

## BOOK REVIEW

ROBIN W DOUGHTY AND MATT WARNOCK TURNER. 2019. **Unnatural Texas?: The Invasive Species Dilemma.** (ISBN-13: 978-162349-705-7, hbk). Texas A&M University Press, John H. Lindsey Building, Lewis St., 4354 TAMU, College Station, Texas 77843, U.S.A. (**Orders:** www.tamupress.com). \$27.00 US, 272 pp., 72 color, 12 maps, table, chapter notes, index, 6" × 9".

Invasive species pose an enormous threat to native ecosystems, local economies, and human health. Robin W. Doughty and Matt Warnock Turner introduce the reader to several of the most notorious invasive species in the state of Texas in their new book *Unnatural Texas?: The Invasive Species Dilemma*. From water hyacinth and hydrilla to red imported fire ants and feral hogs, Doughty and Turner use examples of which most Texans will be familiar. Each chapter focuses on a different species, or group of similar species, exploring the history of introduction and spread, threats to humans and natural ecosystems, the potential benefits of each species, as well as how human opinions on them have changed. The book is well-written and easy to read. The minimal scientific jargon used is clearly defined in the introduction, making this book easy to consume by both scientists and non-scientists.

Of this narrative, the method of introduction for each species is particularly interesting and informative. Most, if not all, are introduced intentionally for some perceived benefit, be it aesthetic, economic, or even ecological. All are introduced either directly or indirectly by humans. Yet despite this pattern, we continue to introduce new exotic species to the landscape, with little thought and even less understanding of how they might behave. *Unnatural Texas?* is a cautionary tale of the dangers of introducing novel organisms into a new environment, and Doughty and Turner effectively convey this message, though they fall short of directly challenging the reader to be better consumers, pet owners, or boaters.

*Unnatural Texas?* explores the full range of taxonomic diversity of invasive organisms, including the fungi that causes White Nose Syndrome in bats, insects such as the red imported fire ant and emerald ash borer, plants such as tamarisk, Chinese tallow, and the aquatic weeds hydrilla and water hyacinth, fish like the lionfish, to birds such as starlings, and mammals including feral hogs and axis deer. While all chapters are well written and informative, a few hint at ethical questions that will challenge the reader. Tamarisk, a much-despised invader of riparian systems in the arid west, provides the ecosystem services and ecosystem stability that is needed in a drastically altered environment. It can even be credited with potentially saving an endangered bird, by providing suitable habitat where humans had destroyed its natural habitat. Doughty and Turner challenge the reader to see past the label of exotic and consider that some invasive species may in fact benefit the ecosystem as a whole.

The chapter on feral cats will tug at the hearts of cat and nature lovers alike. Doughty and Turner navigate a difficult topic with tact as they explain both sides of the battle over free-ranging cats, cat colonies, and trap-neuter-release programs. This chapter in particular is a must read for any cat owner since I know I am not alone in my tendency to forgive the hunting transgressions of my own (albeit exclusively indoor) cats in spite of my professional opinion about the harm cats can cause to other wildlife. The statistics on bird fatalities alone will be troubling to bird lovers and naturalists while the discussion on the quality of life of outdoor cats will sadden cat lovers. While no clear solution is found, Doughty and Turner introduce compassion into the conversation around invasive species. We brought them here, how do we humanely deal with them?

*Unnatural Texas?: The Invasive Species Dilemma* successfully conveys the enormity of the threat invasive species play to our local ecosystems, economies, and health. Doughty and Turner take the science one step further and allow our humanity into the discussion. These are living creatures that we have labeled as evil, and recognizing the moral issues faced by possible extermination and mass killings of living creatures is a refreshing approach. They use these examples to teach larger lessons about ecology, history, and our own human nature. This effort elevates what would otherwise have been nothing more than an encyclopedia of invasive species to a must read for any Texas nature lover.—Kim Norton Taylor, *Conservation Research Botanist, Botanical Research Institute of Texas, Fort Worth, Texas, U.S.A.*