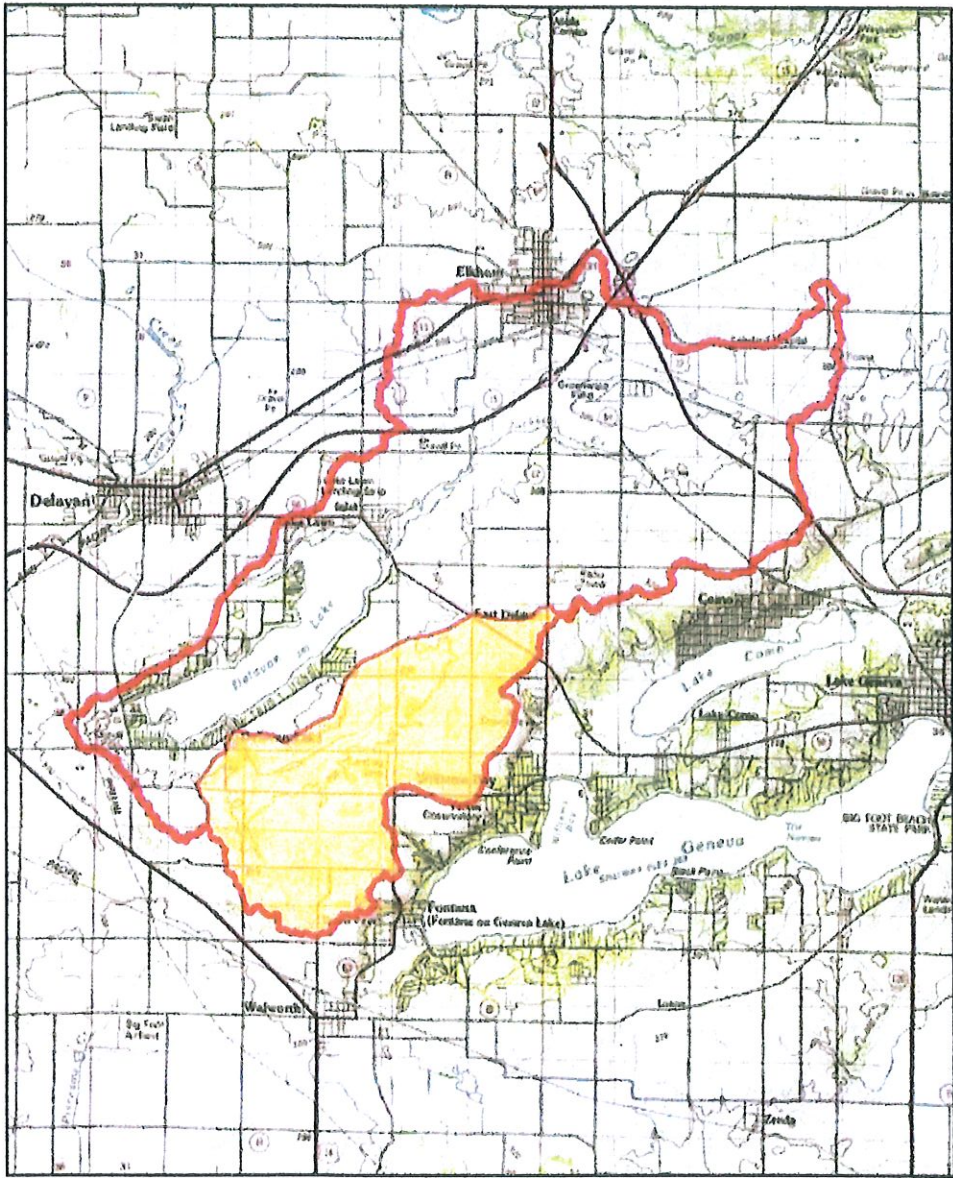


An Evaluation of Brown's Channel Tributary and its Watershed



Prepared for the Town of Delavan

by

HDR Engineering, Inc.

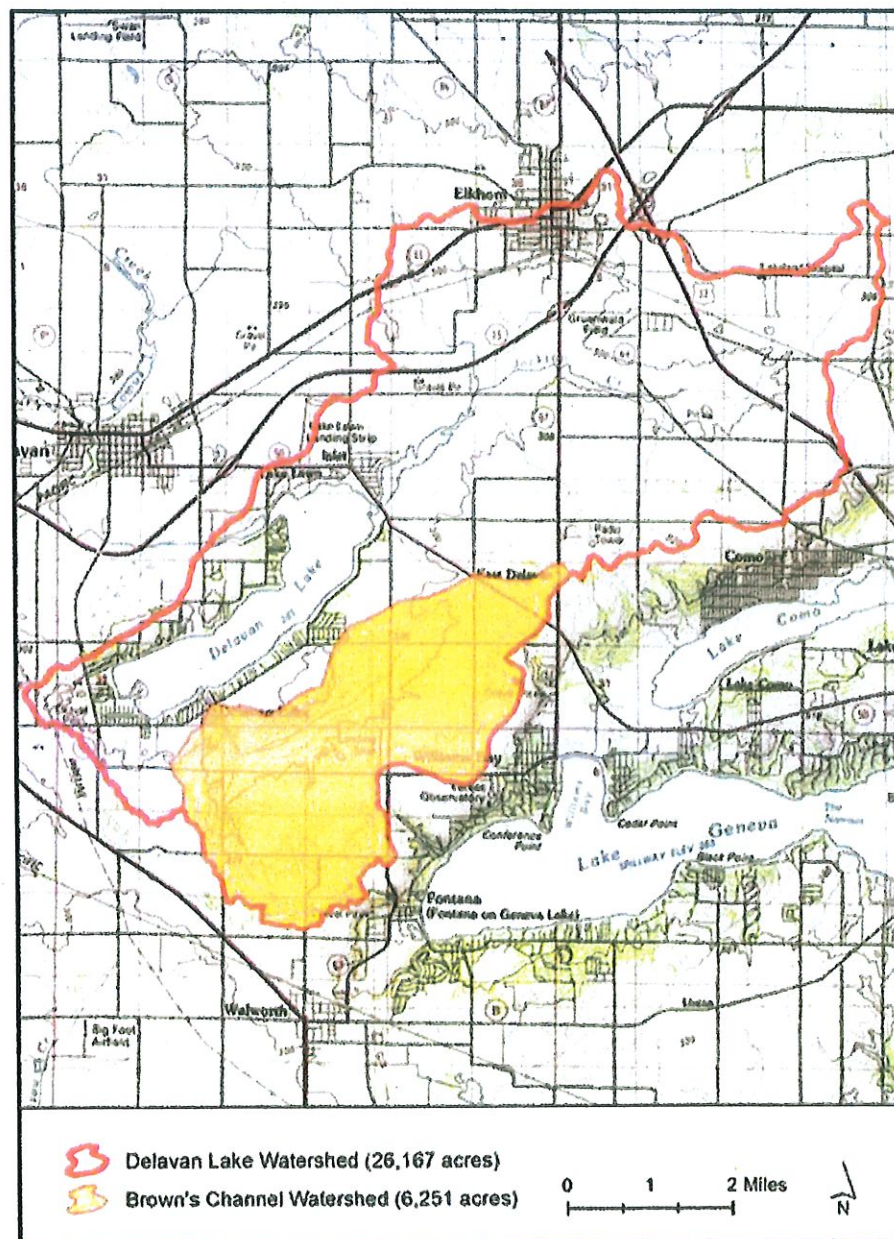
5201 South 6th St. Rd., Springfield, IL 62703



Introduction

The Brown's Channel Sediment Assessment completed by HDR in December 2011 documented that measurable sedimentation had re-occurred in the upper 400 feet of the channel after the Brown's Channel Dredging Project was successfully completed in 2007. This relatively rapid sediment deposition likely occurred as a result of erosion and runoff from the significant precipitation events that occurred in 2008 and 2009. Recent Delavan Lake watershed monitoring efforts have indicated that high concentrations of suspended sediment continue to enter Brown's Channel via the South Shore Drive road culvert as a result of significant rainfall events that have occurred during the spring and summer of 2013. Therefore, the Town of Delavan requested that an evaluation of the Brown's Channel Tributary and its Watershed be completed to preliminarily identify potential sources of sediment and to make recommendations for future action with regard to reducing the rate of sedimentation in Brown's Channel prior to undertaking any additional dredging efforts.

Figure 1. Watershed Location Map



Physical Setting and Watershed Characteristics

Brown's Channel and its tributary is located at the southeast corner of Delavan Lake and has a watershed drainage area of approximately 6,251 acres, which approximately 23.9 percent of the entire 26,617 acre Delavan Lake Watershed (see Figure 1). The average annual rainfall amount for the Delavan area is listed as being approximately 35.0 inches (weather.com lists average of 34.53"). The land use within the watershed is primarily agricultural with a large established wetland area located within the north central portion of the watershed. Soils within the watershed consist primarily of the Miami-McHenry Association, which are well drained. The topography is gently sloping from a northeast to southwesterly direction and drains through the long, linear interior wetland located near the lower end of the basin that intercepts most of the surface runoff towards the lake. This approximately two mile long by quarter mile wide wetland is ponded at the lower end and flows through an existing culvert pipe and road crossing that also functions as an impounding berm. The existing ponded area then discharges downstream into a relatively gently sloping vegetated floodplain through a stable meandering stream channel prior to entering the lake at Brown's Channel. The southern section of the watershed consists of glacial end moraine material with a rolling to hummocky surface that includes several noncontributing areas that are internally drained and do not generally contribute to surface runoff (USGS, 1988).

These noncontributing areas account for approximately 1,490 acres or 23 percent of the Brown's Channel Watershed and effectively reduce the total amount of runoff relative to the total watershed area. Observations made during the USGS monitoring effort completed during 1984 and 1985 indicated that peak flows and sediment loadings from the Brown's Channel Watershed (referred to as Delavan Lake Tributary 2 in USGS Report) were lower than a comparable sized Jackson Creek watershed area. Increased evapotranspiration from the wetlands noted above combined with the noncontributing areas of the watershed likely contributed to the reduced flow conditions observed during the 1984 and 1985 monitoring years, which were slightly less than to slightly above normal annual rainfall amounts (USGS, 1998).

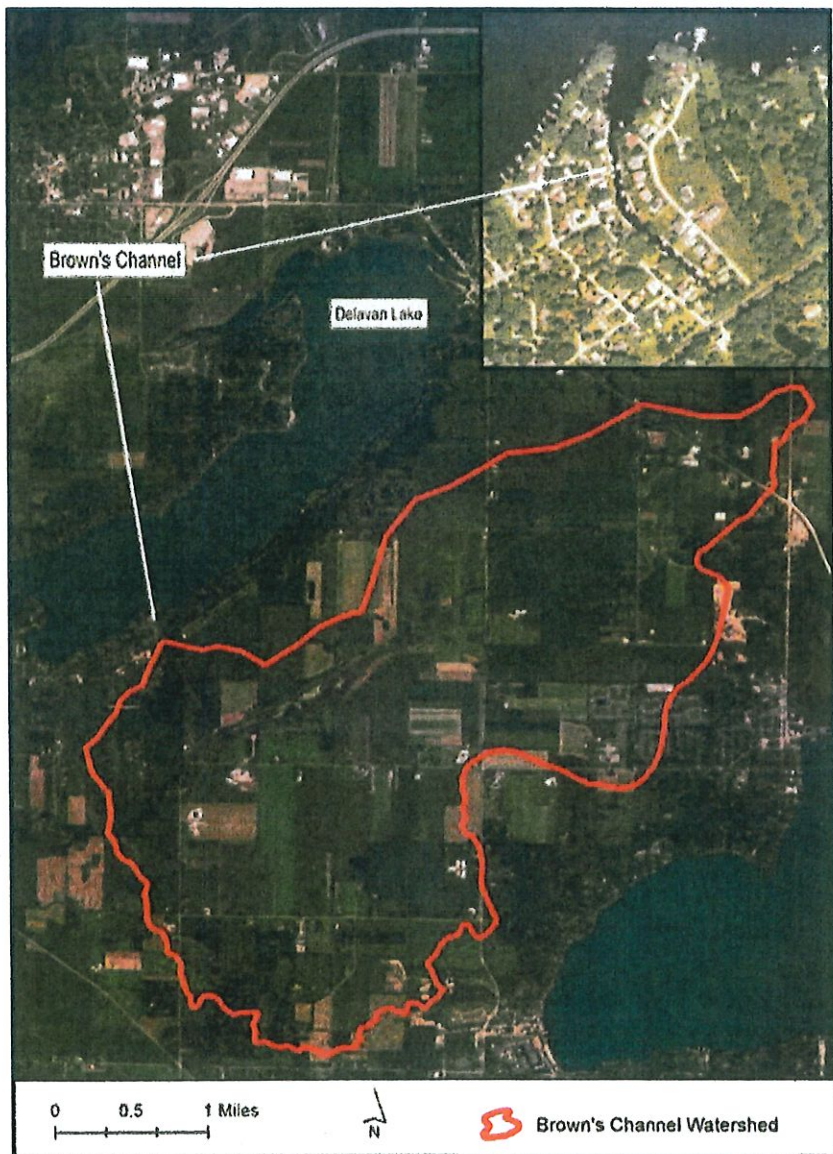
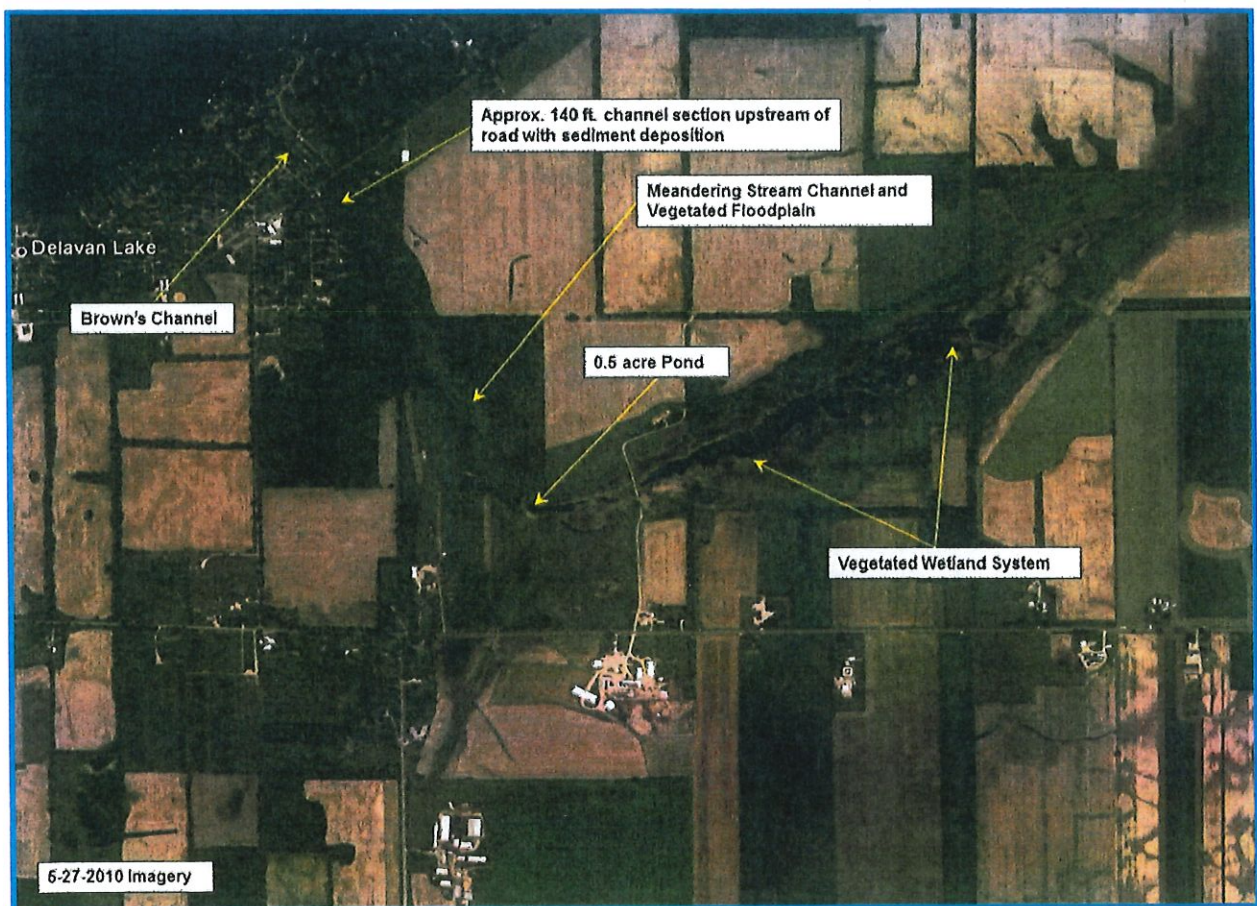


Figure 2. Brown's Channel Watershed Map

Field Evaluation and Data Collection

A site visit was completed on June 6, 2013 to evaluate selected portions of the Brown's Channel Tributary and its watershed for the purpose of determining sources of sediment loadings to Brown's Channel (see Figure 2). The specific locations targeted for the site visit included: 1) a follow-up evaluation of the upper end of Brown's Channel located within 400 feet of the road to observe differences, if any, in the sediment elevations measured by HDR in December, 2011; 2) an evaluation of the existing weir and stream channel located directly upstream of South Shore Drive to evaluate the feasibility of removing sediment and debris to prevent future re-mobilization and transport; 3) walking into a portion of the wetland system located at the lower end of the watershed to evaluate the existing north flowing drainage ditch and a portion of the existing pond and the meandering stream system immediately downstream of the ponded area; and 4) a visual survey of other road accessible areas of the watershed. Available aerial photographs and GIS mapping data were utilized during the field evaluation for reconnaissance and feature recognition (see figure below).

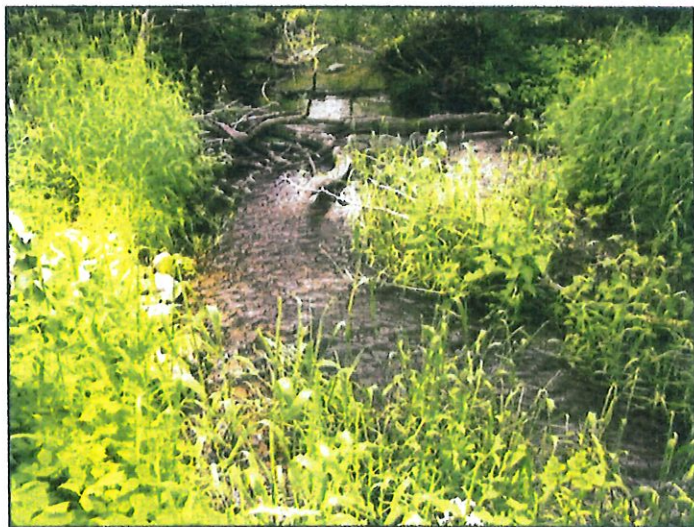
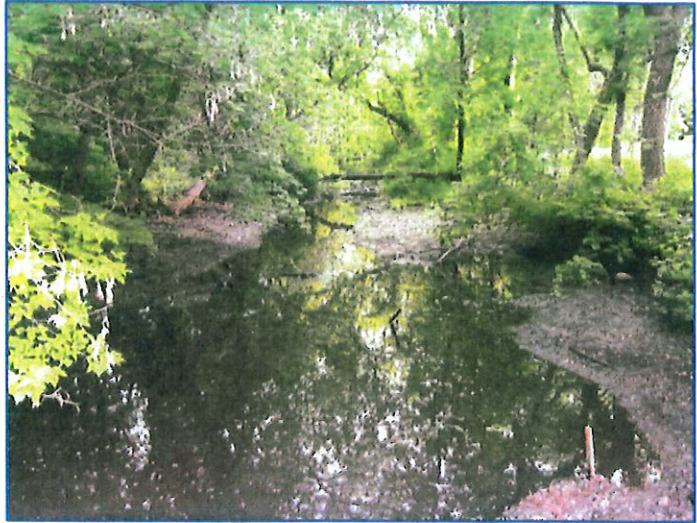


Field observations and selective soundings within the upper end of Brown's Channel confirmed that significant sediment deposition was present. However, conditions were similar to those observed during the December 2011 survey that documented significant sediment deposition in the upper 400 feet of the channel closest to the road culvert. This deposition likely occurred after dredging was completed in 2007 during the significant storm events of 2008 and 2009 that produced higher than normal rainfall amounts and subsequent runoff. It should be noted that 2012 was an extremely dry year with much lower than normal precipitation and 2013 has thus far been well above normal for precipitation and several significant storm events have occurred.

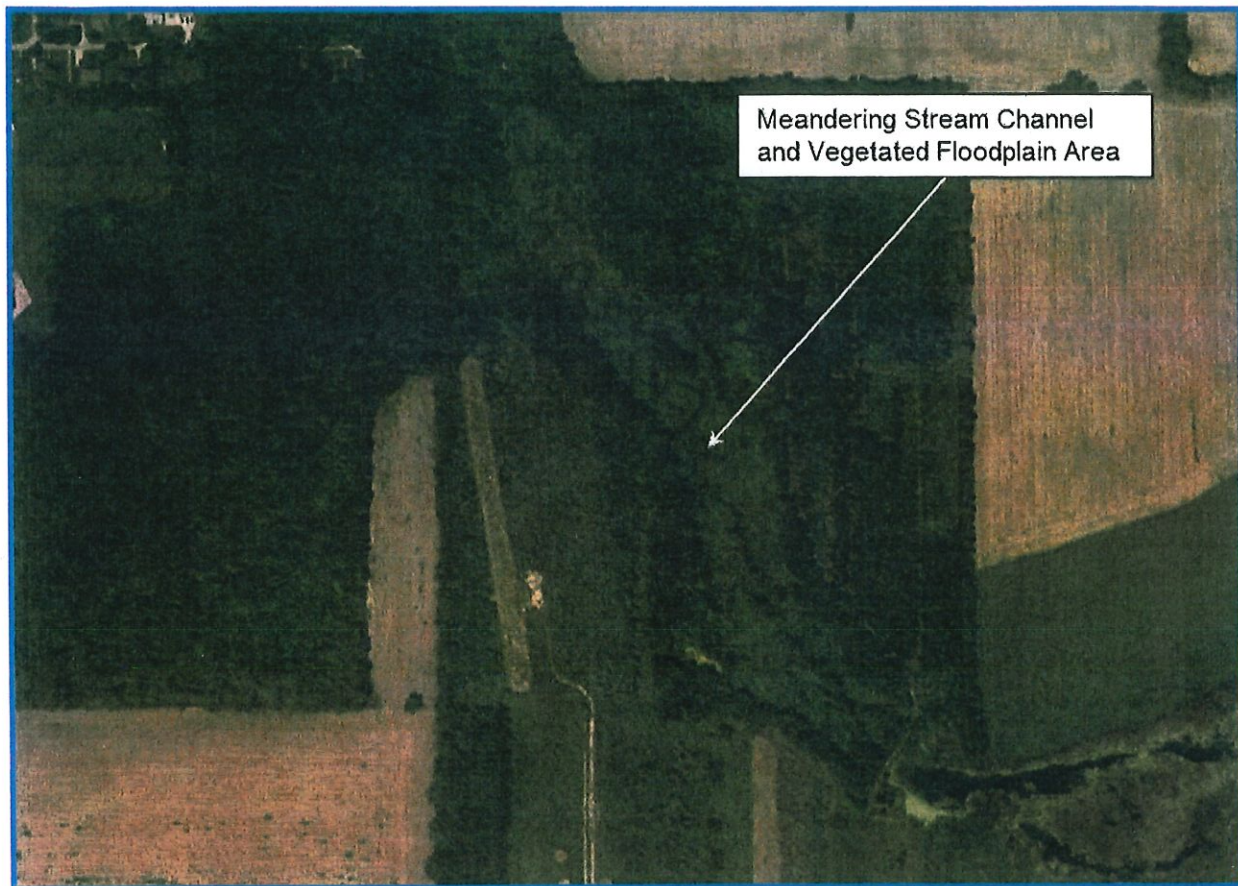
The section of stream channel located upstream of the South Shore Drive culvert was evaluated and the observed conditions were documented with photographs and sediment measurements. Beginning at the concrete weir located just upstream of the road, it was observed the thickness of the soft sediment ranged from 1.5 to 3.0 feet throughout the approximately 30 foot wide channel section extending upstream for approximately 140 feet prior to the channel becoming much narrower in width. Although there was approximately 2.5 feet of sediment directly in front of the concrete weir, the total depth from the top of the weir to the hard channel bottom was approximately 3.0 feet. Based on the measurements taken using an aluminum range pole, the amount of sediment deposited within this 140 ft. long by 30 ft. wide channel section is approximately 250 to 300 cubic yards (see photos below).

This section of channel traps a small amount of sediment that may otherwise be transported further downstream into the lake side of Brown's Channel. It is likely that the sediment that has become deposited within the widened section of the stream channel directly upstream of the concrete weir becomes remobilized as a result of stream flow and contributes to observable and measureable total suspended solids concentrations flowing into the lake side of Brown's Channel.

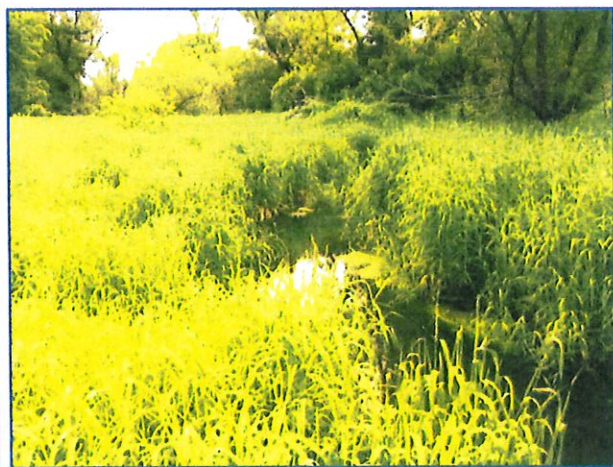
Visual observations made on June 6 during low flow conditions confirmed that turbid silty water was being discharged downstream of the concrete weir and clear water was present upstream of the widened 140 ft. stream section where the creek was approximately 10 feet in width. Several locations approximately 250 to 300 feet upstream of the road were observed and clear water was present (see adjacent photo).



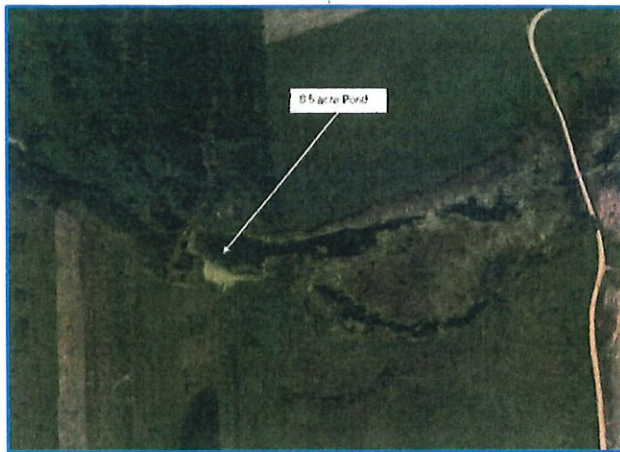
Approximately one quarter mile upstream, the tributary becomes meandering and flows for about 0.4 miles through a well vegetated and relatively level floodplain wetland. The meandering channel section exhibited stable bank conditions and was subject to periodic flooding throughout the vegetated wetland during high flow events. This section of the Brown's Channel tributary appears to be a very effective filtering system for sediment and nutrient removal.



Meandering Stream Channel
and Vegetated Floodplain Area



Located immediately upstream of the meandering stream channel and vegetated floodplain is an existing ponded area that receives runoff from most of the surrounding drainage area. This ponded area is located approximately 0.65 miles upstream of South Shore Drive and receives runoff water that flows through the existing wetland from the northeast and from the south. The 0.5 acre ponded area was estimated to be approximately 3 to 4 feet deep. According to the landowner, the pond has filled in with sediment over the years and has lost more than half of its original water depth. Immediately upstream to the northeast, the extensive vegetated wetland includes a 9 acre area that becomes periodically flooded with two to three feet of water after significant runoff events. The combination of wetland vegetation and the small ponded area is an excellent filtering system for removing sediment and phosphorus from storm runoff.



The remainder of the watershed further upstream of the pond and wetland shown above is primarily agricultural and was only accessible by existing public roads and available aerial photography. However, the primary drainage ways or pathways for concentrated water flow during storm events appeared to be stable and well protected by grassed waterways and vegetated buffer strips. Several of the grassed waterways located throughout the observable watershed appear to have been installed in the last one to two years based on historical aerial photography and appear to be functioning very well at minimizing excessive soil erosion and sediment transport.



Summary and Recommendations

Based on the observations made during the site visit, the Brown's Channel watershed is in relatively good condition with regard to soil conservation. The recently installed grass waterways and vegetated filter strips located in the northeastern and southern sections of the watershed are valuable BMPs for preventing excessive soil erosion and sediment delivery to the lake. Additional grass waterways and vegetated filter strips along all concentrated flow channels are strongly encouraged. Coordination with the local Natural Resources Conservation Service (NRCS) office in Elkhorn and with various landowners in the watershed is recommended. Additional agricultural watershed BMPs that are effective and actively promoted by the NRCS include the use of cover crops, contour farming, contour buffer strips and conservation cover. Although landowner participation is necessary, grant assistance programs are often available that require cost sharing. In addition, the large centrally located wetland that most of the runoff ultimately flows through prior to reaching Brown's Channel should be protected, and if possible, should maintain an undisturbed vegetated buffer surrounding the limits of the periodically flooded boundary. Promoting this conservation measure to adjacent landowners is highly recommended. Although potential grant assistance may be available through USDA, NRCS, discussions with adjacent landowners will be necessary.

One physical measure that could provide additional sediment and nutrient removal would be to deepen the existing 0.5 acre pond at the far southwest side of the central wetland by removing accumulated sediment. Although a survey would be needed to accurately measure existing conditions, it is estimated that the water depth of the pond is currently two to four feet before soft sediment is reached. Removing an average of four feet of accumulated sediment would amount to approximately 3,225 cubic yards of sediment. With an approximate eight (8.0) ft. average depth, the 0.5 acre pond would be more effective at trapping suspended sediment than the currently shallow pond is capable. Expanding the 0.5 acre area by deepening some of the shallow wetland area immediately upstream of the existing pond would provide additional storage capacity and sediment trapping capability, but dredging the wetland area may be difficult to obtain permits from WDNR. Prior to any consideration or planning effort for deepening this pond as a sediment trap, the pond would have to be surveyed in a similar manner as the survey recently completed at the Mound Road ponds.

As mentioned previously in this report, the shallow channel area directly upstream of South Shore Drive and the existing concrete weir is highly silted in and contains approximately 250 to 300 cubic yards of soft sediment that is recommended to be removed. The methodology and estimated cost would need to be determined, particularly since visible and submerged woody debris was present. Using a small amphibious excavator such as a Truxor may be the most feasible approach. Once a WDNR permit was obtained, sediment would be mechanically removed, placed in a small hopper barge and then offloaded for hauling.

The sediment that has been deposited within the upper 400 feet of Brown's Channel has likely originated from widespread upstream watershed sources during significant storm events and the control of future sedimentation may depend partially on the number of significant storm events that occur in the future, particularly during the spring when vegetation is dormant and agricultural fields are unprotected by crop cover. Recommendations for removing the sediment currently deposited in Brown's Channel were provided in the Brown's Channel Sediment Assessment December, 2011.

Brown's Channel

WATERSHED PROTECTION PLAN

DELAVAN, WISCONSIN

BROWN'S CHANNEL

Objective:

- To create a watershed quality management project area for Delavan Lake.
- Protect and make viable the Troy Valley Aquifer.
- To add buffer areas and offline ponds to trap sediment and phosphorus runoff.

Benefits:

- Protect major watershed area and past investments made in Delavan Lake.
- Increase attractiveness of area for future residents and job creating organizations.

Why Now?

- Land owner willing to sell property.
- Recently completed lake management projects, including Delavan Lake Inlet, Mound Road Ponds and Brown's Channel.
- Multijurisdictional land use for protection of water quality of Delavan Lake.



My Map

WALWORTH COUNTY, WISCONSIN



Author:

Map Produced on: 12/5/2013

Wisconsin State Plane Coordinate System, South Zone
NAD83 Datum: NAD83

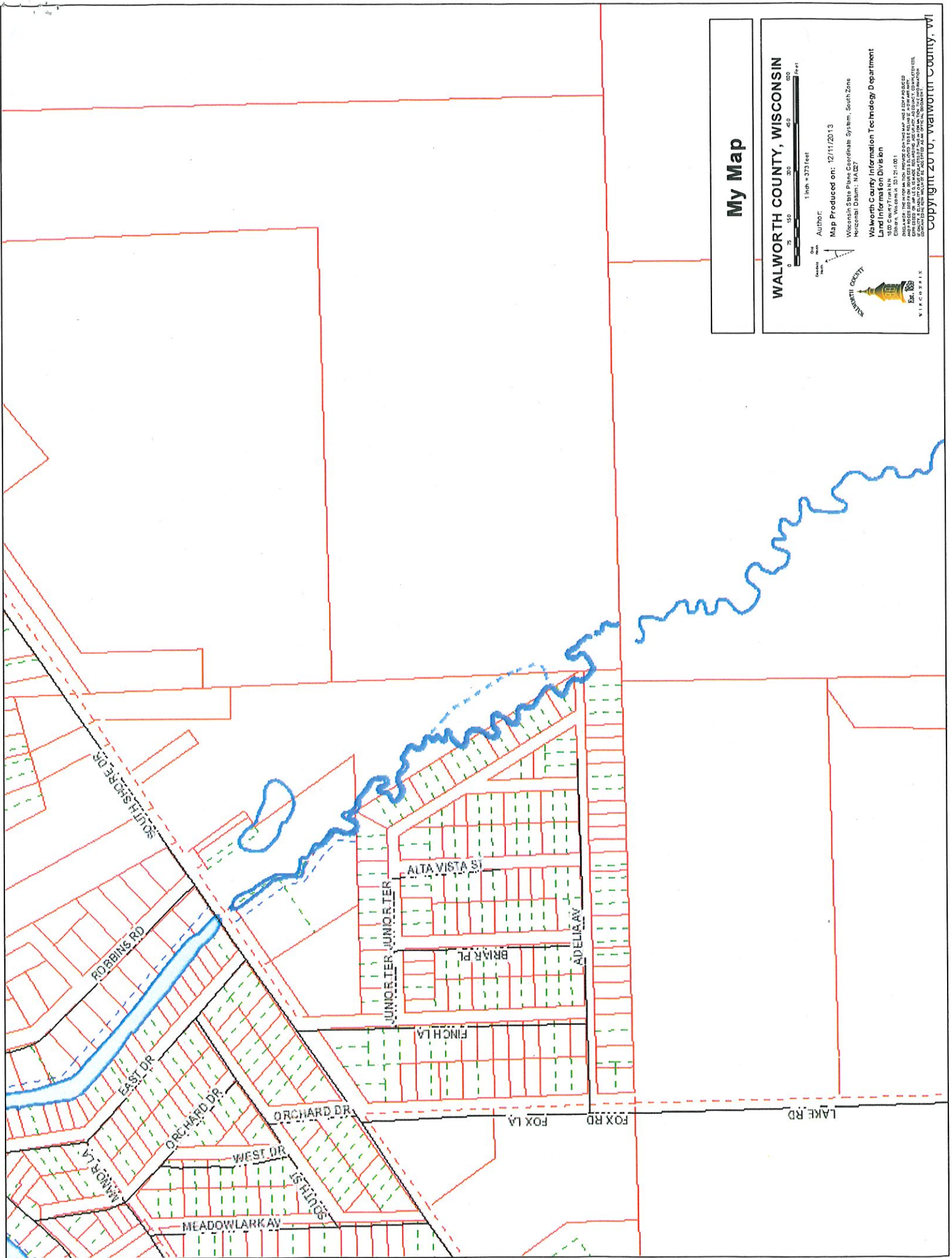
Walworth County Information Technology Department
Land Information Division

2013-12-05 10:51:21 AM
ENR, Wisconsin 2012-11-01

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Walworth County
Information Technology Department



My Map

WALWORTH COUNTY, WISCONSIN

1 inch = 375 feet

Author: Wisconsin State Plane Coordinate System, South Zone
Horizontal Datum: NAD 83

Map Produced on: 12/11/2013

Walworth County Information Technology Department
Land Information Division

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Jackson Creek

OPEN SPACE PARK PLAN

DELAVAN, WISCONSIN

INTRODUCTION

The most significant natural area of Delavan Lake is the Delavan Inlet corridor and associated wetlands and floodplain areas.

75% OF ALL WATER INFLOW to Delavan Lake comes thru the Delavan Inlet corridor.

There is approximately 400 acres of Inlet/wetlands/floodplain area. The property is generally flat – sloping to the Delavan Inlet, and is currently used for agricultural uses. The surrounding land use consists of agricultural farm lands and various residential subdivisions.

The preservation and on going management will be a benefit to the residents and neighbors of Delavan Lake.

JACKSON CREEK

Objective:

- To identify environmental corridors serving the Inlet and Brown's Channel that discharge into the lake.
- To expand green space buffers to filter sediment and phosphorus.
- To create unique offline ponds to trap sediment easy to maintain in cost effective manner.
- To utilize these green spaces areas to expand recreation, improve wildlife, increase public awareness, increase commerce and maintain economic health.
- To improve watershed and lake quality and health
- To protect and make viable the Troy Valley Aquifer.

Benefits:

- Ability to tie into White River State Trail.
- Access for residents and tourists to engage in hiking, biking, fishing, snowmobiling, cross country skiing, bird watching, kayaking, canoeing, hunting, trapping and camping.
- Increased tourism activity for the State of Wisconsin.
- Protect major watershed area and past investments made in Delavan Lake.
- Easy access to Hwy 43, Hwy 67, Hwy 50 and Hwy 12.
- Increase attractiveness of area for future residents and job creating organizations.

Why Now?

- Land owner willing to sell and donate property.
- Recently completed lake management projects, including Delavan Lake Inlet, Mound Road Ponds and Brown's Channel.
- Development plans of adjacent residential area.
- Multijurisdictional land use for protection of water quality of Delavan Lake.



United States Department of the Interior

U.S. GEOLOGICAL SURVEY
Water Resources Discipline
8505 Research Way
Middleton, WI 53562-3586
Phone: (608) 828-9901
Fax: (608) 821-3817
<http://wi.water.usgs.gov>

2 December, 2013

Senator Neil Kedzie
126 State St.
Madison, WI 53703

Re: Your support for efforts in the Jackson Creek Watershed, Delavan, Wisconsin

Dear Senator Kedzie,

I am a Research Hydrologist with the U.S. Geological Survey (USGS), Wisconsin Water Science Center. I have been involved with the local community and various state and federal agencies over the past 20 years trying to improve the water quality of Delavan Lake, Wisconsin. I am writing to you in hope that you will support the ongoing efforts near Delavan Lake to obtain and preserve land near Jackson Creek in Walworth County. This land has been shown by studies conducted by the USGS over the past 30 years, to be very important to the ecology of Delavan Lake and reducing nutrient loading to the lake.

The land immediately north of State HWY 50, which consists primarily of wetlands, has been owned by the Sho-Deen Corporation and has recently been made available to the community. Scientific efforts by the USGS, U.S. Environmental Protection Agency, U.S. Army Corps of Engineers, Wisconsin DNR, University of Wisconsin-Madison and Whitewater, and many local organizations have shown the importance of this part of the watershed to Delavan Lake. Studies by the USGS have demonstrated how important this area is for controlling about 75% of the nutrient fluxes from the watershed. After spending over \$40 million in one of the most extensive lake rehabilitation efforts ever conducted, Delavan Lake was converted from the second worst lake in Wisconsin to a lake with very good water quality. However, because of continuing nutrient fluxes from the watershed, the lake has again become very productive and requires additional nutrient reductions from the watershed to improve its water quality. If the community can obtain this land, they will be able to extend their efforts to reduce the nutrient fluxes to the lake and also improve the ecology of this area.

I am hoping that you will support the efforts of the community to obtain and preserve this very important area near Delavan Lake. Feel free to contact me if you have any questions.

Sincerely,

Dr. Dale M. Robertson
Research Hydrologist
USGS, Wisconsin Water Science Center
(608)-821-3867
dzrobert@usgs.gov

Memorandum

To: Walworth County Park Committee
CC: Zoning Administrator
From: James DeLuca, Administrator
Date: 12/6/2013
Re: Inclusion of Jackson Creek Area and Brown's Channel in Walworth County Park and Open Space Plan

Open space and park space are vital resources to community lifestyles. These spaces can be used for recreation, water quality management and wildlife management to name a few.

Delavan Lake Sanitary District, which also serves as a Lake Management Authority in conjunction with the Town of Delavan would like to request that the County review the areas east of Delavan Lake serving the Jackson Creek Area as important environmental areas that need to be maintained as open and green space and set goals to increase these areas in green space to better protect and manage the lake quality.

An additional area that needs to be focused on for green space will be Brown's Channel located on the south side of the lake that leads into the Town of Walworth.

Failure to do anything could see a 2000 plus acre lake go back into distress after millions of dollars of federal, county, state and local tax dollars were invested, not even 30 years ago, to restore the lakes quality.

Reducing the sediment and phosphorus loading thru green space and converting some tilled lands within a buffer zone could also give WALCOMET some needed credits that could avoid very expensive capital projects and plant changes in the future that will affect sewer rates within 7 or more sewer districts or municipalities.

The plans and open space maps should have two goals.

1. The first goal is to review the areas east of Delavan Lake serving the Jackson Creek Area as important environmental areas that need to be maintained as green space and increased in green space to better protect and manage the lake quality by reducing sediment and phosphorus run-off problems while allowing public use of the lands as a park or conservancy area.
2. The second goal is to focus on the Brown's Channel Corridor for green space requirements that will serve the Brown's Channel located on the south side of the lake to reduce sediment and phosphorus run-off. This area would be looked at as a lake protection area and restricted in public uses.

December 6, 2013

The properties looked at and the size of the project will aid in maintaining and improving lake quality while improving the economics in the area thru improved amenities offered to residences and employers, increase tourism, increase in commerce and provide the area with an attraction for future employers to move into this area.

These projects in these areas would need the following:

- Land Acquisitions utilizing stewardships grants and lake protection grants.
- Acquisitions of easements
- Development of multi-jurisdictional partnerships
- Development of budgets for maintenance of in-line and preferred off-line ponds for storm water pre-treatment of agricultural run-off
- Soil disposal sites for future dredging maintenance projects
- Utilize future grants for re-establishing native plants and wildlife
- Utilize grants to install recreational trails and infrastructure for aviary watching, fishing, and kayaking, canoeing, snowmobiling, biking, hiking, hunting, trapping, picnicking and even camping.

Specifically, I am requesting on behalf of the Delavan Lake Sanitary District and Town of Delavan that the County include in its Park and Open Space Plan the Jackson Creek and Brown's Channel areas for possible park and/or open space use. Maps of the areas in question are attached for your reference.

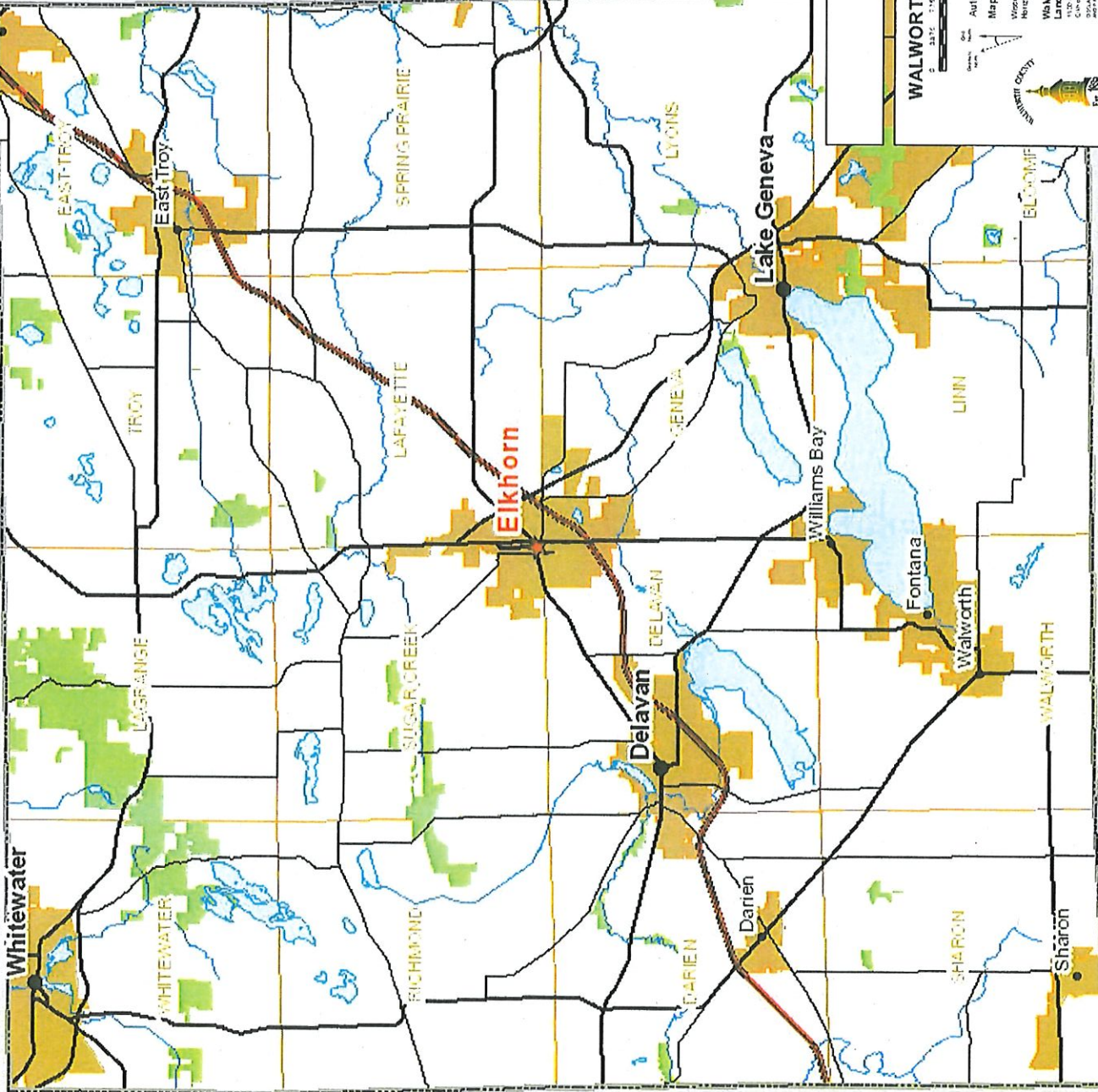
Your support and partnership in this project is vital.

WALWORTH COUNTY

Jefferson County

Waukesha County

Mukwonago



Racine County

Rock County

Boone County

McHenry County

My Map

WALWORTH COUNTY, WISCONSIN

1 inch = 18.254 feet

0 0.3125 0.625 0.9375 1.25 1.5625 1.875 2.1875 2.5 2.8125 3.125 3.4375 3.75 4.0625 4.375 4.6875 5.0 5.3125 5.625 5.9375 6.25 6.5625 6.875 7.1875 7.5 7.8125 8.125 8.4375 8.75 9.0625 9.375 9.6875 10.0

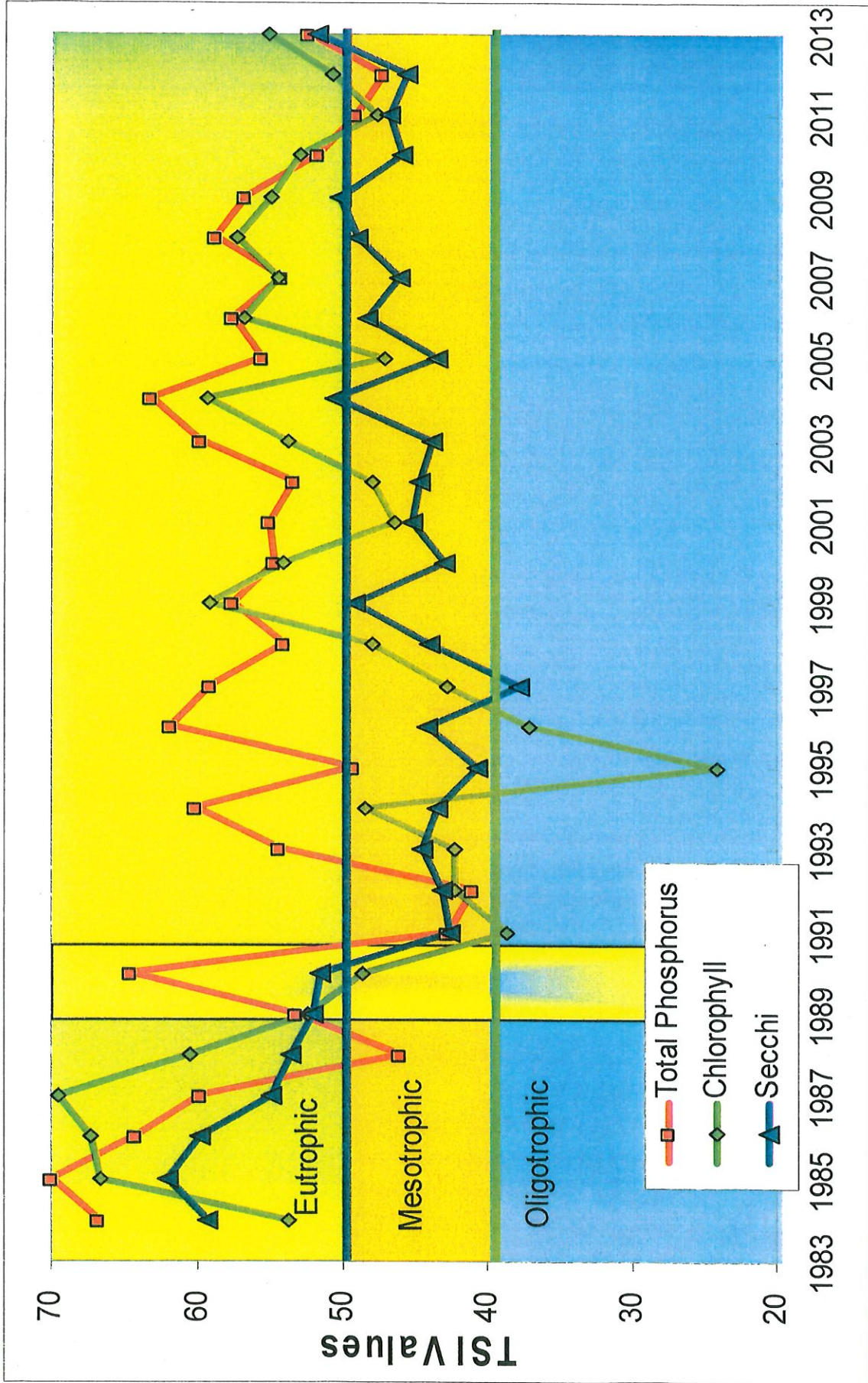
Author: Walworth County Information Technology Department
Map Produced on: 12/20/14
Version: State Plane Coordinate System, South Zone
Horizontal Datum: NAD83

**Walworth County Information Technology Department
Land Information Division**

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DELANVAN LAKE 2,072 ACRES 2nd largest lake in Walworth County

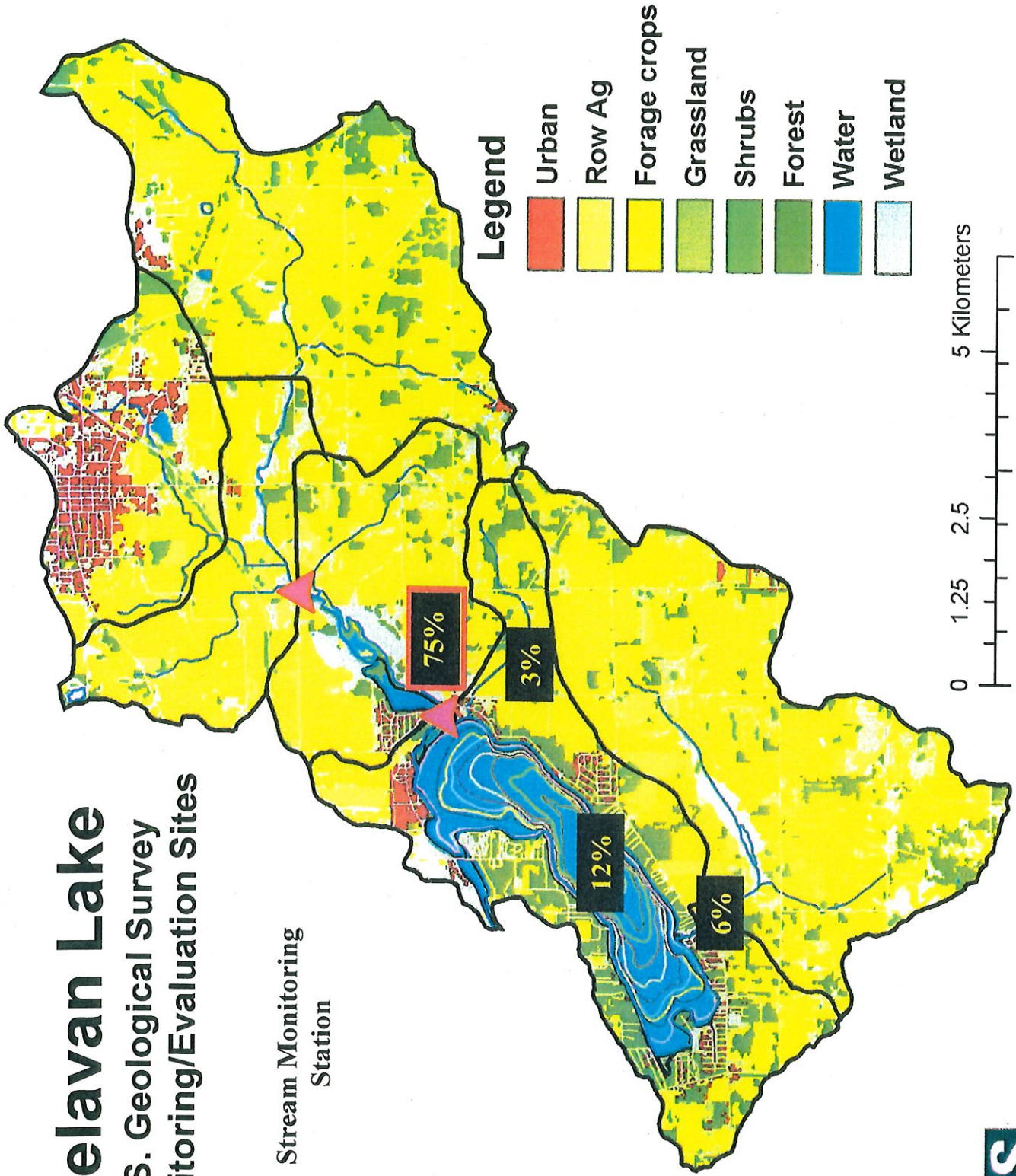
Trophic State of Delavan Lake

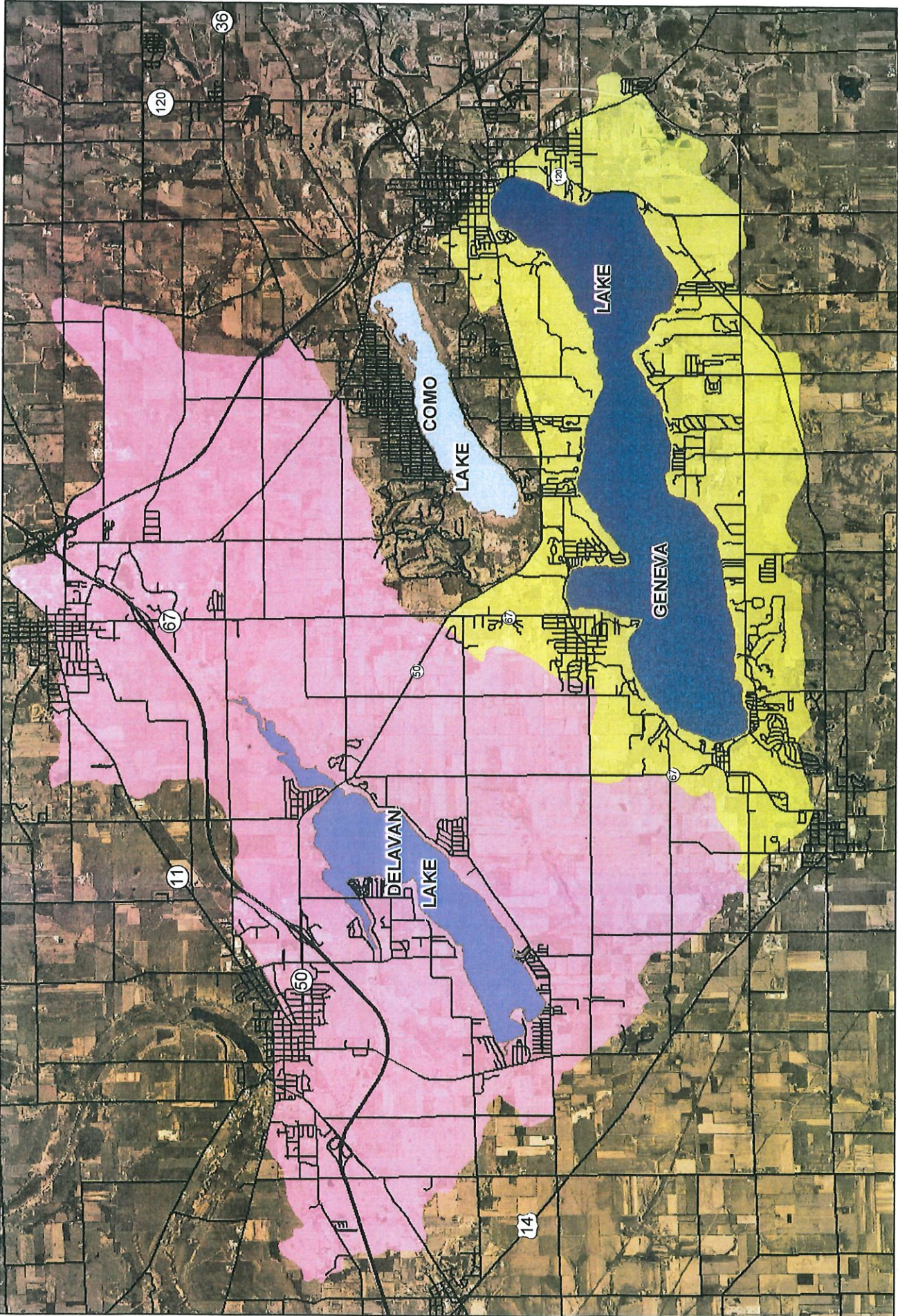


Delavan Lake

U.S. Geological Survey
Monitoring/Evaluation Sites

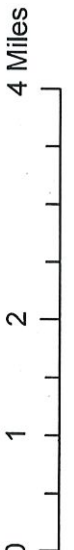
 Stream Monitoring Station



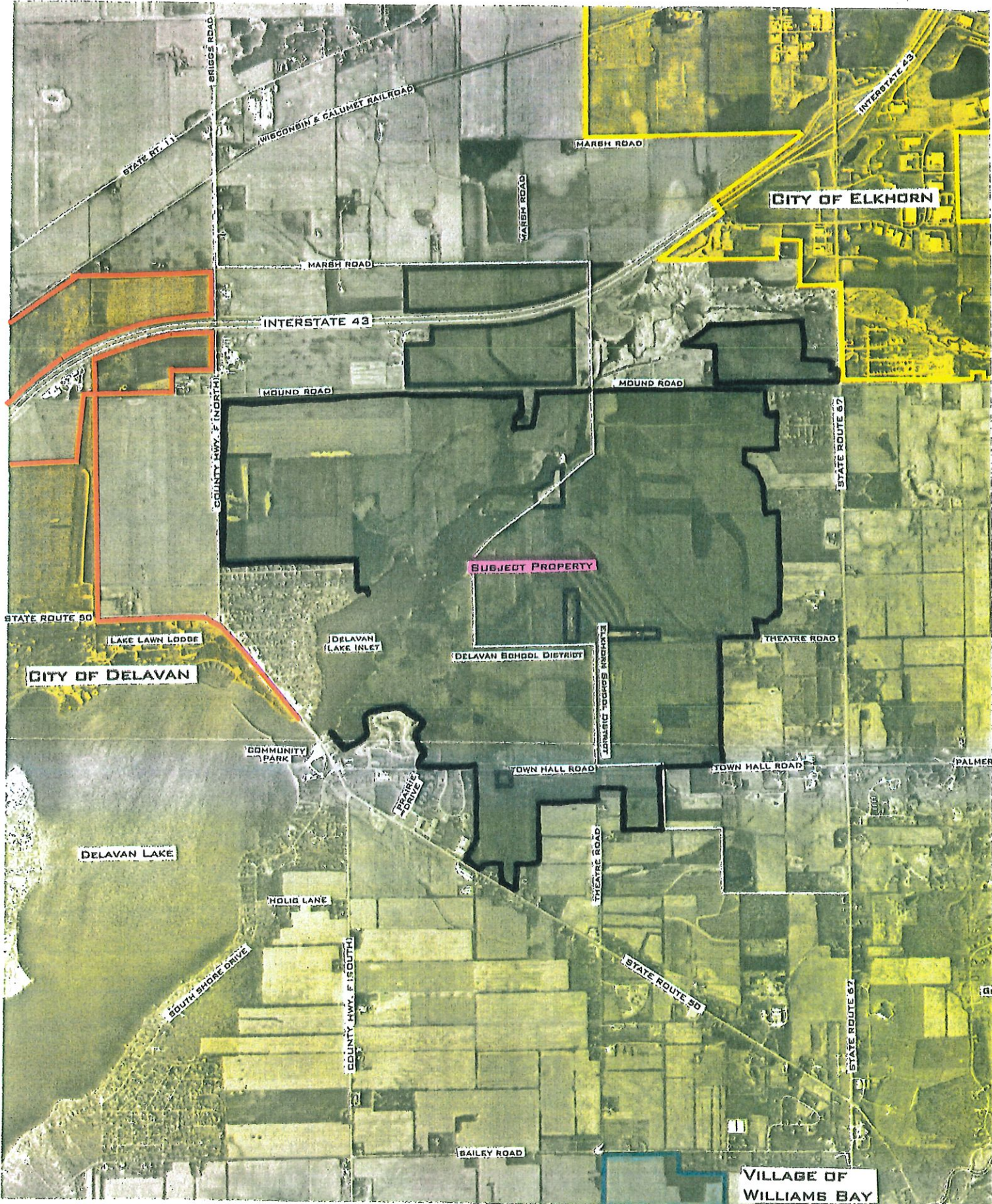


Legend

- Roads
- Geneva Lake Watershed
- Delavan Lake Watershed
- Lake
- Lake Como
- Delavan Lake
- Geneva Lake



May 31, 2012
 Lynn M. Ketterhagen
 Manager of Land Protection & Operations
 Geneva Lake Conservancy, Inc.
 Source: SEWRPC, Walworth County, WI DNR & GLEA



CITY OF ELKHORN

INTERSTATE 43

SUBJECT PROPERTY

CITY OF DELAVAN

DELAVAN LAKE

VILLAGE OF WILLIAMS BAY

LAKE LAWN LODGE

DELAVAN LAKE INLET

DELAVAN SCHOOL DISTRICT

THEATRE ROAD

COMMUNITY PARK

BEAVER DRIVE

TOWN HALL ROAD

TOWN HALL ROAD

PALMER

HOLIG LANE

SOUTH SHORE DRIVE

COUNTY HWY. F (SOUTH)

THEATRE ROAD

STATE ROUTE 50

STATE ROUTE 67

BAILEY ROAD

STATE RT. 11

WISCONSIN & CALUMET RAILROAD

MARSH ROAD

MARSH ROAD

MARSH ROAD

MOUND ROAD

MOUND ROAD

INTERSTATE 43

COUNTY HWY. F (NORTH)

STATE ROUTE 67

STATE ROUTE 50

LAKE LAWN LODGE

LAKE LAWN LODGE

DELAVAN LAKE INLET

DELAVAN SCHOOL DISTRICT

THEATRE ROAD

COMMUNITY PARK

BEAVER DRIVE

TOWN HALL ROAD

TOWN HALL ROAD

PALMER

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SOUTH SHORE DRIVE

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STATE RT. 11

WISCONSIN & CALUMET RAILROAD

MARSH ROAD

MARSH ROAD

MARSH ROAD

MOUND ROAD

MOUND ROAD

INTERSTATE 43

COUNTY HWY. F (NORTH)

STATE ROUTE 67

STATE ROUTE 50

LAKE LAWN LODGE

LAKE LAWN LODGE

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MARSH ROAD

MARSH ROAD

MARSH ROAD

MOUND ROAD

MOUND ROAD

INTERSTATE 43

COUNTY HWY. F (NORTH)

STATE ROUTE 67

STATE ROUTE 50

LAKE LAWN LODGE

LAKE LAWN LODGE

DELAVAN LAKE INLET

DELAVAN SCHOOL DISTRICT

THEATRE ROAD

COMMUNITY PARK

BEAVER DRIVE

TOWN HALL ROAD

TOWN HALL ROAD

PALMER

HOLIG LANE

SOUTH SHORE DRIVE

COUNTY HWY. F (SOUTH)

THEATRE ROAD

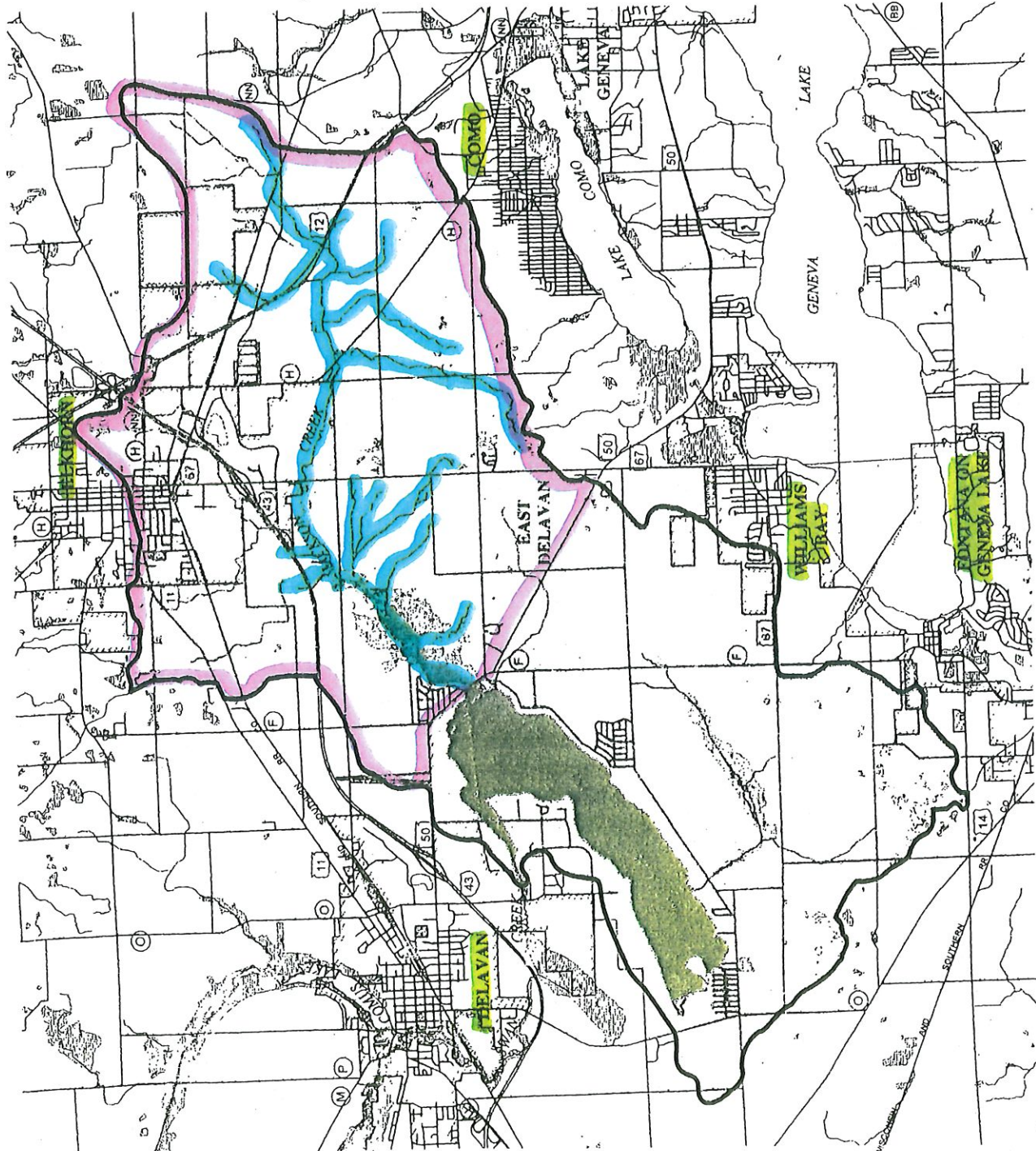
STATE ROUTE 50

STATE ROUTE 67

BAILEY ROAD

Map 2

TOTAL TRIBUTARY DRAINAGE AREA TO DELAVAN LAKE



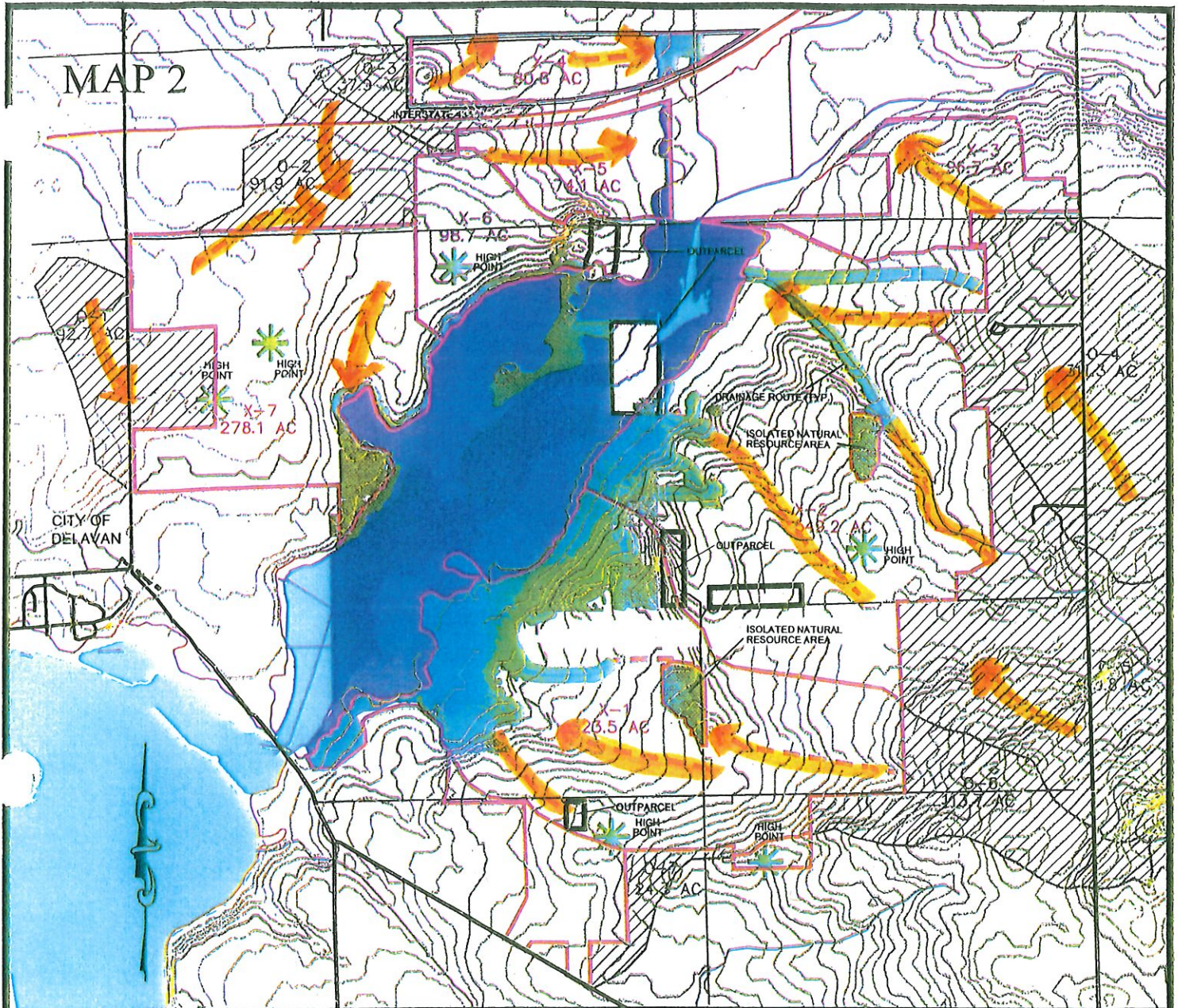
Civil Division
Town of Sharon
Town of Lafayette
Village of Fontana-on-Geneva Lake
Town of Darien
Town of Sugar Creek
Village of Williams Bay
City of Delavan
City of Elkhorn
Town of Waiworth
Town of Geneva
Town of Delavan
Total

- Jackson Creek
- Possible Park Areas



Source: SEWRPC.

DRAINAGE ROUTES








1000 0 1000 2000

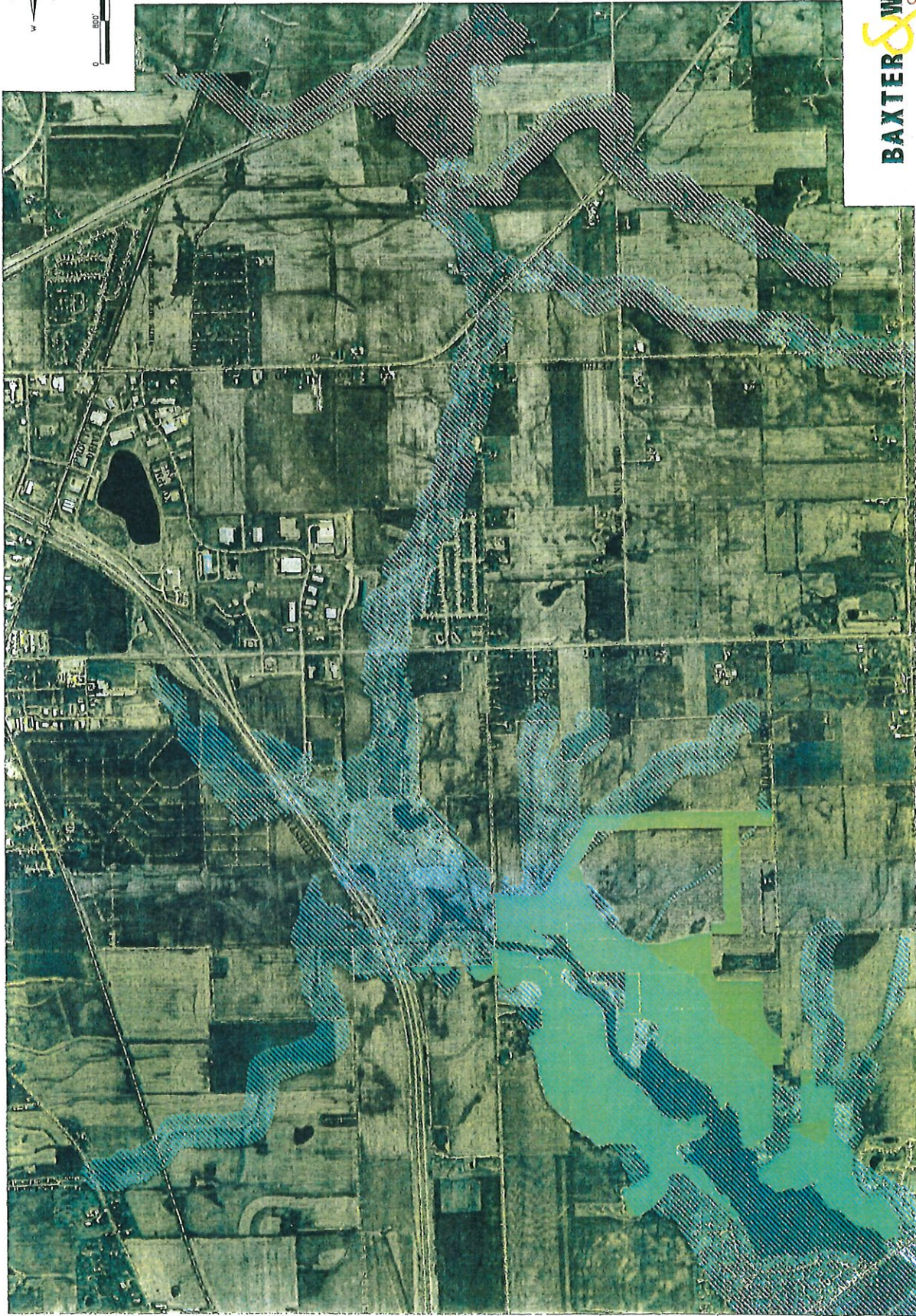
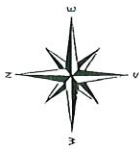


SCALE IN FEET

SITE ANALYSIS LEGEND

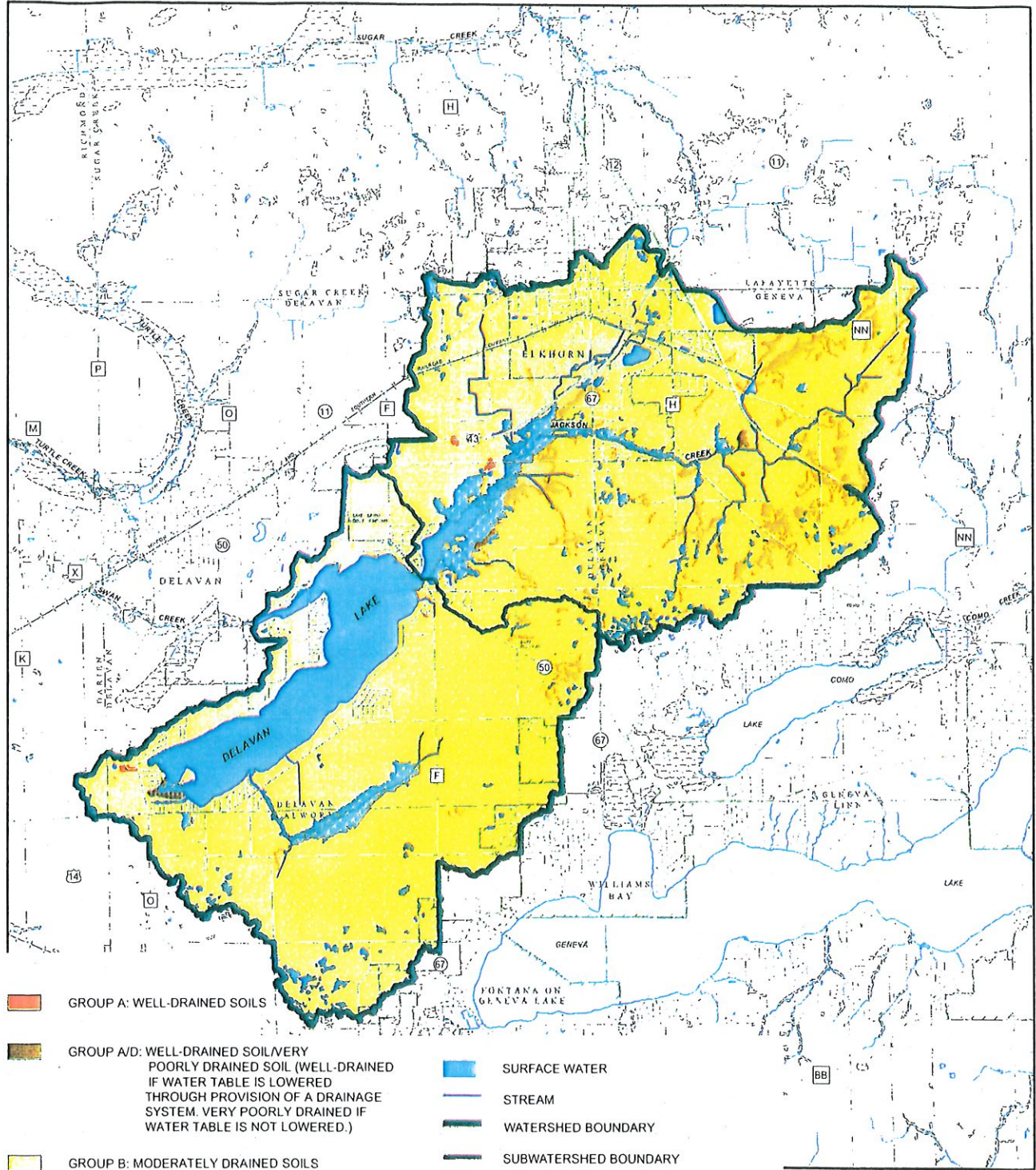
-  DELAVAN INLET (WATER)
-  DELAVAN INLET - ENVIRONMENTAL CORRIDOR (INCLUDES CLASS III NATURAL AREA AND WETLANDS AS DEPICTED BY SEWRPC LAND USE INVENTORY)
-  ISOLATED NATURAL RESOURCE AREA (AS DEPICTED BY SEWRPC LAND USE INVENTORY)
-  100 YEAR ZONE A FLOODPLAIN (INFO PROVIDED BY THE FLOOD INSURANCE RATE MAP)
-  HIGH POINT

-  ON SITE DRAINAGE BASINS
-  OFF SITE DRAINAGE BASINS
-  DRAINAGE ROUTE
-  EXISTING WOODLANDS
-  WETLANDS
-  WETLAND BUFFER
-  PERENNIAL STREAM

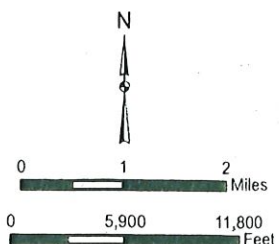


SOURCE: BASE MAP DATA AND BOUNDARY ARE FROM WASHINGTON COUNTY GIS

Map xx
 HYDROLOGIC SOILS WITHIN THE JACKSON CREEK WATERSHED

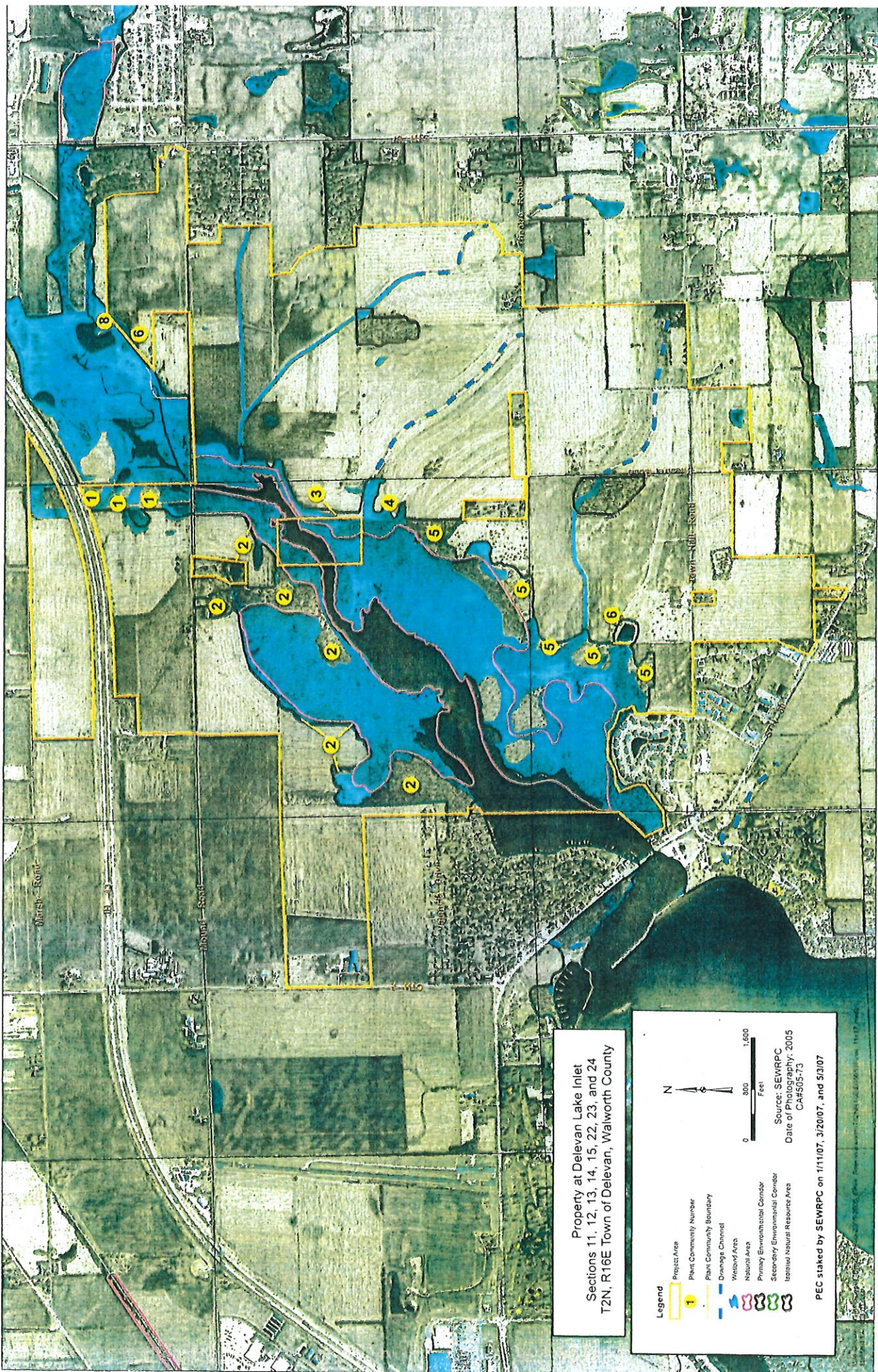


- GROUP A: WELL-DRAINED SOILS
- GROUP A/D: WELL-DRAINED SOIL/VERY POORLY DRAINED SOIL (WELL-DRAINED IF WATER TABLE IS LOWERED THROUGH PROVISION OF A DRAINAGE SYSTEM. VERY POORLY DRAINED IF WATER TABLE IS NOT LOWERED.)
- GROUP B: MODERATELY DRAINED SOILS
- GROUP B/D: MODERATELY DRAINED SOIL/VERY POORLY DRAINED SOIL (MODERATELY DRAINED IF WATER TABLE IS LOWERED THROUGH PROVISION OF A DRAINAGE SYSTEM. VERY POORLY DRAINED IF WATER TABLE IS NOT LOWERED.)
- GROUP C: POORLY DRAINED SOILS
- GROUPS C/D: VERY POORLY DRAINED SOILS; POORLY DRAINED SOIL/VERY POORLY DRAINED SOIL (POORLY DRAINED IF WATER TABLE IS LOWERED THROUGH PROVISION OF A DRAINAGE SYSTEM. VERY POORLY DRAINED IF WATER TABLE IS NOT LOWERED.)
- SURFACE WATER
- STREAM
- WATERSHED BOUNDARY
- SUBWATERSHED BOUNDARY



Source: SEWRPC and Natural Resources Conservation Service

Colors outside the watershed boundary are reduced in intensity to show the adjacent extent and distribution of each legend category.



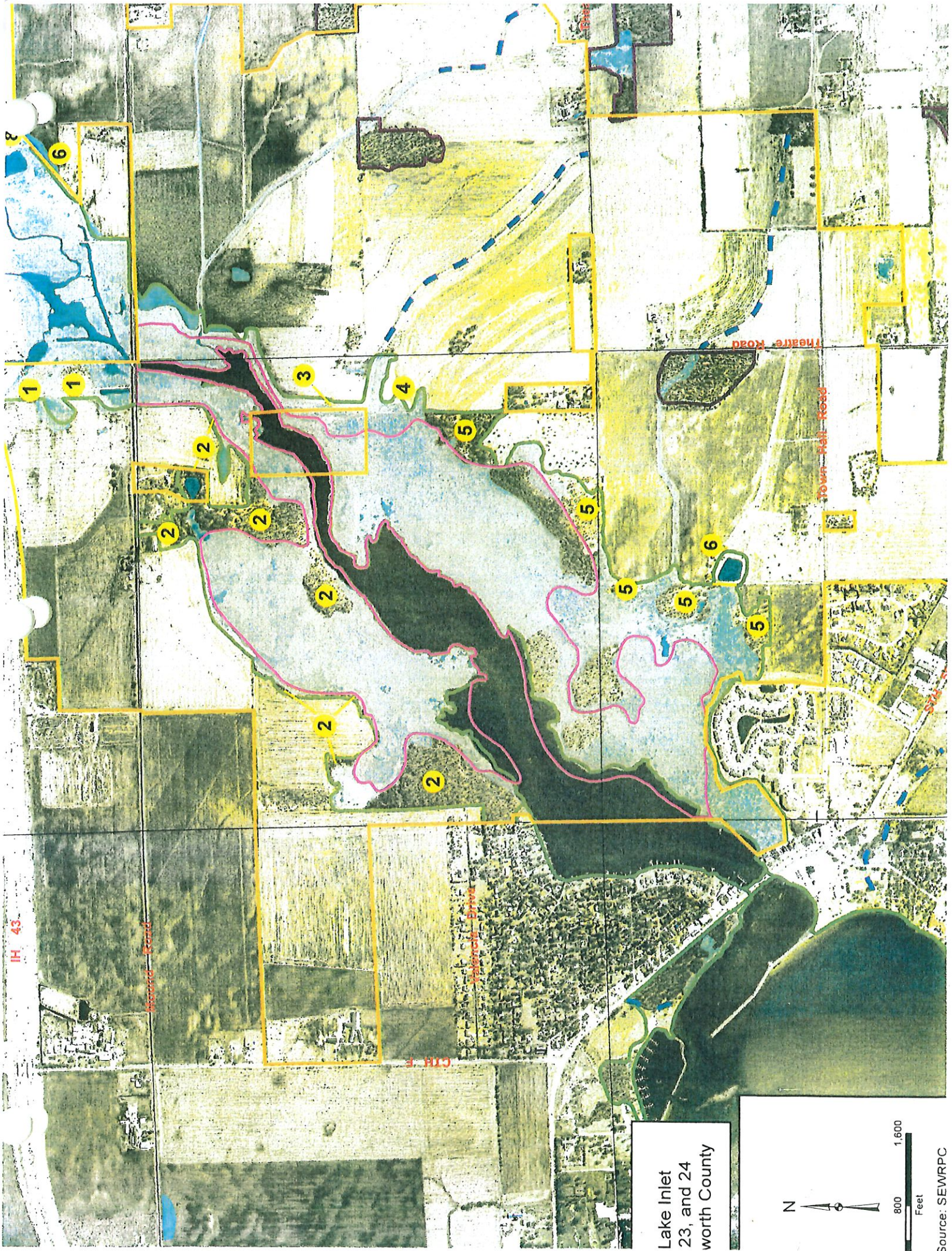
Property at Delevan Lake Inlet
Sections 11, 12, 13, 14, 15, 22, 23, and 24
T2N, R16E Town of Delevan, Walworth County

Legend

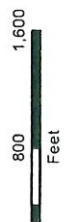
- Project Area
- 1 Plant Community Number
- Plant Community Boundary
- Drainage Channel
- Wetland Area
- Natural Area
- Primary Environmental Corridor
- Secondary Environmental Corridor
- Isolated Natural Resource Area

Source: SEWRPC
 Date of Photography: 2005
 CA#4505-73

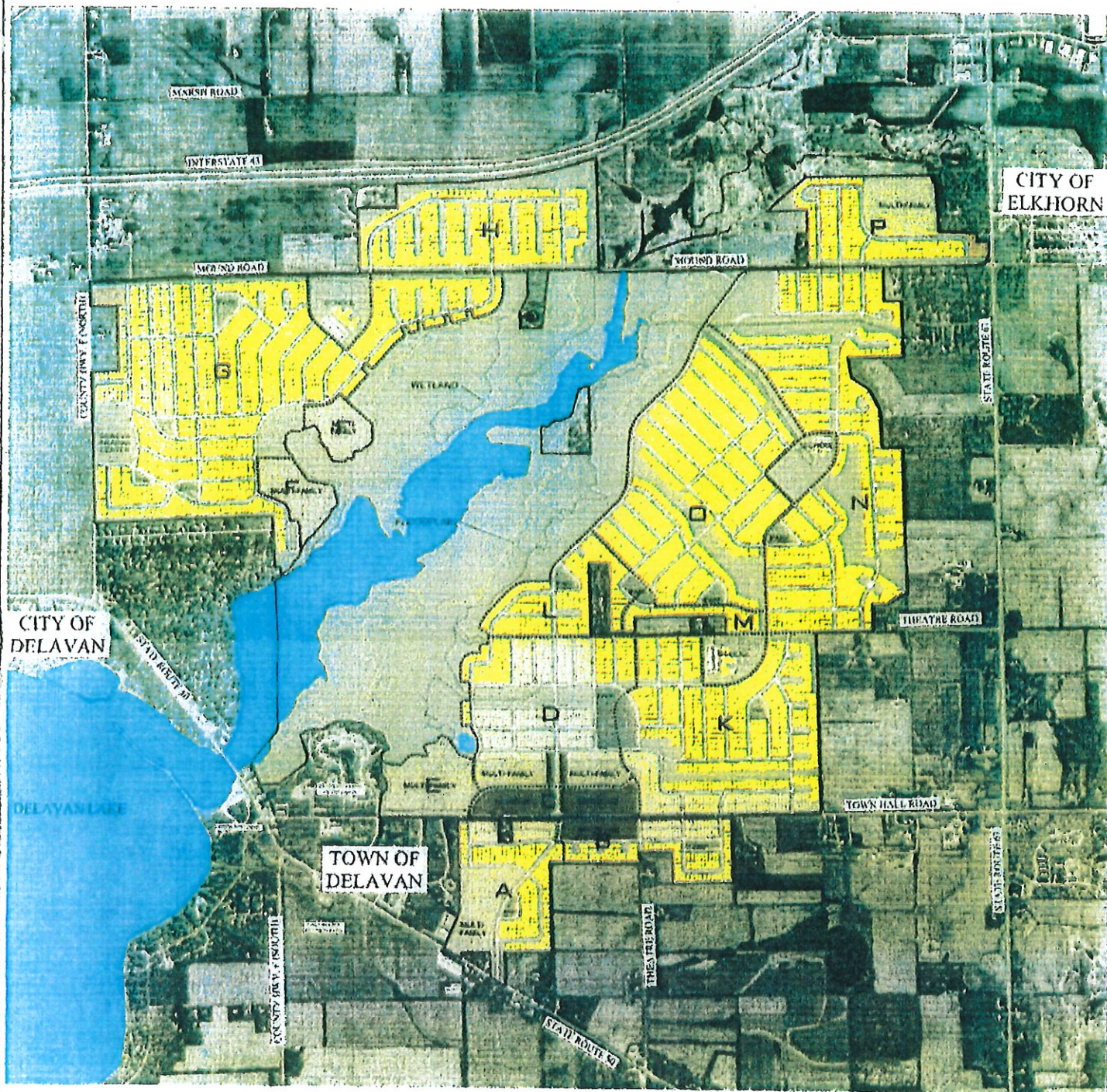
PEC staked by SEWRPC on 1/11/07, 3/20/07, and 5/3/07



Lake Inlet
23, and 24
worth County



Source: SEWRPC



LAND USE LEGEND

SINGLE FAMILY RESIDENTIAL	COMMERCIAL
SINGLE FAMILY RESIDENTIAL (ALLEY)	OPEN SPACE
SCHOOL SITE	PARK
MULTI-FAMILY RESIDENTIAL	MIXED USE



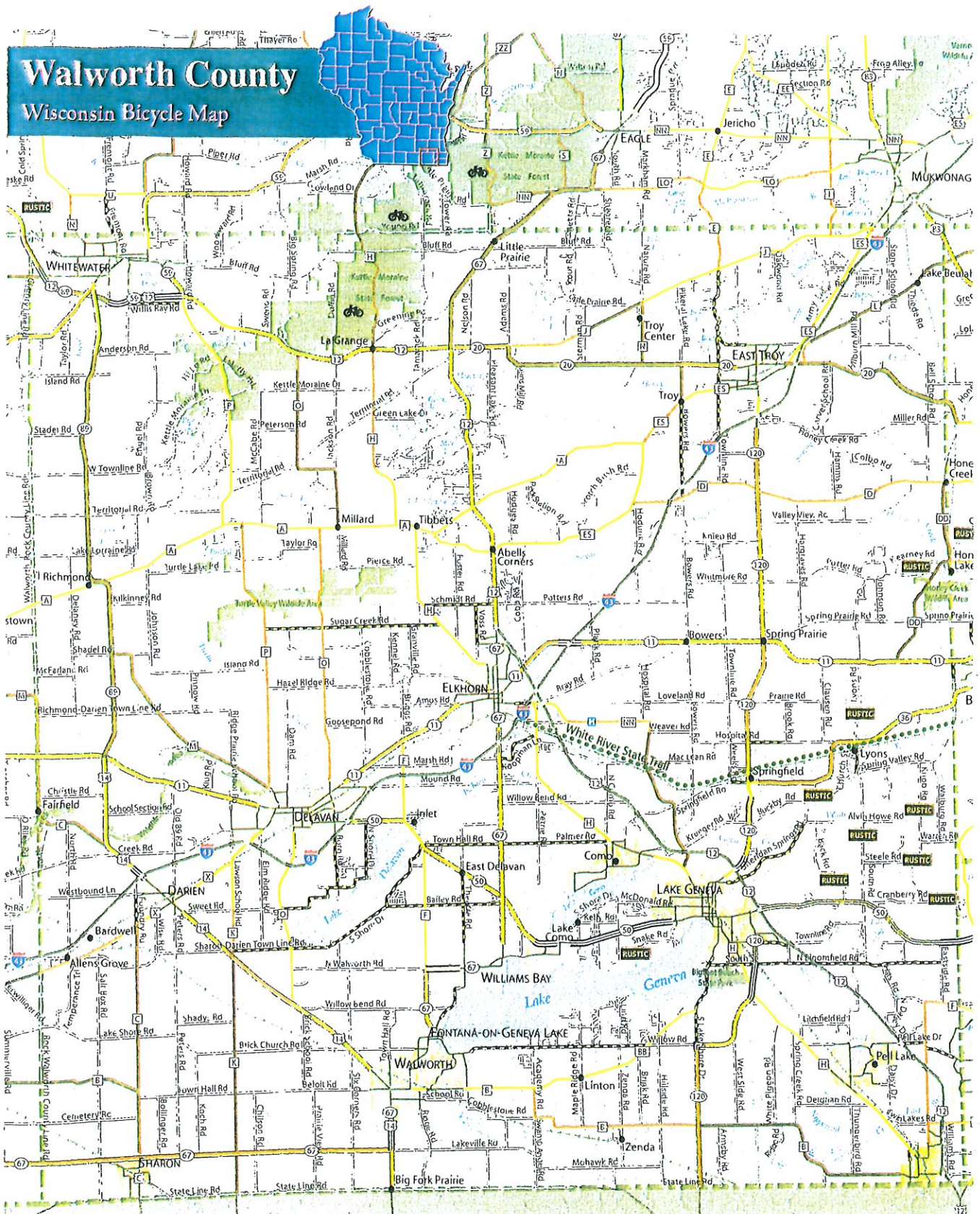
LAND USE PLAN
 JACKSON CREEK ON DELAVAN LAKE
 WALWORTH COUNTY, WISCONSIN

DD
 Planning
 Landmark
 Development



Walworth County

Wisconsin Bicycle Map



Higher Traffic	Town roads	Best Condition
Unpaved Road	Prohibited	Moderate Condition
Higher Volume	Bridge	Higher Volume, Wider Paved Shoulders
Interchange	Interchange	High Volume, Undesirable
Mountain Bike Trail	Mountain Bike Trail	Bicycle Trail

See full legend for complete descriptions of road classifications

