Bog Turtles: Muck, Man and Management

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Current Range

Range Map
Bog Turtle (*Clemmys muhlenbergii*)

**Facts**

- There are over 100 known bog turtle sites in Pennsylvania.
- The bog turtle is one of the smallest turtles in North America.
- 85% of bog turtle habitat is found on private land.
- Longevity – Some bog turtles are known to live for 40 years and longer.
- Bog turtles are omnivores.

*Photo By Andrea M. Teti*
Habitat Characteristics - Wetlands

**HYDROLOGY –**

typically groundwater dependent

- Rivulets
- Springs/Seeps
- Forested as well as emergent wetlands
- Mosaic of wet and dry areas

*Photo By Andrea M. Teti*
Habitat Characteristics - Wetlands

SOILS

- Mucky – soft and saturated
- Survive and Hibernate in mucky soils at 4”-6” in depth and greater
- Mucky soils often underlain by harder, less permeable soil layer (clay)

Photo By Andrea M. Teti
Habitat Characteristics - Wetlands

VEGETATION

- Emergent – may include scrub-shrub and/or forested components
- Typical herbaceous plants: sedges, rushes, cattails, rice cut grass, reed canary grass, tear-thumbs, jewelweed, skunk cabbage, sweet flag, sensitive fern
- Typical Trees/shrubs – red maples, alders, willows, dogwoods and poison sumac
Reproduction Characteristics

- Copulation commonly occurs from late April to early June
- Normally lay 3-5 eggs
- Egg laying usually occurs in the moist moss and earth in tussock sedges
- Egg laying occurs in low to no canopy cover wetland areas – emergent wetlands

Photos By Andrea M. Teti
Bog Turtles are Federally listed as a Threatened Species

*Threatened* is defined as any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range. [ESA 3(20)]

The northern population of the bog turtle was added to the Endangered and Threatened Species List on November 4, 1997.

Bog Turtles are listed as a State Endangered Species.
Why are bog turtles threatened?

- Habitat (loss, fragmentation and degradation)
- Illegal killing/collection
- Pollution
- Competition with other species
- Disease
- Predation
What is the USFWS doing about it?

- Section 7 (ESA) Consultation – interagency consultation to conserve Federally listed species and designated critical habitats
- Issue Biological Opinions and Incidental Take Statements
- Implementing recommendations in the 2001 Bog Turtle Recovery Plan
Environmental Reviews

- Review permitted projects throughout the entire State
- Over 3800 projects reviewed this calendar year
- Over 50% of those being bog turtle projects
- Residential/commercial development; oil and gas wells; mine reclamation; timber harvest projects
Section 7 Consultation – Bog Turtle Effects Assessment

Determine Action Area

Known BT Site?
- Y: CONSULT
- N: Are any wetlands present?
  - Y: Do Phase 1 Survey
    - Is potential habitat present?
      - Y: ASSUME Presence & AVOID impacts
        - Document & Submit
      - N: Do Phase 2 survey
        - Are bog turtles present?
          - Y: CONSULT
          - N: Document & Submit
    - N: Document for File
  - N: Document & Submit
Phase 2 Surveys

Tracking the bog turtle...

Photos By Andrea M. Teti
Search Techniques

- Poking with poles
- Hand, knee and arms – searching in tunnels and subterranean meadow vole burrows
- Trapping (Phase 3 Survey)
- Radio-Telemetry
BMPs Recommended

- 300’ buffers around known sites
- 50’ buffers around known travel corridors
- Seasonal restrictions
- Silt fence
- Bog turtle surveyor on site during construction
- No tree planting within 200’ of wetlands (CREP)
Recovery

Partners for Fish and Wildlife – Effects of Triclopyr (Garlon), Imazapyr (Arsenal), and Glyphosate (Roundup) on Woody Vegetation in Potential Bog Turtle Habitat

- The goal of the project was to control successional woody vegetation in potential bog turtle habitat
- 26-acre site owned by the Nature Conservancy
- Herbicides applied June 2004
- Monitoring June 2005
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Other Partners

- Working with the Natural Resource Conservation Service (NRCS), Berks County Conservancy, Lancaster County Conservancy, Natural Lands Trust, The Nature Conservancy to put conservation easements on private land

Remember…85% of bog turtle habitat is found on private land.
Why did the turtle cross the road?
To get to the shell station.
Do you have any questions?