2018
STATE of the LAKE
and
Ecosystem Indicators Report
for Lake Champlain

Photo: Perri Siverhart
Public beach closures on Lake Champlain, 2015-2017

STATUS
Closures between Memorial Day and Labor Day

GOOD:
Closed 0-5 days

FAIR:
Closed 6-19 days

POOR:
Closed 20+ days
EXCESSIVE NUTRIENTS

CALM WATER

WARM WATER

CYANOBACTERIA BLOOMS
(BLUE-GREEN ALGAE)
Annual mean phosphorus concentration, 1990-2017

KEY
- **EXCEEDS P LIMIT**
- **BELOW P LIMIT**
- **OF TOTAL LAKE VOLUME**

<table>
<thead>
<tr>
<th>Location</th>
<th>Annual Mean Phosphorus Concentration</th>
<th>% of Total Lake Volume</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isle La Motte</td>
<td>7.3%</td>
<td>7.3%</td>
</tr>
<tr>
<td>Cumberland Bay</td>
<td>0.2%</td>
<td>0.2%</td>
</tr>
<tr>
<td>Main Lake</td>
<td>65%</td>
<td>65%</td>
</tr>
<tr>
<td>Port Henry</td>
<td>5.7%</td>
<td>5.7%</td>
</tr>
<tr>
<td>South Lake A</td>
<td>0.5%</td>
<td>0.5%</td>
</tr>
<tr>
<td>South Lake B</td>
<td>&lt;0.1%</td>
<td>&lt;0.1%</td>
</tr>
<tr>
<td>Malletts Bay</td>
<td>2.8%</td>
<td>2.8%</td>
</tr>
<tr>
<td>Burlington Bay</td>
<td>0.2%</td>
<td>0.2%</td>
</tr>
<tr>
<td>Shelburne Bay</td>
<td>0.5%</td>
<td>0.5%</td>
</tr>
<tr>
<td>Otter Creek</td>
<td>3.7%</td>
<td>3.7%</td>
</tr>
<tr>
<td>Missiquoi Bay</td>
<td>0.8%</td>
<td>0.8%</td>
</tr>
</tbody>
</table>
Annual mean phosphorus concentration, 1990-2017

**KEY**

- **Red**: Exceeds P Limit
- **Blue**: Below P Limit

**Percentages of Total Lake Volume**
- Isle La Motte: 7.3%
- Cumberland Bay: 0.2%
- Main Lake: 65%
- Port Henry: 5.7%
- South Lake A: 0.5%
- South Lake B: <0.1%
- Malletts Bay: 2.8%
- Burlington Bay: 0.2%
- Shelburne Bay: 0.5%
- Otter Creek: 3.7%
- Missisquoi Bay: 0.8%
- St. Albans Bay: 0.1%
- Northeast Arm: 0.5%
- Other: 0.2%
Dive in: What you can do

RAISE the BLADE

...cut to 3”...
Annual phosphorus loading and land cover

Load

- Developed Land: 1%
- Wastewater Treatment Facilities (WWTF): 6%
- Wetlands: 16%
- Forest: 38%
- Agriculture: 20%
- Streambank: 18%

Total: 921 metric tons
Phosphorus load from wastewater treatment facilities, 1990-2016
Dive in: What you can do

Flushable wipes are not flushable!
Dive in: What you can do
Freeze-over of Lake Champlain, 1906-2016

- Winters when Lake completely froze over
- Winters when Lake did not completely freeze over
Mercury concentration in fish tissue

US EPA FISH TISSUE CRITERION FOR MERCURY

YEARS

WALLEYE
LAKE TROUT
SMALLMOUTH BASS
WHITE PERCH
YELLOW PERCH
Dive in: What you can do

Don’t trash toxics

Photos: iStock
Aquatic non-native and invasive species, 1883-2017
Photos: (clockwise from top left) University of Florida, Ellen Marsden, USFWS Minnesota DNR
Non-native threats to Lake Champlain Basin from connected waterways

The numbers show the total non-native and invasive species known to be present in each waterway as of September 2017.
Extent of water chestnut coverage

MISSISQUIO BAY
NORTHEAST ARM
MAIN LAKE
SOUTH LAKE

GOOD
FAIR
POOR
Dive in: What you can do

clean

drain

Dry

Checkerbay Carwash Colchester, VT
THE ECONOMIC IMPACT OF CLEAN WATER

Lake Champlain generates $300 MILLION in VT tourism every year

Secchi disk depth measures the clarity of water, which is an indicator of water quality.

Tourism

- $16.8 MILLION* -
  July/August

+10%
higher seasonal room rates for towns with lake-dependent tourism

Lost Jobs*

195
- 10 full-time jobs

*Projected impacts with a 3 ft (0.9 m) decrease in water clarity

Home Values

+ $15,200 if water quality standards are met

3%* year-round homes

37%* seasonal homes
New and improved cartop boat access sites, 2015-2018
Dive in: What you can do

Help the next generation of lake stewards get involved
Dive in: What you can do

Join a watershed group

Photo: Scott Staples
Dive in: What you can do

Help the next generation of lake stewards get involved
Thank you!

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