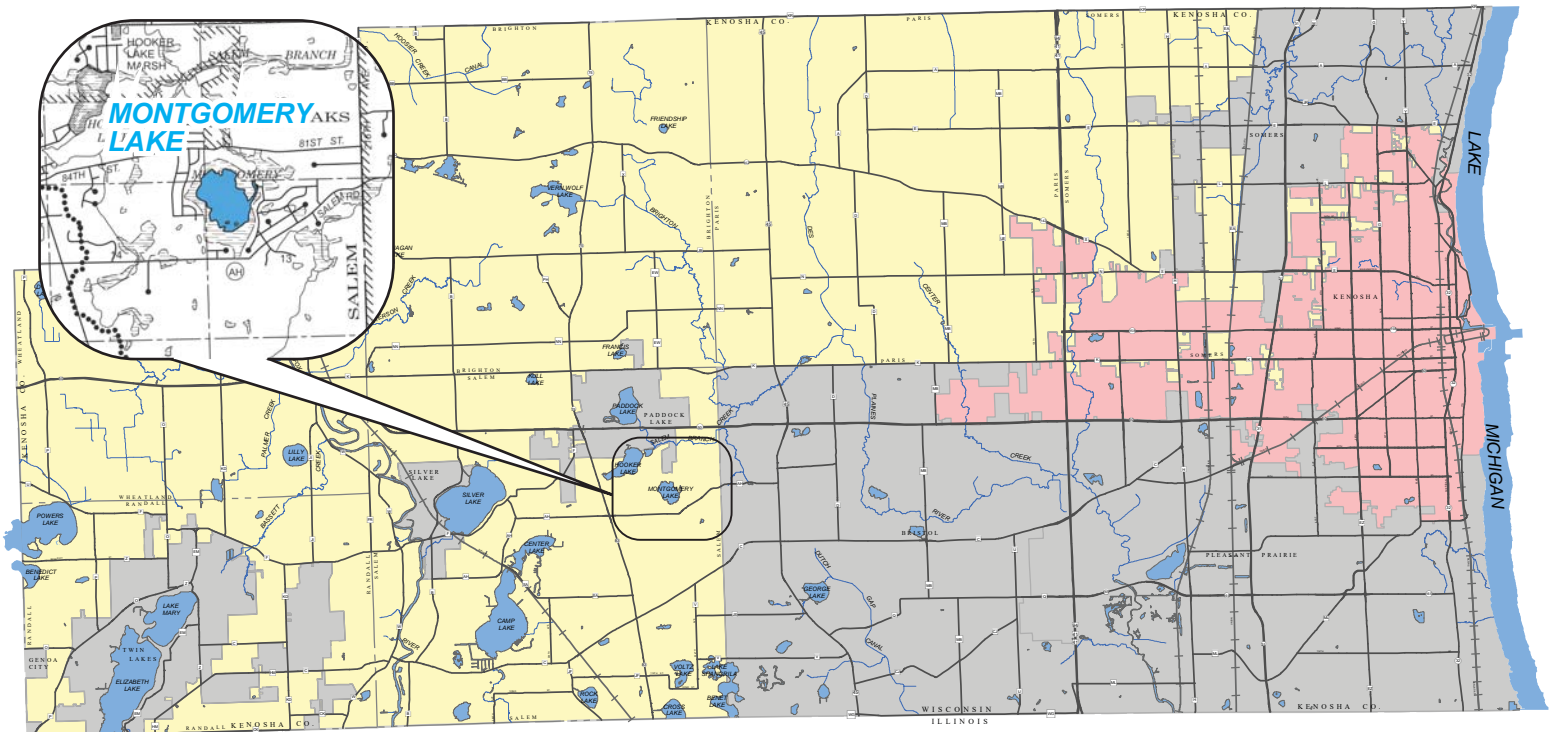


# MONTGOMERY LAKE USE REPORT UPDATE LR-7

Prepared by the  
Southeastern Wisconsin Regional Planning Commission  
for  
Kenosha County, Wisconsin  
October 2017



This Lake Use Report Update is a product of the Lake and Stream Resources Classification Project for Kenosha County Wisconsin: 2017. This report is available online at [co.kenosha.wi.us](http://co.kenosha.wi.us).

Funding for this project was provided, in part, through a Chapter NR 191 Lake Protection Grant from the Wisconsin Department of Natural Resources.



BACKGROUND .....	1
INTRODUCTION .....	1
PHYSICAL DESCRIPTION .....	1
Lake Characteristics.....	1
Hydrology .....	1
Watershed Characteristics and Land Use .....	3
WATER QUALITY .....	3
NATURAL RESOURCES.....	8
Aquatic Plants .....	8
Aquatic Invasive Species .....	9
Fisheries and Wildlife .....	10
Environmentally Significant Areas.....	11
Aesthetic Features .....	12
LAKE USE.....	12
Recreational Use.....	12
Public Access .....	13
Cottages and Homesites.....	13
EXISTING PROTECTIVE MEASURES .....	13
Sewage Disposal .....	13
Shoreline Protection and Erosion Control .....	14
Land Use Regulations.....	14
Water Use Regulations .....	18

## LIST OF TABLES

Table 1	Hydrology and Morphometry of Montgomery Lake .....	3
Table 2	Existing and Planned Land Use Within the Montgomery Lake Watershed: 2010 and 2035 .....	7
Table 3	Montgomery Lake Aquatic Plant Surveys: July 2003 and June 2007 .....	11
Table 4	Population and Households Within the Montgomery Lake Watershed: 1960-2035 .....	18
Table 5	Land Use Regulations Within the Montgomery Lake Watershed in Kenosha County by Civil Division: 2016 .....	18

## LIST OF FIGURES

Figure 1	1970 Aerial Photograph of Montgomery Lake .....	4
Figure 2	2015 Orthophotograph of Montgomery Lake.....	5
Figure 3	Measuring Water Clarity with a Secchi Disk.....	8
Figure 4	Summer (June Through August) Secchi Depth Ranges for Montgomery Lake.....	9
Figure 5	Summer (June Through August) Annual Average Trophic State Indices (TSI) for Montgomery Lake.....	10
Figure 6	Eurasian Water Milfoil ( <i>Myriophyllum spicatum</i> ).....	12
Figure 7	Curly-leaf Pondweed ( <i>Potamogeton crispus</i> ).....	13
Figure 8	Lake Chubsucker Special Concern Species .....	14
Figure 9	Typical Summer Activities on Montgomery Lake .....	16
Figure 10	Typical Winter Activities on Montgomery Lake.....	16

## LIST OF MAPS

Map 1	Montgomery Lake .....	2
Map 2	2010 Land Use Within the Montgomery Lake Watershed.....	6
Map 3	Environmentally Significant Areas Within the Montgomery Lake Watershed: 2015.....	15
Map 4	Recreational Use on Montgomery Lake: 2015.....	17
Map 5	Shoreline Survey of Montgomery Lake: 2014.....	19

## BACKGROUND

Kenosha County's lakes are vital natural resource assets adding significant value to the aesthetic and ecological value of the County and Region. The Lakes are enjoyed by large numbers of lakeshore residents and local citizens as well as those seeking water-based recreation living in nearby urban areas such as Milwaukee, Racine, Kenosha, and Chicago. Kenosha County has 34 named Lakes ranging in size from about two to about 640 acres.<sup>1</sup> Of the 20 that are considered "major lakes" (i.e., lakes with a surface area of 50 acres or more), 12 lie in unincorporated or recently incorporated portions of the County. Between 1968 and 1970, the Wisconsin Department of Natural Resources (WDNR) produced a series of individual Lake Use Reports for each of the 12 named major lakes within Kenosha County. Even though Montgomery Lake is one of the 12 named major lakes, it was not included in the 1968 to 1970 reports. However, this report is being included as an update to the earlier reports to complete the set.

Montgomery Lake was the subject of an integrated sensitive area report developed in 2010 by the WDNR.<sup>2</sup> The report was based on two assessments conducted by department personnel in July 2003 and June 2007. Montgomery Lake was also part of a 2017 lake and stream classification project developed for Kenosha County by Southeastern Regional Planning Commission (SEWRPC).<sup>3</sup> There are no other known reports discussing Montgomery Lake. Currently, no lake association exists for Montgomery Lake.

## INTRODUCTION

Montgomery Lake is located in the Village of Salem Lakes, Kenosha County, Wisconsin. Despite its small size, the Lake's good water quality, fishery, natural beauty, and location give it significant local economic and recreational value. In addition, its healthy and relatively diverse aquatic plant community and large contiguous marshlands provide noteworthy fish and wildlife habitat. The Lake provides significant value to local ecology.

## PHYSICAL DESCRIPTION

### Lake Characteristics

Based upon recent orthophotography, Montgomery Lake has a surface area of 61 acres.<sup>4</sup> As shown on Map 1, Montgomery Lake has a mostly round-shaped basin with a maximum depth of 23 feet. Forty-four percent of Montgomery Lake is three feet deep or less, yielding an average depth of only 10 feet. The Lake has normal water surface elevation of approximately 801 feet above National Geodetic Vertical Datum, 1929 adjustment.<sup>5</sup> Additional information regarding Montgomery Lake's hydrology and morphometry is summarized in Table 1.

According to WDNR records, Montgomery Lake's bottom sediments are composed almost entirely of muck.

### Hydrology

Based upon its depth and the topography of surrounding lands, WDNR classifies Montgomery Lake as a deep headwater lake. Deep headwater lakes are larger than 10 acres, are likely to thermally stratify during warm weather and have hydrologic characteristics of a drainage lake. There is no defined, permanently flowing inflow channel into Montgomery Lake; Montgomery Lake's primary source of water is precipitation and direct drainage from the surrounding land, but it likely does receive some flow from groundwater. The

---

<sup>1</sup> Wisconsin Department of Natural Resources Publication No. PUB-FH-800 2005, Wisconsin Lakes, 2005.

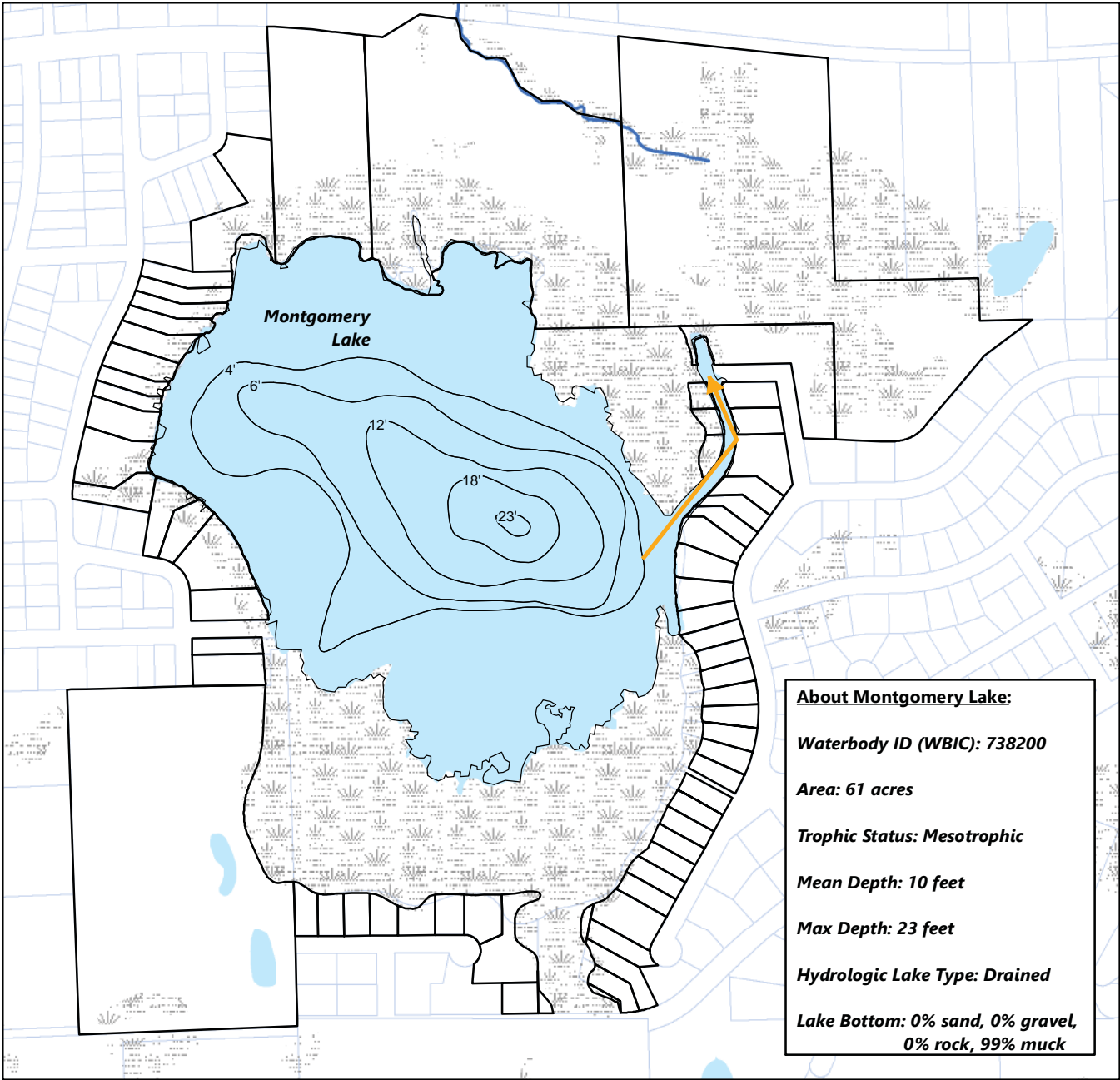
<sup>2</sup> WDNR, Montgomery Lake (Kenosha County, Wisconsin) Integrated Sensitive Area Report, July 2, 2010.

<sup>3</sup> SEWRPC Memorandum Report No. 222, Lake and Stream Resources Classification Project for Kenosha County, Wisconsin: 2017.

<sup>4</sup> Reported lake areas commonly fluctuate over time and between documents. The apparent size of a lake depends upon the lake's water level at time of measurement, the type and condition of shoreline vegetation, and the accuracy of available tools and techniques. For example, nearly all lakes are larger when water levels are higher. Conversely, lakes can appear smaller on aerial photographs when shorelines are covered by dense tree canopy. See Table 1 for more detail.

<sup>5</sup> Wisconsin Department of Natural Resources, <https://dnrm.wisconsin.gov/H5/?Viewer=SWDV>

**Map 1**  
**Montgomery Lake**



← SURFACE WATER FLOW PATH

INTERMITTENT STREAM

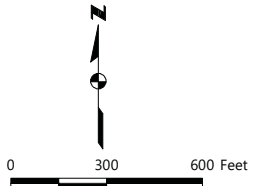
—15'— WATER DEPTH CONTOUR IN FEET

RIPIARIAN PARCEL BOUNDARY

PARCEL BOUNDARY

SURFACE WATER

WETLAND



Source: Wisconsin Department of Natural Resources and SEWRPC

Lake discharges most of its water via a surface outlet, a situation also classifying the Lake as a drained lake. The WDNR uses these parameters to set water quality goals for the Lake.

Montgomery Lake has no inlet, but has an outlet continuously flowing into the Salem Branch of Brighton Creek and eventually into the Des Plaines River. The water level most likely fluctuates with groundwater elevation changes. Montgomery Lake is characterized by extensive marshes including both shallow and deep habitats.

### Watershed Characteristics and Land Use

Montgomery Lake's 253 acre watershed lies primarily to the south of the Lake. A lake's watershed is the physical area from which surface-water runoff can drain to a lake. Montgomery Lake has a modest-sized watershed for its size, with a watershed to lake area ratio of 4.1:1. Lakes with ratios above 10:1 tend to develop water-quality problems.<sup>6</sup> Lakes with large watersheds are comparatively more vulnerable to human disturbance.

Significant land development has occurred around Montgomery Lake since 1970 (see Figures 1 and 2). Map 2 and Table 2 show the 2010 land uses in the Montgomery Lake watershed. Most of the uplands are highly developed, however the shoreland lots are abundant in trees.<sup>7</sup> Agricultural land comprises 42 percent of land use in the watershed, and is the greatest use of land. Wetlands and woodlands comprise another 23 and 6 percent of land use, respectively. Urban uses account for approximately 23 percent of the watershed with low- and medium-density single-family residential areas accounting for over half of residential land use. Projected 2035 land use (Table 2) indicates significant changes within the Montgomery Lake watershed. Currently, projections indicate that almost all agricultural and open lands within the watershed will be converted to residential or recreational uses, resulting in a 59 percent decrease in rural lands, and a 200 percent increase in urban lands.

## WATER QUALITY

The WDNR re-evaluated Montgomery Lake's water quality as part of the recent impairment listing cycle and found that the Lake's water quality clearly meets State thresholds for fish and aquatic life.<sup>8</sup>

Historical water quality gives insight into changes that may be occurring within the Lake and its watershed. By comparing data and evaluating trends, causes for change may be identified and management actions

**Table 1**  
**Hydrology and Morphometry of Montgomery Lake**

Parameter	Measurement
Size	
Lake Surface Area <sup>a</sup>	61 acres
Watershed Area <sup>b</sup>	253 acres
Shape	
Length	0.4 mile
Width	0.3 mile
Shoreline Length	2.4 miles
Shoreline Development Factor <sup>c</sup>	1.7
General Lake Orientation	NW-SE
Depth	
Maximum Depth	23 feet
Mean Depth	10 feet
Area under 3 feet	44 percent
Area over 15 Feet	8 percent

<sup>a</sup> Surface lake surface area used in this study was believed by SEWRPC to best represent the present ordinary high water mark open water area of the Lake. It generally includes connected channels and sparsely vegetated marsh, and therefore tends toward the larger side of published values. Various sources have reported Montgomery Lake's surface area to be as low as 57 acres and as high as 61 acres. Reported lake surface area varies widely by source and over time. Some of the reasons why this may happen include water elevation changes, differences in vegetation over the years, inclusion or exclusion of fringing marsh, and inclusion or exclusion of channels leading off the main body of the lake or actual changes in the lake shoreline over the 60-year period of record.

<sup>b</sup> Excludes Montgomery Lake.

<sup>c</sup> Shoreline development factor is the ratio of the shoreline length to the circumference of a circular lake of the same area. Closer to a value of 1.0, the more circular a lake is.

Source: Wisconsin Department of Natural Resources, Aron and Associates, Inc., and SEWRPC.

<sup>6</sup> Uttormark, Paul D. and Mark L. Hutchins, 1978, Input Output Models as Decision Criteria for Lake Restoration, University of Wisconsin-Madison, Wisconsin Water Resources Center, Technical Report No. 78-03, pg. 61.

<sup>7</sup> Ibid.

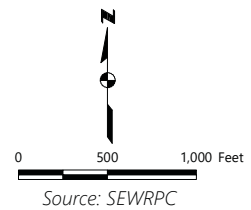
<sup>8</sup> Wisconsin Department of Natural Resources, Montgomery Lake, Kenosha County website, "conditions" <https://dnr.wi.gov/water/waterDetail.aspx?wbic=738200>



**Figure 1**  
**1970 Aerial Photograph of Montgomery Lake**



Date of Photography: 1970

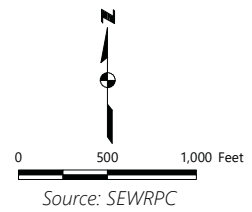




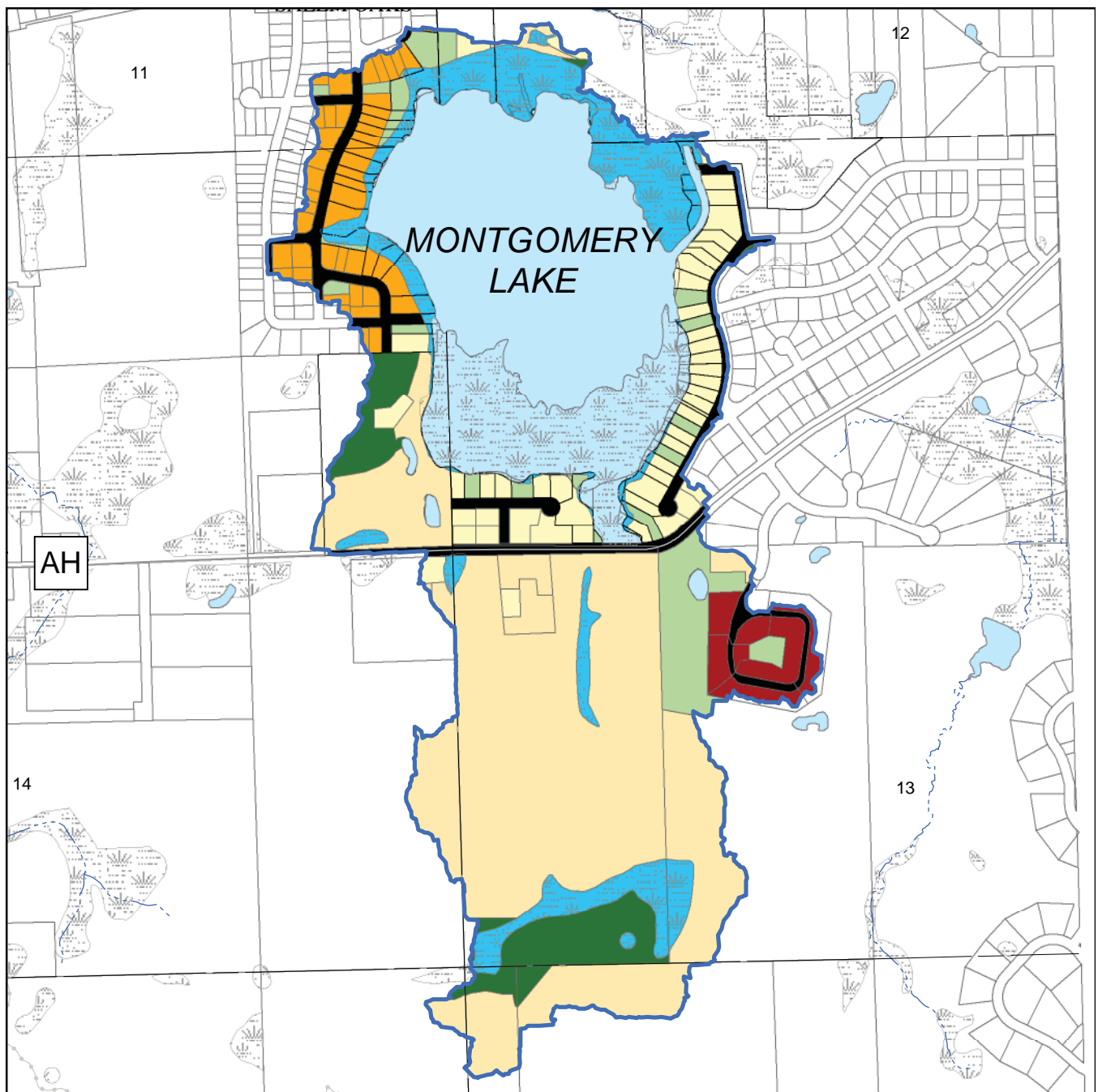
**Figure 2**  
**2015 Orthophotograph of Montgomery Lake**



Date of Photography: 2015



**Map 2**  
**2010 Land Use Within the Montgomery Lake Watershed**





**Table 2**  
**Existing and Planned Land Use Within the Montgomery Lake Watershed: 2010 and 2035**

Land Use Categories <sup>a</sup>	2010		2035		Change: 2010-2035	
	Acres	Percent of Total	Acres	Percent of Total	Acres	Percent
Urban						
Residential						
Single-Family, Suburban Density	--	--	--	--	--	--
Single-Family, Low Density	21.1	8.37	114.7	45.50	93.6	443.6
Single-Family, Medium Density	14.0	5.55	14.0	5.55	0	0.0
Single-Family, High Density	--	--	--	--	--	--
Multi-Family	7.1	2.82	7.1	2.82	0.0	0.0
Commercial	--	--	--	--	--	--
Industrial	--	--	--	--	--	--
Governmental and Institutional	--	--	--	--	--	--
Transportation, Communication, and Utilities	14.7	5.83	14.7	5.83	0.0	0.0
Recreational	--	--	20.9	8.29	--	--
Subtotal	56.9	22.57	171.4	67.99	114.5	201.2
Rural						
Agricultural	106.1	42.09	0.1	0.04	-106.0	-99.9
Other Open Lands	15.5	6.19	7.1	2.82	-8.5	-54.8
Wetlands	57.5	22.80	57.5	22.80	0	0.0
Woodlands	14.9	5.91	14.9	5.91	0.0	0.0
Water <sup>b</sup>	1.1	0.44	1.1	0.44	0.0	0.0
Extractive	--	--	--	--	--	--
Landfill	--	--	--	--	--	--
Subtotal	195.1	77.43	80.7	32.01	-114.2	-58.7
Total	252.0	100.00	252.1	100.00	0.0	--

Note: This land use summary table includes internally drained areas. Internally drained areas do not contribute surface-water runoff to the Lake and are therefore not included in the Lake's watershed area listed in Table 1.

<sup>a</sup> Parking included in associated use

<sup>b</sup> Excludes Montgomery Lake.

Source: SEWRPC

can be taken to help protect the Lake. Historically, only limited water quality data was collected at Montgomery Lake. A volunteer, living on Montgomery Lake, collected water quality data between 1993 and 2004. Montgomery Lake does not currently participate in the University of Wisconsin (UWEX) Citizen Lakes Monitoring Network (CLMN) in which citizen volunteers collect lake water quality parameters such as water clarity, phosphorus concentrations, and dissolved oxygen levels. CLMN is an extremely useful program to provide long-term water quality data. The available water quality data is compiled and is available on the WDNR Lakes page.<sup>9</sup>

Water clarity is a commonly used and easily understood surrogate for perceived water quality. Many people equate "clear" water with "clean" water. While this is not always true, methods have been developed to allow lake water clarity to be compared and contrasted. Water clarity is measured with a Secchi disk (Figure 3). "Secchi depth" is the distance below the water surface that a Secchi disk can be seen under carefully prescribed conditions. Secchi depth has been occasionally measured in the Lake and the results over time are summarized graphically in Figure 4. On average, water clarity has been good, with Secchi depth readings typically averaging around eight. Water clarity has also been estimated from satellite imagery,<sup>10</sup> and gives values which generally agree with values actually measured on the Lake.

<sup>9</sup> Water quality data and other information about Montgomery Lake can be found at the WDNR Lakes page: <http://dnr.wi.gov/lakes/LakePages/LakeDetail.aspx?wbic=738200>.

<sup>10</sup> [https://dnrmapping.wi.gov/H5/?viewer=Lakes\\_AIS\\_View](https://dnrmapping.wi.gov/H5/?viewer=Lakes_AIS_View)

**Figure 3**  
**Measuring Water Clarity with a Secchi Disk**



Source: [www.burnsville.org](http://www.burnsville.org) and SEWRPC

Lake trophic state index (TSI) is calculated using physical and chemical indicators of lake nutrient enrichment. Lakes with low numeric scores (i.e., less than 40) generally have clear water of excellent quality and are termed oligotrophic. Lakes with TSI values between 50 and 60 are termed eutrophic and have limited water clarity, fewer algal species, overly-abundant aquatic plant growth, and deep areas that are commonly devoid of oxygen during summer. Mesotrophic lakes (TSI values between 40 and 50) have conditions intermediate between oligotrophic and eutrophic lakes, while hypereutrophic lakes (TSI values above 70) commonly can experience algal blooms, poor water clarity, and, in extreme cases, summer fish kills. Hypereutrophic conditions rarely occur in nature and are generally associated with human activity.

Montgomery Lake's TSI values are plotted over time in Figure 5. As can be seen from this graphic, TSI values based upon total phosphorus, Secchi depth, and chlorophyll data collected between 1993 and 2004 show an average Trophic State Index of 47, which indicates that the Lake is mesotrophic (Figure 5).

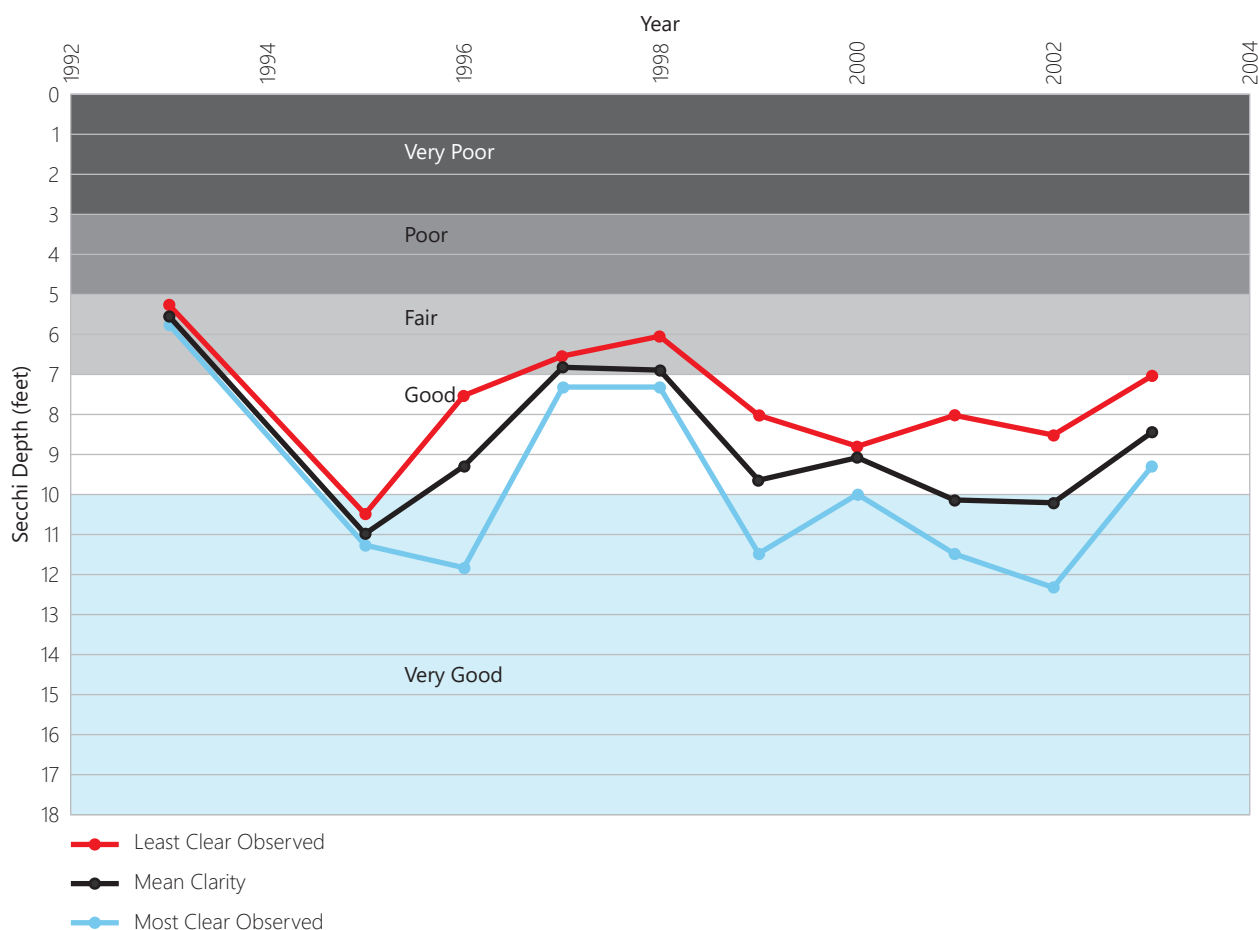
## NATURAL RESOURCES

### Aquatic Plants

Aquatic plant growth in Montgomery Lake was observed and surveyed by WDNR staff during a sensitive area designation survey in July 2003 and June 2007 (Table 3). The survey results were combined and expressed quantitatively for all submerged plant species observed.

The surveys of Montgomery Lake found 23 native aquatic plant species and two invasive species. Neither of the invasive species were found to be common. Results indicated that the dominant plant was cattail (*Typha* spp.). The following plants were found in abundance: yellow pond lily (*Nuphar advena*), white water lily (*Nymphaea odorata*), muskgrass (*Chara* spp.), variable water milfoil (*Myriophyllum heterophyllum*), and

**Figure 4**  
**Summer (June Through August) Secchi Depth Ranges for Montgomery Lake**



northern milfoil (*Myriophyllum sibiricum*). Native species provide a variety of benefits, including food for wildfowl and fish, and shelter for fingerling fish such as trout, bluegill, and bass. All of the plants found were species commonly observed in lakes within the Region. Aquatic plant management on Montgomery Lake is limited to manual harvest by riparian owners; no chemicals or mechanical harvesting takes place on the Lake.

### Aquatic Invasive Species

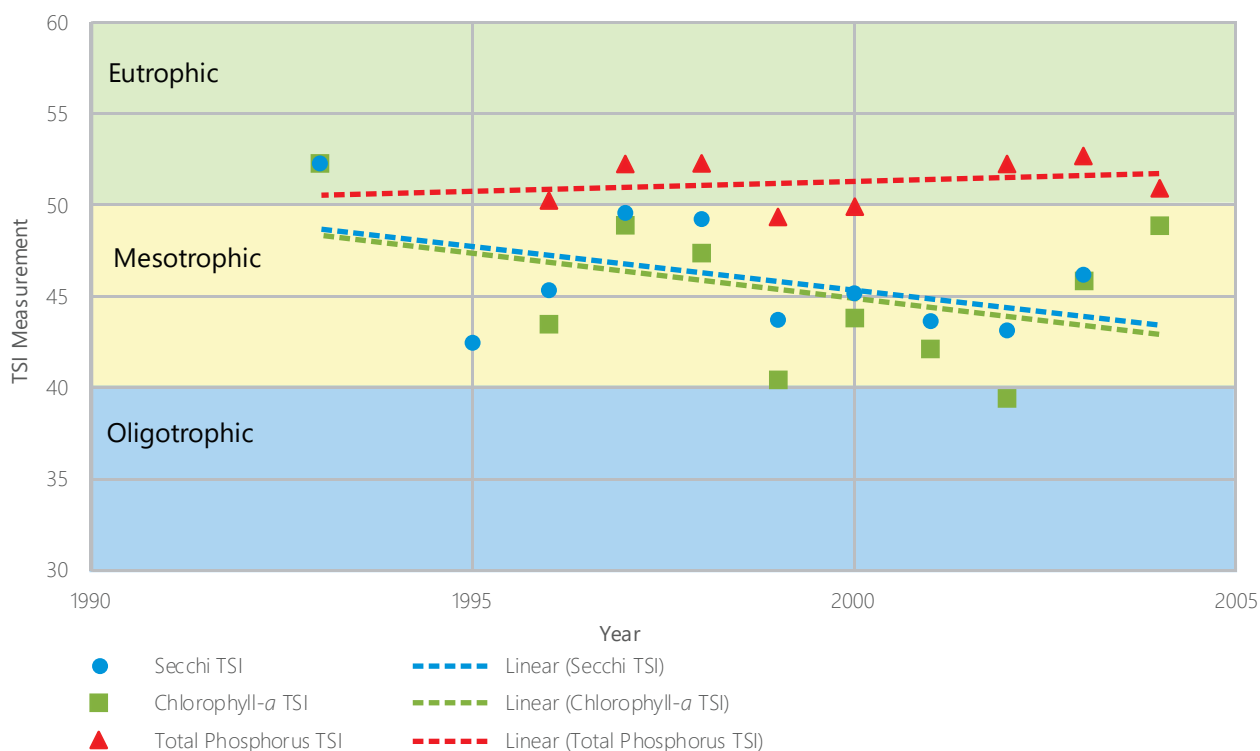
The terms “nonnative” and “invasive” are often confused and incorrectly assumed to be synonymous. Nonnative (sometimes also referred to as “exotic”) is an overarching term describing living organisms introduced to new areas beyond their native range with intentional or unintentional human help. Nonnative species may not necessarily harm ecological function or human use values in their new environments. Invasive species are the subset of nonnative species that damage the ecological health of their new environments and/or are commonly considered nuisances to human use values. In summary, invasive species are non-native but not all non-native species are invasive.

### **Eurasian Water Milfoil (*Myriophyllum spicatum*) and Eurasian/Northern Water Milfoil Hybrids**

EWM, one of eight milfoil species found in Wisconsin, is the only milfoil species known to be exotic/nonnative (see Figure 6). This plant can grow profusely in nutrient-rich lakes impeding boating and recreational use. Because of this management concern, EWM is actively managed by mechanical and chemical means in many Southeastern Wisconsin lakes. The presence of EWM was verified and vouchered in 2002 by the WDNR, but the species was not found to commonly occur in the Lake.



**Figure 5**  
**Summer (June Through August) Annual Average Trophic State Indices (TSI) for Montgomery Lake**



Note: June-August data of each year was averaged to produce the resultant values.

Source: Wisconsin Department of Natural Resources and SEWRPC

In recent years, EWM/native northern milfoil hybrids have been observed in some Wisconsin lakes. These hybrids pose a difficult management problem: not only do hybrids grow quickly like EWM, but hybrids appear to be more tolerant to aquatic herbicides such as 2, 4-D and Endothall that are commonly used to manage EWM.<sup>11</sup> EWM/native milfoil hybrids have not been identified in Montgomery Lake.

### Curly-leaf Pondweed (*Potamogeton crispus*)

Curly-leaf pondweed (see Figure 7) is a plant that thrives in cool water and exhibits an early-season growth cycle that helps give it a competitive advantage over native plants. However, curly-leaf pondweed begins to die off during the summer when lake water temperatures start to peak. Therefore, it is not normally considered a nuisance during summer months. Curly-leaf pondweed was verified in the Lake in 2004, but was not found to have a large presence in the Lake.

### Fisheries and Wildlife

The WDNR's lake page lists the Lake's northern pike (*Esox lucius*), largemouth bass (*Micropterus salmoides*), and panfish as "common."<sup>12</sup> A recent WDNR boom shocker survey conducted in May 2010 reported several species in the Lake including golden shiner (*Notemigonus crysoleucas*), central mudminnow (*Umbra limi*), warmouth (*Lepomis gulosus*), yellow perch (*Perca flavescens*), yellow bullhead (*Ameiurus natalis*), grass pickerel (*Esox americanus vermiculatus*), pumpkinseed (*Lepomis gibbosus*), and bluegill (*Lepomis macrochirus*). The lake chubsucker (*Erimyzon sucetta*), a species of special concern in Wisconsin (see Figure 8), was also found.<sup>13</sup> A WDNR boom shocker survey conducted in November 2014 found an additional species, the black crappie (*Pomoxis nigromaculatus*).

<sup>11</sup> T. Groves, P. Hausler, and P. Tynning, Water Resources Group, Progressive AE, Hybrid Milfoil: Management Implications and Challenges, The Michigan Riparian, Winter 2015.

<sup>12</sup> [dnr.wi.gov/lakes/lakepages/LakeDetail.aspx?wbic=738200](http://dnr.wi.gov/lakes/lakepages/LakeDetail.aspx?wbic=738200).

<sup>13</sup> WDNR, Montgomery Lake (Kenosha County, Wisconsin) Integrated Sensitive Area Report, op.cit.

The wetlands and aquatic plant beds of Montgomery Lake provide excellent habitat for waterfowl, muskrats, pheasants, and various marsh and migratory birds. The Lake's shallow depth and dense aquatic plant growth make it ideal for waterfowl. Herons, sandhill cranes, blue-winged teal, mallards, and bitterns have been reported as commonly present. Waterfowl use the Lake during migrations, and the non-migratory Canada geese that are so prevalent throughout southeastern Wisconsin are abundant.

### Environmentally Significant Areas

The Montgomery Lake watershed contains numerous environmentally significant areas. These areas generally represent the best remaining natural resource areas in the Lake's watershed. These areas in the Montgomery Lake watershed have been found by the WDNR to support a diverse wildlife population. The WDNR found evidence of the presence of Canadian geese, red wing black birds, common yellow throats, sedge wrens, blue herons, green backed herons, tree swallows, barn swallows, bull frogs, and painted turtles. Lake residents also reported seeing snapping turtles, beavers, deer, green frogs, northern leopard frogs, red fox, mink, coyote, and flying squirrel. The WDNR also suspects the presence of muskrat, sora rail, and terns. Many important interdependent relationships occur between living organisms and their environment in such areas. Destruction or deterioration of any one element of a natural environment may unravel the value and stability of the overall resource. Therefore, it is important to protect such areas.

As shown on Map 3, primary environmental corridor areas occupy nearly 1,901 acres of land and water area (including the Lake itself) in the Lake's watershed area, much of it in close proximity to the Lake. Preserving these areas is critically important to maintaining the ecological integrity of the Lake.

Montgomery Lake Marsh abuts the southern end of Montgomery Lake. This 43-acre wetland tract contains both deep and shallow marsh dominated by cattails. Montgomery Lake Marsh is designated as a natural area of county-wide or regional significance.

Montgomery Lake has been designated as a critical aquatic habitat area under the SEWRPC's Critical Habitat Designation program on the basis of its ability to provide ideal waterfowl, marsh wildlife, and critical fish species habitat.<sup>14</sup> The Lake is considered an aquatic area of local significance, important to the overall health of aquatic plants and animals.

**Table 3**  
**Montgomery Lake Aquatic Plant**  
**Surveys: July 2003 and June 2007**

Aquatic Plant Species	Abundance
<b>Floating Plants</b>	
<i>Brasenia schreberi</i> (water shield)	Common
<i>Nuphar advena</i> (yellow pond lily)	Abundant
<i>Nuphar variegata</i> (spatterdock)	Common
<i>Nymphaea odorata</i> (white water lily)	Abundant
<i>Spirodela polyrrhiza</i> (great duckweed)	Common
<b>Emergent Plants</b>	
<i>Pontederia cordata</i> (pickerelweed)	Present
<i>Sagittaria latifolia</i> (common arrowhead)	Present
<i>Typha</i> spp. (cattails)	Dominant
<b>Submerged Plants</b>	
<i>Ceratophyllum demersum</i> (coontail)	Common
<i>Chara</i> spp. (muskgrass)	Abundant
<i>Elodea canadensis</i> (common waterweed)	Present
<i>Myriophyllum heterophyllum</i> (variable water milfoil)	Abundant
<i>Myriophyllum sibiricum</i> (native milfoil)	Abundant
<i>Myriophyllum spicatum</i> (Eurasian water milfoil)	Present
<i>Potamogeton amplifolius</i> (large-leaf pondweed)	Present
<i>Potamogeton crispus</i> (curly-leaf pondweed)	Present
<i>Potamogeton epihydrus</i> (ribbon-leaf pondweed)	Present
<i>Potamogeton illinoensis</i> (Illinois pondweed)	Common
<i>Potamogeton natans</i> (floating leaf pondweed)	Present
<i>Potamogeton pusillus</i> (small pondweed)	Present
<i>Potamogeton zosteriformis</i> (flat-stem pondweed)	Common
<i>Ranunculus longirostris</i> (white water crowfoot)	Common
<i>Stuckenia pectinata</i> (Sago pondweed)	Common
<i>Utricularia purpea</i> (large bladderwort)	Present
<i>Utricularia vulgaris</i> (common bladderwort)	Present

Note: Nonnative species above are listed in red print; all other species are native. NR 107 Wisconsin Administrative Code high-value species are printed in green print.

Aquatic plant data from July 2003 and June 2007 combined in final Sensitive Area Designation Report produced and provided by the Wisconsin Department of Natural Resources.

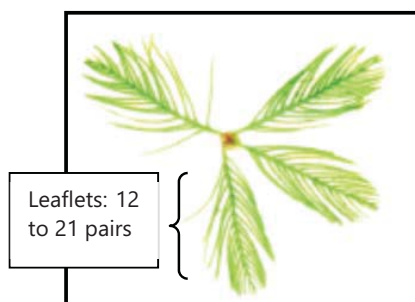
Abundance designations are: Present = 0-25% of lake, Common = 26-50%, Abundant = 51-75%, and Dominant = 76-100%.

Source: Wisconsin Department of Natural Resources and SEWRPC.

<sup>14</sup> SEWRPC Planning Report Number 42, A Regional Natural Areas and Critical Species Habitat Protection and Management Plan for Southeastern Wisconsin, September 1997.

**Figure 6**  
**Eurasian Water Milfoil (*Myriophyllum spicatum*)**

Identifying Features	Ecology
<ul style="list-style-type: none"> <li>• Stems spaghetti-like, often pinkish, growing long with many branches near the water surface</li> <li>• Leaves with 12 to 21 pairs of leaflets</li> <li>• Produces no winter buds (turions)</li> </ul> <p>Eurasian water milfoil is similar to northern water milfoil (<i>M. sibiricum</i>). However, northern water milfoil has five to 12 pairs of leaflets per leaf and stouter white or pale brown stems</p>	<ul style="list-style-type: none"> <li>• Hybridizes with native northern water milfoil, resulting in plants with intermediate characteristics</li> <li>• Invasive, growing quickly, forming canopies, and getting a head-start in spring due to an ability to grow in cool water</li> <li>• Grows from root stalks and stem fragments in both lakes and streams, shallow and deep; tolerates disturbed conditions</li> <li>• Provides some forage to waterfowl, but supports fewer aquatic invertebrates than mixed stands of aquatic vegetation</li> </ul>



Source: Wisconsin Department of Natural Resources and Skawinski, P. M. (2014). *Aquatic Plants of the Upper Midwest: A Photographic Field Guide to Our Underwater Forests*, 2nd Edition, Wausau, Wisconsin, USA: Self-Published

### Aesthetic Features

Even though Montgomery Lake is located in a densely populated area, significant amounts of undeveloped shoreline are present. Montgomery Lake provides an abundance of natural scenic beauty and wildlife viewing. It is a generally peaceful lake as much of the shoreline is wetland. Much of the lakeshore is wooded which helps to conceal the homes and developed appearances of the properties that encircle the Lake.

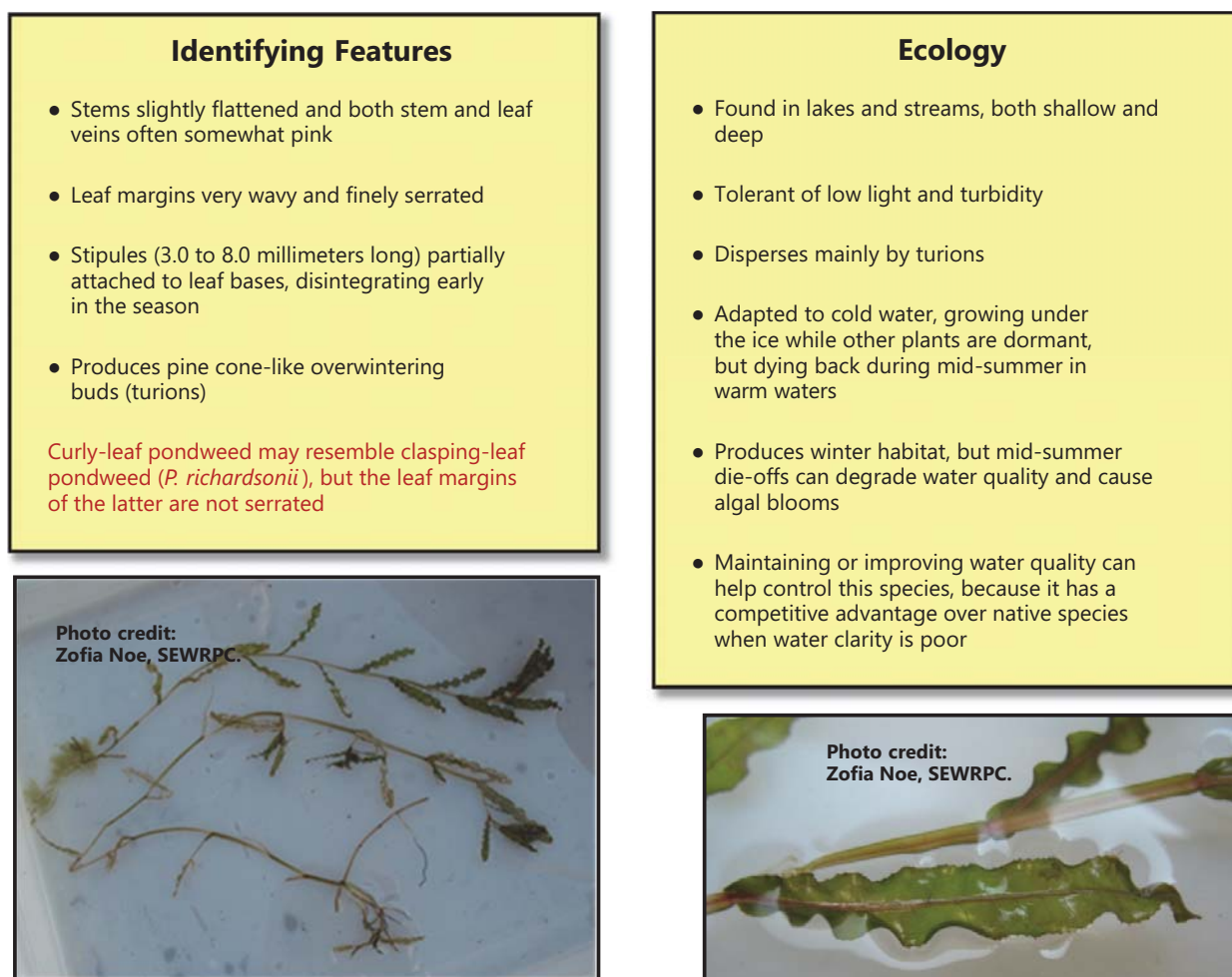
## LAKE USE

### Recreational Use

During summer and winter 2014, SEWRPC staff conducted recreational surveys to examine public lake use. The surveys reveal the Lake provides opportunities for hunting, fishing, canoeing, swimming, boating, and viewing of natural scenic beauty during summer months, although activity on the Lake is relatively low in, even during the summer (Figure 9). The most popular winter activities observed were ice fishing and snowmobiling (Figure 10).



**Figure 7**  
**Curly-leaf Pondweed (*Potamogeton crispus*)**



Source: Wisconsin Department of Natural Resources, SEWRPC, and Skawinski, P. M. (2014). *Aquatic Plants of the Upper Midwest: A Photographic Field Guide to Our Underwater Forests*, 2nd Edition, Wausau, Wisconsin, USA: Self-Published.

### Public Access

There is one public boat access site and one carry-in access site on Montgomery Lake (see Map 4). The public boat access was observed by SEWRPC staff to be limited to small boats. As the sites have very limited to no parking, the WDNR deems the Lake to not have adequate public recreational boating access pursuant to standards set forth in Chapter NR 1 of the *Wisconsin Administrative Code*.

### Cottages and Homesites

According to recent records, 62 lakefront lots abut Montgomery Lake. Lot sizes average 1.7 acres and range from less than 0.2 acre to 26 acres.<sup>15</sup> The population and number of households in Montgomery Lake's direct tributary area is projected to increase significantly by 2035 (Table 4).

## EXISTING PROTECTIVE MEASURES

### Sewage Disposal

All riparian residential lands in the Montgomery Lake watershed are served by public sanitary sewer systems. As such, water pollution from onsite septic systems is not an ongoing concern.

<sup>15</sup> SEWRPC Memorandum Report No. 222, op.cit.

**Figure 8**  
**Lake Chubsucker: Special Concern Species**



*Source: Wisconsin department of Natural Resources and SEWRPC*

### **Shoreline Protection and Erosion Control**

The shoreline of Montgomery Lake is largely protected (90 percent) by robust riparian vegetation with four percent protected by sparse riparian buffer (see Map 5). The remaining five percent of shoreline is unprotected. An example of unprotected shorelines is where riparian owners mow lawn to water's edge. Evidence of erosion was visible at eight sites along the lake shore during a survey conducted by SEWRPC in August 2014.<sup>16</sup> Soil erosion can be aesthetically unappealing and often carries high nutrient loads, which can cause decreased water quality, excess plant growth, and algal blooms.

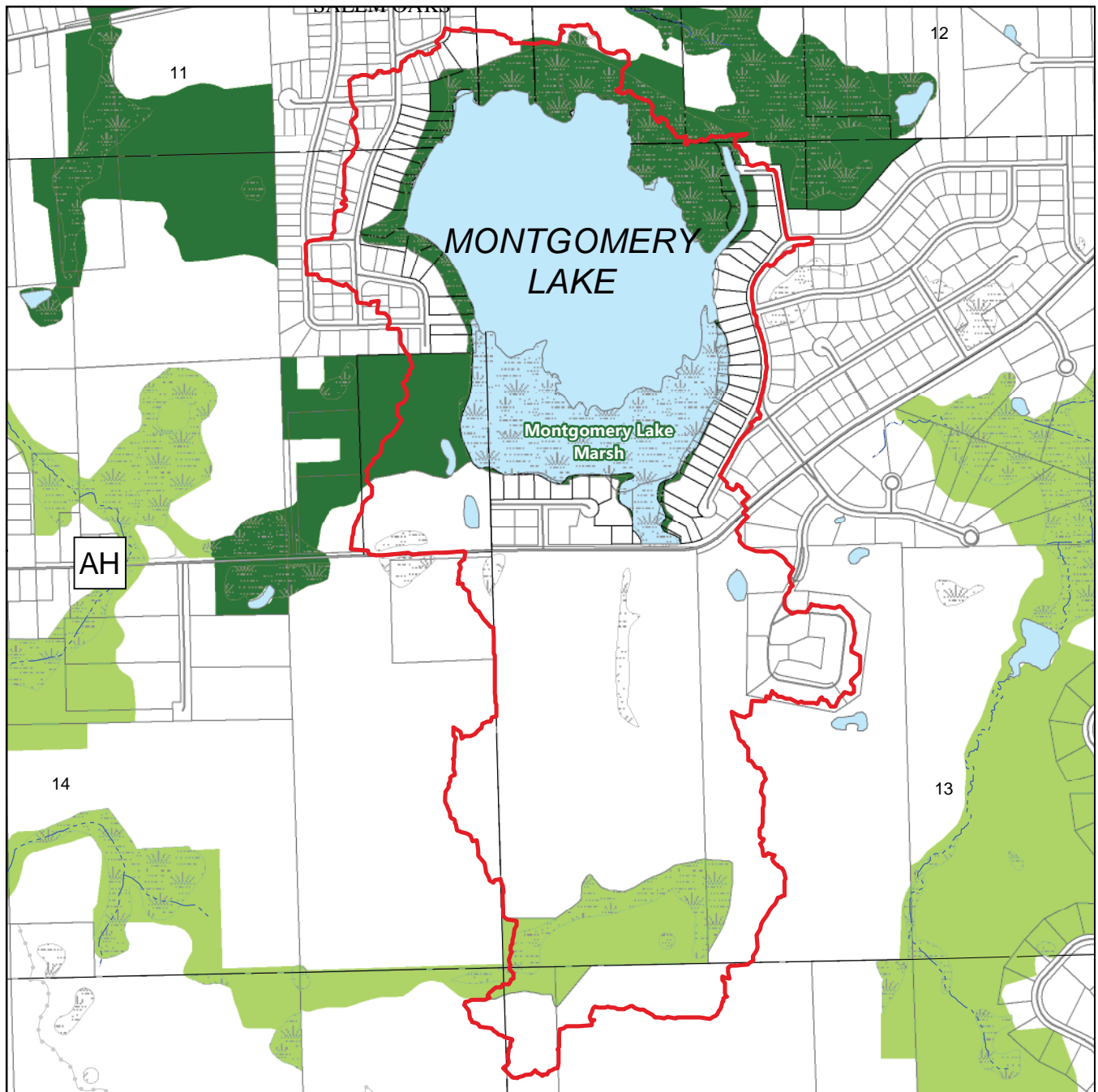
### **Land Use Regulations**








Comprehensive zoning ordinances are one of the most important tools available to local units of government for encouraging orderly development and land use that contributes to long-term human and environmental welfare. Montgomery Lake and its watershed are subject to ordinances and regulations adopted by the Village of Salem Lakes. The Village of Salem Lakes was incorporated on February 14, 2017, and, as an interim measure, continues to follow the ordinances adopted by the Town of Salem and Kenosha County. Table 5 summarizes general and special-purpose zoning ordinances for the civil divisions within the Montgomery Lake watershed.

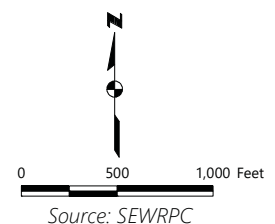
---

<sup>16</sup> Ibid.

**Map 3**  
**Environmentally Significant Areas Within the Montgomery Lake Watershed: 2015**



- |                                                                                                         |                                                                                                                       |
|---------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
|  SURFACE WATER       |  PRIMARY ENVIRONMENTAL CORRIDORS   |
|  WATERSHED BOUNDARY  |  SECONDARY ENVIRONMENTAL CORRIDORS |
|  INTERMITTENT STREAM |  ISOLATED NATURAL RESOURCE AREA    |
|                                                                                                         |  WETLANDS                          |





**Figure 9**  
**Typical Summer Activities on Montgomery Lake**

---



Source: SEWRPC

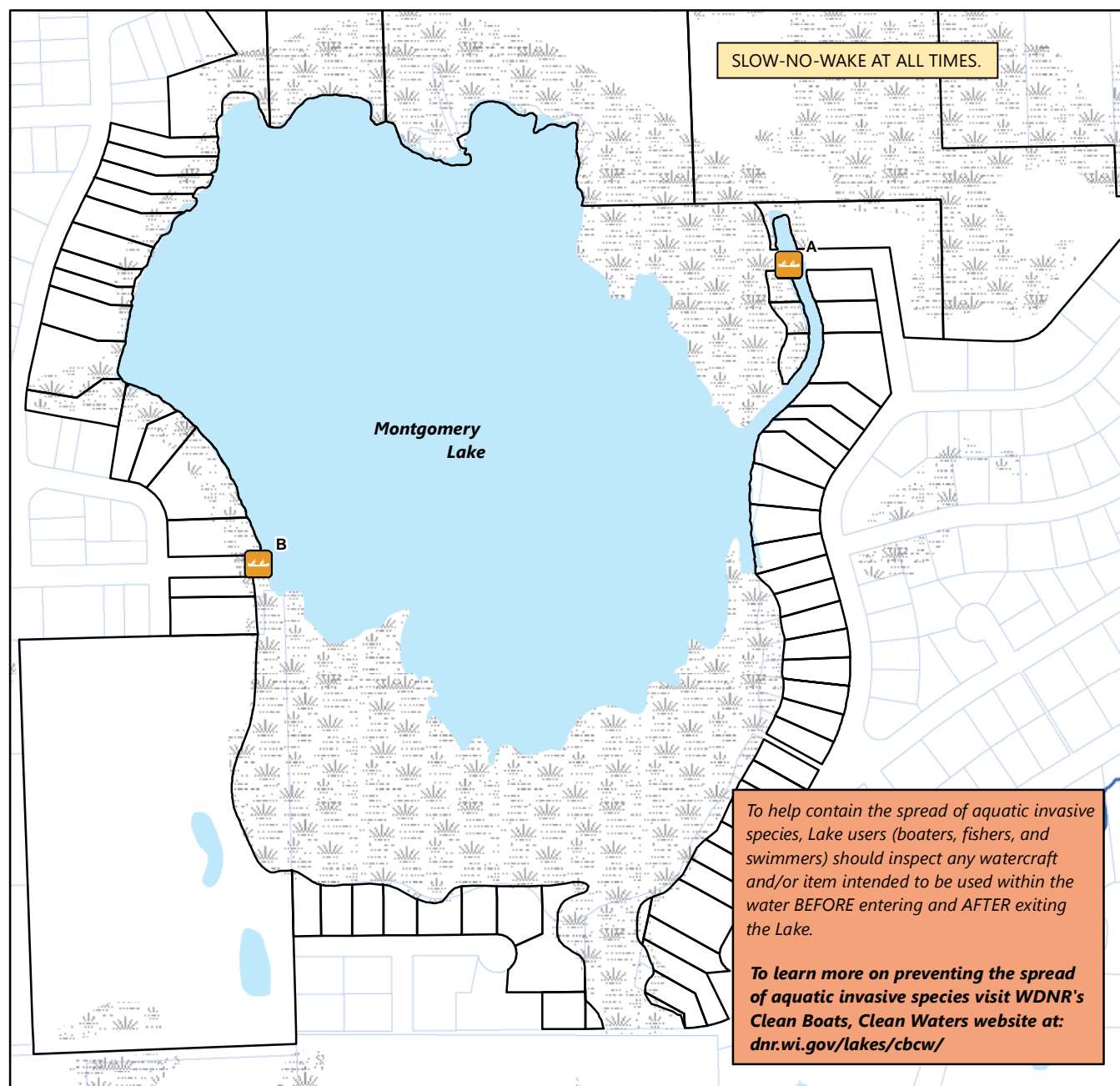
**Figure 10**  
**Typical Winter Activities on Montgomery Lake**



---





Source: SEWRPC


## Map 4 Recreational Use on Montgomery Lake: 2015




Map ID	Description	Facilities								
		Boat Ramp	Fee	Car-trailer Parking	Car Parking	Pier	Swim Beach	Picnic Area	Shelter	Playground
 <b>A</b>	Village of Salem Lakes Carry-In	Carry-In	No	No	No	No	No	No	No	No
 <b>B</b>	Village of Salem Lakes Carry-In	Carry-In	No	Very Limited	Limited	Yes	No	No	No	No

 PARCEL BOUNDARY ALONG SHORELINE

 SURFACE WATER

 WETLAND



0 250 500 Feet

Source: Wisconsin Department of Natural Resources and SEWRPC

Note: For additional lake information or boating regulations go to: [dnr.wi.gov/lakes/lakepages/Results.aspx](http://dnr.wi.gov/lakes/lakepages/Results.aspx)

**Table 4**  
**Population and Households in the**  
**Montgomery Lake Watershed: 1960-2035**

Year	Population	Households
1960	--	--
1970	18	6
1980	25	8
1990	104	38
2000	217	76
2010	356	139
Planned 2035	568	216

Source: U.S. Bureau of Census and SEWRPC

### Water Use Regulations

Montgomery Lake is subject to a Water Use Ordinance promulgated by Kenosha County as Chapter 30 of the *Wisconsin Statutes* and applies to persons, boats, watercraft, and objects upon, in, and under the waters of Montgomery Lake within the jurisdiction of the Town. Further, the entire lake is under a low, no-wake ordinance.

**Table 5**  
**Land Use Regulations Within the**  
**Montgomery Lake Watershed in Kenosha**  
**County by Civil Division: 2016**

Type of Ordinance	Community	
	Kenosha County	Town of Salem
General Zoning	Adopted	Regulated under County ordinance
Floodplain Zoning	Adopted	Regulated under County ordinance
Shoreland Zoning	Adopted	Regulated under County ordinance
Subdivision Control	Adopted <sup>a</sup>	Adopted <sup>a</sup>
Construction Site Erosion Control and Stormwater Management	Adopted <sup>a</sup>	Adopted <sup>a</sup>

<sup>a</sup>Both the Kenosha County and Town of Salem subdivision ordinances and erosion control and stormwater management ordinances apply within the Town of Salem. In the event of conflicting regulations, the more restrictive regulation applies.

Source: SEWRPC



**Map 5**  
**Shoreline Survey on Montgomery Lake: 2014**

