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# Informative Handouts for Landowners

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Grass-pink orchid (*Calopogon tuberosus*).

# So, I Have Bog Turtles ...

## **Q. What are bog turtles?**

**A.** Bog turtles are one of the smallest turtles in the world. They inhabit wetlands in eastern North America. Bog turtles have a black to mahogany colored shell and distinctive orange to yellow spots on the sides of their heads. The average adult length is 3 - 3.5 inches. The wetlands they inhabit are usually small, acidic, and have soft mud. Bog turtles are very secretive. They rarely bask in full view like other turtles. They spend most of their time in the mud, sometimes with part of their shell sticking out to collect heat.

## **Q. Why are they so special?**

**A.** The number of bog turtles has decreased significantly. This is mostly due to habitat loss and collection for the pet trade. Because of the decrease in populations, bog turtles are currently listed as threatened or endangered in all states they inhabit. Listing as a threatened or endangered species makes collection of the turtles illegal.

## **Q. Why do people want to study them?**

**A.** One main purpose in studying bog turtles is to gather information to assist in their recovery so they can be removed from the listing. In order to accomplish this, we need to know more about the turtles. Scientists study the turtles to learn about their life cycles, migration, and habitat choice. With this information we can determine the best way to manage bog turtle sites so that the turtles flourish.

## **Q. What does it mean to have turtles on your property?**

**A.** Having bog turtles on your property is very special. Very few people will ever get to see a bog turtle other than in captivity. You have the opportunity to help preserve a threatened species. It does not mean that your property can be taken from you.

## **Q. Can anyone come on my property without my permission?**

**A.** No, it is your property. The access of your property to others is your decision.

## **Q. Can I still use my property?**

**A.** Yes. Having bog turtles does not effect your right to use the property. In some cases bog turtles inhabit wetlands in cattle pastures or hay fields. Current studies indicate that cattle grazing has a beneficial effect for bog turtles. It is believed that seasonal grazing maintains the open sedge areas that the turtles prefer.

**Q. What if I want to drain my wetland?**

**A.** Before you consider draining your wetland, check to make sure you would not violate any state or federal laws or risk losing USDA benefits. Most of the wetlands that bog turtles inhabit are small. Thus, the expense of draining these areas would far outweigh the financial benefit of having a bit more pasture or field.

**Q. What are the benefits of protecting bog turtles?**

**A.** There are many benefits to protecting bog turtles. Protecting bog turtles helps keep them from going extinct. Extinction is a normal process, but the current rate of extinctions is unnaturally high. The most common cause of extinction is habitat loss—in other words, humans have caused this inflated extinction rate. Slowing the rate of extinction is important because every species plays a part in nature. Each species that is lost affects the natural system. Also, to protect bog turtles you must protect the wetlands they inhabit. Wetlands perform many functions that have value to humans, including wildlife habitat, flood control and filtering of pollutants and sediment in the water.

**Q. How can I protect bog turtles?**

**A.** There are many different ways to protect bog turtles. To protect the bog turtle, you must protect their habitat—bogs. There are preservation programs designed for the purpose of wildlife and wetland protection and restoration that can offer technical assistance. Also, conservancies and land trusts offer many preservation options, some with financial benefits.

Contact:

Project Bog Turtle  
NC State Museum of Natural Sciences  
11 West Jones St.  
Raleigh, NC 27601-1059

Phone: (919) 733-7450 ext. 511

Web site: [www.projectbogturtle.org](http://www.projectbogturtle.org)

# Meadow Bogs (Wet Pastures)

## What is a Meadow Bog?

The term “Meadow Bog” describes a Mountain or Piedmont wetland that has been altered by human use. Meadow Bogs frequently occur on agricultural land, primarily in cattle pastures or hay fields. Most Meadow Bogs are characterized by using the three “S” system: They are spring-fed, sunny, and soggy. Most are swampy or wet areas vegetated with sedges, herbs, shrubs, and sparse trees. Meadow Bogs are true wonderlands performing many important functions which provide valuable benefits to people and wildlife.

## What are the Values of Meadow Bogs?

### *A Meadow Bog is Important for Water Quality*

Meadow Bogs are important for water quality, especially during storm events. Acting as a sponge, Meadow Bogs absorb excess storm water rushing over the land, reducing flood damage and the amount of soil entering the streams. They also improve water quality by filtering out excess nutrients, pesticides, sedimentation, and other pollutants.

### *Meadow Bogs Provide Habitat for Wildlife*

Many rare and unusual species inhabit wetlands such as Gray’s lilies, orchids, carnivorous plants, four-toed salamanders, and bog turtles. Even in altered or disturbed wetlands, like Meadow Bogs, these unusual species may still persist. Familiar species also inhabit Meadow Bogs such as frogs, songbirds, white-tailed deer, and woodcock. Furthermore, because wetlands keep streams and rivers clean, they help to maintain habitat for sport fish, such as trout.

## Why Preserve Meadow Bogs?

The Southeastern United States has lost approximately 90% of its Mountain bogs. When wetlands disappear, so do the benefits they provide. The loss of wetlands has resulted in increased flooding, increased water contamination, and a decrease in waterfowl, migratory birds, fish, and other species that use wetlands. Because huge losses have already occurred, it is even more important to preserve and restore our remaining wetlands. There are many ways in which you, as a steward of the land, can help maintain our wetlands and the species that depend upon them.

## Recommendations for Maintaining a Meadow Bog

Farming is a needed activity that can benefit some wetland species. For example, moderate grazing or occasional mowing provides open habitat for the rare and endangered bog turtle. These management activities control the growth of woody plants and shrubs that can otherwise take over open wetlands.

- Allow only moderate to light grazing
- When mowing, set the blades high to avoid destroying habitat and nests of birds and small mammals
- Mow as infrequently as possible to increase wildlife habitat. Good wildlife areas often look “weedy,” but this isn’t bad!
- Control woody vegetation by cutting when the area is becoming more shaded than sunny
- Provide native vegetation buffers around the wetland to filter pollutants and benefit wildlife

### **Want to learn more?**

An excellent source for information on Meadow Bogs is the handbook titled *The Restoration & Management of Small Wetlands of the Mountains & Piedmont in the Southeast: A Manual Emphasizing Endangered & Threatened Species Habitat with a Focus on Bog Turtles* written by Ann B. Somers, Kenneth A. Bridle, Dennis W. Herman and A. Barry Nelson in cooperation with the Natural Resources Conservation Service, Watershed Science Institute, Raleigh NC, published in 2000. Contact Ann Berry Somers, Department of Biology, University of North Carolina at Greensboro, P.O. Box 26174, Greensboro, N.C. 27402-6174, 336-334-4978, [absomers@uncg.edu](mailto:absomers@uncg.edu).

There are programs that provide technical and possible financial support for Meadow Bog restoration and management. For further information on these options, contact your local USDA Natural Resources Conservation Service office, US Fish and Wildlife Service office, Project Bog Turtle, [www.projectbogturtle.org](http://www.projectbogturtle.org), the North Carolina State Museum of Natural Sciences, or your local land trust.

# Project Bog Turtle

**P**roject Bog Turtle is an initiative of the Conservation Committee of the North Carolina Herpetological Society. The directors are Dennis W. Herman, Co-chair (NC State Museum of Natural Sciences, Raleigh, NC), Tom Thorp, Co-chair (Three Lakes Nature Center and Aquarium, Richmond, VA), and Ann B. Somers (the University of North Carolina at Greensboro). The original project was begun in the late 1970s by Dennis Herman as a continuation of a bog turtle distribution survey, by Robert T. Zappalorti (Staten Island Zoological Society), in southwestern North Carolina. The survey was expanded to include other southern states to locate new sites and populations of bog turtles. Most of the work, however, was conducted in North Carolina. The bog turtle project included mark-and-recapture studies in several sites and a captive propagation and headstart program at the Atlanta Zoological Park (now Zoo Atlanta). It was evident, as the project progressed, that additional personnel and assistance from the various state, federal, and private agencies would be needed.

In 1988, the NC Herpetological Society became an important partner in the project and began the NC Piedmont Bog Turtle Survey under the coordination and direction of Dennis Herman and Tom Thorp. This survey proved to be very successful, as several new county records and additional sites were located. Today, because of these surveys, there are 131 bog turtle occurrence records known from 20 counties in North Carolina. Dennis Herman, under a NC Wildlife Resources Commission contract in 1994, wrote a 156-page action plan outlining conservation and management strategies for the bog turtle in NC. This document was well received and an increased interest was generated to protect bog turtle habitats. The original bog turtle project and the NC Piedmont turtle survey were combined and renamed Project Bog Turtle in 1995. Project Bog Turtle's main goals are the following:

1. Protection of habitat through leases, purchases or easements.
2. Restoration of altered habitat.
3. Continued surveys to locate new populations.
4. Continued monitoring and study of population dynamics in selected sites.
5. Landowner education, cooperation, and involvement.
6. Consultation with, and dissemination of information to, federal and state agencies.

The project received funds from the US Fish & Wildlife Service for protection of bog turtle habitat by leasing sites from landowners and for conducting surveys in the Southeast for additional populations. In addition, the project obtained funds from USFWS Partners for Fish and Wildlife program for the restoration and management of sites in two North Carolina counties to enhance their habitat and bog turtle populations.

Project Bog Turtle is based at the NC State Museum of Natural Sciences and possesses one of the largest bog turtle databases in the Southeast. For additional information on PBT, or how you can support the project, please contact: Dennis W. Herman, Project Bog Turtle NC State Museum of Natural Sciences, 11 West Jones St., Raleigh, NC 27601-1029 phone (919) 733-7450, ext. 511; email [dennis.herman@ncmail.net](mailto:dennis.herman@ncmail.net) or visit [www.projectbogturtle.org](http://www.projectbogturtle.org)