



Discussion Guide

A toolkit for community and classroom screenings

How to use this guide

The Lake Champlain basin is huge. So is the body of knowledge that exists surrounding the basin's history, ecology, culture, and current environmental challenges. This film is not intended to be a comprehensive lesson plan in all things Lake Champlain. Instead the film should supplement existing resources by providing a new and unique way to connect science to a story of adventure. We suggest showing this film either at the beginning of a unit in order to introduce topics that will be covered more deeply in future lessons, or as a culmination of a unit and an opportunity for reflection. For resources to develop Lake Champlain based teachings at your school or organization, check out the [Champlain Basin Education Initiative](#) and the [Watershed Alliance](#).

Objectives

- Build understanding of water quality issues happening close to home
- Inspire curiosity and discovery within local watersheds
- Explore ways to get involved with natural resource conservation and stewardship

Target Audiences

Middle School, High School, College, Adults

Quebec

Lake Champlain

Iriquois call the lake *Caniadari Guarunte*, or "Door to the country"

59 wastewater treatment plants discharge into the Champlain basin

Supplies drinking water to approximately 200,000 people

In the summer of 2021, Burlington, VT beaches were closed for a total of 13 days due to unsafe water quality

New York

Split Rock Forest, the longest stretch of undeveloped shoreline on the lake, is home to the northern-most population of the Timber Rattlesnake

Abenaki call the lake *Bitawbagok*, or "waters that lie between"

9th largest lake in US by area, 12th largest by volume

Lake Champlain is home to 51 known aquatic invasive species

Vermont

19:1 land-to-lake ratio in the Lake Champlain basin is 9 times larger than the average ratio of the Great Lakes.

Important Words, Concepts, and Definitions

Definitions courtesy of the [Lake Champlain Basin Program](#) and the [Rewilding Institute](#). Click on each term for more information.

- **[Aquatic Invasive Species](#)**: plants, animals, and pathogens that are non-native to the watershed and have been proven to cause harm to the economy, environment, or human health. Invasive species can divert food resources from native species, reduce light penetration, change habitats, impair water quality, interfere with recreational opportunities, and reduce property values. Invasive pathogens also threaten the health of native fish and sport fisheries.
- **[Biodiversity](#)**: a measure of the health of an ecosystem. Systems with a large number of species that includes plants, animals, insects and fish are typically considered “healthier” than those with fewer species. Ecosystems with a large number of species tend to be more resilient to changing climate and other pressures, including humans. Additionally, diverse ecosystems provide beneficial services to humans, including food, clean water, and recreational opportunities.
- **[Clean Water Act](#)**: the nation’s first comprehensive legislation protecting water quality, signed In 1972. The act allows the EPA to regulate and implement pollution control programs for waterways, set water quality standards, fund sewage treatment plants, and make it illegal to discharge any pollutants into waterways without permission.
- **[Cyanobacteria](#)**: a group of primitive bacteria that are native to nearly every ecosystem on Earth. Several species of cyanobacteria are found in Lake Champlain, and most of the time they do not cause harm. Cyanobacteria can become harmful and impact recreation when their growth is accelerated by calm, warm weather and excessive levels of nutrients such as nitrogen and phosphorus. Often incorrectly called, "blue-green algae".
- **[Phosphorus](#)**: a nutrient that is essential to all life on earth. It's also one of the primary water quality challenges in Lake Champlain. Found in lawn fertilizers, manure, as well as in human and other animal waste, phosphorus causes cyanobacteria blooms and excessive aquatic plant growth when present in high concentrations. This plant material and the water quality problems that occur when it decomposes can harm fish and other organisms and limit the use and enjoyment of the Lake.
- **[Rewilding](#)**: a form of ecological restoration with an emphasis on humans stepping back and leaving an area to nature, as opposed to more active forms of natural resource management. Rewilding activities are conservation efforts aimed at restoring and protecting natural processes and wilderness areas. This may include providing connectivity between such areas, and protecting or reintroducing apex predators and keystone species.
- **[Watershed](#)**: A watershed is all the area of land from which precipitation will run off into a particular lake, river, or body of water. Watersheds, or drainage basins, are defined by the high points that surround them. The Lake Champlain Basin is the entire drainage area for Lake Champlain.

Discussion Questions

Use the prompts below to get started, or brainstorm questions of your own using these ideas as models. If you're looking for a writing exercise, some questions can also be adapted to make for good essay prompts.

- Was there anything in the film that surprised you? Anything that upset you?
- Compare and contrast the different ways people in the film think about Lake Champlain.
- Which interview most resonated with your own experience of the Lake Champlain basin or your own home watershed?
- What fields do you think will be most important in improving the health of Lake Champlain; science and technology, law and policy, or community development and outdoor recreation?
- Reflecting on Jordan's experience kayaking the length of Lake Champlain, do you think this is a trip that everyone could complete? If not, what are some of the barriers to access and how can we remove them?
- What's one way you'd like to get involved in lake stewardship?
- Were there any ideas or concepts brought up in the film that you would like to learn more about?
- What's a place you know really well? How is your relationship with that place different from other places you are less familiar with?
- What does it mean to be a steward of a place?
- Why is it important that we preserve clean water?

Watershed Activity

This is a great activity for encouraging students to take what they've learned in the discussion and apply it to their own home watersheds. You can use a paper map and thumb tacks, or go to www.mymaps.google.com.

1. Pose a question to the group: what's the closest body of water to where you live?
2. Make a map (paper or digital) of the results. Students can respond individually or in groups.
3. Take a moment for students to make observations about the map.
4. Next, give students 20 minutes to an hour to research their chosen body of water. Have them find answers to the following questions, or any others you can think of:
 - How do humans use the water body?
 - What are its biggest environmental challenges?
 - What's being done to fix these problems?
 - How can someone get involved in stewardship efforts?
 - What kinds of opportunities exist to recreate on this waterbody? (paddler trails, shoreline hiking trails, boat rentals, guides?)
5. Have students report their findings. Are there any commonalities between individuals or groups? What did they learn? Were they surprised by what they found?

Take the Poll

We encourage teachers or anyone else hosting a screening to poll everyone *after* watching the film in order to help them reflect on their experience. Results are anonymous and will be used by the filmmakers and their partners to measure the impact of this project. There is also space to provide feedback to the filmmakers. Find the poll on our website at www.lakechamplainfilm.com

Additional Resources

For more information on Lake Champlain and opportunities to get involved.

Videos

- [Nebi: Abenaki Ways of Knowing Water](#)
- [Natural History of Lake Champlain](#)
- [Protecting Adirondack Waters from Aquatic Invasive Species](#)
- [How to Identify Cyanobacteria](#)
- [What is Phosphorus?](#)
- [The Giant Map of Lake Champlain](#)

Webpages

- [Lake Champlain Paddlers' Trail](#)
- [Lake Champlain Basin Atlas](#)
- [State of the Lake Report](#)
- [Champlain-Adirondack Biosphere Reserve](#)
- [Rewilding Earth](#)
- [Vermont Association of Conservation Districts](#)
- [New York Association of Conservation Districts](#)

Take Action

- Lake Champlain Committee - [Become a Cyanobacteria Monitor](#)
- 350.org - [Get involved with Climate Change Organizing](#)
- Adirondack Watershed Institute - [Become a Boat Launch Steward](#)
- Champlain Area Trails - [Become a Trail Steward](#)
- Community Sailing Center - [Rent a kayak](#)
- Vermont Youth Conservation Corps - [Join a Conservation Crew](#)
- Land Trust Alliance - [Join your local land trust](#)