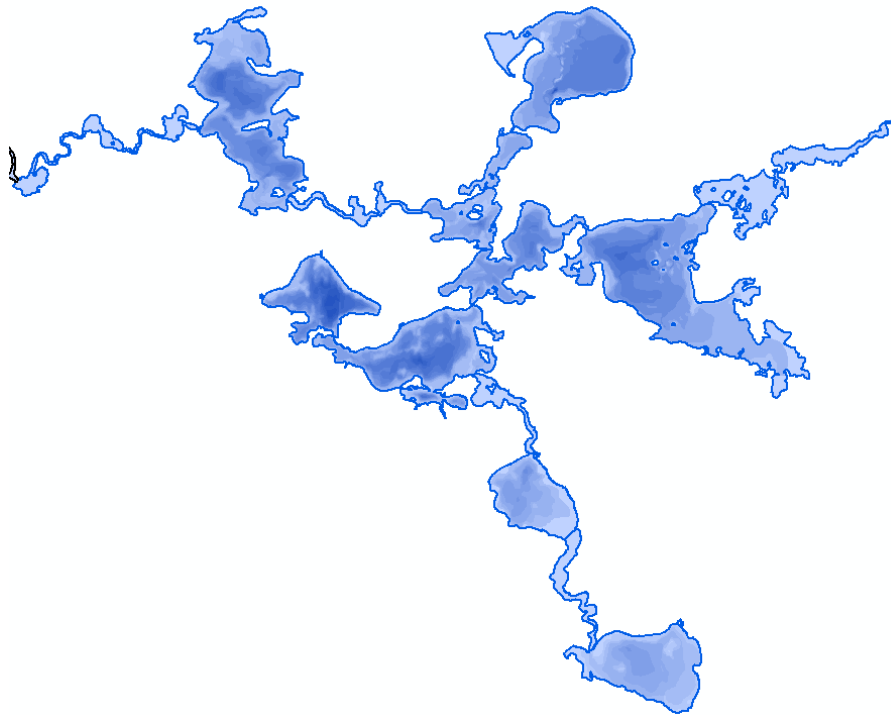

Manitowish Waters Chain of Lakes

Vilas County, Wisconsin

Comprehensive Management Plan

December 2019



Sponsored by:

**North Lakeland Discovery Center
Manitowish Waters Lake Association**

WDNR Grant Program

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.

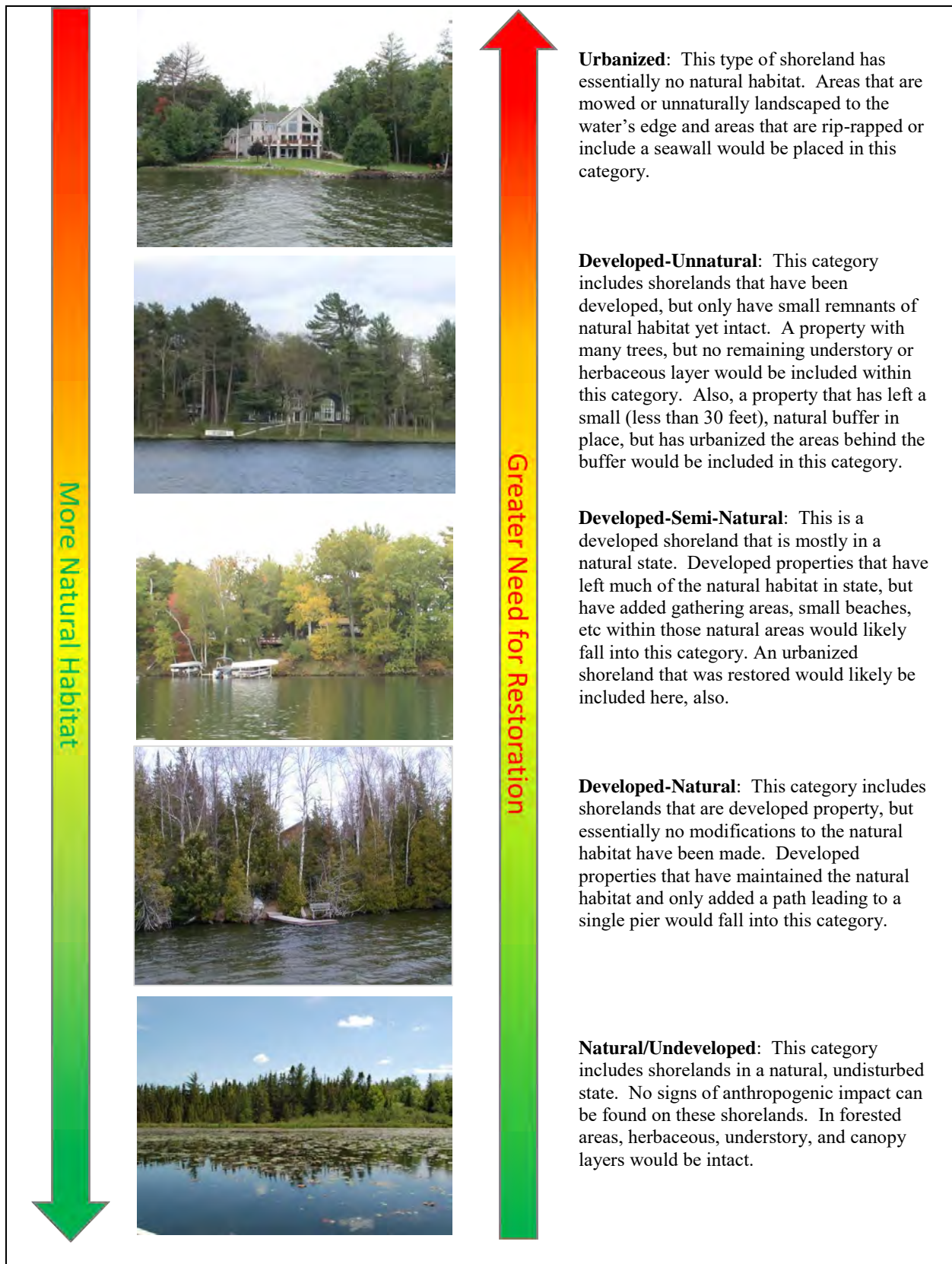


Figure 3.3-1. Shoreline assessment category descriptions.

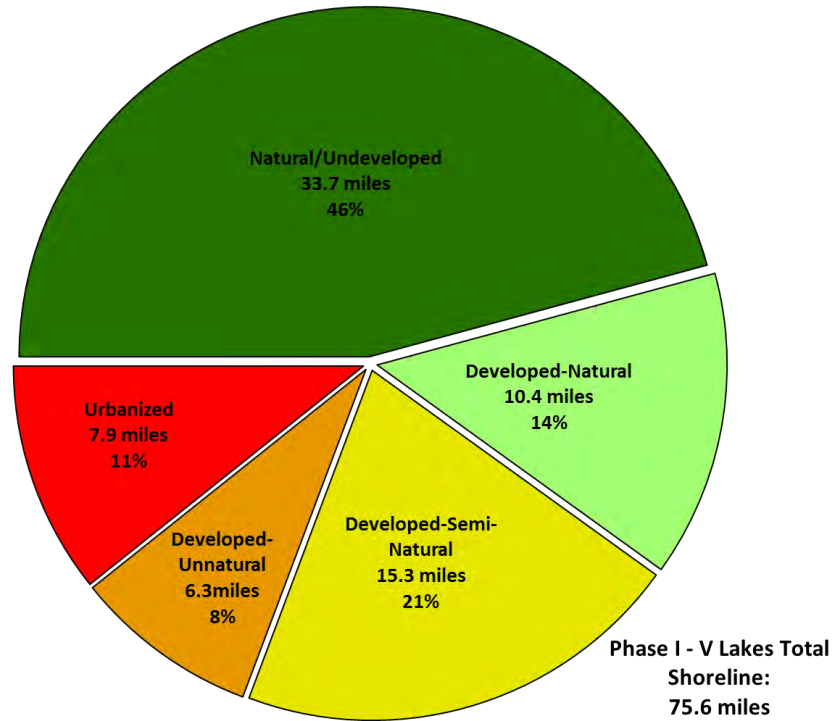


Figure 3.3-2. Phase I-V Manitowish Waters Chain of Lakes total shoreline category classification. Based upon field surveys conducted in late summer. Locations of these categorized shorelands can be found on maps within each individual lake section.

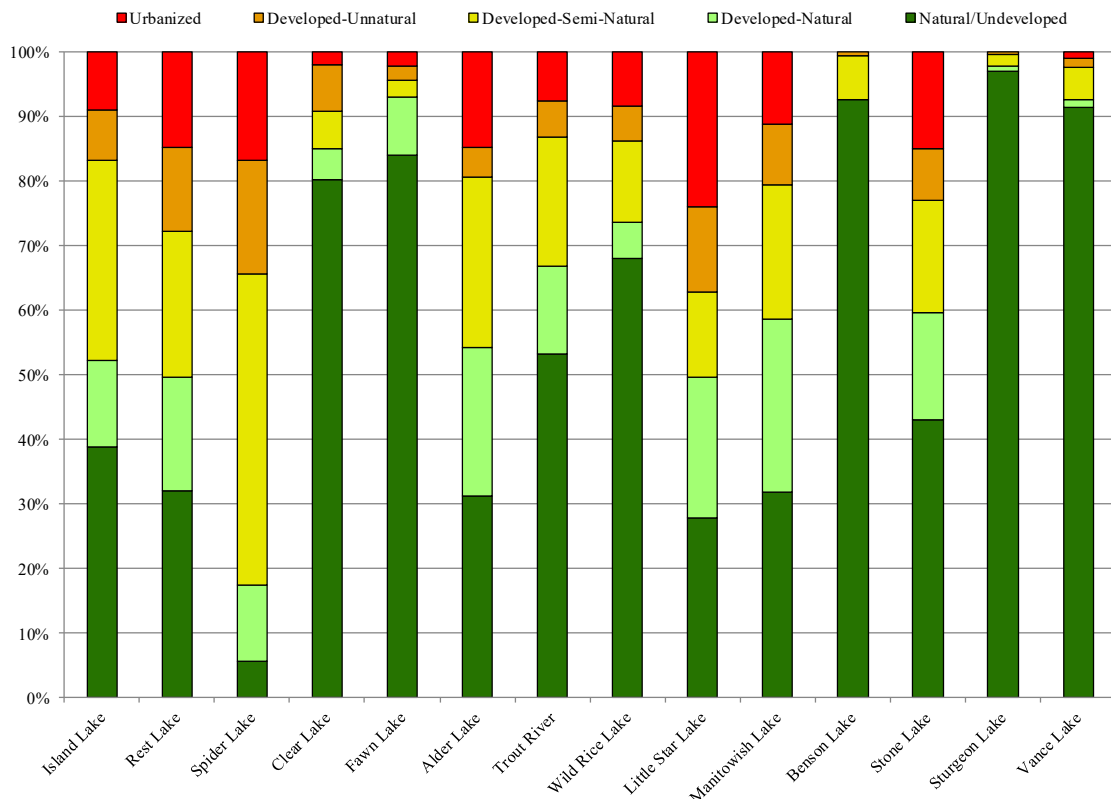


Figure 3.3-3. Phase I-V Manitowish Waters Chain of Lakes shoreline condition breakdown. Based upon late summer field surveys. Locations of these categorized shorelands can be found on maps within each individual lake section.