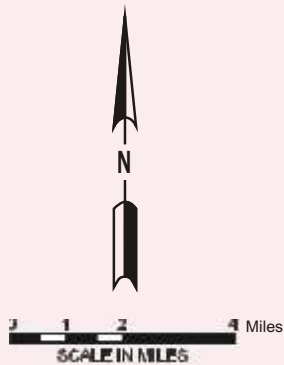


# Land Use Map



## LEGEND

### SEWRPC 2000 Land Use

- Agriculture
- Low Density Residential
- High Density Residential
- Commercial
- Outdoor Recreation, Wetland, and Woodland
- Transportation, Communication, and Utilities
- Manufacturing and Industrial
- Surface Water

### LAKE MICHIGAN LAND USE

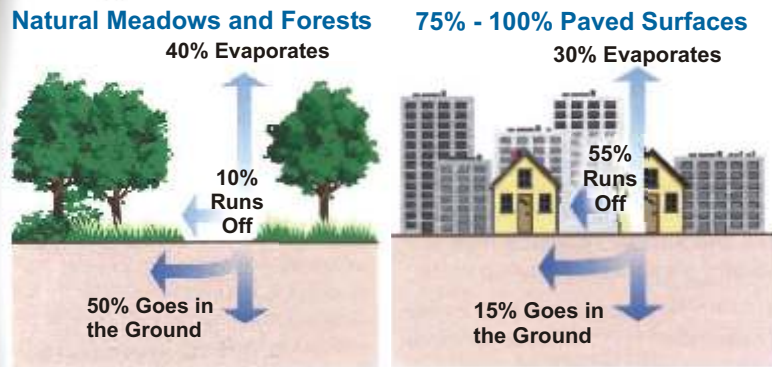
LAND USE CATEGORY	SQUARE MILES	PERCENTAGE
Agriculture	3	9%
Low Density Residential	9	27%
High Density Residential	3	10%
Commercial	0.1	<1%
Outdoor Recreational, Wetland, Woodland	9	27%
Transportation, Communication, Utilities	8	23%
Manufacturing and Industrial	1	3%
Surface Water	0.2	1%
<b>Lake Michigan Drainage</b>	<b>33</b>	<b>100%</b>

# Land Use & Stream Flow

According to the U.S. EPA, a typical city block generates seven times more runoff than a woodland area of the same size, for the same rainfall. "Hard surfaces" (impervious) such as roadways, parking lots, roof tops, etc... prevent water from naturally penetrating (infiltrating) into the ground.

Land use and stream flow are crucial to the health of our water resources. The strong relationship between land use and stream flow directly impacts water quality. How we develop and maintain land within our watersheds affects both the quality and quantity of water in our streams, rivers and lakes. As the watershed develops, the natural ecology and flow characteristics of our streams and rivers can be greatly altered.

Water quality and stream flow (either high or low) are influenced by numerous factors that include: size of the watershed, climate, meteorological events (e.g. rainstorms), geology (e.g. soil types), polluted discharges, and most notably the type and amount of development within the watershed (e.g. land use).



Consider the amount of rainfall that seeps into the ground, evaporates into the air, and runs off the land. In areas with low levels of development, depending on soil conditions, as much as 50 percent of rainfall can be absorbed directly into the

ground, with only about 10 percent of this water running off the land. In contrast, where the land has been extensively developed as in highly urbanized areas, very little water is absorbed into the ground. Instead, more than half of the water runs off the land because of hard impervious surfaces like buildings, streets and parking lots.

The open waters of Lake Michigan consist of both nearshore and offshore waters, including all waters from the shoreline edge lakeward. Significant changes in the Lake Michigan ecosystem began in the mid-1880s when large numbers of people began to settle and develop the region.



Development along lake shore.

Multiple factors negatively impact

the Lake Michigan ecosystem. Several of these factors include: development, polluted stormwater runoff and impacts of invasive non-native species. The collective effect of development and polluted stormwater runoff is contributing to the gradual deterioration of Lake Michigan Drainage area habitats, beaches, tributaries and nearshore and offshore water quality. Lake Michigan's aquatic food web is showing signs of stress with the decline of certain fish species and their prey food. Commercial fish harvests have also decreased and it is thought that invasive non-native species in addition to polluted runoff are major factors contributing to these declines.

Land use in the Lake Michigan Drainage area is comprised primarily of low and higher density residential development (37%), open space recreational uses (27%), and transportation/communication land use (23%). The remaining 13% is made up of agricultural, manufacturing/industrial or commercial land uses. Fish Creek located in the Village of Bayside is the main river system found within the Lake Michigan Drainage area.

Land Use and Stream Flow