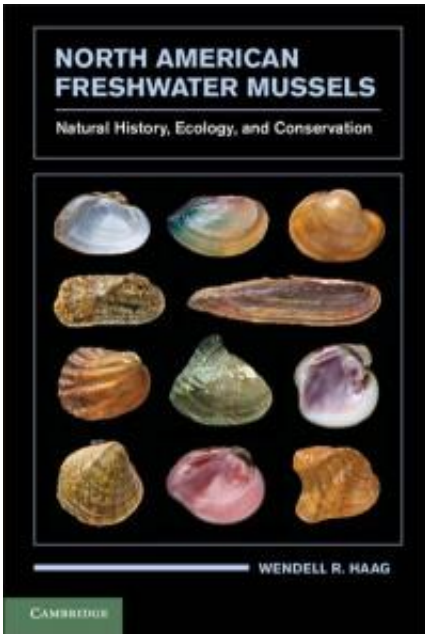


North American Freshwater Mussels

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This is the cover of North American Freshwater Mussels. Credit: Cover design by David Levy

A new book by U.S. Forest Service scientist Wendell Haag provides the first comprehensive view of the ecology and conservation of the approximately 300 species of North American freshwater mussels. Intended for resource managers, scientists, students, and those interested in natural history, North American Freshwater Mussels (Cambridge University Press) highlights the diversity of the continent's mussel fauna, the animals' fascinating ecology and integral role in aquatic ecosystems, human uses of mussels, and mussels' desperate conservation plight.

"My goal was to bring together historical and contemporary information, along with original research, to build a narrative that examines pervasive patterns in mussel ecology and how these relate to conservation issues," says Haag, Forest Service fisheries research biologist stationed in Oxford, MS. "It's equal parts ecology and human history, and I hope it will provide managers and policymakers with a fresh perspective from which to move [conservation efforts](#) forward."

Several chapters describe the unique and complex life histories of [freshwater mussels](#), many aspects of which have been discovered only within the last 20 years. One of the most interesting facets of their life history is the relationship between mussels and the fishes that serve as hosts for mussels' parasitic larvae. Mussels use elaborate schemes to attract the fishes that will then carry their juvenile larvae while they grow. Haag details the stunning imitations mussels use to attract these unknowing hosts. He also examines how life history strategies influence the distribution and abundance of species as well as their vulnerability to human alteration of streams and lakes.

Haag also describes the role of mussels in prehistoric Native American societies, the great "pearl rush" in the late 1800s, the little-known pearl button industry of the early 1900s, and the wild harvests of the 1990s, which provided shell material for the cultured pearl industry.

The final chapters chronicle the decline of the North American mussel fauna and efforts to save these animals. Widespread habitat destruction in the first half of the twentieth century resulted in extinction of at least 30 species – one of the highest modern extinction rates for any group of organisms on the planet. Haag details an impending second extinction wave brought about by habitat fragmentation and isolation resulting from an accumulation of historical and contemporary human impacts. The book closes with a critical examination of conservation efforts designed to halt this second extinction wave and provides a prognosis for the

future of the fauna.

"There are still lots of mussels in North America and many species are thriving," says Haag, "but the magnificent freshwater mussel fauna of North America are at a critical point. The outcome of conservation efforts in the next 30 years will determine whether half or more of remaining species are lost forever, and whether the critical ecosystem services these animals provide will continue to sustain freshwater resources."

The book includes contemporary and historical photographs, maps, and graphs, as well as a color insert section that showcases the beauty of mussel shells and provides stunning photographs of live [mussels](#) in their natural habitat.

More information: North American Freshwater Mussels: Natural History, Ecology, and Conservation is available for purchase from Cambridge University Press at [www.cambridge.org/us/knowledge .../?site_locale=en_US](http://www.cambridge.org/us/knowledge.../?site_locale=en_US) in printed and eBook Reader formats.

Provided by USDA Forest Service

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