**Milwaukee River South Watershed**

The Milwaukee River South Watershed covers about 168 square miles and is located in portions of Ozaukee and MilwaukeeCounties. The Milwaukee River main stem enters the watershed west of the Village of Fredonia and flows for about 48 miles before entering the Milwaukee Harbor. There are three small named lakes, several unnamed lakes and many park ponds within the Milwaukee River South Watershed.

Most of the tributary streams in the Milwaukee County portion of this watershed are only capable of supporting populations of more tolerant fish species like common carp. Although not officially listed as a cold water stream, Mole Creek in Ozaukee County is the only river in the Milwaukee South Watershed with the ability to sustain cool and cold water fish species.

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| **Watershed Details** |

At the time of the 2010 Census, the Wisconsin Population Lab has determined the Milwaukee River South Watershed to contain 401,172 inhabitants. The Milwaukee River South Watershed has an extremely diverse land uses. The most dominant land use in this watershed is Agriculture, which constitutes approximately 31% of the watershed. Suburban is the second largest land use (20.47%) followed closely by Urban (17.15%). The next largest watershed land components are Open Land and Water (12.59%) followed by Forest (12.23%). The last sizeable portion of the watershed belongs to Wetlands, which constitutes 5.61% of the watershed. Grassland (0.74%) and Barren (0.18%) make up the remainder of the watershed.

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| Table 1: South Milwaukee River Watershed Land Use |
| Land Use | Acres | % of Area |
| Agriculture | 33,343.50 | 31.03% |
| Suburban | 21,996.18 | 20.47% |
| Urban | 18,428.65 | 17.15% |
| Open Land and Water | 12,528.67 | 12.59% |
| Forest | 12,141.83 | 12.23% |
| Wetland | 6,028.26 | 5.61% |
| Grassland | 795.17 | 0.74% |
| Barren | 193.42 | 0.18% |
| Total Acres in Watershed | 107,455.70 |  |

**Hydrology**

Nearly 15 percent of all perennial stream miles in this watershed are significantly modified to the extent they have limited ability to sustain diverse biological communities. Many of these streams were straightened, enclosed or lined with concrete to facilitate water movement downstream to alleviate flooding concerns. This method to control flooding, while popular 35 years ago is now considered somewhat ineffective. From a water quality and biological standpoint this type of river modification causes wide fluctuations in water levels over short periods of time, increases channel scour, and provides little to no habitat for aquatic life. Establishing a meandering stream helps create more diverse habitat for biological activities. The Milwaukee Metropolitan Sewerage District (MMSD) is implementing major flood water storage and where possible, river restoration activities in Lincoln Creek, Southbranch Creek and Indian Creek and other area watersheds.

**Ecological Landscapes**

The Milwaukee River South Watershed is located in two ecological landscapes: the Southern Lake Michigan Coastal Ecological Landscape and the Central Lake Michigan Coast Ecological Landscape.

The Southern Lake Michigan Coastal Ecological Landscape is located in the southeastern corner of Wisconsin along Lake Michigan. The landforms in this Ecological Landscape are characteristic of glacial lake influence, with ridge and swale topography, clay bluffs, and lake plain along Lake Michigan. Further inland, ground moraine is the dominant landform. Soils typically have a silt-loam surface overlying loamy and clayey tills.

The historic vegetation in the northern part of this Ecological Landscape was dominated by sugar maple-basswood-beech forests with some oak while the southern part was dominated by oak forest, oak savanna and prairies. Wet, wet-mesic, and lake plain prairies were common in this area. Black ash and relict cedar and tamarack swamps were found in this Ecological Landscape. Today, most of the area is dominated by dairy and cash grain agriculture and intense urban development. Only about 8% of the Ecological Landscape is forested. Maple-beech forests are about half of the remaining forest types with the remainder split equally between oak-hickory and lowland hardwood forest types. There are some areas of wet-mesic and wet prairie but only small preserves remain since the landscape is heavily disturbed and fragmented. Because of this isolation, fragmentation, and high level of disturbance, non-native plants are abundant.



**Historical Note**

The hamlet of Waubeka, just outside of the Village of Fredonia in Ozaukee County, is located in the northern part of the Milwaukee River South Watershed. Waubeka is known as the birthplace of Flag Day. In 1885, Stony Hill School teacher Bernard John Cigrand displayed a 10-inch flag in an inkwell and had his students write essays on what the flag meant to them. He told the students that June 14th was the birthday of the flag. The school is now considered a historic site.

Bernard J. Cigrand was born on Yankee Hill in Waubeka, Wisconsin on October 1, 1866. He was the youngest of six children of Nicholas and Susan Cigrand, who had settled and married here a decade earlier after emigrating from Luxembourg in Northwestern Europe.

As a youth, young Cigrand sold scrap iron and rags to buy books. At 12 he worked as a sales agent for the U. S. Book and Bible Club earning 25 cents for each book he sold. He was a conductor on a steam barge on the Milwaukee River in the Waubeka area. Inspired by his father, young Cigrand displayed an early interest in American history. He was a devout patriot with a great love of the flag of our nation.

Cigrand earned $40 each month teaching school at Stony Hill, and with income from selling books was able to pay his way through dental school. In June 1886, he made his first public proposal for the annual observance of the birth of the flag when he wrote an article titled "The Fourteenth of June" in the old Chicago Argus newspaper. In 1888, Cigrand graduated first in his class from Lake Forest College of Dentistry. In the years that followed, he authored hundreds of other magazine and newspaper articles advocating recognition of the June 14th adoption of the Stars and Stripes.

By 1916, flag ceremonies on June 14 had become so prevalent that President Woodrow Wilson issued a proclamation establishing Flag Day as an annual national event. In 1949, President Harry S. Truman signed legislation to designate June 14th as Flag Day.

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| **Watershed Conditions** |

**Overall Condition**

**River and Stream Condition**

**Lake Health**

**Wetland Health**

* Wetland Status
* Wetland Condition
* Wetland Restorability

**Groundwater**

* Private Wells
* Potential Sources of Contamination

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| **Waters of Note** |

* Trout Waters
* Outstanding and Exceptional Resource Waters

**Impaired Waters**

**Fish Consumption**

**Aquatic Invasive Species**

**Species of Special Concern**

**State Natural and Wildlife Areas**

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| **Watershed Actions** |

**Grants and Projects**

**Monitoring**

**Basin/Watershed Partners**

**Priority Issues**

**Recommendations**

**Contributors**