

# Watershed Health Assessment Framework (WHAF): Lakes

## *Use Guide*

### Open the WHAF for Lakes Application

Option 1: Launch the WHAF for Lakes application through the main [WHAF map](#).

- Click on the map to set your location.
- Open 'Charts and Reports'.
- Select the scale you want to use to investigate a list of lakes.
- Click the **WHAF for Lakes** button.

Option 2: Launch the [WHAF for Lakes application](#) directly in your browser.

- The default map displays the major watershed boundaries.
- Select a major watershed from the map or select from the **Major Watershed** dropdown list.
- Or select a different exploration boundary from the scale dropdown list.

Option 3: Select a Specific Lake

- Launch the [WHAF for Lakes application](#).
- Open Menu (Upper right corner).
- Select [Lake Details](#).
- **Lake Search** is now active in the upper left.
- Enter a lake name or lake ID number and select your lake from the list.

## Select an Area

**Big Fork River (77) Major Watershed Details**

Area Acres	1,315,137
Area Square Miles	2,055
Within Basin	Rainy River (0903)
Contains Upstream Areas	Yes

**Scored Lakes within Area**

Name	Lake ID	Health Score	Water Quality Score
Alice	31045600	80	60
Anderson	31035000	65	52
Arrowhead	31080500	75	57
Bass	31083900	80	65
Bass	31031600	70	66
Bass	31051100	75	54
Batson	31070400	75	57
Battle	31019700	75	47
Bello	31072600	70	56

- Select a new area to refresh your list of lakes.
- Use **Scale** to select a new exploration boundary (Catchment, Upstream, Major Watershed, Basin, County).
- Use the map or the second dropdown list to select an area at that scale.
- At the catchment or upstream scale, you can also enter a catchment number to zoom to that location.
- Depending on your screen width, the Area Details and Scored Lakes within Area tables may appear to the right of the map or below the map.

## Map Tool Set

### Map tools with scale boundary selected:

**Map Navigation**

**Home**  
Zoom statewide

**Data Layers**  
Open layer list  
Link to Legend

**Show Legend**

**Lake Health**

- 61-100
- 61-80
- 71-80
- 61-70
- 61-60
- 61-50
- 61-40
- 61-30
- 61-20
- 61-10
- 11-20
- 5-10

## Scored Lakes within Area

### Interact with the list of lakes

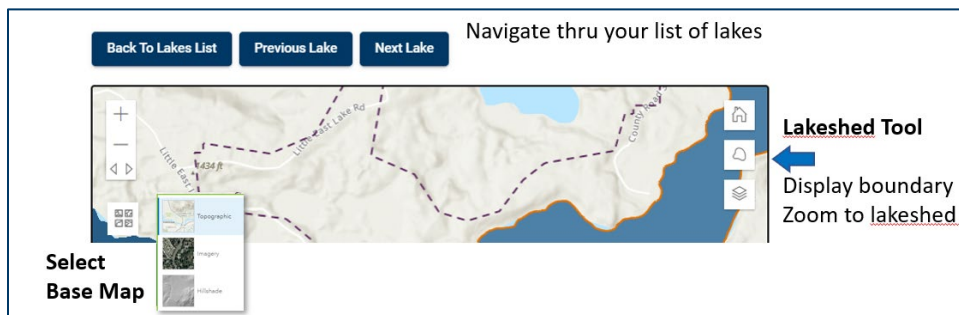
The table lists all the lakes with a lake health score that fall within your selected boundary. The table can be sorted on any header. The table includes the overall Health Score and the three Component Scores that are averaged to create that value. The table can be downloaded as an Excel or comma-delimited text (CSV) file.

### Select a lake from the list

- Use the magnifier icon to zoom the map to that lake.
- Click a lake name in the table to open **Lake Health** details for that lake.

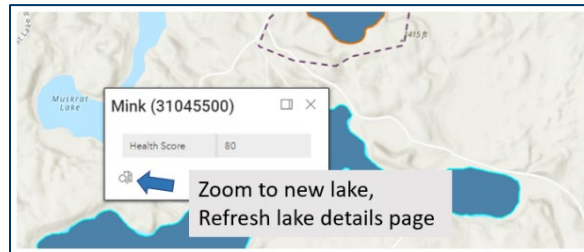
Name ↑	Lake ID	Health Score	Water Quality Score	Biology Score	Hydrology Score
Alice	31045600	80	60		100
Anderson	31035000	65	52	51	99

### Additional map tools with specific lake selected:



## Select a new lake from the map

- After an initial lake has been selected, use the map to zoom or pan to select another scored lake.
- Click the bottom-left button in the popup to select a new lake.
- Use the **Lakeshed tool** to display and zoom to the new lakeshed boundary.



## Lake Health

Each page has expandable headers that hold additional information **About the Score** and **About the Data**.

### Lake Health Scores

The Summary page opens with the Lake Health Score, the score for each Lake Health Component; and the mean (average) score for the major watershed within which the lake is located. The tabs (top-right or below the map) navigate to detail pages for each Lake Health component and a stewardship page for your lake.

**Each tab opens a detail page about Lake Health Scores and other data for your selected lake.**

<b>Summary</b>	Lake Health Scores: <ul style="list-style-type: none"> <li>• Combined</li> <li>• Water Quality</li> <li>• Biology</li> <li>• Hydrology</li> </ul>	Additional Data: <ul style="list-style-type: none"> <li>• Lake Basics</li> <li>• Lake Metrics</li> </ul>
<b>Water Quality</b>	Water Quality Scores <ul style="list-style-type: none"> <li>• Combined</li> <li>• Phosphorus</li> <li>• Water Clarity</li> </ul>	Additional Data: <ul style="list-style-type: none"> <li>• Phosphorus metrics</li> <li>• Water clarity trends</li> <li>• Impairments</li> </ul>
<b>Biology</b>	Biology Scores <ul style="list-style-type: none"> <li>• Combined</li> <li>• Fish Community Quality</li> <li>• Plant Community Quality</li> </ul>	Additional Data: <ul style="list-style-type: none"> <li>• Fish IBI metrics</li> <li>• Plant FQI metrics</li> <li>• Biological Significance Classification</li> </ul>
<b>Hydrology</b>	Hydrology Scores <ul style="list-style-type: none"> <li>• Combined</li> <li>• Lake-Watershed Interactions</li> <li>• Score the Shore</li> </ul>	Additional Data: <ul style="list-style-type: none"> <li>• Transport Capacity</li> <li>• Watershed to Lake Area Ratio</li> </ul>
<b>Stewardship</b>	Stewardship is not scored	Additional Data: <ul style="list-style-type: none"> <li>• Benefit to Cost Assessment Class</li> <li>• Lakeshed Land Cover by Percent</li> <li>• Phosphorus Load Reduction Goal</li> </ul>

The list of lakes with health scores is expected to expand over time as more data is collected.

Questions and comments can be sent to [WHAF.DNR@state.mn.us](mailto:WHAF.DNR@state.mn.us).