## Ft. Gibson, Lower (1-4)

<table>
<thead>
<tr>
<th>Sample Period</th>
<th>Times Visited</th>
<th>Sampling Sites</th>
</tr>
</thead>
<tbody>
<tr>
<td>October 2014 – June 2015</td>
<td>4</td>
<td>8</td>
</tr>
</tbody>
</table>

### General
- **Location**: Cherokee County
- **Impoundment**: 1953
- **Area**: 14,900 acres
- **Capacity**: 355,200 acre-feet
- **Purposes**: Hydropower and Flood Control

### Parameters

#### In Situ
- **Average Turbidity**: 7 NTU
- **Average Secchi Disk Depth**: 76 cm
- **Water Clarity Rating**: Good
- **Chlorophyll-a**: 22 mg/m³
- **Trophic State Index**: 60
- **Trophic Class**: Eutrophic

#### Profile
- **Salinity**: 0.11 – 0.18 ppt
- **Specific Conductivity**: 231 – 373.3 µS/cm
- **pH**: 7.17 – 8.48 pH units
- **Oxidation-Reduction Potential**: 133.8 to 473.8 mV
- **Dissolved Oxygen**: Up to 38% water column < 2 mg/L in June

#### Nutrients
- **Surface Total Nitrogen**: 0.64 mg/L to 1.28 mg/L
- **Surface Total Phosphorus**: 0.070 mg/L to 0.141 mg/L
- **Nitrogen to Phosphorus Ratio**: 9:1

### Beneficial Uses

<table>
<thead>
<tr>
<th>Beneficial Uses</th>
<th>Turbidity</th>
<th>pH</th>
<th>Dissolved Oxygen</th>
<th>Metals</th>
<th>TSI</th>
<th>True Color</th>
<th>Sulfates</th>
<th>Chlorides</th>
<th>Total Dissolved Solids</th>
<th>Enteroro. &amp; E. coli</th>
<th>Chlor-a</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fish &amp; Wildlife Propagation</td>
<td></td>
<td>S</td>
<td>S</td>
<td>NS</td>
<td>NEI</td>
<td>*</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aesthetics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Agriculture</td>
<td></td>
<td>S</td>
<td>S</td>
<td>S</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Primary Body Contact Recreation</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public &amp; Private Water Supply</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>NEI</td>
</tr>
</tbody>
</table>

**Notes**

- The lake is currently listed in the Oklahoma Water Quality Standards (WQS) as a Nutrient Limited Watershed (NLW). This listing means that the lake is considered threatened from nutrients until a more intensive study can confirm the Aesthetics beneficial use non-support status.
- Standards revision, color for permitting purposes only.

**Formatting Notes**

- **NTU = nephelometric turbidity units**
- **µS/cm = microsiemens per centimeter**
- **E. coli = Escherichia coli**
- **OWQS = Oklahoma Water Quality Standards**
- **mg/L = milligrams per liter**
- **µS/cm = microsiemens/cm**
- **ppt = parts per thousand**
- **En = Enterococci**
# Ft. Gibson, Upper (5-8)

<table>
<thead>
<tr>
<th><strong>Sample Period</strong></th>
<th><strong>Times Visited</strong></th>
<th><strong>Sampling Sites</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>October 2014 – June 2015</td>
<td>4</td>
<td>8</td>
</tr>
</tbody>
</table>

## General

- **Location**: Cherokee County
- **Impoundment**: 1953
- **Area**: 14,900 acres
- **Capacity**: 355,200 acre-feet
- **Purposes**: Hydropower and Flood Control

## Parameters

### In Situ

- **Average Turbidity**: 9 NTU
- **Average Secchi Disk Depth**: 51 cm
- **Water Clarity Rating**: Good
- **Chlorophyll-a**: 23 mg/m³
- **Trophic State Index**: 60
- **Trophic Class**: Eutrophic

### Profile

- **Salinity**: 0.11 – 0.19 ppt
- **Specific Conductivity**: 235.6 – 387.8 µS/cm
- **pH**: 7.15 – 8.4 pH units
- **Oxidation-Reduction Potential**: 220.9 to 393 mV
- **Dissolved Oxygen**: Up to 38% of water column < 2 mg/L in June

### Nutrients

- **Surface Total Nitrogen**: 0.68 mg/L to 1.28 mg/L
- **Surface Total Phosphorus**: 0.081 mg/L to 0.138 mg/L
- **Nitrogen to Phosphorus Ratio**: 9:1

## Beneficial Uses

- **Fish & Wildlife Propagation**: S NS NS NEI
- **Aesthetics**: NEI *
- **Agriculture**: S S S
- **Primary Body Contact Recreation**: NEI
- **Public & Private Water Supply**: NEI

## Notes

The lake is currently listed in the Oklahoma Water Quality Standards (WQS) as a Nutrient Limited Watershed (NLW). This listing means that the lake is considered threatened from nutrients until a more intensive study can confirm the Aesthetics beneficial use non-support status.

---

**Click Site Names for Available Data**

Bathy map available: [http://www.owrb.ok.gov/maps/PMG/owrbdata_Bathy.html](http://www.owrb.ok.gov/maps/PMG/owrbdata_Bathy.html)