

A Little Less Arctic

Steven H. Ferguson • Lisa L. Loseto
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Editors

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Top Predators in the World's Largest
Northern Inland Sea, Hudson Bay



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This book is a tribute to the scientists, students, and northerners who have worked for decades trying to learn more about top predators in Hudson Bay. Learning more for their conservation and their sustainable harvest, and more recently to understand changes associated with global warming. We hope this book will not be an historical record of the way things were but rather a call to increase efforts to monitor, learn, and adapt.

Foreword

Coats Island, in the centre of northern Hudson Bay, lies at the heart of the region dealt with by this book. For my sins or for my virtues, I have found myself there for weeks or months at a time over many summers since 1981. Jo Nakoolak, who has worked with us in our camp near Cape Pembroke every year since 1993 was a member of the last family to overwinter on the island, in the 1960s. The remains of his family's sod-banked cabin still emerge from the tundra, as do the outlines of older house-pits and grave mounds, evidence of the *Sadlermiut* who inhabited northern Hudson Bay before the arrival of Europeans. I think of Jo as the last true Coats Islander.

Now, visits by local people from the nearby community at Coral Harbour are rare and usually occur only to conduct tourists or to hunt walrus at the several large haul-outs along the coast. We see them no more than twice a season. For weeks at a time our only reminder of the world outside Coats Island is the daily flight from London-Calgary which passes over us about mid-day. In the past the faint radio voice emanating from the Nunavut Research Institute and its predecessor, the DIAND Iqaluit Laboratory was a daily link to the outside, but since we got a satellite phone it has been our choice to call out, rather than a daily routine. On a crowded planet, northern Hudson Bay stands out as an enduringly uncrowded place.

In 1992, I sailed across the northeast corner of Hudson Bay, from Coral Harbour to Ivujivik, via Coats and Mansel islands, in an elderly Peterhead, the *Terregluk*, crewed by members of the Nakoolak and Alogut families. The weather as we left Coats was calm and clear, with the early morning sun lighting up the steam rising over a great herd of walrus on the Cape Pembroke haul-out. We lingered to photograph the haul-out, but within an hour of heading eastwards the wind rose out of the northeast and the sea kicked up to Beaufort 5. The non-Inuit members began to look a little green. It was at this point that I realised our only navigation aid was a rather battered looking binnacle. There was no chart. At moments such as that you become acutely conscious of how empty a place northern Hudson Bay is.

Given the size of the sea that rose quickly the captain could not steer a straight course but had to continually adjust to the waves, now running with them, now taking advantage of some minor amelioration to broadside them. As I watched the needle of the compass swing backwards and forwards over 180° I wondered where on earth we were going to land up and how we would figure out where we were

when we did. Ten hours later, after a day of grey skies and lumpy seas, we sighted a nondescript line of shingle and rock on the horizon. As we coasted agonisingly slowly eastwards I finally made out a navigation beacon near the shore and realised that our landfall was precisely as planned, at the northern tip of Mansel Island. Somehow, through that heaving grey waste, with only a gyrating compass needle as guide, Jimmy, our captain, had kept us on course: a reminder that the sea and atmosphere have their signs for those who can read them.

Reading the signs is what this book is about. The Hudson Bay region is experiencing unprecedented changes in climate and consequently in ice conditions. These changes are setting in motion a torrent of biological changes that seem set to transform marine ecosystems from Arctic to sub-Arctic and then perhaps to something akin to Boreal. The truly unprecedented events of 2007, when Arctic sea ice reduced to 23% below the previous record minimum, have put off all bets on the rate of Arctic de-icing. The prospect of an ice-free summer for the Arctic Ocean, still distant as recently as the mid-1990s, now seems less than a decade away.

Predicting temperature change and trends in ice conditions is one thing, but predicting the biological consequences is quite another. In terrestrial ecosystems, the occurrence of permafrost is a dominant ecological factor. Likewise, sea-ice has a huge impact in the marine environment. As Hudson Bay normally clears of sea-ice every summer, the global warming trend will affect mainly the duration of the ice-free season and the size and persistence of polynyas and flaw-leads. For species which carry out important aspects of their life history in association with ice, its reduction will surely bring about changes in populations and distributions, but which less ice-tolerant organisms will move in to take their place? There are many candidates occupying the Sub-arctic waters of the western Atlantic, but which of them have the behavioural equipment to take advantage of the potential niches opening up in the huge inland sea of Hudson Bay?

What we are witnessing with climate change is a vast, uncontrolled, ecological experiment – planetary in scale, but having its most immediate effects in the Arctic. The authors of this book catalogue many changes underway and make many educated guesses about the future of marine ecosystems in the Bay, especially their vertebrate constituents. Despite the solid research and scholarship that has gone into creating this landmark publication, I am confident that there will be many future surprises that will, as we continue to study them, increase profoundly our understanding of how marine ecosystems in Hudson Bay function. I very much hope that I am still around in 20 years to see how the scenarios envisaged in this book will play out.

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Contents

The Ocean-Sea Ice-Atmosphere System of the Hudson Bay Complex	1
D.B. Stewart and D.G. Barber	
Changing Sea Ice Conditions in Hudson Bay, 1980–2005	39
K. Hochheim, D.G. Barber, and J.V. Lukovich	
Importance of Eating Capelin: Unique Dietary Habits of Hudson Bay Beluga	53
T.C. Kelley, L.L. Loseto, R.E.A. Stewart, M. Yurkowski, and S.H. Ferguson	
Migration Route and Seasonal Home Range of the Northern Hudson Bay Narwhal (<i>Monodon monoceros</i>)	71
K.H. Westdal, P.R. Richard, and J.R. Orr	
Polar Bear Ecology and Management in Hudson Bay in the Face of Climate Change	93
E. Peacock, A.E. Derocher, N.J. Lunn, and M.E. Obbard	
The Rise of Killer Whales as a Major Arctic Predator	117
S.H. Ferguson, J.W. Higdon, and E.G. Chmelnitsky	
Hudson Bay Ringed Seal: Ecology in a Warming Climate	137
M. Chambellant	
Past, Present, and Future for Bowhead Whales (<i>Balaena mysticetus</i>) in Northwest Hudson Bay	159
J.W. Higdon and S.H. Ferguson	

Effects of Climate Change, Altered Sea-Ice Distribution and Seasonal Phenology on Marine Birds 179
M.L. Mallory, A.J. Gaston, H.G. Gilchrist, G.J. Robertson, and B.M. Braune

Temporal Trends in Beluga, Narwhal and Walrus Mercury Levels: Links to Climate Change..... 197
A. Gaden and G.A. Stern

Hudson Bay Ecosystem: Past, Present, and Future 217
C. Hoover

Population Genetics of Hudson Bay Marine Mammals: Current Knowledge and Future Risks 237
S.D. Petersen, M. Hainstock, and P.J. Wilson

Understanding and Managing Wildlife in Hudson Bay Under a Changing Climate: Some Recent Contributions From Inuit and Cree Ecological Knowledge 267
D. Henri, H.G. Gilchrist, and E. Peacock

The Future of Hudson Bay: New Directions and Research Needs 291
M.L. Mallory, L.L. Loseto, and S.H. Ferguson

Index..... 305

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