

HERPETOLOGY

Biology and Conservation of the Wood Turtle

Edited by Michael T. Jones and Lisabeth L. Willey. 2021. Northeast Association of Fish and Wildlife Agencies. 235 pages, available online at no charge at <https://www.northeastturtles.org/biology-and-conservation-of-the-wood-turtle.html>.

The conservation of wildlife requires research followed by enough societal and political will to apply this knowledge towards conserving the species. But, getting to the level of understanding required to effectively manage a species (and convince decision makers that the knowledge has merit) takes years of research, typically by many people, and across the spatial extent of a species' range. This buildup in research effort, at least in wildlife studies, often results in certain species becoming 'flavours of the day', wherein much of the funding and energy of jurisdictions and academics focusses on doing a good job for an obvious management need. For example, in the 1990s, extensive research undertaken from British Columbia to Newfoundland and Labrador established the use



of American Marten (*Martes americana*) as an indicator and proxy for the amount of mature forest that could be maintained. Within forest wildlife management, there then followed a focus on salamanders and coarse woody debris, salmon and forest nutrients, and, lately, the response to disturbance by the boreal population of Woodland Caribou (*Rangifer tarandus caribou*). In the management of wildlife in agricultural lands, much effort has gone into insectivorous birds, the timing of harvest, and the pollination ecology of bees. Wood Turtle (*Glyptemys insculpta*) is a relatively recent focus for research, with most research conducted in the last 10 years; as a resident of forest and field, Wood Turtle's habitat straddles both forestry and agriculture, and, as a species listed as either Threatened or Endangered across all jurisdictions in Canada and the United States, jurisdictions and landowners are searching for information on how to conserve the species. Thus, the timing of *Biology and Conservation of the Wood Turtle* is ideal.

The book is a compilation of the state of knowledge

on Wood Turtles. Twenty-four authors contributed to 10 chapters, covering a range of topics from Evolution, Distribution, and Habitat Use, and finishing with management aspects, such as Threats and Predators, Restoration, and a Conservation Vision. The authors are an experienced group of mainly government biologists and academics, many of whom have spent decades working on turtle ecology. The editors, Michael Jones and Lisabeth Willey, also have years of research experience, with Jones, in particular, involved with most turtle-related initiatives in the American northeast. The book caters to managers and scientists but is an easy read, and will also be of use to students, the general public, and landowners. The book contains over a hundred quality colour photos, often of different Wood Turtle habitats from Minnesota to Cape Breton. As evidence of Wood Turtle's importance, the publisher is actually a collective of 13 state and provincial government departments from the northeastern United States, and from Ontario to Newfoundland and Labrador; the association has published several monographs on managed species of shared relevance, such as American Black Bear (*Ursus americanus*) and White-tailed Deer (*Odocoileus virginianus*).

As a listed species, jurisdictions and, depending on the location, some landowners, are expected to conserve Wood Turtle and its habitat. To this end, the book's latter three chapters focus on why the species

is in trouble and document strategies used to improve Wood Turtle's chances of persistence. The main threats to the species are unsustainable mortality rates for adults due to roadkill and farm machinery, the illegal pet trade, and, for juveniles, mortality from egg and hatchling depredation. Options for mitigation include buffer strips with less machinery, nest protection, predator removal, and, in extreme situations, captive breeding and release. Given the rate of decline in much of Wood Turtle's range, and thus the need for more management, I would suggest that the mitigation section of the book could have been expanded, with more detail, more examples of implementation, and corresponding evidence of successes and failures. However, the coverage of spatial ecology (i.e., habitat use, movement) is very well done, and the chapters on evolution and historical biology are most welcome, as these topics are often omitted in conservation-oriented products. All in all, the *Biology and Conservation of the Wood Turtle* is an excellent compilation of the decades of research and management conducted on a species whose protection will require considerable effort. The book is another good example of the level of effort required by researchers and managers in order to conserve a species.

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