

A tribute to Laurie D. Murison, 1959–2021

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Laurie Dianne Murison (Figure 1), daughter of James Murison and Marion Murison (*nee* Shewell), whale researcher, Grand Manan (New Brunswick) heritage activist, and a mainstay of the North Atlantic Right Whale (*Eubalaena glacialis*) conservation community, passed away 3 January 2021 at the Saint John Regional Hospital after a lengthy battle with cancer. She was 61.

Surprisingly perhaps for a marine scientist, Laurie was a prairie girl, born 23 February 1959 in Edmonton, Alberta, nearly 3500 km from the Bay of Fundy, which would become the focus of her life's work and her home. Laurie's early years were unsettled. Drought had ravaged the family farm a decade before Laurie's birth. Her parents moved to Edmonton and her father cycled through a series of hardscrabble jobs—oil rigger, chauffeur, travelling salesman, prospector—that left him absent from his family much of the time. By 1962 the family was broke and living in a motel. Shortly after, Laurie's father abandoned the family, leaving mother Marion with toddler Laurie and brother, Tom, five years older. Grandparents and friends interceded and Marion moved with the children to Saskatoon to start over. With Dad back on the scene a year later, the family headed back to Edmonton briefly, and then to Calgary, before the marriage disintegrated and Marion took the children and headed home to the village of Harris, Saskatchewan, where her husband's parents farmed and her mother operated a grocery and dry goods store. Laurie's grandparents would figure prominently in her adolescence.

Always a top student, Laurie completed grade 8 with the highest marks for a female graduate, and then sailed through Evan Hardy High School as a Top Ten Honours student before entering the University of Saskatchewan on an Undergraduate Honours scholarship. A stint in a University of Saskatchewan soil



FIGURE 1. Laurie Murison, 1959–2021. Photo taken in 2016 at Association Heritage New Brunswick Awards ceremony. Photo: M.J. Edwards.

physics lab led to efforts to entice Laurie into a graduate program in soil science, but she knew her interests lay elsewhere. For a while she toyed with medicine or veterinary science. It was during a marine mammal course at the Bamfield Marine Station (now the Bamfield Marine Sciences Centre) on Vancouver Island, British Columbia, following her final undergraduate year, that Laurie was introduced to the marine

environment, and to whales, Grey Whale (*Eschrichtius robustus*) in particular. Under the direction of famed marine mammalogist Kenneth Norris, Laurie spent three weeks in a small boat adjacent to Bamfield studying the diving patterns and feeding behaviour of Grey Whales (see Bibliography: Murison *et al.* 1984; Figure 2). James Darling, who would go on to an illustrious career studying Humpback Whale (*Megaptera novaengliae*), was the teaching assistant and provided much of the field support. The experience left Laurie determined to pursue a career of her own devoted to marine mammals. Her classmate and Grey Whale co-investigator, Debra Murie, was about to start a graduate program at the University of Guelph studying Harp Seal (*Phoca groenlandica*) feeding ecology under the supervision of David Lavigne. Debra mentioned David Gaskin, by then well-known for his studies on Harbour Porpoise (*Phocoena phocoena*) in the Bay of Fundy, New Brunswick.

David Gaskin arrived at the University of Guelph in 1968. Assigned responsibility for the marine biology option, he was probably introduced to the lower

Bay of Fundy through field programs delivered at the Huntsman Marine Station (now the Huntsman Marine Science Centre), of which the University was a consortium member. With its abundant populations of seabirds, whales, and other marine life, David immediately realized the research potential of the area. By 1969 he had initiated long-term studies on the seabirds and marine mammals of the Bay of Fundy, particularly Harbour Porpoise, and soon established a small research station at Lord's Cove on Deer Island in Passamaquoddy Bay (Gaskin *et al.* 1979a). Together with a group of students, the Fundy Cetacean and Seabird Research Group was formed (of which Laurie was to become a member). The "research station" actually consisted of little more than the upper floor (with research and sleeping space combined) of a building belonging to Marine Research Associates, a biological supply and consulting company. Marine Research Associates most important role though was to fulfill boat requirements for field studies by the Research Group. Even with these modest facilities, by 1981 when Laurie was looking for a graduate supervisor to



FIGURE 2. The August 1981 marine mammal class at the Bamfield Marine Station (now the Bamfield Marine Science Centre), Vancouver Island, British Columbia. It was this class, taught by famed marine mammalogist Ken Norris (first left back row) and James Darling (back row, fifth left in red plaid) that convinced Laurie (second row, second left) that a life studying whales was for her. Deb Murie, who directed Laurie to David Gaskin as a potential supervisor, and went on to her own research career in fish biology, is seated directly in front of Laurie. Together they would publish Laurie's first academic paper based on data on Gray Whale (*Eschrichtius robustus*) feeding ecology collected during the course. Photo: Bamfield Marine Science Centre.

help her launch a career with whales, David, students, and collaborators had already produced a significant body of research on the small cetaceans and seabirds of the Bay (see Gaskin 1998).

Although Neave and Wright (1968) reported a small summering population of North Atlantic Right Whale in the Bay of Fundy, the information was immediately discounted (Schevill 1968). However, Arnold and Gaskin (1972) documented observations of at least five North Atlantic Right Whale in the lower Bay of Fundy during work on Harbour Porpoise in 1969–1971. By the early 1980s there was little doubt that the Bay of Fundy was important to a significant portion of the North Atlantic Right Whale population, then estimated at 100–150 animals (Kraus *et al.* 1982). Even then, it was not known whether the Bay of Fundy animals represented evidence of an expanding population or had been simply overlooked in the past. Regardless, David had already stated that the population “exist[ed] on a knife-edge” and that “even the most basic data [are] lacking about this population” (Gaskin 1979b: 17). Laurie’s arrival at the University of Guelph for the 1982–1983 semester coincided with the recognition that there were indeed Endangered North Atlantic Right Whale summering in the Bay of Fundy, and that essentially nothing was known about the natural history of the species on its Canadian summering grounds. Serendipity and motivation combined, and Laurie became the first graduate student in Canada to study North Atlantic Right Whale. Ultimately, her studies on the feeding ecology of the North Atlantic Right Whale in the Bay of Fundy, carried out over the summers of 1983 to 1985 (see Bibliography: Murison 1986) helped lay the groundwork for what has become one of the most intensively studied cetacean populations in the western North Atlantic.

Hoyt (1984: 163) reported that the rediscovery of a summer concentration of North Atlantic Right Whale in the lower Bay of Fundy sent “whale-sized ripples” through a growing whale-watch community. By 1994 the industry in North America was worth over \$293 million US and involved 4 074 195 whale watchers. In New Brunswick alone, whale watching involved 462 000 watchers who generated \$64 million in the province (Hoyt 1995). On Grand Manan, anticipating a windfall for both the local economy and a means of generating research funds, David, local lobster fisherman Ivan Green, and Jim Leslie, then owner of Grand Manan’s Marathon Inn, established Ocean Search, a whale watch company. In 1981 the partners purchased a weather-beaten house at North Head on Grand Manan, adjacent to the ferry terminal, and established the Grand Manan Whale and Seabird Research Station (GMWSRS). By 1983 the GMWSRS had charitable

status, allowing David and his students to supplement research grants with donations.

But by 1987 David was ready to leave guided whale watching behind, and with Laurie by then resident on the Island year-round, it must have seemed natural that she should become Managing Director, and then at David’s death in 1998, Executive Director, of the GMWSRS. Along with whales, the GMWSRS was to become the centre of Laurie’s life (Figure 3). It would be Laurie’s organizational skills that would keep the GMWSRS humming along for 34 years and result in it becoming the base of operations for a wide variety of Bay of Fundy research projects, including those on seabirds, marine mammals, and Basking Shark (*Cetorhinus maximus*; see Bibliography). Although the University of Guelph Marine Mammal Research Program was shuttered in September 1996, following faculty retirements and several years of cuts to David’s Natural Science and Engineering Research Council funding (Gaskin 1997), the GMWSRS continued to prosper. In part, this was achieved through Laurie’s fund-raising skills and an expansion in mandate. This expanded mandate included collaborating with the newly established, but short-lived, Grand Manan/Fundy Bird Observatory (Text box 1).

When not on the water, Laurie devoted her considerable interpretive skills to lecturing about whales and whale conservation, essentially to anyone who would listen. Mainly this included Elderhostel and children’s whale camp participants on Grand Manan, but for periods she also taught in the tourism and entrepreneurship programs at the New Brunswick Community College in St. Andrews, on the adjacent mainland. Even New England Aquarium (NEA) staff felt Laurie had probably delivered more public lectures on North Atlantic Right Whale than any other North Atlantic Right Whale researcher (Anderson Cabot Center for Ocean Life 2019). She joined the executive of the Grand Manan Chamber of Commerce, and was a long-term member of the Grand Manan Tourism Association, producing multiple editions of the tourism guide to the Island over a two-decade period (see Bibliography: Murison and Dalzell 1997; Murison 1999, 2000, 2001, 2002, 2003, 2004, 2006, 2007, 2010, 2011, 2013, 2017). With funding provided through the federal Habitat Stewardship Program for Species-at-Risk and other sources, Laurie devoted her winter months to producing a steady stream of leaflets and educational resources concerned especially with marine mammals and directed at mariners, fishermen, teachers, and the general public (GMWSRS n.d.). As a member of the Canadian Right Whale Recovery Team, Laurie helped craft the first Canadian North Atlantic Right Whale Recovery Plan (WWF/DFO 2000), published before the *Species at Risk Act*



FIGURE 3. a. The Grand Manan Whale and Seabird Research Station, July 2022. b. In 1998 a specimen-rich public exhibit that Laurie had prepared on the ground floor of the Station was renamed the Gaskin Museum of Marine Life. Photos: M.J. Edwards.

TEXT BOX 1. Grand Manan/Fundy Bird Observatory.

Established by Grand Manan birdman Brian Dalzell in 1996, the Observatory focussed on a variety of land and seabird projects. Unfortunately, the Observatory project ended with the premature death of Dalzell in 2011. Laurie help to produce the last two numbers (volume 6.1, 6.2), of the Observatory newsletter, *The Razorbill* (<http://www.gmwsrs.org/publications.htm>) and the GMWSRS sponsored the 2004 *Checklist of Grand Manan Birds* (Dalzell 2004).

(SARA) was implemented, and the SARA-compliant Recovery Strategy for the North Atlantic Right Whale in Atlantic Canadian Waters (Brown *et al.* 2009). From 1999 until her death, Laurie was a member of the North Atlantic Right Whale Consortium, a body overseeing access to multiple North Atlantic Right Whale research databases and recognized as a model for other endangered species-related consortia. Some 125 peer-reviewed papers and 20 graduate theses flowed from the GMWSRS during Laurie's tenure as Managing/Executive Director (1987–2019;

Gaskin 1998; H. Koopman pers. comm. to D.F.M. October 2023). The Station became a magnet for whale-obsessed students seeking mentoring opportunities. It was therefore no surprise when the GMWSRS received the 2000–2001 Gulf of Maine Visionary Award for public education, as well as contributions to the understanding and protection of marine mammals and seabirds in the Gulf of Maine.

Ken Ingersoll's Grand Manan roots run deep. The 1821 Grand Manan census reports Joel and Jane Ingersoll, with their six children, nine oxen, four cows, 25 sheep, and four hogs resident on Grand Manan. Barto (1975) gives the Ingersoll arrival in Charlotte County as the 1760s. Ken was an experienced boatman and marine field technician with the Fundy Cetacean and Seabird Research Group when he and Laurie met. They married in 1990. It was Ken who drew Laurie back to Grand Manan to live permanently after she had defended her thesis. And although Laurie would always be "from away", her marriage to an Islander provided a level of trust and acceptance in the Fundy fishing community that might otherwise not have been possible. This connection proved

to be singularly important to the marine conservation work in which Laurie was to become involved. Most notable was the Harbour Porpoise Release Program, established in 1991 and active until 2010. Working with the local fishing community, the staff of the GMWSR developed techniques to safely remove Harbour Porpoise trapped in herring weirs without loss of fish catch (Wong *et al.* 2001; Figure 4a). From 1993 to 2003, nearly 850 Harbour Porpoises were successfully released from weirs (Koopman *et al.* 2003). The program also provided the platform for a number of studies, most notably by GMWSRS Senior Scientists Heather Koopman and Andrew Westgate, on porpoise health, physiology, and movements (Koopman *et al.* 1995, 1999; Westgate *et al.* 1995; see also Bibliography). Undoubtedly, Laurie's year-round residency on Grand Manan, and the trust she was able to build in the fishing community, contributed greatly to the success of this program. In the years that followed, it was Laurie, quiet but determined, who repeatedly brought members of the fishing industry on Grand Manan to

the table to engage in discussions about both small and large whale conservation. She even secured funding to train Bay of Fundy fishermen in whale disentanglement techniques. The Grand Manan Fisherman's Association (1999) referred to Laurie's bridge building between the fishing and scientific communities as "unprecedented" and noted the deep respect in which she was held by the industry. In the last years of her life Laurie worked with the Association to test new acoustic release ropeless fishing technology designed for the high-current, offshore, marine habitats that the local industry fished (see Bibliography: Murison 2019). The hope is that this new technology will reduce large whale entanglements, now recognized as one of the principal threats to the survival of the North Atlantic Right Whale population (Moore 2019). Finally, it was Laurie and Ken who convinced Ivan, by 2006 the only surviving member of Ocean Search, to donate the North Head building to the GMWSRS shortly before his death.

In the summer of 1986, with her thesis on North



FIGURE 4. a. Flashcard produced and distributed in 2001–2002 by the Grand Manan Whale and Seabird Research Station to weir operators and coastal communities in the lower Bay of Fundy describing a method for the safe release of Harbour Porpoise (*Phocoena phocoena*) from herring weirs. b. Surveying for North Atlantic Right Whale (*Eubalaena glacialis*) aboard the ship *Elsie Menota*, off Whitehead Island, 10 August 2014. Laurie spent decades leading whale watching excursions and participating in surveys for North Atlantic Right Whale on the Bay of Fundy. Whale watching provided her with an opportunity to collect data and thousands of photos of North Atlantic Right Whale and other cetacean species, all of which have contributed to knowledge and conservation efforts. Photo a: D.F. McAlpine. Photo b: Ann Ross.

Atlantic Right Whale feeding successfully defended, Laurie headed north to Isabella Bay, Baffin Island (Figure 5). Laurie joined veteran Arctic marine mammal biologist K.J. (Kerry) Finley, Bob Evans, and Inuit research assistant, “Isumataq” Apak Qaqqasiq, for the third year of what would become a 14-year study of a remnant population of the Endangered Bowhead Whale (*Balaena mysticetus*) in the eastern Arctic (Finley 1990, 2001). Overseen by LGL Ltd. (Environmental Research Associates) and sponsored by the World Wildlife Fund, this project provided Laurie with a unique opportunity to learn open-ocean and land-based observational techniques for marine mammals. These would prove important for her later work in the Bay of Fundy. Also, much of Laurie’s future success on Grand Manan rested on her “unprecedented” ability to tap into local knowledge holders in the fishing community, paralleled in her exposure to data obtained via traditional Inuit knowledge in Isabella Bay.

The 1986 field season in Isabella Bay was a difficult one. It started in early September, and that year saw the team attempt to extend observations long enough to document the arrival of whales migrating from summering areas farther north. With limited logistical support, high seas, and deteriorating weather prior to freeze up, Laurie, Kerry, Bob, and Apak were forced from the field five weeks later

(typically the field season was only three weeks), but not before Laurie had calmly weathered several Polar Bear (*Ursus maritimus*) encounters, and been christened Eetsiak (“Good eyes”) by Apak, so impressed was he with her ability to spot a whale blow at 35–40 km from the hilltop observation post (Text box 2).

Spotting whales would become Laurie’s bread and butter in the years ahead. That same summer Laurie began what would become a 31-year stretch as a whale watch naturalist for various Grand Manan-based operations, initially of course with Ocean Search (Figure 4b). But Laurie was no run-of-the-mill tour guide. While “Eetsiak” could certainly spot a whale for a visitor, she also maintained careful notes and observations of her cetacean sightings, particularly North Atlantic Right Whale, contributing over 3000 images, with associated data, to the North Atlantic Right Whale Catalog maintained at NEA. Laurie, and her notes (the latter now archived in the New Brunswick Museum [NBM]) would also figure prominently in one of the most notable North Atlantic Right Whale conservation efforts that lay ahead.

In September 1992 the North Atlantic Right Whale known as Delilah died by ship-strike off Grand Manan. Laurie was by then an active member of an informal Maritime marine mammal stranding network organized by Dalhousie University marine mammal technician John Parsons (Text box 3). Laurie



FIGURE 5. Bob Evans (left) and Laurie Murison at the Balaena Lookout observation post, overlooking Isabella Bay, Baffin Island in 1986. That year the observation period lasted 5 September to 9 October. Close-up photos of individual whales were also obtained from shore and from kayaks. When weather permitted, as many as 34 Bowhead Whale (*Balaena mysticetus*) were seen daily that year. Photo: K.J. Finley.

TEXT BOX 2. Observing whales.

Due to curvature of the earth, maximum straight-line viewing distance is about 5 km. However, Kerry Finley, who initiated Arctic marine mammal ecology studies for LGL Ltd. in 1974, reports (pers. comm. to D.F.M. 19 July 2022) that:

from our observation post we were able to spot blows back-lit to the east and southeast in one of two offshore troughs, with Cape Kater and stranded icebergs for reference. This and ranges from kayaks allowed fairly precise positions of feeding whales to about 15 km, as I recall. Cross reference from Auliving Island, where the whalers had lookout sites, indicates that we were seeing whales at 35–40 km. This was probably due to bending of the light, and the fact that Bowhead Whale blows are powerful and high.

TEXT BOX 3. Marine mammal stranding network origins.

Following Parsons' early death, the Marine Animal Response Society (MARS), a more formal, Halifax-based, Maritime network evolved. Initially organized by Tonya Wimmer, then a graduate student in the Hal Whitehead Cetacean Lab at Dalhousie University, Laurie supported network activities into the last months of her life (Figure 6a). MARS continues to thrive (see Wimmer and MacLean 2021).

provided a base of operations at the GMWSRS for stranding network volunteers, whale researchers, and wildlife pathologists who congregated on Grand Manan to necropsy Delilah and salvage her skeleton for deposit in the NBM. Delilah's articulated skeleton, accompanied by a life-size fiberglass model produced by Halifax-based whale biologist Paul Brodie, was unveiled in the NBM marine mammal gallery in 1996; the display would become an iconic exhibit for the NBM and also a symbol for the plight of the species (Hamilton-Barry 2019). A first time mother with a dependent calf, Delilah's tragic death was also to play an essential role in the direction of Laurie's professional activities in marine mammal conservation over the decade that followed.

Later that autumn, North Atlantic Right Whale researchers Amy Knowlton and Moira Brown of NEA met with Clarence Miller, Officer in Charge of Fundy Traffic, in Saint John, New Brunswick, to discuss approaches to minimizing North Atlantic Right Whale ship-strikes in the Bay. Miller suggested his operators send a seasonal North Atlantic Right Whale alert to vessels transiting the Bay of Fundy, but also proposed a much more radical solution—altering the Traffic Separation Scheme (i.e., shipping lanes) established

in 1983, to avoid areas where feeding whales were known to concentrate. That autumn the Canadian Department of Fisheries and Oceans (DFO) Marine Mammal Manager, Jerry Conway, met with Brown and Scott Kraus at NEA in Boston, and using observations collected by Laurie and others, placed boundaries around 95% of North Atlantic Right Whale observations in the Bay of Fundy and Roseway Basin, off southwestern Nova Scotia. These two areas of concentration were designated as North Atlantic Right Whale Conservation Areas in 1993, and from 1995 alerts were issued to ships of 20 m length or greater transiting the Bay (Knowlton 1997). Fisheries and Oceans Canada published a pamphlet for mariners about North Atlantic Right Whale and the conservation areas, but to no avail. North Atlantic Right Whale continued to die by ship-strike. Mariner education alone was clearly not working.

On 13 February 2001, a meeting was organized in Saint John to bring interested parties together to try and solve the east coast North Atlantic Right Whale vessel strike problem. Laurie attended that meeting and was part of the working group formed from the stakeholders in attendance. Over the following year, researchers assembled sightings data to assess the risks and probability of various amendments to the Fundy Traffic Separation Scheme in the Bay (Vanderlaan *et al.* 2008). Laurie contributed North Atlantic Right Whale locations and photographic data from her sightings on whale watch boats, as well as reports from her network of contacts in the fishing industry. Those data were particularly important in rounding out the June–December season describing North Atlantic Right Whale habitat use in the Bay, especially for those years when funding shortfalls limited NEA surveys to an early August–middle October window. The resulting final proposal was submitted by Transport Canada to the International Maritime Organization Sub-committee on the Safety of Navigation in 2002, where it was approved, subsequently adopted by the Maritime Safety Committee, and then implemented by Transport Canada in 2003. The decade following the unprecedented 6 km move of the Fundy shipping lanes witnessed something of a boom in the production of North Atlantic Right Whale calves (Meyer-Gutbrod *et al.* 2021; Pettis *et al.* 2021). Whether this was the direct or indirect result of the change in the shipping lanes remains unclear (excellent feeding conditions in the Bay of Fundy and elsewhere during that period also supported female reproduction). Nonetheless, moving the shipping lanes was a major conservation achievement—wildlife conservation had, for once, bested big business. In 2004 the Canadian Whale Institute recognized three Canadians—Moira Brown, Jerry Conway, and Laurie—for

their contributions to North Atlantic Right Whale conservation in Canadian waters. Laurie also continued to play an active role in marine mammal stranding incidents in the region (Figure 6b).

Although Laurie joined the Grand Manan Heritage Trust in 1991 shortly after it was formed (GMWSRS 1991), during the last decade of her life she expanded the scope of her built-heritage conservation activities. This was most notable in connection with the iconic Swallowtail Lighthouse (Figure 7). First operational in 1860, the lighthouse was accorded the status of a Recognized Federal Heritage Building in 1991. However, in 2010 the Swallowtail Light was included on a list of lighthouses declared surplus by the Canadian Coast Guard and the future of what is considered Grand Manan's "signature vista" (Miller *et al.* 2017), and billed by Tourism New Brunswick as the most photographed lighthouse in the province, seemed uncertain. Together, Laurie and Ken founded the Swallowtail Keepers Society. With Laurie at the helm, the Society went on to raise more than a quarter of a million dollars

to restore, maintain, and repurpose the light station and associated outbuildings, using them as a focus for both historical and environmental education (see *Swallowtail Keepers Society Newsletter*, produced by Laurie 2010–2015). In 2012 she deepened her ties with the Grand Manan Museum, one of the best regional museums in the province and home to the bird collection of notable early 20th Century ornithologist Allan Moses (see Ingersoll 1991). Initially working as a volunteer consultant, by the time of her death, Laurie was President of the Board of Directors of the Grand Manan Museum. In this latter capacity, she worked with the Director to, again, source funds that promoted the conservation of the cultural and natural heritage of the lower Bay of Fundy and improved the Museum. Her contributions were recognized with an Award of Distinction from the Association Heritage New Brunswick to the Swallowtail Keepers Society in 2016 and a posthumous honorary doctorate of science degree from the University of New Brunswick at its virtual graduation in the spring of 2021.



FIGURE 6. Laurie recognized that marine mammal strandings provide an important source of biological information (see McAlpine *et al.* this issue) and supported, through the Grand Manan Whale and Seabird Research Station and her own participation, the salvage of data and specimens from dead-stranded marine mammals. a. Laurie collecting the skull of a dead Grey Seal (*Halichoerus grypus*) in October 2020 at the Anchorage Provincial Park, Grand Manan, about three months before her death (now NBM-MA-18566). b. A crew assembled, on Grand Manan in October 2003 to salvage the skeleton of a 15-m Fin Whale (*Balenoptera physalus*), for deposit in the New Brunswick Museum (NBM-MA-5977). The back of the truck is loaded with baleen. Left to right: Laurie Murison, Graham Forbes, Donald McAlpine, Liam Hughes, Dan Keppie, and Jeff Higdon. Photo a: M.J. Edwards. Photo b: M. Sollows/New Brunswick Museum.



FIGURE 7. Laurie, with the iconic Swallowtail light and Keepers residence in the background in June of 2019. The site now boasts a lighthouse museum, welcome centre, gift shop, artist-in-residence program, weather station with on-line access, a MOTUS wildlife tracking antennae, and a regular schedule of public events. Photo: Peter Cunningham.

Acknowledgements

Laurie was a very private person, always reluctant to talk about her own activities and accomplishments, and her resume provided very little information about her life prior to moving to Grand Manan to live permanently. We are particularly grateful to her brother, Tom, for filling in details on her early years and to both Tom and Ken Ingersoll, Laurie's husband, for helping navigate the narrative. We also thank the following colleagues, friends, and family for assistance in piecing together information and images and providing helpful comments on early versions of the manuscript: Peter Cunningham, Peter Devine, Kerry Finley, Heather Koopman, Art MacKay, Elizabeth Mancke, Allan McDonald, Sarah McDonald, Bonnie Morse, Deb Murie, Ann Ross, and Andrew Westgate. A special thanks to Moira Brown and Kerry Finley for checking and correcting text reporting details surrounding the movement of the shipping lanes in the Bay of Fundy and Laurie's time in the Arctic, respectively. Heather Alexander of The Bamfield Marine Science Centre kindly provided Figure 2.

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