Overview
Aboard UVM’s Research Vessel, the *Melosira*, students will learn about current research and then apply scientific tools and techniques to collect data. By using the scientific method as a guideline, students will be challenged to raise questions and apply critical thinking skills in order to analyze data they have acquired on site and will be able to discuss the challenges and opportunities of lake stewardship.

Objectives
Essential Question: How do scientists study the complex ecosystem and environmental problems in Lake Champlain?

- Understanding the natural history and unique regions of the lake
- Introduction to water testing procedure and equipment
- Understanding how human activities can affect the lake

Activities
1. Physical and Chemical Characteristics: Lake water clarity, dissolved oxygen and temperature measurement from lake surface to bottom through secchi disk testing and on-boat graph
2. Physical and Chemical Characteristics: Lake water clarity, dissolved oxygen and temperature measurement from lake surface to bottom through secchi disk testing and on-boat graph
3. Zebra Mussel Story: Learn basics of zebra mussel life cycle, collect zebra mussels to estimate population density

Adaptations
Worksheets will be provided for students that are designed for either introductory or intermediate groups. Depending on the previous knowledge of the class regarding graphing and water testing, grades 5-8 can choose to use the more advanced worksheet if they desire.

Evaluation
A pre- and post-assessments will be provided for the students before and after attending Lake Champlain Live. Teachers will be provided a grading rubric including answers to the worksheets if they would like to evaluate their student’s work.

Materials
All testing equipment will be provided on-site. It is requested that students bring the following:
- Notebook and pencil
- Clothing: comfortable, stable shoes. Dress warmly, as conditions on the water can be very different than on land. Please remember motion sickness medication if required.

Vermont Standards
7.13 Organisms, Evolution and Interdependence
- S9-12:36; Students demonstrate their understanding of equilibrium in an ecosystem
7.16 Natural Resource and Agriculture
- S9-12:49; Students demonstrate their understanding of processes and change within natural resources

Trip Details
- Fee: $300 for maximum of 22 participants (including chaperones and teachers)
- Available dates and times: Trips operate May-October, weather permitting. Please call or email for availability.