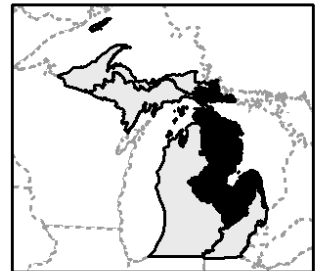


## Lake Characteristic: Stratified

No Data

0 15 30 60 Kilometers

0 5 10 20 Miles



## **Lake Characteristic: Stratified**

### Description

The development of discrete vertical layers of water with different water temperature resulting in two thermal habitats in the lake: (1) warm surface water that is always well oxygenated and (2) cold bottom waters that can have low to high oxygen concentrations. Lakes that are not stratified (unstratified) are generally shallow (< 2 m average depth), characterized by frequent complete mixing from top to bottom, and high oxygen levels throughout. Unstratified lakes generally can occur in one of two states. The first is characterized by high nutrients, high wind resuspension, no rooted plants, and turbid water; and the second is characterized by low to medium nutrients, low wind resuspension, rooted plants dominant, and clear water.

### General Condition of Feature

This habitat is considered 50% in good to excellent condition, 30% in fair condition, and 20% in degraded to very degraded condition.

### Associated Species of Greatest Conservation Need

#### *FISH*

cisco or lake herring (*Coregonus artedii*)

### Associated Threats

#### *POLLUTION*

- Thermal changes: Warm water discharges from power plants

#### *HABITAT CONVERSION*

- Riparian modification: Logging practices; Clearing riparian areas

#### *CONSUMPTIVE BIOLOGICAL RESOURCE USE*

- Forestry practices: Logging practices; Clearing riparian areas

### Conservation Actions Needed (Threats addressed)

#### *LAND, WATER & SPECIES MANAGEMENT*

- Maintain or establish riparian buffers of at least 50 ft., but 500 ft. or wider maximizes conservation benefits (riparian modification, thermal changes)
- Use best management practices (forestry practices, riparian modification)

#### *LAW & POLICY*

- Encourage enforcement of permits controlling effluent discharges (thermal changes)
- Strengthen water quality laws that relate to temperature (thermal changes)
- Continue working with townships to develop and improve planning and zoning regulations and ordinances (riparian modification, thermal changes)
- Continue to work on forest certification endeavors (forestry practices)

### Research and Survey Needs

- Explore alternative methods for dealing with urban runoff
- Develop and establish effective methods of communicating with the public and their stewardship role (reduce pesticide use, proper oil disposal, etc)
- Develop ways of decreasing imperviousness in southern watersheds

### Monitoring

- Dissolved oxygen
- Sediment loads
- Water temperatures