“How’s My Waterway?”

Grade: 6-8
Discipline: Science
Length:

Essential Question(s):

1. What are some of the threats facing Lake Champlain?
2. What waterways are near my school and how clean are they?
3. What can I do to help reduce these problems?

Objectives: To give students an overall understanding of current threats to aquatic ecosystems in the Lake Champlain Drainage Basin such as microplastics, invasive species, and cyanobacteria.

Assessment: You can choose to score this based on the class discussion, or you can have students write a response and score that for understanding.

Materials/Resources:

- EPA’s “How’s My Waterway” Tool

Vocabulary:

- Environmental Protection Agency
- Nitrogen
- Phosphorus
- Invasive Species
- Nuisance
- PCBs

Lesson Summary: This lesson utilizes the EPA’s “How’s My Waterway” tool to teach students about the health of Lake Champlain and other waterways near their homes or school. It will involve some whole class discussion, followed by group work.

Outline of Lesson

Introductory discussion (5 minutes)

- Have students do a Think, Pair, Share with the question: How healthy is the water in our area?
- Introduce the EPA and explain their role in protecting the environment and keeping waterways clean.

Main Lesson

- Pull up the EPA’s “How’s My Waterway” on your computer. When you click the link, it will take you to the main page where you can type an address or location in. The first thing to put in is: WATERSHED: Lake Champlain (041504081604). Putting this in will get you the biggest chunk of Lake Champlain, since the website splits it into sections. You can click around to view the other sections as well. From there, you can click on any

of the sections of the lake that are listed and find what they've found in the water. The four impairments you'll find in many parts of Lake Champlain are: Mercury, Nitrogen and/or Phosphorous, Nuisance Plants or Animals (Foreign), and PCBs.

- Break students up into four groups (or have them work individually then just merge together with a group at the end to report out) and assign each one an impairment to research. There are ways they can click for more information on the same web page or you can have them search a variety of sources. Have each group report out about what their impairment is and give an example of it.
- Once all of the groups have reported out, have them take a guess which waterway nearest them is the cleanest. Record the guesses so that you don't have any repeats, then have each group go back to the "How's My Waterway" tool to investigate how clean that waterway is. You might have to help them find their waterway, because some of the formatting is odd. For example, some parts of Otter Creek can't be clicked, so you have to look at a different part of it instead.
- Once they've had five or so minutes to investigate this, ask each group to share what impairments they found in their local waterways.
- For older groups or if you want to extend this into a multi-day lesson, you can have each student write a researched response about one of the impairments to a waterway in Vermont and how it could be improved.