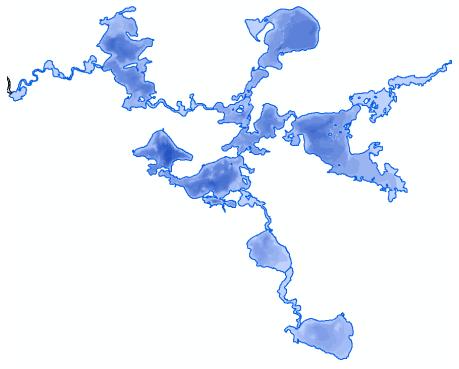
Manitowish Waters Chain of Lakes

Vilas County, Wisconsin

Comprehensive Management Plan

December 2019



Sponsored by:

North Lakeland Discovery Center Manitowish Waters Lake Association

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LPL-442-12, AEPP-351-12, AEPP-374-13, AEPP-385-13, AEPP-409-14, AEPP-428-14, AEPP-471-16, AEPP-524-17



Manitowish Waters Chain of Lakes Shoreland Zone Condition Shoreland Development

The lakes within the Manitowish Waters Chain of Lakes were surveyed as a part of this project to determine the extent of their degree of development. Lakes were visited during each appropriate phase, generally during the late summer to conduct this survey.

A lake's shoreland zone can be classified based upon the amount of human disturbance (vegetation removal, construction of rip-rap or seawalls, etc.). In general, more developed shorelands are more stressful on a lake ecosystem, while definite benefits occur from shorelands that are left in their natural state. Figure 3.3-1 displays a diagram of shoreland categories, from "Urbanized", meaning the shoreland zone is completely disturbed by human influence, to "Natural/Undeveloped", meaning the shoreland has been left in its original state. On each of Manitowish Waters Chain of Lakes, the development stage of the entire shoreline was surveyed during field studies using a GPS unit to map the shoreline. Onterra staff only considered the area of shoreland 35 feet inland from the water's edge, and did not assess the shoreline on a property-by-property basis. During the survey, Onterra staff examined the shoreline for signs of development and assigned areas of the shoreland one of the five descriptive categories in Figure 3.3-1.

The Manitowish Waters Chain of Lakes has stretches of shoreland that fit all of the five shoreland assessment categories. Some of the lakes surveyed had more areas of natural shoreline than others. In all, the Phase I-V Manitowish Waters Chain of Lakes contain approximately 44.2 miles of natural/undeveloped and developed-natural shoreline – 58% of the total shoreline (Figure 3.3-2). These shoreland types provide the most benefit to the lake and should be left in their natural state if at all possible. Approximately 14.2 miles (19%) of urbanized and developed–unnatural shoreline were recorded during field surveys. Figure 3.3-3 provides a breakdown of each Phase I-V lake's shoreland condition, while each individual lake section discusses the shoreline condition further. Maps of each lake and the location of these categorized shorelands are included within each individual lake section as well.













Urbanized: This type of shoreland has essentially no natural habitat. Areas that are mowed or unnaturally landscaped to the water's edge and areas that are rip-rapped or include a seawall would be placed in this category.

Developed-Unnatural: This category includes shorelands that have been developed, but only have small remnants of natural habitat yet intact. A property with many trees, but no remaining understory or herbaceous layer would be included within this category. Also, a property that has left a small (less than 30 feet), natural buffer in place, but has urbanized the areas behind the buffer would be included in this category.

Developed-Semi-Natural: This is a developed shoreland that is mostly in a natural state. Developed properties that have left much of the natural habitat in state, but have added gathering areas, small beaches, etc within those natural areas would likely fall into this category. An urbanized shoreland that was restored would likely be included here, also.

Developed-Natural: This category includes shorelands that are developed property, but essentially no modifications to the natural habitat have been made. Developed properties that have maintained the natural habitat and only added a path leading to a single pier would fall into this category.

Natural/Undeveloped: This category includes shorelands in a natural, undisturbed state. No signs of anthropogenic impact can be found on these shorelands. In forested areas, herbaceous, understory, and canopy layers would be intact.





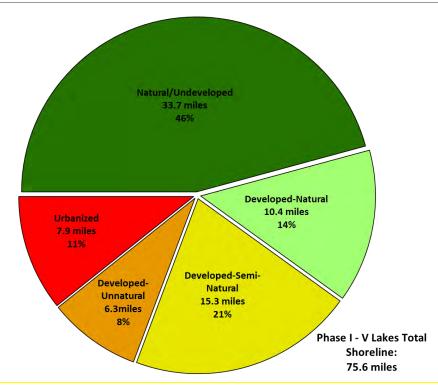


Figure 3.3-2. Phase I-V Manitowish Waters Chain of Lakes total shoreland category classification. Based upon field surveys conducted in late summer. Locations of these categorized shorelands can be found on maps within each individual lake section.

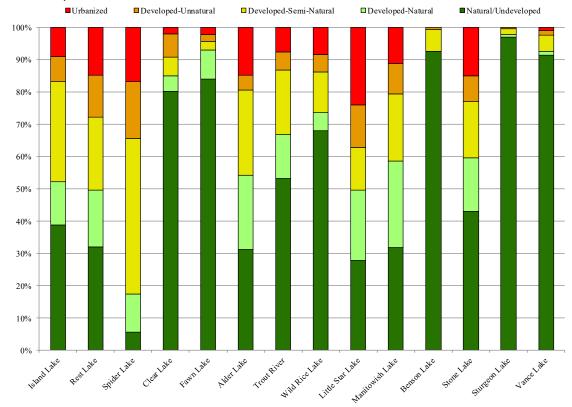


Figure 3.3-3. Phase I-V Manitowish Waters Chain of Lakes shoreline condition breakdown. Based upon late summer field surveys. Locations of these categorized shorelands can be found on maps within each individual lake section.

