

Factory Brook

Homer Central School: Factory Brook

Nature Area

Welcome to the Factory Brook Nature Area, a special place to enhance the education of Homer Central students. As an outdoor learning laboratory, it's used for studying conservation, environmental science, ecology, biology, and physical science. It's attributes facilitate learning in other discipline areas as well.

Current experiments here cover a wide variety of science fields and include stream sedimentation, water volume, velocity, germination, seed dispersal, and ecological studies dealing with plants and animals and their relationships with their existing habitat types. In addition, students have begun conservation activities including tree planting, wildlife restoration, and habitat improvement.

This nature trail guide will help you familiarize yourself with some of the plants and animals that can be found here. When you come to a numbered post, read the passage that corresponds to that number.

Enjoy your visit and please pay attention to the following rules:

- ~ Stay on established trails
- ~ Please do not pick any plants or take any wildlife.
- ~ Please don't litter. If you carry it in, carry it out.



Nature Area

Homer Central School - Homer, NY



#1 The marshy area in front of you is home to a large variety of flowering plants including Joe-Pye weed (Eupatorium maculatum), wild cucumber (Echinocystis lobata), and **common cattail** (Typha latifolia). Cattails are extremely valuable to the nature area for a variety of reasons. They are important foods for muskrat, beaver, geese, and ducks and they attract several bird species with inviting, sheltered nesting sites. Cattails also consume large amounts of nitrogen and phos-



#2 The low areas on both sides of the trail are called vernal ponds. These ponds, which only exist during the wet spring periods, cause unique organisms to adapt in remarkable ways. The **fairly shrimp** (Eubranchipus vernalis) is a common member of the vernal pond community that hatches from eggs that can be inactive for over 20 years. Vernal ponds contain a vast number of protists and algae, and are vital to the life cycle of amphibians such as the spotted salamander (Ambystoma maculatum).



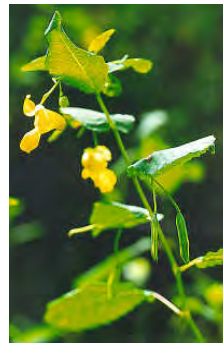
#3 The nature area and adjoining properties belong to a type of habitat known as a riparian or riverside wetland. The riverside environment is dominated by the **black willow** (Salix nigra), a water loving and hardy riparian tree. These trees quickly reproduce by seeds, cuttings, and root sprouts to create bank stability and provide quick relief for erosion problems. Willows also provide cool shade for resident trout and are a favorite food of the beaver.



#4 One of the most active and noticeable animals at Factory Brook is the **muskrat** (Ondatra zibethica). The area in front of you is used by the muskrat and if you're lucky you may see this chiefly vegetarian animal carrying stems and roots from the streambank vegetation. In emergency situations it may survive on frogs, fish, and mussels, but a vegetarian meal is preferred. In suitable habitat, a female muskrat can have as many as three litters a year. This is important due to the high mortality



#5 Although not apparent in the late fall, winter, and early spring, this area is dominated by one major plant group -- the jewelweeds. You can observe two species here, the **pale jewelweed** (Impatiens pallida) with yellow flowers and the spotted variety (Impatiens capensis) with orange flowers. Jewelweeds are also known as touch-me-knots because of the way their seed pods explode after being touched. The juice of the jewelweed is supposed to be helpful in relieving the itching of poison ivy and nettles. Jewelweeds are self-pollinators,



#6 In front of you is the chiseled remains of a walnut tree, clear evidence of **beaver** (Castor canadensis) activity at Factory Brook. The beaver is a skilled lumberjack, and expert logger, and a very clever engineer. Due to large scale extermination, in 1901 there was only one known beaver living in NYS. Imported beavers from Yellowstone in 1904 and Michigan have since reestablished the NYS



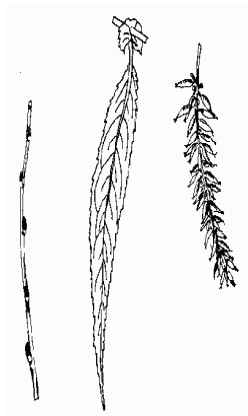
#7 Observe the large wood duck box hanging from the willow tree across the brook. **Wood ducks** (*Aix sponsa*) were once a common site throughout New York State, but loss of proper nesting habitat has caused their decline. These ducks require cavities in dead or dying trees to raise their young and the clearing of lands along waterways and the filling in of wetlands has severely reduced this type of habitat. Duck boxes have allowed wood duck numbers to rebound dramatically. Another cavity nester in NYS is the bluebird (*Sialia sialis*). Due to their competition with the European starling (*Sturnus vulgaris*), bluebird numbers have



#9 The stream here is Factory Brook. It follows a ten-mile course from Scott to the Tioughnioga River in Homer. Factory Brook is the home to several species of organisms. Most notably, the **brook trout** (*Salvelinus fontinalis*) and the German brown trout (*Salmo trutta*) inhabit the stream along with creek chubs, suckers, and minnows. Some bottom dwelling insects including stoneflies, mayflies, dragonflies, and crane-flies lay their eggs in the brook, and after hatching, nymphs live under the rocks in the stream. The gravel/rocky stream bottom pro-



#8 The **Black Willow** (*Salix nigra*) to your left was damaged in a wind storm. The section lying on the ground is starting the decomposition process. Bacteria, moss, insects, and bracket fungi are thriving on its



#10 Known as an edge, this is the division between two distinct habitats. This dividing line separates the stream bank habitat and the open playing field, each of which have their own types of plants, animals, and insects. Wildlife managers have found the edge areas stimulate population growth in animal species and also increase species diversity by in-





#11 The **false hellebore** (Veratrum viride) in front of you starts as a small leaf plant with parallel veins in the spring, and develops into a large plant in the mid-summer. It can reach heights of 8 feet. Along with bitersweet nightshade (Solanum nigrum) and stinging nettles (Yatica dioica), the false hellebore is one of many poisonous plants in our area that can cause

#12 The area across from Factory Brook is a large wetland. Wetland areas are very important because they reduce flooding by soaking up excess rain. They also filter water by removing vast amount of pollutants and act as a nursery for many types of waterfowl including the **mallard duck** (Anas platyrhynchos). Unfortunately, most of our wetland areas have disappeared because of human activities.



#13 The dead and dying trees around you are remnants of **American Elms** (Ulmus americana). American elms have been decimated by a fungal disease spread by beetles. The broad canopy of the elm made it a popular tree to plant for shade along city streets throughout the eastern U.S.



#14 As you look upstream, notice the natural bridge formed by a **fallen willow**. The new shoots growing from the fallen trunk provide valuable shade and cover for the fish and other organisms that call Factory brook home.

#15 The dense stand of broadleaf plants along the stream bank is an alien species called **Japanese bamboo weed** (Polygonal cuspidate). Although the stem is similar in appearance, it is not a true bamboo. Introduced from Japan, this knotweed is out competing native vegetation in riparian zones throughout the U.S.



#16 As the mature trees that line Factory Brook start to deteriorate, they become food sources for a variety of insects such as carpenter ants. As a result, birds such as the spectacular **Pileated Woodpecker** (Droops pileatus) visit the area to search for ants and other insects. Keep an eye out for this elusive woodpecker.

