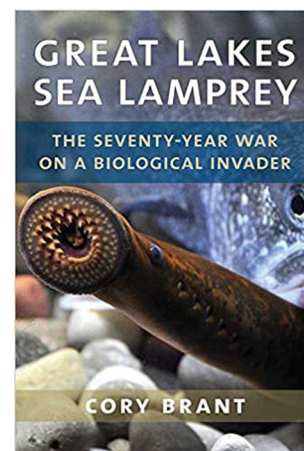


Great Lakes Sea Lamprey: The Seventy-Year War on a Biological Invader

By Cory Brant. University of Michigan Press, Ann Arbor, Michigan. 2019. 180 pages. US\$24.95

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Many people are familiar with the broad strokes of the story of Sea Lamprey *Petromyzon marinus* in the Great Lakes, one of the earliest, most destructive, and most “alien” species to invade the world’s largest freshwater ecosystem. Those of us who work on this creature or this ecosystem can probably cite many of the oft-repeated facts regarding the invasion and subsequent control of the Sea Lamprey. We might be able to recite the year in which it was first reported in Lake Erie (1921) and the upper Great Lakes (1936–1938), and when the binational Great Lakes Fishery Commission was formed (1955). We are likely aware of the crash of the Lake Trout *Salvelinus namaycush* population in these lakes, although likely not the extent (e.g., with a 98% decline in total catch in Lake Michigan between 1944 and 1951), and we may even be able to rhyme off the full name of the lamprey-specific pesticide TFM (3-trifluoromethyl-4-nitrophenol) that became a “game changer” in the battle against this pest in the late 1950s. However, relatively few of us know all the sobering and fascinating details of the rise and fall of Sea Lamprey in the Great Lakes, or, more importantly, fully appreciate its ecological, social, and historical context. *Great Lakes Sea Lamprey* offers a compelling narrative that details this story, reminds us of the level of destruction caused by the Sea Lamprey prior to initiation of control, and teaches us that successful control was never a foregone conclusion. It also provides lasting insights into the development of science-based management in the Great Lakes and of the hard-won battle for cross-border cooperation.

However, this book is more than that. It will appeal to a wide audience, including scientists and resource managers outside of the Great Lakes basin, members of the public interested in invasive species and ecosystem perturbation, and families of the individuals who appear in the story. It colorfully explains lamprey biology with a lay audience in mind, and it exemplifies how to communicate science to the public (e.g., describing a Sea Lamprey as it grows from the size of an eyelash to the length of a pinky finger to the length of a

forearm). Natural history is nicely interwoven with personal interviews and contemporaneous news stories, and these accounts are amply illustrated with photographs and other archival materials.

All this makes *Great Lakes Sea Lamprey* very readable. The chapters are not arranged chronologically, but the organization provides an effective narrative, and the chapter titles and subheadings are informative, catchy, and permit easy browsing. For example, the introduction (A Biological Invader) opens in 1949 with Cliff Kortman, one of the pioneers in the battle against Sea Lamprey (and also an avid artist who first drew the now familiar Sea Lamprey life cycle), and then backtracks for an entertaining overview of lamprey biology that provides surprising breadth and depth in only 10–12 pages. Chapter 1 (An Ailing Ecosystem) describes some of the other early invaders to the Great Lakes (e.g., Rainbow Smelt *Osmerus mordax*), discusses how Lake Trout were already beginning to decline by the end of the 1930s (due to overfishing, pollution, and habitat loss), and tells us that “no alarm bells rang” when the first Sea Lamprey was first discovered in Lake Erie. Chapter 5 (Discovering a Chemical Assassin) relates the compelling story of the 2-year search (24 hours a day, 7 days a week) for a selective larvicide before TFM, the 5,209th chemical that Kortman tested, was succinctly recorded as “special” for its unmistakable lamprey-specific action. There is relatively little coverage in this book about more recent developments in the Sea Lamprey Control Program, but these have been reviewed elsewhere. The updates that are included (e.g., the number of women now in the “she lamprey program”) nicely complement these other reviews, and the concluding chapter ponders the future of Sea Lamprey control. This book is definitely a must read for everyone interested in Sea Lamprey in the Great Lakes, but it will be a pleasure to read, not an obligation.

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