WOOD TURTLES

CONSERVATION CONSIDERATIONS FOR FOREST LANDOWNERS

The wood turtle (*Glyptemys insculpta*) is an at-risk species that ranges from Nova Scotia, west to Minnesota, and south to Virginia. Adult wood turtles range in size from about 5 to 8 inches across with pronounced concentric rings on the shell providing a sculptured appearance. The top of the shell is typically dark brown, while the underside is yellowish with black blotches. Their neck and legs are usually orange or yellow. They are long-lived, often exceeding 40 years old, and do not begin laying eggs until about 12 or more years old.

This semi-aquatic turtle prefers forested landscapes with medium-sized streams having a mostly sand or gravel bottom. These streams are used for spring/summer/fall foraging and overwintering. Importantly, wood turtles also venture into surrounding upland forests during the late spring to early fall to lay their eggs and forage on variety of foods including snails, slugs, berries, leaves, mushrooms, earthworms, and insects. Females will search out nesting sites in the spring and early summer, typically near streams and rivers, but they may travel long distances to appropriate upland sites. Nesting sites are typically found in open places with bare sandy soils that are warmed by the sun. In working forests, nesting sites are typically located along streams, roadsides, in gravel pits, and in forest clearings. Females may return to the same nesting site year after year. Predators, such as raccoons, often destroy nests resulting in low hatching rates.

Due to concerns about population trends, the U.S. Fish and Wildlife Service is reviewing the wood turtle's status and potential listing under the U.S. Endangered Species Act. Population threats include illegal collecting for the pet trade, nest predation, mortality from vehicles on roads, urban development, and from heavy equipment that is sometimes used for forestry and agricultural operations.

However, forest management can be compatible and even beneficial for wood turtles when water quality and stream banks are protected, woody vegetation of variable structure near and along streams is maintained, and when mortality or removal of turtles is minimized. Implementing state-approved Forestry Best Management Practices (BMPs), which protect water quality during forest operations, and regulatory shoreland standards, where required and applicable, are important baseline conservation measures.

A forester releases a wood turtle back to a stream.

Forest management by NAFO members protects waterways, like the one pictured above, providing high value habitat for wood turtles.

Considerations by landowners to benefit wood turtle populations:

1. Schedule timber harvests near wood turtle suitable or occupied streams during the frozen ground winter period.

Turtles return to streams in fall and overwinter in stream bottoms. Planning timber harvests under frozen conditions during winter months will greatly reduce the potential for harm to these turtles.

- Contact your state wildlife agency to find out if wood turtles are within your project area and to receive timber harvest timing date recommendations in your region.

2. Take measures to decrease harm to wood turtle populations from vehicles on logging roads and illegal collection.

- Close un-needed or rarely used spur roads adjacent to suitable streams. Convert these roads to walk-in access only and open them temporarily for timber harvest activities during the winter period.
- Avoid construction of new roads within 300 feet of known wood turtle streams.
- Increase awareness of turtle identification and conservation issues with your forestry staff, contractors, recreational leaseholders, and truckers. Promote driver avoidance of round, smooth objects on the roads, especially where roads cross streams or run parallel to them. If encountered on a road, carefully move the turtle to the side where it was headed.

3. Implement turtle-friendly practices when upgrading, replacing, or installing new stream crossing structures.

- Avoid placing permanent stream crossing structures in wood turtle streams whenever possible. If a crossing is necessary, ensure crossing structures allow turtles to pass through them (e.g., open-bottomed structures, substrate-embedded culverts). Avoid creating perched or undersized culverts that might inhibit their use by turtles or other wildlife.
- Carefully inspect the project area prior to construction activities to locate and remove any wood turtles.
- Use rip-rap and gravel instead of exposed sand at crossing sites. Creating sandy areas will attract turtle travel and nesting onto roadways. Any rip-rap without soil top-dressing and seeding should have the gaps filled with 0.5 to 2.0 inch gravel to ensure hatchling turtles do not become trapped if crossing the area. Contact your state agency for more information on design and timing considerations to avoid or minimize impacts to wood turtles during and following construction.
- If possible, avoid using geotextile fabric for post-construction site stability. These fabrics often become exposed and worn over time, resulting in frayed edges that turtles may become entangled in, resulting in mortality. If geotextile fabric is necessary to stabilize in-stream abutment rock armoring, consider using non-woven types and ensuring that the fabric is well buried and covered by rip-rap that will not be moved over time by stream flows, debris, and ice. If you see the fabric becoming exposed, add more rip-rap to fully cover the material.
- Avoid or limit erosion control matting on upland slopes near wood turtle streams that uses nylon netting as a base material due to the potential for turtle entanglement and mortality. Use other erosion control tools if possible.
- Read more about wildlife-friendly erosion control products at fws.gov.

4. **Enhance abandoned gravel pits and open areas near wood turtle suitable or occupied streams, especially if the soil is naturally sandy.**

Open sites and former gravel pits or excavated areas within approximately 1000 feet of suitable streams may provide valuable nesting areas.

- Maintain exposed sandy slopes that can be warmed by the sun. South-facing slopes will be used the most.
- Remove encroaching vegetation in sunny areas of the pit during the non-nesting period (November through March).
- Block off vehicle access to decrease vehicle- or recreation-caused turtle mortality and crushing of nests.
- Contact your state wildlife agency to explore site-specific ideas and considerations to include in your timber management plans.

5. Provide training to forest workers and extend education & outreach to other woodlot owners.

- Train loggers, contractors, foresters, other workers, and recreational leaseholders about wood turtles and measures to reduce negative effects to the species.
- Share wood turtle conservation guidance documents and resources with landowner groups, forestry associations, and other non-governmental organizations.
- Encourage forest workers to report sightings to the state wildlife agency. Individuals should take photographs of the top and bottom of the turtle shell, document the date and location address or GIS information. Please don't share this information with others or on social media. Illegal collection of wood turtles is a serious threat to this species.

6. Do you want to know if wood turtles are on your lands? Are you interested in speaking with someone to identify management actions that benefit wood turtles?

- State agency biologists may have information about wood turtle populations in your area and can let you know if habitat conditions are present.
- Finding more populations of wood turtles will help state and federal wildlife agencies better understand the wood turtle's status and determine its conservation needs.
- State biologists may be able to recommend management actions to improve wood turtle habitat on your lands, such as enhancing nesting sites or limiting access to illegal collection.

7. Report suspicious activities indicating potential illegal turtle collection.

- Use your state's anti-poaching hotline or wildlife agency to report suspicious activities.

8. For additional information about wood turtle ecology and habitat management guidelines, see the Conservation Plan for the Wood Turtle in the Northeastern United States.

- www.northeastturtles.org

Collaborating organizations:

NAFO
National Alliance of Forest Owners

NCASI
IMPACT. SCIENCE. SOLUTIONS.

U.S. FISH & WILDLIFE SERVICE

SUSTAINABLE FORESTRY INITIATIVE

Maine Forest Products Council

MAINE DEPT. OF INLAND FISHERIES AND WILDLIFE

MAINE WOODLAND OWNERS
COMMUNITY • ADVOCACY • KNOWLEDGE • LEGACY

maine DEPARTMENT OF Agriculture Conservation & Forestry
FOREST SERVICE

VERMONT FISH & WILDLIFE

VERMONT WOODLANDS ASSOCIATION

VERMONT FOREST PRODUCTS ASSOCIATION

STATE OF NEW HAMPSHIRE LIVE FREE OR DIE
FISH AND GAME

NHTOA
NH TIMBERLAND OWNERS ASSOCIATION
Growing Leadership for New Hampshire's Forests

EMPIRE STATE FOREST PRODUCTS ASSOCIATION
The People Behind New York's Healthy Forests and Quality Wood Products

American Forest Foundation

Forest Landowners

NEW YORK STATE Department of Environmental Conservation

State Contacts:

Maine Inland Fisheries and Wildlife
207-287-8000

New Hampshire Fish and Game
603-271-2461

New York State Department of Environmental Conservation
518-402-8883

Vermont Fish and Wildlife Department
802-828-1000

Suggested Citation: *National Alliance of Forest Owners (NAFO). 2024. Wood Turtles: Conservation considerations for forest landowners. Wildlife Conservation Initiative technical factsheet produced by NAFO, National Council for Air and Stream Improvement, Inc. and the U.S. Fish and Wildlife Service. 4 pp.*

Version Updated: 3/21/2024