

## ECHO Opportunities for Stewardship Trek Grades 6-8

\*\*Unless otherwise noted, please use full sentences. \*\*

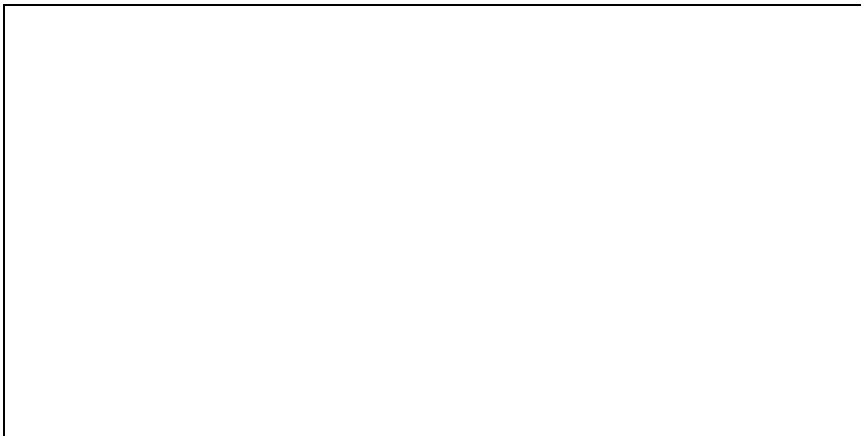
### Before the Basin

1. At the Champlain Sea Tide Pool find out which animals (if any) you can touch in the tide pool. If you saw these animals in the wild would you pick them up and handle them? Why or why not?

You can touch \_\_\_\_\_.

### Lake Champlain Basin Program Resource Room

2. The round goby and the ruffe are two new invasive species that are of special concern in Lake Champlain. Draw one of them and explain how they can be identified. What should you do if you spot one in the Lake?



Animal Name \_\_\_\_\_

Ways to identify this animal:

What to do if you spot one in the lake:

### Land of Opportunity

3. Many people who live around Lake Champlain use it as their source of freshwater. Knowing that the amount of freshwater on the planet is limited, what are three changes you could make today to reduce the amount of water you use? What is one thing that we do here at ECHO to reduce the amount of water we use (hint: go into the bathroom!)

1. \_\_\_\_\_ 2. \_\_\_\_\_

3. \_\_\_\_\_

At ECHO we reduce water by \_\_\_\_\_.

4. Look at the *Introduce the Invasive Species* board. Read about how each of these invasive species spread and look at the pictures to understand what threat they pose to organisms in the Lake Champlain Basin. Choose one of these invasive species and find out 4 facts about it (the Lake Champlain Basin Program Resource Room is a great place to find information on invasive species!).

My invasive species is \_\_\_\_\_.

Facts about it:

1. \_\_\_\_\_ 2. \_\_\_\_\_

3. \_\_\_\_\_ 4. \_\_\_\_\_

5. "Leave No Trace" is an important principle practiced by outdoor enthusiasts. Explain what you think this phrase means.

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6. Go to the *Be a watershed Weather Reporter* studio. Make your own weather report. What are three measures you can take to help stop pollution from getting in the lake after rainstorms?

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

7. If you saw a snapping turtle in the middle of the road, what would you do? Choose the answer you feel is the most appropriate and explain why you chose that answer

Leave it alone    Move it out of the road    Take it home    Try to get it to snap a stick

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### Into the Lake

8. Next to the bathroom near the front desk is a sign that describes LEEDS. What does this certification tell you? What are two decisions ECHO made to earn this important certification?

LEEDS stands for: \_\_\_\_\_.

It tells me that \_\_\_\_\_.

Two decisions that were made when building ECHO

1. \_\_\_\_\_                      2. \_\_\_\_\_

9. Play the Toxic Rail game. Why is planting native plants in your garden good for the lake? Would it matter if you lived in the mountains many miles from the lake? Why or why not?

10. Zebra mussels have become a Lake threat since their discovery in 1993. Issues include competition for food with native mussels, destruction of historic shipwrecks and clogging water pipes. After reading about zebra mussels, write one idea you have for removing them from Lake Champlain completely.

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**ANSWERS**

1. You are allowed to touch the seastars. If you were to see a seastar in the wild it would not be a good idea to pick it up and handle it. Seastars rely on water hydraulics to maintain their body structure for movement and feeding. Human hands have a high concentration of oils and other substances on them that could be harmful to the seastar.
2. Every student's drawing will be unique. A Round Goby can be identified by a green tinged fin with a black spot, a body that's mostly slate gray with black and brown spots, thick mouth structure that look like lips, and raised eyes. The Ruffe can be identified by its sharp spiny fin with rows of dark spots between the spines, a small down-turned mouth, gills covered with many sharp spines, and glassy eyes. If you catch a Goby or Ruffe you should not throw it back alive, you should kill it, freeze it, and call the appropriate authorities.
3. To help reduce the amount of water that you use you could turn off the water when you brush your teeth, check for faucet leaks in your home, and take shorter showers (or use less water in the bath). At ECHO we have dual flush toilets which allow all of our guests to choose half of the amount of water that is normally used to flush a toilet, or the normal amount.
4. Students may choose one of several invasive species. Facts include: source or cause of invasion, how seeds are dispersed, how the species multiplies, and how native species are affected in the area.
5. "Leave No Trace" is a set of principles which guide people to make environmentally healthy choices while they enjoy the outdoors. The concept is to leave little or no impact or trace of human presence by leaving outdoor recreation sites in the same or better condition than you found them.
6. Three ways to minimize impact on the Lake after a rain storm include scooping the poop – removing pet waste and putting it in the trash – using less fertilizer on lawns which leach into the water table and choosing detergents with little or no phosphorus content.
7. Leave any turtle alone. If it looks to be in potential danger, such as being on a busy road where it could get hit, you might use a long stick to help move it across the road in the direction it was traveling. Never try and move a snapping turtle with your hands.
8. LEED stands for Leadership in Energy and Environmental Design and tells us that the people who designed ECHO made environmentally thoughtful choices for building design and construction: super insulated windows to conserve heat and energy, use of native plants for landscaping, dual flush toilets, innovative building technology, and access to electric car charging stations.
9. Planting native landscape plants is good for the lake because native plants are already adapted to this climate and require little care and watering. Even if you lived many miles away from the lake in the mountains, your decision to use native plants would still make a difference to the lake.
10. Possibilities include manual removal with specialized equipment around the most densely populated or most sensitive areas such as historical shipwrecks, beaches and water intake pipes, identifying a species of fish or animal that feeds on the mussels and carefully introducing it to the lake environment to control their numbers, or possibly using an organic pesticide if one can be found that doesn't harm native species.

