams?)

- Kalkaska County is a prime recreational area within the State, as reflected in its over 273 miles of rivers and streams and more than 86 lakes.
- Totalling over 6,000 acres, or 2 percent of the County, several of the State's most recognizable rivers flow through its borders, including the Manistee, Boardman, Rapid, and Torch Rivers.
- Foremost among the lakes are Log, Bear, Starvation, Twin, Crawford, Manistee, and Torch. Highly popular with permanent and seasonal residents alike, much of the County's residential activity has occurred along their edges and borders.
- These areas are under heavy growth pressure as new homes are being built near these areas and/or seasonal homes become year-round homes. Therefore special attention to building placement and allowed uses is critical.



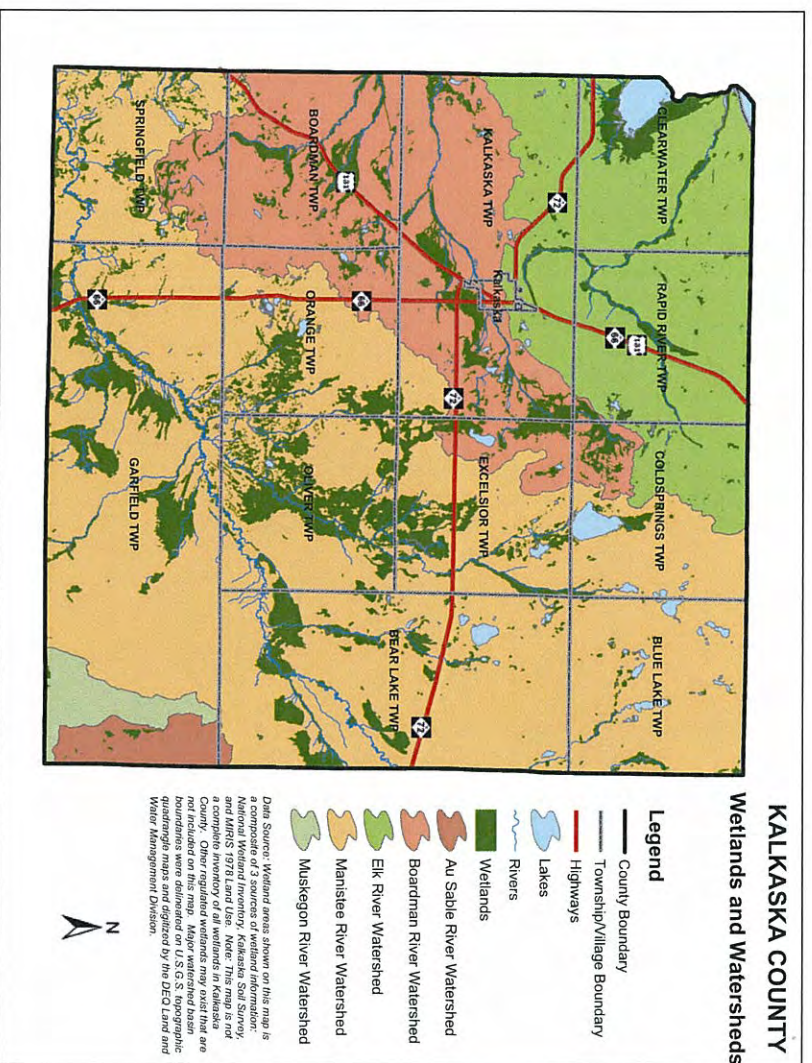
Leelanau County
LANDSCAPE DISTRICTS



WETLANDS AND WATERSHEDS

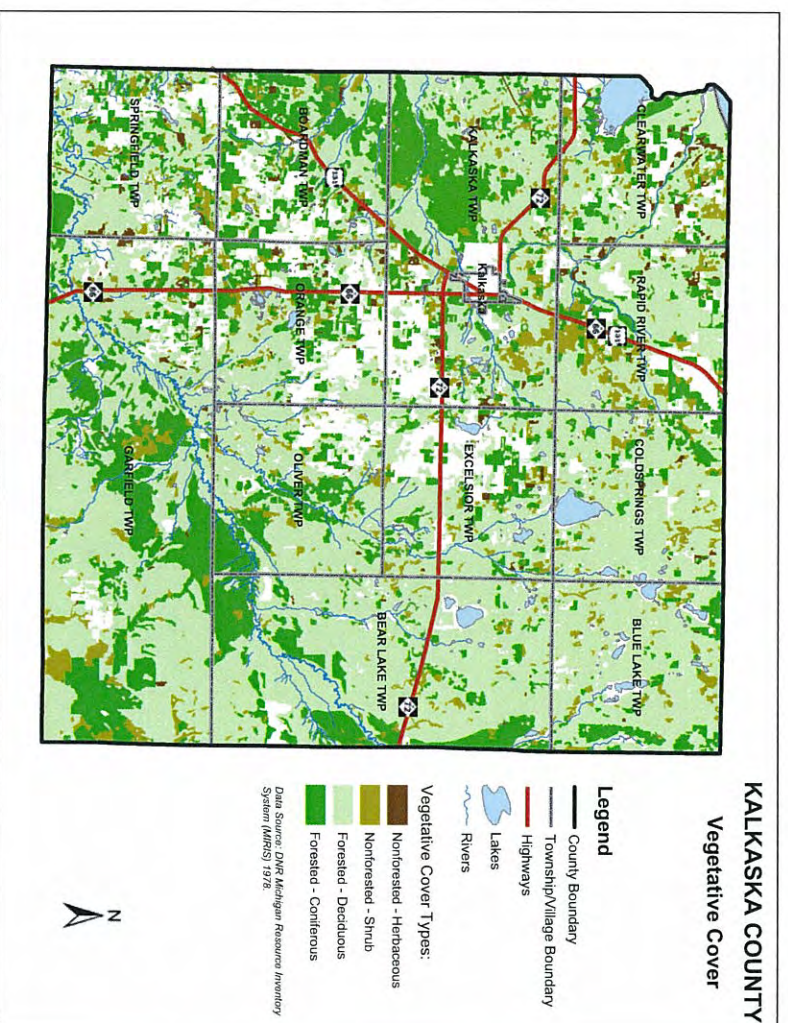
(Where are the wetlands?)

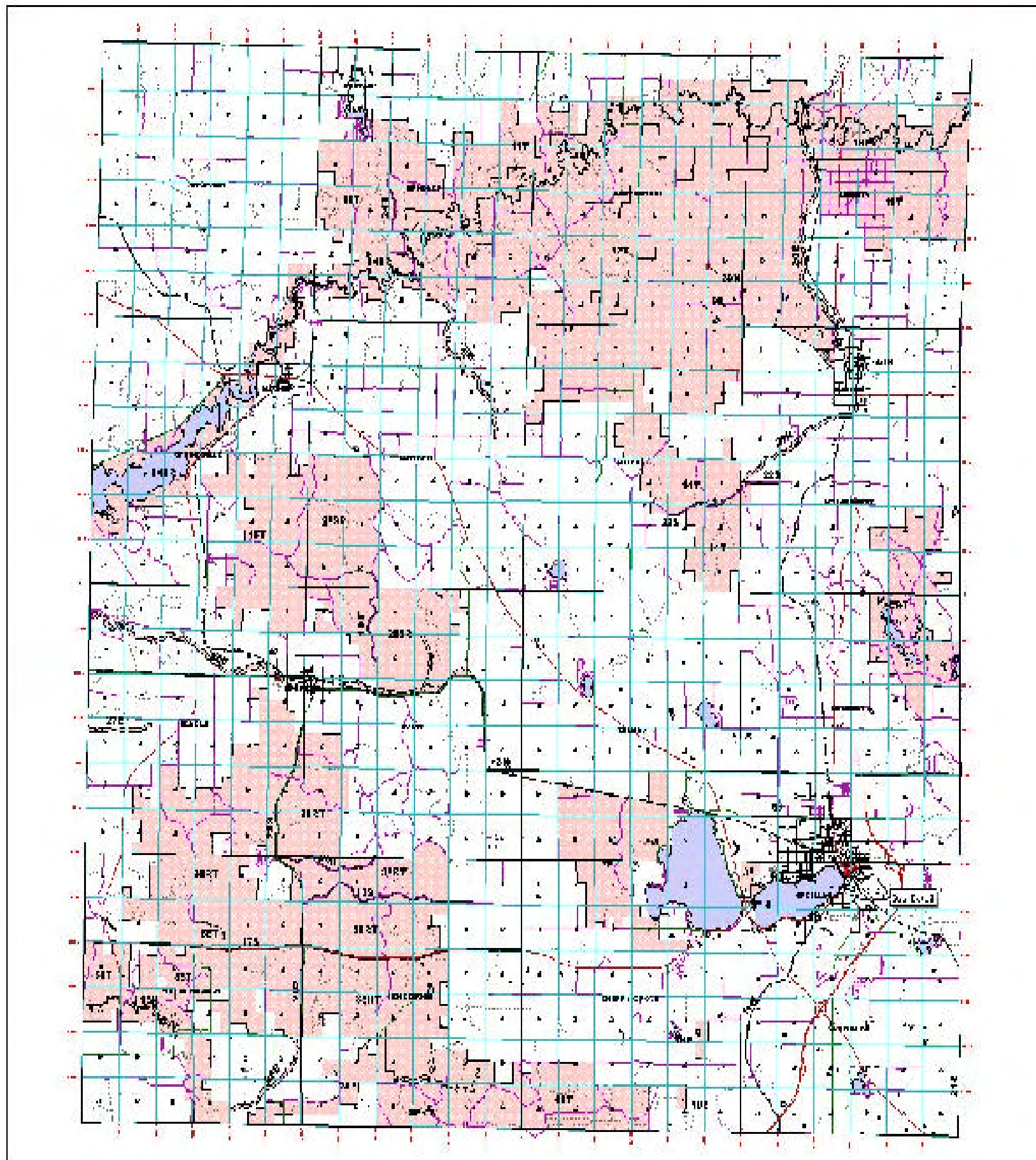
- Scattered throughout Kalkaska County are wetland areas which are important to the biological diversity of plant and animal species living there.
- There are nearly 7,000 acres of wetlands in the County providing a distinctive network of natural areas, most often following rivers and streams.
- The largest portion of wetlands are considered shrub, comprising more than 5,000 acres, followed by emergent wetlands, 1007 acres, flats with 711 acres and aquatic beds of 110 acres.
- Wetlands are natural lowland areas where excess runoff from rainfalls, rivers and other natural cycles, accumulate and provide habitat for many plants and animals, as well as for a wide-ranging migratory bird population.
- The largest wetland areas in the County are found in Garfield Township, within the State forest system.



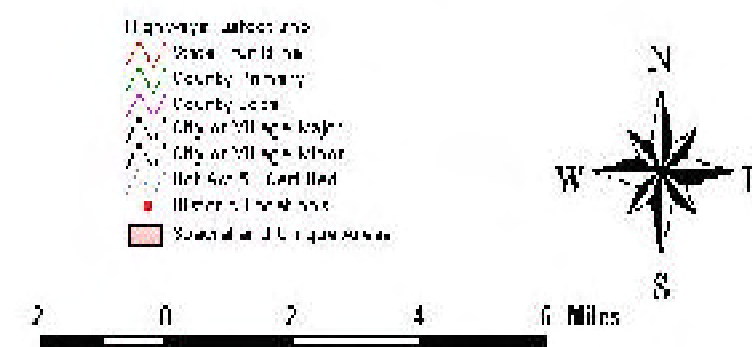
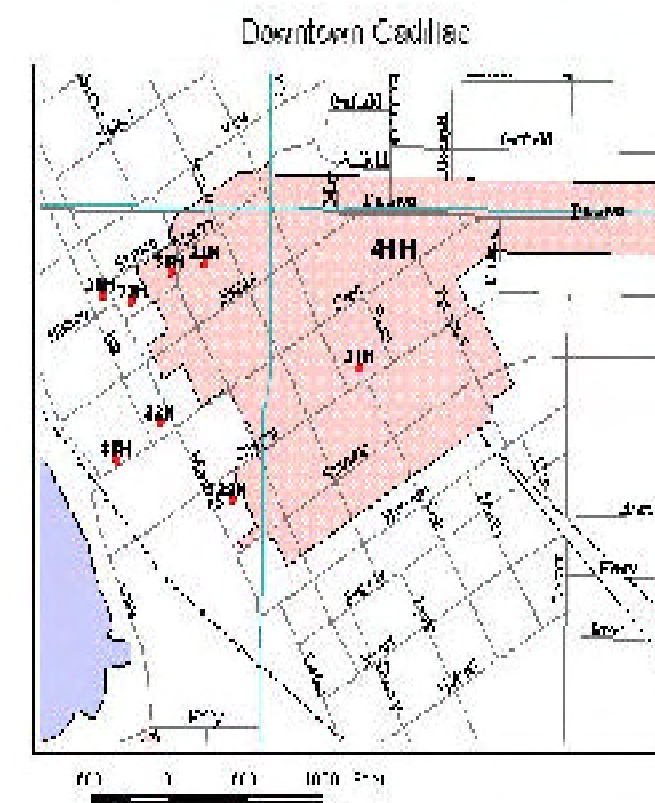
VEGETATIVE COVER (What is the vegetation?)

- Forestland in Kalkaska County is bountiful.
- Originally, the County was covered with heavy timber, primarily maple. Logging in the late nineteenth century cleared most of the timberland, leaving infertile soils and the landscape bare from clear-cutting.
- Much of the forest-covered land is protected by the State as part of the State Forest system.
- 82,513 acres are considered to be nonforested.
- 204,863 acres are forested with deciduous trees and shrubs.
- 77,729 acres is forested with coniferous trees and shrubs.





Special and Unique Areas



Wexford County Special and Unique Areas