

BOG TURTLE (*Clemmys* [=*Glyptemys*] *muhlenbergii*)

SPOTLIGHT SPECIES ACTION PLAN

Prepared by:

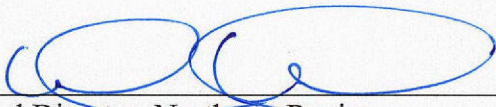
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Pennsylvania Field Office
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for the:

U.S. Fish and Wildlife Service
Northeast Region
Hadley, Massachusetts

Approved:

Acting


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12/3/09

Date

U.S. FISH AND WILDLIFE SERVICE - SPOTLIGHT SPECIES ACTION PLAN

Common Name: Bog Turtle

Scientific Name: *Clemmys [=Glyptemys] muhlenbergii*

Lead Region: Region 5

Lead Field Office: Pennsylvania

Species Information:

Status: Threatened

Recovery Priority Number: 12C

Recovery Plan: Bog Turtle (*Clemmys muhlenbergii*) Northern Population Recovery Plan,
May 15, 2001 (April 2006 revisions were made to Appendix B – *Guidelines for Bog
Turtle Surveys*)

Most Recent 5-year Review: September 2008 (Draft)

Threats:

The most significant threats to the bog turtle include: (1) Indirect effects due to development, including habitat loss, degradation and fragmentation; and (2) habitat degradation due to natural succession and encroachment by invasive exotic plant species. These and other threats are discussed in the Bog Turtle Recovery Plan and the draft 5-Year Review.

Goal:

The 5-year goal for the bog turtle is to reduce the magnitude of threats related to development and invasive plant species encroachment.

Measure:

Within the 5-year planning horizon, increase the number of protected and managed bog turtle sites, as compared to data in the 5-year review. The U.S. Fish and Wildlife Service (Service) will assess the following indicators as a measure of implementation success:

- ✓ Number of occupied bog turtle sites where habitat restoration or management has taken place to control succession and/or invasive plant species.
- ✓ Number of occupied bog turtle sites wholly or partially protected via purchase, conservation easement, or landowner agreement.
- ✓ Development of “compatible land use guidelines and practices” to avoid or reduce the indirect effects of development on bog turtles and their habitat (*e.g.*, hydrological changes to the wetland, travel corridor disruption, road kills, water quality degradation, *etc.*).

The Service will work with partners to take a strategic approach in identifying the priorities for bog turtle conservation by recovery unit (RU), develop a conservation or action plan specific to each RU, and implement habitat conservation and restoration measures.

This approach focuses on implementation of the following recovery actions:

Priority 1

- 2.3 Protect bog turtle sites through purchase and conservation easements.
- 3.5 Monitor the status of and threats to extant populations.
- 6.3.1 Control succession and invasive exotic plants.
- 6.3.3 Identify methods to prevent adverse hydrological changes to bog turtle habitat.

Priority 2

- 1.3 Avoid and minimize direct and indirect adverse effects to bog turtles and their habitat.
- 2.1 In each RU, identify and prioritize sites for appropriate conservation efforts.
- 3.3.1 Conduct surveys to re-evaluate the presence of bog turtles at historical sites in the Prairie Peninsula / Lake Plain RU.
- 10 Develop RU-specific recovery tasks recognizing that each RU will require a different prioritization of approaches.

Actions:

The two major threats – adverse changes to habitat through succession and invasive species, and secondary impacts from development causing fragmentation, degraded water quality, altered wetland hydrology, road kills, and increased predation – can be mitigated through acquisition/easement of occupied wetlands, habitat management, and compatible land use practices. The types of actions necessary to achieve these goals are described in the Recovery Plan, the 5-year Review, and in the “Business Plan for Early Successional Habitat and Conservation of the Bog Turtle” (draft, March 2009) that has been developed by the National Fish and Wildlife Foundation (NFWF) in cooperation with various State and Federal agencies.

Service– As lead for the species, the Pennsylvania Field Office (PAFO) Endangered Species Program will facilitate conservation efforts by other Ecological Services offices (New England FO, New York FO, New Jersey FO, Chesapeake Bay FO), other Service programs (Partners for Fish and Wildlife [PFW], Refuges), and other partners (States, Natural Resources Conservation Service (NRCS), NFWF, Environmental Defense Fund [EDF], and private landowners). The Service, through Section 6 Grants and State Wildlife Grants, will provide needed funding to States to carry out conservation programs, with a focus on habitat restoration. The PAFO’s Endangered Species and PFW programs will provide technical assistance to private landowners to carry out habitat restoration efforts, often in conjunction with NRCS, State agencies, and EDF. Specific tasks the Service needs to undertake to accomplish the objectives of this plan include:

- ✓ Provide technical assistance to landowners, conservation groups, and Federal and State agencies who are interested in implementing bog turtle habitat restoration.
- ✓ Request, provide and/or direct funding to achieve the goals of the plan.
- ✓ Manage Service-owned lands for bog turtle.
- ✓ Participate in the restoration of bog turtle habitat on non-Service lands, where funding and opportunity are available.
- ✓ Identify RU-specific “recovery action teams”.
- ✓ Oversee the development and implementation of RU-specific bog turtle conservation or action plans.
- ✓ Monitor and assess bog turtle mortality and disease, in cooperation with the National Wildlife Health Center and other partners.
- ✓ Mitigate threats to bog turtles and their habitat via project reviews (consultation, technical assistance, Habitat Conservation Plan development).

NRCS – In each State, NRCS should work with the Service to identify specific Farm Bill programs and practices that have the potential to affect the bog turtle. Practices that are beneficial to bog turtles should be encouraged, while those that result in adverse effects (*e.g.*, excluding grazers from wetlands, planting trees in wetlands) should be modified to either remove the adverse effects or result in beneficial effects. NRCS programs that have a high potential for conserving bog turtles and their habitat include the Wetlands Reserve Program (WRP) and Wildlife Habitat Incentive Program (WHIP), although the extent to which these programs are used to conserve bog turtles varies widely from State to State. Specific tasks through which NRCS could assist in accomplishing the objectives of this plan include:

- ✓ Encourage and promote bog turtle conservation through NRCS administered programs.
- ✓ Participate in programmatic formal or informal Endangered Species Act consultations related to Farm Bill programs and/or bog turtle habitat restoration practices by NRCS.
- ✓ On a State by State basis, work with the Service to identify programs and practices that have the potential to affect the bog turtle, with an emphasis on eliminating practices that adversely affect bog turtles and promoting practices that benefit bog turtles.

State Fish and Wildlife Agencies – The northern range of the bog turtle includes Connecticut, Delaware, Maryland, Massachusetts, New Jersey, New York, and Pennsylvania. All of these States have taken the initiative to conduct habitat management on their own, acquire grants to conduct habitat management, or have consultants volunteer or conduct habitat management at cost. Specific tasks through which States could assist in accomplishing the objectives of this plan include:

- ✓ Participate on RU-specific teams to identify, prioritize, and implement appropriate recovery actions.

- ✓ Request, provide, or direct funding to achieve the goals of this plan, including habitat restoration and permanent habitat protection.

NFWF – As part of its “Wildlife and Habitat Initiative,” NFWF has developed a bog turtle business plan, which identifies the highest priority recovery tasks that NFWF funding could reasonably influence to promote bog turtle conservation, with habitat restoration being a primary component of the plan. The business plan is targeted toward the Hudson/Housatonic and Susquehanna/Potomac Recovery Units. NFWF intends to award considerable funding for bog turtle conservation efforts in these recovery units.

EDF – With funding from NFWF, EDF will continue conducting landowner outreach and bog turtle surveys to identify new candidate sites for restoration/management over the next 10 years. EDF has partnered with NRCS to continue using WRP to secure permanent easements and/or 10-year restoration agreements on bog turtle sites. EDF’s goal over the next 10 years is to protect five sites per year using WRP. EDF has also committed to conduct and/or coordinate bog turtle monitoring at all active habitat restoration sites. Some of the turtle monitoring (including determining the extent of habitat use, nesting success, identification of nesting areas and hibernacula, population assessment/demographic research) is currently being conducted by graduate students from Fordham University, which EDF partnered with in 2008. Another partner in this New York habitat restoration effort is the Service’s PFW Program, which has committed to assist EDF with habitat restoration on private lands using 10-year agreements.

The Nature Conservancy – The Nature Conservancy (TNC) has committed to pursue acquisition of critical sites, including core habitat, hydrologic buffers, and corridors. TNC is currently involved in habitat restoration, site quality assessment, and bog turtle monitoring at five sites and will likely continue this work over the next 10 years. TNC has recently been awarded a grant to determine suitable projects and prepare bog turtle habitat restoration plans, to be completed in 2010. The Service will continue to work with TNC to implement these plans.

Together – Specific tasks through which NRCS, the Service, the States, and other conservation partners (*e.g.*, NFWF) could assist in accomplishing the objectives of this plan include:

- ✓ Participate in working groups and other discussions regarding the development of RU-specific conservation or action plans to meet recovery objectives. The RU plans should be strategically designed to provide habitat conservation for, and reduce threats to, the bog turtle and its habitat.
- ✓ Coordinate to ensure that each partner’s conservation programs are complementary and are, together, achieving the goals of this plan.
- ✓ Collaborate and encourage participation by other conservation partners through information sharing, outreach, and providing assistance, including both technical and financial.

Role of other ESA programs:

Section 6 Grants – have been used to fund surveys (visual, trapping, radiotelemetry) in Delaware, Connecticut, Maryland, New York, and Virginia, but most of those States now use

State Wildlife Grants for those activities (see below). Currently, only New Jersey still uses Section 6 funds (approximately \$10,000/yr) for bog turtle surveys and habitat management. Section 6 funds are also being used to fund a study assessing the effects of development near bog turtle sites ("Monitoring of Bog Turtle Colonies at Sites in Immediate Proximity to Development in Southeastern Pennsylvania"). The results of that study should be available in 2011.

Recovery Program Funds – The Service's Regional Office (Region 5) Endangered Species Program solicits recovery proposals from the field offices, typically on an annual basis. Funding is needed on an ongoing basis throughout the northern range of the bog turtle to accomplish on-the-ground site surveys, threat assessments, and habitat restoration. In September 2009, recovery funds were allocated for bog turtle site evaluations and threat assessments in Pennsylvania. This work will be funded and carried out in fiscal year 2010. There are approximately 150 bog turtle occurrences in Pennsylvania, many of which have not been re-visited since the 1980's. Habitat conditions and threats at most sites have not been assessed, and the accuracy with which older sites are mapped is in question. It is vital that the Service have access to accurate, up-to-date information regarding bog turtle sites in order to carry out project reviews, identify site-specific conservation needs, and implement recovery actions. In recent years, other northern range States, including Maryland and New Jersey, have undertaken multi-year studies to assess the status of their bog turtle sites. Like Maryland and New Jersey, Pennsylvania has many bog turtle occurrences and is considered a stronghold for the species, but has not invested in this type of effort. The allocation of Regional recovery monies will continue to play an important role in carrying out on-the-ground bog turtle conservation.

Role of other Service programs:

Wildlife and Sport Fish Restoration (WSFR) – This program provides Federal funding to support various fish and wildlife conservation projects including, in some cases, those benefitting federally listed species. State Wildlife Grants have funded, and will probably continue to fund, bog turtle surveys in Delaware, Connecticut, New Jersey and Maryland, and habitat management in New Jersey and Maryland. Grants from the Landowner Incentive Program (LIP) have funded Phase 1 bog turtle surveys and bog turtle habitat restoration projects. LIP funds are also being used to secure conservation easements on a small number of bog turtle sites (e.g., in Pennsylvania).

PFW – The PFW program has worked, and will continue to work in several northern range States, including Maryland, Pennsylvania and New York, to complete bog turtle habitat management projects.

The PAFO's PFW program has received approximately \$140,000 for bog turtle habitat restoration projects in Cherry Valley and elsewhere in the Commonwealth of Pennsylvania, with an additional \$70,000 to be allocated in fiscal year 2010. In partnership with TNC and others, the PFW program will continue to work in Monroe County to identify willing land owners with wetlands suitable for bog turtle habitat restoration. Two projects were completed last year, restoring approximately 8 acres of bog turtle habitat, and 3 additional projects are currently underway, targeting approximately 10 acres of bog turtle habitat. Site reconnaissance, landowner contact, and site restoration will be continuing over the next 5 years to restore at least 15 bog turtle sites using these funds.

National Wildlife Refuge System – The Wallkill, Great Swamp and Cherry Valley National Wildlife Refuges will continue to lead bog turtle habitat restoration and recovery efforts on Service lands, in coordination with the Endangered Species Program.

The acquisition boundary for the Cherry Valley National Wildlife Refuge (20,466 acres), located in Monroe County, Pennsylvania, was approved in December 2008. This Refuge was formed, in part, to conserve a significant meta-population of bog turtles. To date, no parcels have been acquired but there are over 120 property owners who have expressed an interest in selling property or easements to the Service. The National Wildlife Refuge System (NWRS) expects to acquire interests in one or more parcels over the next 5 years to officially establish the refuge. The Service's Endangered Species, PFW and NWRS programs will continue to work with TNC and private landowners to protect and restore bog turtle habitat within the acquisition boundary.

Additional funding analysis:

Additional funding would enable the Service to accelerate and expand conservation efforts, further reducing threats to the bog turtle. Additional funds would be used to support additional Service coordination of conservation efforts by all Service offices and programs, State and Federal agencies, non-Government organizations, and other partners; and to implement on-the-ground research, monitoring, and habitat management efforts. Considering the wide range of this species, the complexity of facilitating and implementing recovery actions, and the need for coordination among many Federal, State, and non-governmental partners, it would be beneficial to dedicate enough funding to support a full-time bog turtle recovery coordinator at PAFO, which has been given the lead on overseeing the bog turtle recovery initiative.

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