



# ECHO School Program

## Tricky Travelers

### Grades 3-6



#### Summary:

Students explore the difference between native and nonnative plants and animals that live in the Lake Champlain Basin. Students learn what characteristics allow a non-native species to thrive and how plants/animals move from one place to another. Cause and effect is explored when students learn how non-native species interrupt the ecosystem's balance. Students will discuss ways people can stop the spread of non-native species.

#### Essential Question:

What are native and non-native species?

#### Focusing Questions:

How do non-native, alien, and exotic species travel to different parts of the world?

What are some of the problems associated with non-native species in the Lake Champlain basin?

How can non-native species affect the food web?

#### Vermont Standards and Grade Expectations

7.13 The Living World and

Fulfills: S3-4: 35, 36 and S5 – 6: 35, 36

Interdependence within Ecosystems – Food Webs and Equilibrium

4.6 Understanding Place

Fulfills: H&SS3 – 4: 12 and H&SS5 – 6: 12

Student shows understanding of human interaction with the environment over time

#### Key Activities:

- ◆ Characteristics of non-native species and how they adapt so quickly to new environments
- ◆ Non-native species and the stories of how they became dispersed in new regions
- ◆ Story of the life cycle of the Zebra Mussel and its influence on the Lake Champlain Basin
- ◆ Food web game to illustrate carrying capacity and survival

#### Pre-Trip Activities:

Ranger Rick's NatureScope "Paradise Lost" (play about the lost wildlife on the Hawaiian Islands)

Project Wild -Elementary "Oh Deer!" (investigation of "limiting factors" and wildlife populations)

Project WET "Great Water Journeys" (students look at some significant water journeys)

Hands-On Nature "Popcorn Food Chain (principles of a food web)

#### Post-Trip Activities:

"Lights, Camera, Action" (design an action project)

"Become a Zebra Mussel Detective" (take part in the zebra mussel watch program)

"Letters to a Canadian Friend" (write a letter to an imaginary friend explaining why you can't bring them the orange tree from Florida they wanted)

## Bibliography

Aliki. My Visit to the Aquarium. HarperCollins, 1993.

During his visit to an aquarium, a boy finds out about the characteristics and environments of many different marine and freshwater creatures.

Bellamy, David. The Roadside. Clarkson N. Potter, 1988. The construction of a six-lane highway in the countryside disrupts the balance of nature and forces animals there to change their patterns. The book depicts the need for ecological balance.

Carle, Eric. The Mixed-Up Chameleon. Harper & Row, 1975.

A bored chameleon wishes it could be more like all the other animals it sees, but soon decides it would rather just be itself.

George, Jean C. The Missing 'Gator of Gumbo Limbo: An Ecological Mystery. HarperCollins, 1992. Sixth-grader Liza K and her mother live in a tent in the Florida Everglades. She becomes a nature detective while searching for Dajun, a giant alligator who plays a part in the waterhole's oxygen-algae cycle, yet is marked for extinction by local officials.

George, Jean C. Who Really Killed Cock Robin? HarperCollins, 1991. This compelling mystery examines the importance of keeping nature in balance, and provides an inspiring account of a young environmental hero who becomes a scientific detective.

Greene, Carol. The Old Ladies Who Liked Cats. Harper and Row, 1991. When the old ladies are no longer allowed to let their cats out at night, the delicate balance of their island ecology is disturbed, with disastrous results.

Lionni, Leo. Fish Is Fish. Pantheon Books, 1970. When his friend, the tadpole, becomes a frog and leaves the pond to explore the world, the little fish decides that maybe he doesn't have to remain in the pond either.

Peet, Bill. The Wump World. Houghton Mifflin, 1970. The Wump World is invaded by Pollutians from the planet Pollutus, who had left their worn-out planet to start a life in a new world. They move in and take over, building cities, creating pollution, and using up resources. Eventually, the Pollutians move to another planet and leave the Wumps to try and restore the balance in their ecosystem.



## Teacher Resources

### Resource/Education Specialists:

*Michael Hauser* - VT Dept. of Environmental Conservation/Lake Champlain Basin Program  
Water Quality Division, 103 South Main Street, Building 10N, Waterbury, VT 05671-0408

Ph: 802/241-3777, Fax: 802/241-3287, email: MIKEH@waterq.anr.state.vt.us

Comments: Michael is available for school presentations and to answer any questions you may have regarding zebra mussels and spread prevention.

### Curriculum:

*Zebra Mussel Mania Traveling Trunk*

ECHO at the Leahy Center for Lake Champlain, One College Street, Burlington, VT 05401

Ph: 802/864-1848 Fax: 802/864-6832

Comments: A resource kit including 10 hands-on activities to teach 5th and 6th grade students about problems caused by non-indigenous species and preventative measures to control their spread.

**Resource Catalogs:**

*Aquatic Exotic*

University of Wisconsin Sea Grant, Communications Office,

1800 University Ave., Madison, WI 53705-4094

Ph: 608/263-3259 Fax: 608/263-2063

Comments: Lists resources through the National Sea Grant Network about zebra mussels including fact sheets, videos, conference proceedings, maps, training materials, and posters.

*Zebra Mussel Information Clearinghouse*

New York Sea Grant Extension, 250 Hartwell Hall,

SUNY College at Brockport, Brockport, NY 14420-2928

Ph: 800/285-2285, Fax: 716/395-2729, email: [zmussel@cce.cornell.edu](mailto:zmussel@cce.cornell.edu)

Comments: North America's largest, most comprehensive library of research and other relevant information on zebra mussels.

**Specimens:**

*Preserved specimens of zebra mussels, Wardsafe (formalin-free)* Ward's Natural Science Establishment

397 Vansickle Road, St. Catherines, Ontario L2S 3T5 Canada

1992 Catalog, page 473, Catalog #: 68W7152

Cost: \$20.35 (Canadian); Ph: 416/984-8900

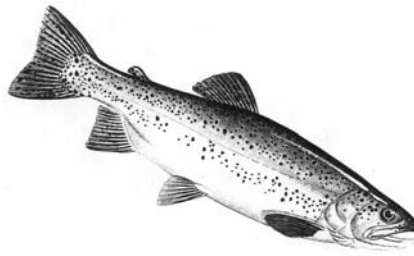
**Other Materials:**

*Fact Sheets and Identification Cards*

The Lake Champlain Basin Program

54 West shore Road, Grand Isle, VT 05458

Ph: 800/468-5227 Fax: 802/372-6131



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