

BOOK REVIEWS

***Contested Waters: The Struggle for Rights and Reconciliation in the Atlantic Fishery.* Williams, R. & Wien, F. (Ed.). Nimbus Publishing Limited.**

Contested Waters: The Struggle for Rights and Reconciliation in the Atlantic Fishery is a well-intentioned primer on the complex historical and contemporary issues surrounding the relationship between Indigenous Peoples in Canada, non-Indigenous Canadians and the federal government, contextualized through a fisheries-specific lens. This book describes the violent 2020 Lobster Dispute in Nova Scotia, the enduring legacy of intersectional colonial injustice in Canada that dates back to European contact, and potential pathways toward resolution.

The editors, Richard Williams and Frederick Wien, employ a diverse array of voices to elucidate the intricacies of the Atlantic fishery, rendering it accessible to both specialists and general readers. Their objectives are clearly defined: incorporating interdisciplinary perspectives while also acknowledging Canada's historical shortcomings in upholding its commitment to a Nation-to-Nation relationship with Indigenous Peoples.

The book begins by providing historical context for conflicts involving Indigenous and non-Indigenous harvesters in Mi'kma'ki and spotlighting the systemic injustices long faced by Indigenous Peoples in the Atlantic fishery. Furthermore, it comments on ongoing issues pertaining to governance, management, and Treaty Rights implementation related to harvesting.

Contested Waters is divided into six sections that include an examination of the evolution of First Nations fisheries, the Nova Scotia lobster fishery, and the Marshall Decisions. It strives to underline the complexities of the fishing industry, regional governance, and the legal implications of the R vs. Marshall 1999 case. As such, the book excels in providing an introductory understanding of a centuries-long tumult and seeks to offer insights from a diverse group of contributors. These include Indigenous leaders, non-Indigenous industry groups, academic researchers, and legal experts. This account successfully sheds light on the previously normalized subjugation and abuse of Indigenous Peoples, demanding change from the Canadian government at regional and national levels.

However, *Contested Waters* is not without its shortcomings. It occasionally treats Indigenous perspectives hierarchically, positioning them as secondary to settler voices and attributing colonial racism and inequities solely to the complexity of fisheries management. The book concludes with a proposal for a pathway to a more equitable governance landscape for Indigenous harvesters which is primarily voiced by non-Indigenous observers. It tends to scapegoat the colonial structures that perpetuate injustices as a byproduct of complexities within the fishing industry. However, injustices abound across Canada in places far from fishing grounds. Potentially most problematic is that the solutions proposed often prioritize settler interventions over Indigenous self-determination.

With clear objectives, interdisciplinary perspectives, and recognition of Canada's failures to uphold a Nation-to-Nation relationship with the Indigenous Peoples of Turtle Island, *Contested Waters* succeeds in many of its goals. It serves as a call to action, highlighting the urgent need to address contemporary injustices and prevent further inequity. Nevertheless, it falls short in fully acknowledging the root causes of these issues and prioritizing Indigenous voices in the search for solutions. This book is a crucial starting point for discussions on Truth and Reconciliation in fisheries, but should be complemented with greater Indigenous participation and representation regarding pathways forward.

Acknowledgements I'd like to express my gratitude to the teaching staff of the Dalhousie Marine Management Program, particularly Dr. Megan Bailey and PhD Candidate Kayla Hamelin, for their role in inspiring this book review. I'd also like to extend my thanks to the various guest speakers who contributed to my education during Fisheries Management and the Equity Imperative. I'd also like to take this opportunity to acknowledge that the learning and writing process leading to the creation of this document took place on Mi'kma'ki, the ancestral and unceded territory of the Mi'kmaq People. This territory is covered by the Treaties of Peace and Friendship, first signed by Mi'kmaq and Wolastoqiyik Peoples and the British Crown in 1725. We are all Treaty People.

Reid Sutherland

Marine Affairs Program, Dalhousie University

Halifax, NS

reid.sutherland@dal.ca

***An Abundance of Curiosities: The Natural History of North Carolina's Coastal Plain.* By Edric G. Bolan and James F. Parnell. The University of Georgia Press, Athens Georgia, USA. ISBN 9780820361765, Hardbound, 323 p.**

This a wonderful book for any Atlantic Canada Naturalist to add to their bookshelf. It is not a light read because it is well bound and printed on thick high-quality paper. Each chapter has outstanding colour illustrations. In this review, I can only touch on a few of the "curiosities".

The book begins with a description of the area and details of the naturalists who documented the treasures to be found in North Carolina. Its not simply a list but an account of each Naturalist, his/her life and their achievements. It starts with John White who made his first visit in 1585 and includes Rachel Carson who did surveys in the late 1930s. In between, we have details of another ten or so naturalists including Alexander Wilson who captured a living ivory billed woodpecker in the province whose cries sounded like a baby in distress and which upset those in the hotel where he was staying. Unfortunately, the bird is now extinct in both North Carolina and the world.

The second chapter deals with the beaches, dunes, and barrier Islands. Those of us who live in Nova Scotia will find much to compare with respect to the issues faced. For example, the commentary on the feral horses of the islands reminds us of Sable Island. Authorities in Carolina also face the problem of management of horse numbers to ensure their survival but avoid over exploitation by them of available grasses and other vegetation. This can lead to destruction of the sand dunes that protect island from the sea. There are descriptions and illustrations of the succession from the seashore and dunes to the windswept maritime forests, along with accounts of the fauna to be found. For example there are fascinating details of the birds to be found in these areas or which visit as part of their migration.

The third chapter, on the coastal marshes, is full of information about the flora and fauna, of this habitat including invasive species. There is an explanation as to the origin of "as thin as a rail" and the strange habits of these birds and marsh rabbits who swim well and can float almost entirely submerged. As might be expected the next chapter covers rivers and estuaries and underlines the impact of human activities on the associated woodlands; that are still being

harvested to produce wood pellets for shipping abroad, or on the effects of dams on downstream areas where endangered species of sturgeon, shad and bass live.

Chapter five, on Interior wetlands, is where we learn about “the Dismal Swamp”, once covering a million acres of which only about a third remains today. A range of ferns, orchids, and shrews along occur there and the wetlands are also an important habitat for migrating songbirds, particularly warblers which makes the interior wetlands of great interest to ornithologists. In addition, information on several of the large lakes and the evolved invertebrate and fish species leads next to a discussion about Red Wolves that are to be found in the province. After much research and attempted management, the latest data indicates that Red Wolves are a “good species” that separated from Coyotes some 55,000 years ago and they also lack a close relationship to Gray Wolves. However, to date a new strategy to maintain populations of the Red Wolves in North Carolina by further management has not been implemented,

The penultimate chapter is on the coastal uplands where large Long-leaf Pine forests occur that once provided pitch and masts for the Royal Navy. These trees have very large cones and strategies for surviving and regenerating after fire. Oddly enough the list of names, at the end of the book, omits this tree species and its the Latin name. The Longleaf Pine forest hosts wood peckers and the large Fox Squirrel which is gray, has a black head and a white nose, that may make it less easily seen when foraging in woodlands that are frequently subject to fires. The book ends with an “Afterthought” that addresses: what factors cause species extinction? why are some species vulnerable? and why should we care?. The American Endangered Species Act, equivalent to our Species at Risk Act and its associated COSEWIC (Committee on the Status of Endangered Wildlife), has designated seventeen species of plants and twenty four species of animals as endangered in North Carolina. The abundance of curiosities in the state surely cries out for continued and enhanced conservation activities; supported by all those resident in the state. There are many parallels between North Carolina and Atlantic Canada, and this book provides us with much food for thought.

To a classically trained biologist the use of English names for plants and animals rather than Latin ones is a little frustrating as English names vary from country to country. However, the authors help by

providing a list, at the end of the book, of the used English name and the corresponding latin one as well and an “info box” that explains how Latin names are assigned to species. There are 18 other “info boxes”, each taking up a page or so, where the title and text are printed on a blue background. Each deals with a particular odd or interesting topic that varies from whales and whaling, to duck hunting, Greenhead flies, wooden ships, the Intracoastal Waterway etc. For the reader to access these, and other matters in the text, an index is required and the lack of an index is an unfortunate omission. Even if preparing a full index was too consuming for the authors, at least a couple of key page numbers could have been added to the English/latin name list. This would help the reader to find the pages that focus on particular animals or plants. Hopefully, any reprint of this book. or second edition, will add a full index which would significantly increase the readers pleasure and ability to compare information between North Carolina and Atlantic Canada.

David H.S. Richardson
Environmental Science
Saint Mary's University, 923 Robie Street,
Halifax, Nova Scotia B3H 3C3
Canada
David.Richardson@smu.ca

Kings of Their Own Ocean. Tuna, Obsession, and the Future of Our Seas. Karen Pinchin. 2023. Knopf Canada, Penguin Random House Canada, Toronto, ON. 320 pp.

Karen Pinchin graduated from Columbia Journalism School (Columbia University) with a Master of Arts in Science Journalism. She is an award-winning investigative journalist and a culinary school graduate. Both skills were necessary for the preparation of this superb book on the iconic bluefin tuna, *Thunnus thynnus* (Linnaeus, 1758).

Pinchin aptly describes her book - “It wasn’t just a story of one fisherman and a single fish, but a story about the whole world of contested science and corruption, of the miracles and horrors of globalization and its goddamned children: commercialization and the perils of human hubris, in driving a species to its absolute limit even as our warming climate transforms the ocean at a dizzying pace.”

The reviews on the book's dustcover are understandably laudable. But refreshingly for a book of this nature, it is described in terms of "pathos", "poetry" and "lyricism", in addition to the more expected "anchored in science and history" and "a masterwork in environmental journalism".

The book begins with an introduction about Captain Al Anderson of Narragansett, Rhode Island, and a juvenile bluefin tagged by him in 2004. This fish was subsequently named Amelia and caught twice, the last time fatally in the Mediterranean. Both Anderson and Amelia play critical roles in this real-life drama. With his experience of tagging largemouth bass, and catch and release charter fishing, Anderson came to the attention of Frank Mather and Frank Carey at the Woods Hole Oceanographic Institution (WHOI) in Woods Hole, Massachusetts, and their Game Fish Tagging Program, an initiative to help determine the movement of highly migratory species such as the bluefin.

Initially there was little demand for the bluefin other than for trophy photos of the giant fish. The international tuna fishing tournaments involving rod and reel at Wedgeport, Nova Scotia were annual events popular in the early to mid-decades of the last century and patronized by the wealthy. In the 1950's and 60's, the increasing demand for bluefin by the Japanese to satisfy their sushi and sashimi requirements catalyzed a rapid increase in fishing effort, including the use of sophisticated purse seiners. The bluefin, well known on both sides of the Atlantic, was soon subjected to overfishing as shown by tagging data and declining fish catches. The much-maligned International Commission for the Conservation of Atlantic Tunas (ICCAT), a Regional Fisheries Management Organization (RFMO) established in 1966, provided a venue for ongoing and often heated scientific "debates" concerning an appropriate management regime for the bluefin. The initial thesis of separate east and west stocks was subsequently disputed by the results of the tagging programs.

The insatiable demand for bluefin was demonstrated by Japan Airlines requirement to fill their return flights from North America with paying cargos. Hence, there were airborne shipments of giant bluefin encased by chipped ice and enclosed in individual wooden coffins. A maximum of four days from capture to sale at the Tsukiji Market in Tokyo helped to ensure a quality product. The well publicized capture of the world record 1,694-pound bluefin by Ken Fraser

off Aulds Cove, Nova Scotia added to the increasing hype associated with the species.

In the Mediterranean, the fishery for bluefin is probably the world's oldest and intensively organized fishing industry, based on paleolithic cave evidence. The Mercamadrid in Spain is the second largest global fish market, after Tokyo's Tsukiji. The set-up by Spain of the historic almadraba-style net systems following World War II and the use of large fishing vessels to meet the demand for bluefin inevitably led to overfishing. This problem was compounded by corruption and the inadequacies of ICCAT regulations.

Meanwhile in the western Atlantic, Al Anderson encouraged his clients to tag and release their catch and Molly Lutcavage tentatively suggested, on admittedly limited tagging data, that the breeding population in the western Atlantic had declined by 90% since 1975. This caused a furor between the conservationists and fishermen that was compounded by the ecologist and writer Carl Safina's unsuccessful effort to get bluefin listed as endangered by CITES, the Convention on International Trade on Endangered Species. By the late 90's, Molly Lutcavage and Barbara Black, also from WHOI, used better tracking devices (PSAT, Pop-up Satellite Archival Tags). The confirmation by these tags of a trans-Atlantic tuna migration renewed the furor over appropriate management regimes. In September 2007, Lutcavage and team caught Al Anderson's tagged bluefin, which they named Amelia. It was released with a PSAT tag.

In 2008, ICCAT's Scientific Committee recommended a total allowable catch of Atlantic bluefin of 10,000 tons. The estimated catch, including illegals, was estimated to be 60,000 tons. A subsequent paper by Ransom Myers, at Dalhousie University, predicted the collapse of the bluefin population. Condemnation of ICCAT inevitably followed, together with global boycotts catalysed by the World Wildlife Fund and other NGOs. In 2010, CITES again failed to provide protection for the bluefin, a triumph for the commercial industry.

Al Anderson joined the International Gamefish Association in 2015. He had caught and tagged 6000 gamefish, a major contribution to Frank Mather's tagging program. The Mediterranean was rife with illegal fisheries, spurred by Japan's on-going demand that was claimed to consume up to 80% of the global bluefin supply.

In the spring of 2018, Amelia was in the Mediterranean, weighing about 600 pounds and ready to spawn. By late summer, now weak

following spawning, she was heading west towards the Atlantic and was trapped off the Algarve. She was fed mackerel and fattened to about 642 pounds. A scuba diver, using an Italian designed gun, then killed her quickly and humanely. The PSAT tag was returned to the U.S. Sadly, Al Anderson died a few months before Amelia's third and final recapture and death.

The identification of spawning areas in the Gulf of Mexico and the Slope Sea area in the western Atlantic and in the Mediterranean in the east, together with conclusive tagging data that indicated trans-Atlantic migrations in both directions, undermined the two-stock theory. In 2022, an ICCAT meeting in Portugal passed a 3-year Management Procedure Agreement. However, a paper by Ransom Myers and Boris Worm (also from Dalhousie University) estimated that 90% of global fish stocks, including bluefin, could collapse by 2048 if industrial fishing continued at the then present rate. Inevitably, controversy ensued at ICCAT and globally, but perhaps the RFMO was becoming less controversial and more effective.

This book is an exciting, well researched and well-presented story of a beautiful fish species and its fishery. I hope that Karen Pinchin continues her interest in the bluefin and will consider a study of its 1960s fishery in Conception Bay, Newfoundland; the fishery focused on North Lake, Prince Edward Island, where some of the first electronic tags were tested to determine the survivability of the giants following their exhausting, lactic acid generating, rod and reel capture; and the trapnet fishery in St. Margarets Bay, Nova Scotia, where the giants are fattened and now humanely killed, at a time that secures the best price in Japan. The traps, with the support of the fishermen, have provided ideal opportunities for bluefin research.

The author properly extols the beauty of a living bluefin tuna, in contrast to the sight of the dead fish hanging dockside. The book would have accordingly benefitted from an underwater colour photo of a giant tuna, such as was captured by the professional underwater photographer David Doubilet of the National Geographic Magazine, or locally by Gilbert Van Ryckevorsel. One of Gilbert's photographs, for example, taken for the WWF, provided support to get the bluefin into Appendix 1 of CITES CoP 15, giving it the highest level of protection but unfortunately, in the end, being unsuccessful!

I have a final comment on this informative, engrossing and well researched book. We would all like to know of the advances made

to raise bluefin under controlled conditions, initially championed by researchers at Kinki University in Japan; bluefin were netted as juveniles, raised in captivity and where they mated for the first time in 1979. Please Karen, consider a sequel to your wonderful book and also accept a big thank you for writing it! It is highly recommended for all readers with an interest and concern about the ocean and the future of its fauna, most certainly the bluefin, and overall biodiversity.

Michael J.A. Butler

International Ocean Institute – Canada

Dalhousie University

Halifax, NS

michael.butler@dal.ca

