

WETLANDS IN WINTER

From spring through fall, freshwater wetlands are active, noisy places.

In ponds, swamps and marshes, fish jump, frogs call, birds sing, turtles bask, dragonflies hunt and beavers slap their tails on the water's surface. In winter when the water freezes – silence falls.

Hérons, ducks and other birds that rely on wetlands for food are able to fly to open water, but where do the fish and insects go? How does a turtle cope without coming to the surface to breathe? All sorts of animals survive in freshwater wetlands during the long New England winter. How do they do it?

Fish are cold-blooded. This means their body temperature goes up and down with the surrounding environment. When the temperature gets cold enough, layers of ice form from the top down on a pond's surface. This ice serves as insulation, helping to retain the heat in the water below. The fish will be found in the warmest water at the bottom of a pond. In winter, they are colder and much less active. When their bodies slow down, they don't need as much food or oxygen.

Dragonflies spend winter under the ice. While green darner dragonflies migrate, most dragonfly species feed and grow as nymphs under the ice. Caddisflies, mayflies and other insects also over winter as larvae or eggs. Many of these larvae burrow in the mud when the water freezes.



Painted Turtle



American Bullfrog

Turtles and frogs have amazing adaptations.

When it grows cold, painted turtles head to the bottom of the wetland and reduce their metabolism and body temperature, so they need very little oxygen. They can bury themselves in mud for the winter, but may move around under the ice on warmer days. Bullfrogs hibernate at the bottom of the swamp, but not under the mud because they need more oxygen than turtles. Part of a bullfrog's body may actually freeze in the winter, but a high concentration of sugar (glucose) acts like an anti-freeze and protects their vital organs.



Beaver

Beavers store food for winter.

They hide branches under the water, just outside their lodge. Their sturdy homes are built of mud, sticks and logs with an entrance under the ice, so they can easily access the stored food when necessary.

To stay warm, beavers cuddle together in their cozy lodge. Muskrats, the beaver's smaller cousin, have similar strategies to survive the winter.



Brook Trout

DRAGONFLY METAMORPHOSIS

