

Detroit-Rice LWQMA

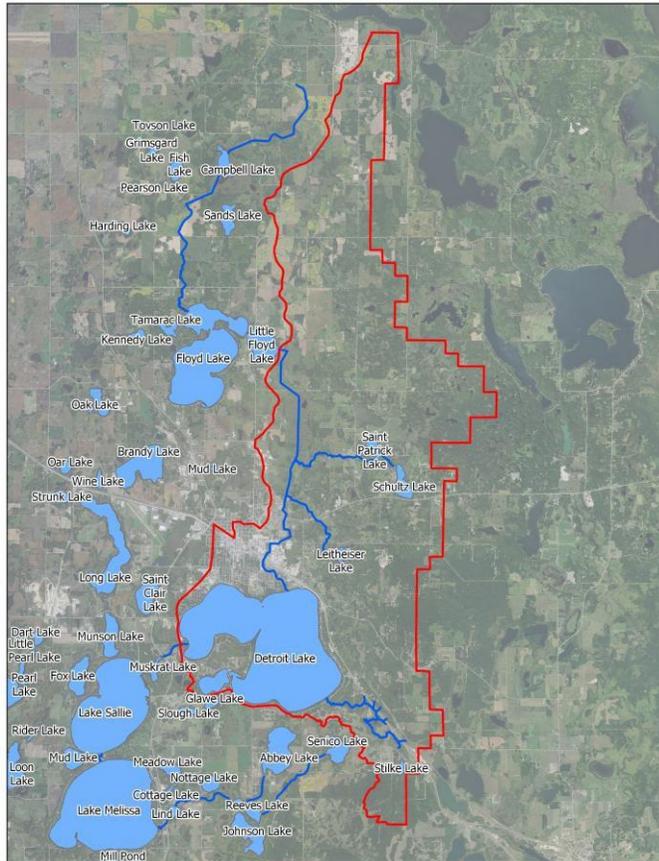


Figure 5-3. Detroit-Rice LWQMA.

The Detroit-Rice LWQMA consists of approximately 25,000 acres, including the City of Detroit Lakes (**Figure 5-3**). The main water bodies in the LWQMA are Detroit Lake (locally split into Big Detroit, Little Detroit and Curfman Lakes) and the Pelican River (Ditch 13), and Rice Lake Wetland. There are also smaller waterways, including Sucker Creek (a trout stream) and several private ditches, as well as smaller lakes, including Saint Patrick, Schultz and Leitheiser Lakes.

Though the Detroit-Rice LWQMA contains a large portion of the City of Detroit Lakes, almost 90 percent is forest, wetland, grassland or cropland. About 5 percent is impervious, although surrounding Detroit Lake, impervious surface is about 18 percent of land cover. Extensive shoreline alteration over the past 75 years has attributed to this increase of impervious land-cover around Detroit Lake. Originally lined with summer cottages and resorts, nearly all of the properties around Detroit Lake are now used for year-round purposes, and most resorts have been converted

to commercial or high-density residential uses. The shorelines of Saint Patrick, Schultz and Leitheiser remain largely undeveloped.

Comprised of two main basins, Big and Little Detroit, Detroit Lake accounts for 85 percent of the surface water of the Detroit-Rice LWQMA. The remaining lakes consist of Curfman Lake which is connected to Big Detroit, but is considered a separate lake, and shallow lakes Saint Patrick, Schultz and Leitheiser Lakes, which relatively little is known about. Big Detroit is much bigger and deeper than Little Detroit. Both are heavily used for a broad range of summer and winter recreational activities. Big and Little Detroit Lakes enjoy relatively good water quality. Big Detroit has worse water quality than Little Detroit, exhibiting mid-summer episodes of moderate to severe algae blooms. This is in part because Big Detroit receives large phosphorus loads from the Pelican River, which inlets directly into Big Detroit after draining Rice Lake Wetland and the Detroit Lake industrial park, among other areas. There is some evidence that Big Detroit's water quality may also be worsened by internal loading, but this needs to be further investigated. Untreated urban stormwater runoff from Detroit Lakes likely also contributes to Big Detroit Lake's phosphorus load. Little Detroit Lake has exhibited some improvement over the last decade, presumably because sanitary sewer lines (versus septic systems) now serve almost all lakefront properties, and because most untreated stormwater runoff has been diverted.

The Pelican River runs through Rice Lake Wetland and is also known as Ditch 13 in the

Detroit-Rice LWQMA. High *E. coli* levels have been found in the Pelican River recently between Highway 34 and North Shore Drive. *E. coli* sources to the Pelican River should be investigated.

Big and Little Detroit Lakes are both impacted by the presence of aquatic invasive species and nuisance growth of native plant species. Currently there are four known aquatic invasive species present in Detroit and Curfman Lakes: Flowering rush, Curly-leaf pondweed, Zebra mussel, and Chinese mystery snails. A native algae species, Chara, also grows in thick beds in some shallow areas, causing boating and swimming issues. While the District is successfully controlling the nuisance and invasive vegetation (i.e., Flowering rush, Curly-leaf pondweed, Chara) with herbicides (the District found harvesting was exacerbating the spread of flowering rush), Chinese Mystery snails and Zebra mussel populations are greatly increasing.

The District's main goals for the Detroit-Rice LWQMA are to decrease eutrophication in Detroit Lake and manage aquatic invasive species in Detroit Lake.