

The Bog Turtle

(Clemmys muhlenbergii)

Protecting New Jersey's Rarest Turtle



The northern population of the bog turtle ranges from New York and Massachusetts to Maryland and is federally listed as threatened on the List of Endangered and Threatened Wildlife. The southern population of the bog turtle, which extends from southern Virginia to northern Georgia, is listed as threatened due to the similarity of its physical appearance to the northern population. Threatened species are likely to become endangered within the foreseeable future throughout all or a significant part of their range. This status reflects significant declines in the number of turtles and their continuing vulnerability to further losses.

Characteristics of the Bog Turtle

The bog turtle is New Jersey's smallest turtle, reaching a shell length of approximately 4 inches. It is most easily recognized by a distinctive red, orange, or yellow patch on each side of the head. Bog turtles have a light brown to ebony shell. The carapace (upper shell) is highlighted by a beautiful light brown sunburst pattern in each scute; although these markings may be obscured by mud or worn smooth as turtles age. The plastron (lower shell) is typically brownish-black with contrasting yellow or cream areas. Hatchlings are similar in appearance to adults. Males may be distinguished from females by a flatter carapace, a concave plastron, and a long, thick tail.

but on warm sunny days, particularly in the morning, they often bask partially submerged in the rivulets or on top of nearby plants.

Bog turtles are active from April to October but are most easily found in the spring before their habitats are obscured by dense vegetation. Hibernation is commonly spent in abandoned muskrat houses, burrows, or other types of natural cavities beneath tussocks or shrub thickets. Adults mate in May and June. Females deposit between two and six eggs in sphagnum moss or sedge tussocks in June or July. After an incubation period of 42 to 56 days, the eggs hatch and the young emerge in August or early September.

Bog Turtle Habitat and Ecology

Bog turtles live in highly humid environments such as open swamps and marshes with lush, emergent vegetation; hummock-forming tussocks; rich muck soils; and shallow, slow-flowing, clean, clear water. Bog turtles require a very specific combination of these habitat features, and even minor changes can significantly affect the suitability of a wetland site for the turtles.

The water in bog turtle habitats typically originates in groundwater seepages and springs that flow into small rivulets. These rivulets are a critical element of bog turtle habitat, as the turtles spend a great deal of time feeding, traveling, and basking in them. Bog turtles spend most of their time submerged in the muck beneath these rivulets or hidden beneath vegetation,



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Bog turtle nesting on a tussock



Map depicting extant and historic range of the bog turtle

Bog turtles reach sexual maturity at about 8 years of age and may live for more than 30 years. They are omnivorous, feeding on plants, seeds, carrion, insects, slugs, worms and any other suitable prey they can catch.

Protecting the Bog Turtle

More than 50% of the historic bog turtle populations in New Jersey are estimated to have been lost, and many of those remaining are severely impaired. Bog turtles are extremely sensitive to habitat changes and have suffered greatly from habitat loss and degradation through wetland filling, fragmentation and drainage; invasion by plant species such as common reed (*Phragmites australis*) and purple loosestrife (*Lythrum salicaria*); and succession by trees and shrubs that create shading and alter natural drainage patterns. The groundwater influences in bog turtle habitats are often particularly susceptible to alteration from nearby upland development. The protection of a large buffer area around the wetlands is often necessary to protect the hydrology of the habitat. Illegal collection for the pet trade is also a factor in the decline of the species.

The U.S. Fish & Wildlife Service has developed a Bog Turtle Recovery Plan to ensure the survival of this species in the wild. In coordination with the New Jersey Endangered and Nongame Species Program, recovery efforts are focused on: identifying new populations through ongoing field surveys; protecting existing populations with surveillance, habitat management, and careful review of proposed developments in and around bog turtle habitats; coordinating research to better understand the species' habitat requirements; and forming conservation partnerships with private landowners.

The public can contact the U.S. Fish & Wildlife Service to learn more about protecting bog turtles on private property or halting illegal collection. Protecting bog turtles and their habitats can also have important secondary benefits. Many bog turtle wetlands also provide sanctuary for rare species of butterflies, plants, dragonflies, birds, freshwater mussels, and other turtles.

The ongoing efforts to protect the bog turtle and its wetland habitat will ensure that they remain a part of the State's natural heritage for future generations, and perhaps in time will no longer be considered threatened or endangered.



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Above: Adult bog turtle on moss
Left: Adult bog turtle with prominent orange patch visible on neck



Lisa Arroyo / USFWS, NJFO

Typical bog turtle habitat in New Jersey

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To work with others to conserve, protect and enhance fish, wildlife, and plants and their habitats for the continuing benefit of the American People.



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