

## **Chewonki's Traveling Natural History Programs 2007-2008**

### **NEW in 2007...**

#### **Cold-Blooded Friends -- The Lives of Amphibians and Reptiles (kindergarten-adult)**

Do you know the difference between an amphibian and a reptile? In this program, we will dive right into the dual life of our Maine amphibians by listening to frog calls and examining the lives of salamanders and newts. Next, we will explore our scaly reptiles found in Maine and how they compare to their amphibian friends. With slides, hands-on activities and three live animals, this interactive program is sure to entertain and educate kids of all ages. Ribbit!

### **Also NEW in 2007...**

#### **Water and Wildlife -- The Mystery of Riparian Habitats (kindergarten-adult)**

Whether water is underground or in the sky, animals will always depend on it for their survival. This program focuses on the riparian areas at the water's edge and the animals that depend on this habitat. We will bring mounted and a few live, non-releasable animals to show the unique adaptations required for life around water. In addition to hands-on animal specimens and activities, participants will receive a clean water poster that is interactive with our website!

#### **Birds of Prey -- New England's Majestic Raptors (kindergarten-adult)**

What are birds of prey? How do their survival techniques differ from species to species? This program compares and contrasts the special hunting adaptations of nocturnal and diurnal raptors, including their talons, their sharp, curved beaks, and their different wing and tail shapes. Students have the exciting opportunity to see three of our live, non-releasable raptors. In addition to viewing these predators of the sky up close, participants also handle and examine feet, wing, and skull specimens to better understand these majestic birds.

#### **Bears of North America -- Beauty or Beast? (grade 2-adult)**

Both respected and feared by humans, bears are some of the largest land mammal predators in the world. References to bears are found in mythology, Native American legends, children's stories, and cartoons. Unfortunately, bears are commonly portrayed as snarling beasts and villains in these various tales.

This program features slides and activities that help students understand

more about the three bear species found in North America: Black, Grizzly (or Brown), and Polar Bears. Participants also help assemble a real Black Bear skeleton, and as they examine these bones, they compare them with their own skeletons.

### **Scales & Tales -- Amazing Reptiles! (all ages)**

Using live, non-releasable reptiles, including a Rat Snake, Bearded Dragon or Green Iguana, American Alligator, and Eastern Box Turtle, this program introduces four of the five major groups of reptiles and compares their adaptations for survival. Many people conjure up images of slimy skin and bloodthirsty monsters when they hear the word "reptile." This hands-on program works to dispel some of those fears by allowing students to examine snake skins, turtle shells, skeletons, and other reptilian artifacts.

### **Owls of Maine -- Habits and Adaptations of Maine's Native Owls (all ages)**

Our live Barred Owl, Great Horned Owl, and Screech or Saw-whet Owls are the highlights of this program, which introduces participants to the owls native to Maine and New England. We begin with slides and sounds to learn the identifying characteristics and calls of each owl. Then, using talons, wings, and skulls, we explore the adaptations of these silent nocturnal hunters. This program ends with an intimate and detailed look at live owls, bringing these creatures of the night into the light!

### **Fur, Feathers, & Feet -- Introduction to Birds and Mammals (preschool–grade 2)**

Discover the differences and similarities between birds and mammals as we encourage active learning by dressing two students in our bear and bird costumes. Participants handle and examine beak, foot, and feather specimens to get a closer look at each animal's special adaptations. Chewonki's Mallard duck and a live, non-releasable mammal bring these ideas to life!

### **Predators -- The Balance of Nature (grade 3–adult)**

What are some commonly held myths about predators, and what problems do they face? During our slide show, activities, and discussions, students see predators in the context of food webs and natural cycles. They explore attitudes toward predators and reasons for their decline throughout history because of habitat loss and human interference. Discussion of current events emphasizes the importance of predators in maintaining the world's ecological balance. Participants have the opportunity to study Chewonki's mounted Coyote and to seeing three live, non-releasable predators.

## **Mammals of Maine -- From Mice to Moose (grade 2–adult)**

This exciting and interactive program introduces students to our native warm-blooded vertebrates—Maine mammals. Each participant studies a mounted animal and observes its characteristics, such as teeth, feet, and fur. We use these observations as clues to understanding each mammal’s adaptations, niche, and habitat. A collection of skulls, study skins, and other specimens complements a discussion of adaptations and the role each animal plays in the food web. This program also provides a living example of a non-releasable wild mammal. Maximum group size 25.

## **The Bugmobile -- Magnifying the World of Arthropods (kindergarten–adult)**

Is a bug an insect? Is a spider a bug? Chewonki’s “Bugmobile” transports the world of arthropods—insects and their relatives—into the classroom. Using models, activities, and live specimens, we explain the unique characteristics of four major groups of arthropods. We also explore some of the fascinating adaptations essential for survival, such as mimicry, camouflage, armor, and venom. Our Madagascar Hissing Cockroaches, African Giant Millipedes, Chilean Rose Tarantula, and a crustacean introduce you to some of the millions of arthropod species worldwide.

## **Trees in My Forest -- A Walk in the Woods (grade 2–adult)**

Students are introduced to the mysterious world of forests by examining the variety of species, everyday uses, and miraculous adaptations of our native trees and woodland shrubs. We explore photosynthesis and learn how to identify native species by comparing leaf mounts, playing games, and looking at living specimens. Audiences of all ages are amazed at what they can learn in this one-hour program and how easy it is to identify some trees in their own backyard.

An optional one-hour extension takes this lesson one step further: the opportunity to make a connection and apply what we learn in the classroom by taking a walk in your forest or in ours, exploring what the woods have to offer.

## **The Batmobile -- Bats of the World (kindergarten–adult)**

Bats comprise nearly one-quarter of the world’s approximately 4,000 mammal species, yet humans continue to fear and misunderstand them. Introducing participants to fruit bats and to our live, non-releasable Big Brown Bat helps to dispel common myths about these flying mammals. Our engaging slide show illustrates the role of bats in ecosystems from the Maine

woods to the South American rain forests. Participants leave the program with an appreciation for the tremendous diversity of bats in the world and for their irreplaceable niche in natural ecosystems.

**Wildflowers of Maine -- Secrets of Pollination  
(grade 4–adult)**

Is that a flower you're stepping on? The fascinating flora that live around us are often overlooked, especially the plants closer to the ground. This one-hour program uncovers the beauty of Maine's wildflowers and explains the secrets of pollination and identification of native species. Using models, costumes, and both living and nonliving specimens, this hands-on journey into the amazing world of wildflowers captivates audiences and allows them to see flowers in an entirely new light.

**Vernal Pools -- Stepping Stones in a Sea of Forests  
(grade 2–adult)**

What are vernal pools, and why are they important? Vernal pools provide seasonal breeding grounds for insects and amphibians such as Wood Frogs and Spotted Salamanders. Inhabited by both vertebrates and invertebrates, these shallow depressions in the ground are inundated with water three to five months of the year and serve as feeding sites for traveling reptiles, such as the endangered Blanding's and Eastern Box Turtles. In addition to hearing native frog calls, students see two live, non-releasable endangered turtles and a Spotted Salamander. This program explains the food chain within vernal pools and the adaptations unique to the plants and animals that use these quiet corners of Maine's landscape.

**Skeletons -- Form and Function  
(grade 3–adult)**

Vertebrates — including fish, amphibians, reptiles, birds, and mammals—are some of the most advanced creatures on the planet. Many of us don't appreciate this, however, because we so rarely get to see what's going on inside these animals. Vertebrates all have one main thing in common: an internal skeleton. Students gain a better understanding of the skeletal system by looking closely at the bones of many different vertebrates while comparing them with their own skeletons. This hands-on program culminates in the assembly of our 16-foot Pilot Whale or our Black Bear skeleton, giving participants the opportunity to investigate the physiological adaptations these animals require for survival. This program is an excellent addition to a skeletal system curriculum.

## **Fins & Flippers -- The Ultimate Hands-on Experience!**

**Two-part presentation, 45 minutes each**

**(grade 2–adult; maximum group size 25 for skeleton set-up)**

This presentation begins with a slide show examining the four major groups of marine mammals, their adaptations for living in the marine environment, and the many threats they face. Students then divide into three groups for the second half of the program, when they reconstruct a 16-foot Pilot Whale skeleton. Reassembling this once-living puzzle creates an ideal format for discovery learning and discussion of the relationships between form and function.

## **The Rain Forest -- Diversity of Species**

**(grade 3–adult)**

Why are South American rain forests important for residents of Maine and New England? By introducing the concept of biodiversity, our rain forest program addresses the links between the flora, fauna, and weather patterns of the northeastern United States and these distant tropical woodlands. Chewonki's live Green Iguana and African Giant Millipedes provide a basis for discussion of the rain forest cycles and ecosystems. Activities and a slide show highlight the neotropical migratory birds that travel thousands of miles each year from the rain forests back to the woods and fields of Maine.

## **Too Much Trash! -- Reduce, Reuse, Recycle**

**(grade 3–adult)**

Humans produce enormous amounts of trash, but personal choices affect the quantity and type of trash we produce. An introductory slide show explores solid-waste disposal, recycling, composting, and the use of durable products that will last for many years. We discuss everything from scrap-metal yards to recycled shoes in an effort to understand the complex world of waste disposal and alternatives to our landfills. Through several activities, we help participants develop individual strategies to reduce their own contribution to the waste stream and encourage them to implement their plan as current or future consumers.

*Chewonki's Pathways Waste Management Curriculum will be provided to each participating teacher.*

## **Our Changing Climate -- Global Warming and Renewable Energy (grade 4–adult)**

*Fact: In 2006, North America experienced its' hottest year on record! In fact, globally, the 8 warmest years on record have occurred since 1997, including every year since 2001.*

Our presentation starts with "In Hot Water," a video that examines past climate history, what humans are doing to cause the global climate to warm, and some of the ways we can cool things down again. The second half of our presentation focuses on ways that renewable energy and conservation can make a big difference. Students rotate through our five stations: biodiesel and alternative fuels, measuring electricity usage, wind power, human power, and solar energy. \*Maximum group size: 20 students + chaperones

*This 90-minute presentation can take place at Chewonki or at a facility in Maine of your choice.*

*Chewonki also offers the following tours and lessons on our campus:*

**Renewable Energy Tour**  
**Renewable Hydrogen**  
**Biofuels**  
**Solar Heat & Electricity**