

HMCS *Labrador*

An Operational History



Naval Historical Section, Royal Canadian Naval Headquarters

Edited and Introduced by
P. Whitney Lackenbauer and Adam Lajeunesse
with Lieutenant(N) Jason Delaney

Mulroney Institute of Government

Arctic Operational Histories, no.1

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HMCS Labrador has become a part of the history of the Arctic, her name forever linked with those of Discovery, Fury, Investigator, Gjoa, St. Roch, and the many great names of the North. Her achievements during her short but illustrious career in the Royal Canadian Navy are too many, varied, and important to be briefly summarized; but it is perhaps no exaggeration to say that during her four years in the RCN she contributed more to man's knowledge of the Canadian Arctic than any ship of this century.

- Thor Thorgrimsson and E.C. Russell (1960)

The Arctic Operational History Series

The Arctic Operational History Series seeks to provide context and background to Canada's defence operations and responsibilities in the North by resuscitating important, but forgotten, Canadian Armed Forces (CAF) reports, histories, and defence material from previous generations of Arctic operations.

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Dr. Lajeunesse would also like to thank Irving Shipbuilding Inc. for its support of the Mulroney Institute of Government.

Preface

The History of HMCS *Labrador* was written by Thor Thorgrimsson, who was a Naval Historical Officer within the Naval Historical Section at National Defence Headquarters in the early 1960s. The draft narrative, including the final presented herein, was originally edited and supervised by E.C. Russell, who served as the Naval Historian from 1952-1966. The *Labrador* manuscript was developed over a three-year period and reviewed by Russell as well as Commander J.M. Leeming, RCN, who was the ship's Executive Officer (XO) during her first two years in service.¹ The practice of having serving naval officers related to the subject matter review a manuscript for accuracy and feedback was not uncommon at the time. In fact, it was a practice used by the chief historian within the Army Historical Section and later head of the Directorate of History, Charles P. Stacey.² Russell and Thorgrimsson would also use this method in the completion of *Canadian Naval Operations in Korean Waters, 1950-1955*, released in 1965.

There were three distinct drafts of the *Labrador* manuscript written, the earliest of which is dated in 1958. The final exists as print plates ready to be published of which a version is presented here and the original kept within the archives of the Directorate. At the time, there were several issues with the material, mostly related to it being produced shortly after the ship transferred to the Department of Transportation. Even after the ship was paid off, there were many who believed the ship should never have been transferred and should have been returned to the RCN in the near future. The subject remained a hotly debated issue among senior officers at the time the manuscript was produced, making it somewhat controversial. The narrative mentions recent decisions involving senior members of the navy and the Government of Canada, meaning the manuscript was too close to a hot issue to be made public. Behind the scenes, there were many memos exchanged between senior officials up to and including both ministers as to

¹ History of HMCS *Labrador*, Draft 2, 28 July 1958. DHH 81/520-8000, box 228, file 8.

² Stacey circulated draft chapters of his official history of the Second World War among surviving senior officers and politicians. Tim Cook, *Clio's Warriors: Canadian Historians and the Writing of the World Wars*, (Vancouver, UBC Press: 2006), 215.

how best to employ the icebreaker and whether the navy should operate it. These are issues that both the Naval Board and the Naval Staff would have been sensitive to, and the Naval Secretary mentions this to Russell in a memo that discusses the 1958 draft manuscript.

In addition to this, by virtue of one the ship's more important tasks to support the construction of the highly classified Distant Early Warning (DEW) Line, there was a security classification issue with some of the information contained in the narrative. This meant there were objections to it being published in its final form as presented. After it was reviewed by the Naval Secretary and the Director of Naval Intelligence, the manuscript was assigned the classification of Level I (CONFIDENTIAL) prohibiting its publication.

Commander Leeming completed his review of the manuscript and sent his corrections to E.C. Russell on 23 June 1958.³ Draft three was written with these corrections but still talks of the DEW line sites, meaning that the ship's involvement in the construction of the system was so instrumental to the story of *Labrador* that it could not be omitted and thus the manuscript could not be published; this was no doubt the reason for why the project was shelved and remained in print-plate form within the archives. Since the radar system is no longer in operation and is well-known and published information, this restriction no longer applies and the manuscript can be published. This book provides an accurate and corrected reproduction of the 1960 final draft of the History of HMCS *Labrador*, one of our navy's most unique and beloved ships by those who sailed with her.

Lieutenant(N) Jason Delaney
Naval Historian
Directorate of History and Heritage
Ottawa
July 2017

³ Memo from Leeming to Russell, 23 June 1958. DHH, 81/520-8000, box 228, file 8.

Introduction

HMCS *Labrador*: An Operational History

P. Whitney Lackenbauer and Adam Lajeunesse

HMCS *Labrador* was Canada's first heavy icebreaker and the Royal Canadian Navy's first vessel capable of reliably operating in the waters of the Arctic. Displacing 6,790 tons and capable of 10,000 horse power, she was the RCN's second largest ship at the time she was commissioned.⁴ While *Labrador* spent less than four years in the service of the RCN before being transferred to the Department of Transport,⁵ the vessel captured the imagination of a nation and won plaudits from across the Western world by becoming the first deep-draught ship to transit the Northwest Passage and only the second vessel ever to accomplish the feat in one season. It charted the Bellot Strait, adding a new arm to the winding Northwest Passage; discovered new sea routes and safe shipping corridors across the uncharted North; and spearheaded the construction of the massive Distant Early Warning (DEW) Line. *Labrador's* presence in the region represented a seismic shift in capabilities and possibilities, a new

⁴ Behind only the carrier HMCS *Magnificent*. Adam Lajeunesse, *Lock Stock and Icebergs: A History of Canadian Arctic Maritime Sovereignty* (Vancouver: University of British Columbia Press, 2016), 65.

⁵ The origins of a Canadian Coast Guard can be traced to the eighteenth century, when colonial governments established the first lifeboats and lighthouses in eastern British North America, and patrol vessels operated along the Atlantic seaboard and in the Great Lakes in the nineteenth century. In 1868, the new Canadian federal government assigned responsibility for marine affairs, including the operation of government vessels and marine infrastructure, to the Department of Marine and Fisheries. In 1936, it transferred responsibility for marine transportation to the Department of Transport. The Canadian Coast Guard was not officially established until 26 January 1962. See Thomas E. Appleton, *Usque Ad Mare: A History of the Canadian Coast Guard and Marine Services* (Ottawa: Department of Transport, 1968).

reality that was captured in an unofficial motto hung on the ward room wall: “Non Audiviste Omnes Esse Mutatum” – meaning “Haven’t you heard? It’s all been changed.”⁶

The history of HMCS *Labrador’s* brief but storied naval career in Canada’s Arctic has been the subject of a small body of published work by individuals involved in the operations, as well as a limited cadre of historians, who have furnished brief overviews of the contributions and ultimate fate of *Labrador*. In the 1950s, short summaries followed the initial voyages in the press and specialist journals,⁷ although secrecy and political sensitivities precluded full disclosure of its myriad activities. The *Crowsnest*, the RCN service magazine, provided regular updates on the ship’s movements and activities, as well as a number of in-depth articles covering some of the ship’s more noteworthy missions. The vessel’s uniqueness, coupled with the exciting nature of its operations, meant that the vessel frequently graced the magazine cover – a visual demonstration of the pride felt by the Navy in the ship and its accomplishments.

Lieutenant T.A. Irvine, *Labrador’s* naval hydrographer during her first voyage to the Arctic in 1954, published his first-hand account *The Ice was all Between* in 1959, which narrated in vivid detail the mission in dramatic, even heroic terms typical of adventure stories of that era.⁸ “The Arctic landscape, the *Labrador’s* fierce battles with the ice, the rare meetings with other ships, the discouragements and near catastrophes and final triumph: all these are lived intensely by the reader as he turns the pages,” one enthusiastic reviewer appraised.⁹ Commander (retired) J.M. Leeming, whose last sea assignment had been on board *Labrador* for her first year and a half in naval service, published the first substantive précis of the ship’s

⁶ “The Labrador and the DEW Line,” *The Crowsnest* 8:3 (January 1956), 13.

⁷ See, for example, “Arctic cruise of H.M.C.S. Labrador, 1954,” *Polar Record* 7/50 (1955): 399-399; “Arctic cruise of H.M.C.S. Labrador, 1955,” *Polar Record* 8/53 (1956): 156-158; and E. M. Penton, “Compass Observations on a Cruise through the North-west Passage,” *The Journal of Navigation* 8/1 (1955): 59-66.

⁸ T.A. Irvine, *The Ice Was All Between* (Toronto: Longmans, Green and Company, 1959).

⁹ John T. Frederick, “Speaking of Books,” *The Rotarian* 96/6 (June 1960): 41.

history in 1982. Largely a summary of the 1960 official history draft (published in this book), Leeming provided a sober overview of its operations, resisting critical analysis and ending his laudatory, commemorative piece with a tribute:

HMCS *Labrador* has become a part of the history of the Arctic. Her achievements during a short and illustrious career in the Royal Canadian Navy are too many, too varied, and too important to be summarized so briefly. There is no doubt that she contributed more to man's knowledge of the Arctic during her four years with the RCN than any other ship. These accomplishments were due entirely to her two commanding officers, Captain Robertson and Pullen. Their professional skill, leadership, and determination to succeed were the keys to *Labrador's* success as that hardy vessel moved through a polar world filled with challenges and dangers.¹⁰

Labrador's famous commanders, Captain Owen Connor Struan ("Long Robbie") Robertson and Captain Thomas Charles (T.C.) Pullen, have both attracted the attention of historians. Lieutenant (Navy) Jason Delaney and Michael Whitby have painted a glowing portrait of Robertson as "The Very Image of the Man of the Arctic," identifying him as "as the pre-eminent Arctic expert in the service's history" and "a giant" in both his physical height and "his accomplishments."¹¹ A book-length biography of Robertson, self-published by amateur historian Donal M. Baird, offers a lighter portrait of an "uncommon sailor" who "was sometimes described as a kid who never grew up" (at one point brazenly sailing up Halifax harbour on *Labrador* flying a flag with "a lewd message" in Inuktitut syllabics) but nevertheless received "the highest performance reports" from his superiors

¹⁰ J.M. Leeming, "HMCS *Labrador* and the Canadian Arctic," in *RCN in Retrospect, 1910-1968* ed. James Boutillier (Vancouver: UBC Press, 1982), 286-307. As very similar summary is attributed to E.C. Russel, circa 1964, as quoted in David Maclellan, "Pullen of the Arctic," *Canadian Geographic* 104/2 (1984): 31.

¹¹ Lieutenant (Navy) Jason Delaney and Michael Whitby, "The Very Image of the Man of the Arctic': Commodore O.C.S. Robertson," *Canadian Naval Review* 4, no.4 (2009): 25-29.

throughout his career.¹² His successor, Pullen, was the subject of a special issue of *The Northern Mariner* in 1992, which included an important survey of his Arctic career by one of Canada's most influential Arctic policy makers of the early Cold War, Graham Rowley, who draws heavily upon Pullen's meticulous diaries.¹³ These journals, as well as Pullen's official reports, are being published by historians P. Whitney Lackenbauer and Elizabeth Elliot-Meisel through the Documents on Canadian Arctic Sovereignty and Security Series. They have furnished a short overview of Pullen's life to introduce the first volume, and are currently writing a full-length biography of him.¹⁴

Recent scholarship, most of its emanating from the official history team working on the postwar RCN volume, has begun to clarify the contexts in which *Labrador* operated, as well as the contributions of other personnel involved. For example, Michael Whitby's short overview clarifies the context surrounding *Labrador*'s maiden Arctic voyage, highlighting how rumours about American plans to send icebreakers through the Northwest Passage that summer prompted the RCN to not only send the new ship to traverse the Passage, but to circumnavigate the North American continent in a single season.¹⁵ Furthermore, Lieutenant-Commander James Croal, the gunnery officer on *Labrador* in 1954 and 1955 (a peculiar role on a ship with no heavy naval armament, but a convenient excuse to secure his Arctic expertise), is the subject of a recent biographical article by Delaney who casts

¹² Donal M. Baird, *The Robbie Touch: Exploits of an Uncommon Sailor* (Oakville: Baird Books, 1999), 9-10.

¹³ Graham Rowley, "Captain T.C. Pullen, RCN: Polar Navigator," *The Northern Mariner* 2/2 (April 1992): 29-50.

¹⁴ See P. Whitney Lackenbauer and Elizabeth Elliot-Meisel, eds., "*One of the Great Polar Navigators*": *Captain T.C. Pullen's Personal Records of Arctic Voyages, Volume 1: Official Roles*, Documents on Canadian Arctic Sovereignty and Security (DCASS) No. 12 (Calgary and Waterloo: Centre for Military, Strategic and Security Studies/Centre on Foreign Policy and Federalism/Arctic Institute of North America, forthcoming 2017).

¹⁵ Michael Whitby, "Showing the Flag across the North: HMCS *Labrador* and the 1954 Transit of the Northwest Passage," *Canadian Naval Review* 2/1 (Spring 2006): 21-24.

him as the RCN's "Cold War Arctic specialist" who performed valuable liaison and mission staff officer roles on board the ship.¹⁶

Despite this work, the historiography is surprisingly limited for a ship as unique and important as *Labrador*. The intent in reproducing this narrative of the vessel's time in the RCN is to fill in some of the existing gaps and provide Canadians with a better understanding of the challenges, triumphs, and accomplishments of the country's first Arctic patrol ship. At a time when the Navy is, once again, seeking to establish a reliable presence in the region, the history of those first Arctic operations should be seen as more relevant and important than ever before.



For much of its history, the Canadian Arctic has not been a region under threat from foreign security interests. Freezing temperatures, ice, and remoteness effectively shielded the North, allowing the Canadian military to largely ignore the country's Arctic approaches through to the mid-twentieth century. This situation began to change during the Second World War as the American Army opened airbases across the Canadian Arctic to assist in ferrying aircraft to embattled British and Soviet forces. Canadian acquired control of most of these bases at the end of the war,¹⁷ but surging concerns about the northern approaches to North America prompted renewed American interest almost immediately. In the spring of 1946, Washington requested authorization from Ottawa to build new weather stations and navigational aids in the High Arctic, prompting officials to take stock of what official presence Canada had in the region—and what capacity it had

¹⁶ Jason Delaney, "He was Writing the Book': Lieutenant Commander James P. Croal: The Royal Canadian Navy's Cold War Arctic Specialist," *Northern Mariner* 25/4 (October 2015): 399-412.

¹⁷ Canada, Department of External Affairs, *Documents on Canadian External Relations*, "Memorandum from the Department of National Defence to the Cabinet Committee," 18 May 1946, no. 913, 1556.

to expand or enhance its level of activity.¹⁸ The Canadian Army and Royal Canadian Air Force were already engaged in activities and exercises seeking to test out and build capabilities, but these remained relatively small-scale, with short durations and limited aims, often “more in the nature of trials than tactical manoeuvres.”¹⁹ American naval deployments began to expand as well. Operation *Frostbite* took the carrier USS *Midway* and her escorts into the Davis Strait in the fall and winter of 1945-1946. Late in 1946 Operation *Nanook* took place in Viscount Melville and Lancaster Sound but senior RCN officials declined to participate. That same season the US Navy also experimented with submarine operations in the region, sending

¹⁸ Charles Hubbard Papers, “List of Recent United States and Permanent Joint Board on Defence Proposals for Joint Defence Projects and Cooperation Measures,” 30 June 1946, US National Archives and Records Administration, College Park, MD, RG 410/17 vol. 5 files 1-11; RG 2/18, vol. 74, file D-19-2]. On the Joint Arctic Weather Stations (JAWS), see Gordon W. Smith, “Weather stations in the Canadian North and sovereignty,” *Journal of Military and Strategic Studies* 11, no. 3 (2009): 1-62, and Daniel Heidt, “Clenched in the JAWS of America? Canadian Sovereignty and the Joint Arctic Weather Stations, 1946-1972,” in *Canada and Arctic Sovereignty and Security: Historical Perspectives*, ed. P. Whitney Lackenbauer (Calgary: Centre for Military and Strategic Studies/University of Calgary Press, 2011), 145-70.

¹⁹ “Guide to Planning and Execution of Operations in the North,” Department of National Defence (DND), Directorate of History and Heritage (DHH), 122.3M3 (D2), ii. See P. Whitney Lackenbauer, Peter Kikkert, and K.C. Eyre, “Lessons in Arctic Warfare: The Canadian Army Experience, 1945-55,” in *Canadian Armed Forces Arctic Operations, 1945-2015: Historical and Contemporary Lessons Learned*, ed. P.W. Lackenbauer and Adam Lajeunesse (Fredericton: Gregg Centre for the Study of War and Society, 2017), 47-104; Peter Kikkert, “1946: The Year Canada Chose its Path in the Arctic,” in *Canada and Arctic Sovereignty and Security: Historical Perspectives*, ed. P. Whitney Lackenbauer (Calgary: Centre for Military and Strategic Studies/University of Calgary Press, 2011), 69-110; Richard Goette and P. Whitney Lackenbauer, *Northern Skytrails: Perspectives on the Royal Canadian Air Force in the Arctic from the Pages of The Roundel, 1949-65*, Documents on Canadian Arctic Sovereignty and Security (DCASS) No. 10 (Calgary and Waterloo: Centre for Military, Strategic and Security Studies/Centre on Foreign Policy and Federalism/Arctic Institute of North America, 2017).

the USS *Atule* to Baffin Bay to practice submerging under the ice.²⁰ It was soon clear that the Arctic could no longer be safely ignored as military activity would only grow in the years ahead.²¹

Faced with the prospect of a continued and growing American presence in Canada's Arctic, the government planned RCN northern operations to "show the flag," demonstrate an official presence, and address practical and political needs in the region. Still, the vessels being sent into the Arctic waters, such as the Tribal-class destroyers *Nookta* and *Haida* and the "arcticized" carrier HMCS *Magnificent* (in 1948) and the River-class frigate *Swansea* (1949) were thin-skinned and incapable of safely operating in ice-covered waters.²² A more persistent naval presence in the Arctic required an ice-capable ship. Conversations on this requirement took place in DND and the Advisory Committee on Northern Development (ACND) beginning in 1948. In these initial discussions, General Andrew McNaughton stressed the importance from a sovereignty standpoint of being able to provide transportation to northern areas independently of its American allies.²³

²⁰ Hugh A. Halliday, "Exercise Muskox: Asserting Sovereignty North of 60," *Canadian Military History* 7:4 (Autumn 1998).

²¹ Cabinet Conclusions, "Memorandum for Cabinet Committee in Materials for Special Meeting of August 12-13, 1947," 19 December 1945, LAC, RG 2, vol. 3, file 112.3M2 (565).

²² The *Magnificent* was 'arcticized' though this only meant that it had had its working and living quarters prepared for low temperature operations. On these voyages, see Elizabeth Elliot-Meisel, "Arctic Focus: The Royal Canadian Navy in Arctic Waters, 1946-1949," *Northern Mariner* 9/2 (April 1999): 23-39; and Richard Mayne, "An Art of Its Own': Corporate Knowledge, the Canadian Navy, and Arctic Operations," *Canadian Naval Review* 5/3 (Fall 2009): 10-16. On the contributions of HMCS *Cedarwood* in 1949, see Isabel Campbell, "Making a Difference in Arctic Naval Research: HMCS *Cedarwood*, 1948 to 1956," *Canadian Naval Review* 8/1 (Spring 2012): 10-14.

²³ Minutes of 2nd ACND meeting held 1 June 1948, in *The Advisory Committee on Northern Development: Context and Meeting Minutes, 1948-67*, eds. P. Whitney Lackenbauer and Daniel Heidt, Documents on Canadian Arctic Sovereignty and Security No. 4 (Calgary and Waterloo: Centre for Military and Strategic Studies/Centre on Foreign Policy and Federalism, 2015), 13.

In late 1948, Defence Minister Brooke Claxton announced plans for the construction of an icebreaker.²⁴ The following year, that The US Navy provided the basic technical details, based on their Wind-class icebreakers, and the keel for what would become *Labrador*, was laid down at the Marine Industries yards at Sorel, Quebec. After a long series of delays, the vessel was finally launched on December 14, 1951. She was modelled after the American Wind-class icebreakers, which served in the US Navy during the Second World War and continued to form the backbone of the US fleet until they were replaced in the mid-1970s. Incorporating design tweaks and improvements, based on years of observing the American vessels' performance on joint Canada-US defence operations in the late 1940s, *Labrador* was built for power rather than speed, her six diesel-electric engines driving her at 16 knots maximum. Heeling tanks connected by reversible-propeller type pumps enabled water ballast to be hurled from side to side at 40,000 gallons (181,844 litres) per minute, so that she could rock herself free when trapped by ice. She carried two Bell HTL-4 or HUP II helicopters, as well as the 36-foot (11 m) all-aluminum hydrographic sounding craft *Pogo*.²⁵ Able to escort cargo vessels through ice with its 41mm high tensile steel hull and modernized stem,²⁶ scout ahead or transport personnel with its helicopters, and map dangerously shallow passages with its boat, *Labrador* was a versatile ship – but certainly not the most glamorous one in the fleet, as Lieutenant Tom Irvine described:

[As] always I was struck by her businesslike appearance. No fine lines there, no sweeping fo'c'sle and graceful stern, but a hull that commanded attention because of its powerful-looking design. Short, stubby, squat and deep-drafted—she drew almost as much water as the *Queen Mary*, and the Cunarder is almost a thousand feet long. *Labrador* measured only two hundred and seventy feet from stem to stern. Her bridge and wheel- house seemed too close to the cut-

²⁴ Canada, House of Commons, *Debates*, 24 June 1948, 20th Parliament, 4th session, 5785.

²⁵ On *Pogo* (which was named after a popular cartoon character at the time), see Eric Fernberg, "A Tough Little Boat: The Pogo-HMCS Labrador's Hydrographic Survey Launch," *Canadian Military History* 5/2 (1996): 71-76.

²⁶ The stem is the most forward portion of a ship's bow.

away ice-breaking bow. The helicopter landing deck almost overhung the stern. The lattice mast, carrying a mass of radar aerials, was set square to the hull. Not by any stretch of the imagination could *Labrador* be called a beautiful ship....²⁷

Labrador's captain-designate, Captain Owen Robertson, was a seasoned merchant mariner before the Second World War who went on to command several RCN ships during the conflict and petitioned successfully for command of the icebreaker after commanding a fleet destroyer in the early postwar period. He spent two years observing the US Navy and Coast Guard operations in the Canadian Arctic before his ship was commissioned, building in-depth practical experience in Arctic navigation and a history that allowed him to make many recommendations to improve his ship. "Feedback from Robertson's Arctic experience resulted in *Labrador* receiving a hangar and an enlarged flight deck for three helicopters as well as big improvements over the US Navy's communications and radar, and superior living and recreation quarters," Associate Air Force Historian Colonel (Retired) Ernest Cable, notes. "She was modified to include then state-of-the-art scientific equipment changing her from a purely military patrol vessel to a self-sufficient explorer with an elaborately-equipped laboratory and hospital. *Labrador* was also a transport, rescue ship and school."²⁸ There is also evidence that Robertson's experience aboard the American *Wind* class led to the recommendation to remove the 130mm guns and most of the lighter armaments that were standard aboard her American sister ships.²⁹

HMCS *Labrador* was commissioned into the RCN in July 1954. As naval historian Michael Whitby explains, there was a lot riding on the success of the ship and its crew at that time. Naval commanders worried

²⁷ Irvine, *Ice was All Between Us*, 4-5.

²⁸ Ernest Cable, "HMCS *Labrador* Opens Canada's Arctic," *Soundings* [NNN] (May 2009): 6.

²⁹ An unattributed observer report to the American *Operation Nanook*, which may have been authored by Robertson, noted that: "the removal of the main armament and magazine in the Canadian icebreaker is considered most beneficial to enlarging the space available for cargo storage." "History of Operation *Nanook II*," (1949). Directorate of History and Heritage, 120.1 (D13).

about the optics of American icebreakers transiting the Northwest Passage in 1954, a project which the Canadian government had to disallow despite tacit approval from the Advisory Committee on Northern Development.³⁰ *Labrador's* own transit that year was authorized in part because of those concerns that the US might beat the RCN to that prize. Just as an American icebreaker making the first deep-draught transit would have been an embarrassment, so too would a Canadian failure. Accordingly, the mission was kept top secret, with the RCN withholding information on the ship's route from its sister service, the RCAF. "It was obviously risky to send a new, untried ship into such a hazardous environment - and the consequences of failure, like the fruits of success, could be immense," Whitby notes. The possibility of an American ship having to rescue *Labrador* was horrifying and, if it was well publicised, would have been an embarrassment that would have stayed with the RCN for years. Luckily the RCN's confidence in their ship was well founded.³¹

As Russell and Thorgrimsson describe in their operational history, *Labrador's* presence "marked the first incursion of a Canadian naval vessel into waters which the US Navy and Coast Guard might well be excused for considering *mare nostrum*."³² From the onset the ship charted previously uncharted Arctic waters, conducted oceanographic and hydrographic surveys, erected LORAN (long-range navigation) beacons, served as a research platform for scientists, resupplied RCMP outposts and Arctic weather stations, and supported salvage and rescue operations. During its first year of Arctic operations, it became the first deep draft ship and first naval vessel to transit the Northwest Passage, as well as the second ship to circumnavigate the North American continent.³³ These activities confirmed that "Canada's Arctic waters were no longer the sole dominion of the US

³⁰ "Waldo K. Lyon, trip report – Ottawa conference on Arctic expedition," January 22, 1954, US Navy History and Heritage Archives, Waldo K. Lyon Papers.

³¹ Michael Whitby, "Showing the Flag across the North: HMCS Labrador and the 1954 Transit of the Northwest Passage," *Canadian Naval Review* 2:1 (Spring 2006), 22-23.

³² See page 24 in this volume.

³³ For more details, see Whitby, "Showing the Flag": 21-24.

Navy,”³⁴ thus demonstrating an unprecedented Canadian operational capacity not only to “show the flag” but to make substantive contributions to continental defence missions as well. The authors explain how *Labrador* became “big news” upon its return to southern Canada, with “young, unattached” crew members finding themselves the subject of female interest and the senior officers inundated with congratulatory messages requiring responses, interview requests from the media, speaking engagements, and a “busy routine of entertaining and being entertained.”³⁵

After refit in January 1955, the ship was ready to to play a prominent role in the construction of the largest mega-project in Arctic history. American concerns over Soviet intentions and capabilities continued to increase into the early 1950s after the Soviet-backed invasion of South Korea and the USSR’s development of the hydrogen bomb – and the long-range aircraft required to drop them on North American cities.³⁶ The US response was a network of early warning radar stations strung across the Arctic, from Alaska to Greenland. This Distant Early Warning (DEW) Line was designed to give American bombers enough notice to launch in the case of a Soviet attack, thus keeping the country’s response capacity (and, by extension, deterrence) intact. Paid for and constructed by the United States, the DEW line was the largest construction effort in the history of the North American Arctic. The US Sea Transportation Service moved over 460,000 tons of equipment and supplies into the Canadian Arctic, including enough gravel to build two copies of the Great Pyramid of Giza, during the construction phase from 1955-57.³⁷ While the RCN did not have the capacity to contribute to joint Arctic construction projects a decade before, *Labrador* represented a powerful instrument to play a central role in what historical geographer Matthew Farish characterizes as an extraordinary feat

³⁴ Cable, “HMCS *Labrador* Opens Canada’s Arctic,” 6.

³⁵ See pages 18-19, 20, 21 in this volume.

³⁶ In 1955, the Bison B bomber was deployed, with a range of 12,000 km it brought much of the continental United States into the range of planes flying over the Arctic Ocean; Richard Rhodes, *Arsenals of Folly: The Making of the Nuclear Arms Race* (New York: Alfred A. Knopf, 2007), p. 85.

³⁷ Western Electric, *The DEW Line Story* (c.1960).

of “geographical engineering, planned and sequenced in minute detail,”³⁸ that fundamentally reshaped Arctic logistics, communications, and ultimately the region’s human geographies.

The question of maritime sovereignty arose in this delicate political context. Canada’s terrestrial sovereignty was protected by the bilateral agreement governing the DEW Line’s construction and manning by American personnel, but the presence of so many US Navy vessels in the region created an awkward situation for officials in Ottawa.³⁹ While Canada considered the waters of the Arctic Archipelago as its own, it had never formalized this position with legislation, or even precisely defined the extent of its claims. In part, this ambiguity stemmed from an understanding within External Affairs that the United States was unlikely to recognize any Canadian claims beyond the universally recognized three-nautical mile territorial sea.⁴⁰ As such, Canada could not assert an explicit claim to all of the waters of the Arctic Archipelago without inviting a likely American challenge—at a time when Cold War politics demanded political unity. “Canadian sovereignty over Arctic areas only remains to be perfected by the continuous and actual exercise of state activity in this region,” the Legal Division of External Affairs suggested in February 1954. “In time, it will be sufficient to confer an absolute title in international law ... From our point of view, it would seem desirable and advisable to rely on this peaceful and

³⁸ Matthew Farish, *The Contours of America’s Cold War* (Minneapolis: University of Minnesota Press, 2010), 184.

³⁹ See, for example, Elizabeth Elliot-Meisel, *Arctic Diplomacy: Canada and the United States in the Northwest Passage* (New York: Peter Lang, 1998); Ken Coates, P. Whitney Lackenbauer, William Morrison, and Greg Poelzer, *Arctic Front: Defending Canada in the Far North* (Toronto: Thomas Allen, 2008), 70-76; Shelagh Grant, *Polar Imperative*, 321-26; and Lajeunesse, *Lock, Stock, and Icebergs*, 63-64.

⁴⁰ See P. Whitney Lackenbauer and Peter Kikkert, “Sovereignty and Security: The Department of External Affairs, the United States, and Arctic Sovereignty, 1945-68,” in *In the National Interest: Canadian Foreign Policy and the Department of Foreign Affairs and International Trade, 1909-2009*, ed. Greg Donaghy and Michael Carroll (Calgary: University of Calgary Press, 2011), 101-20.

effective method of perfecting our claim to sovereignty over the whole of our Arctic region.”⁴¹

HMCS *Labrador* played this strategic and political role, but the ship’s operators gave less thought to questions of sovereignty and jurisdiction than in the practical considerations of how to navigate Arctic waters. The DEW Line mission required that she partake “in one of the greatest seaborne operations ever attempted in the Far North,” the RCN service magazine *Crowsnest* informed its readers at the time. The ship’s “principal and most testing assignment” in 1955 was to serve from mid-June through September “as senior ship of a task group of some fourteen ships charged with the delivery of thousands of tons of supplies for Distant Early Warning (DEW) Line sites in the Foxe Basin area of the Eastern Arctic.” This massive endeavour meant delivering personnel, equipment and supplies, as well as “numerous other associated tasks requiring a high degree of operational efficiency and an equivalent amount of effort. These included the survey of previously uncharted waters, selection and survey of landing sites, installation of navigational control stations and, most important, the safe passage, through hazardous, ice-infested seas, of the ships comprising the Task Group.”⁴² *Labrador* completed all of its tasks, but operating in the Arctic Archipelago remained a dangerous proposition. During the 1955

⁴¹ Quoted in Lajeunesse, *Lock, Stock, and Icebergs*, 89. For fuller explanations of this policy, see Kikkert and Lackenbauer, “Sovereignty and Security”; Kikkert and Lackenbauer, eds., *Legal Appraisals of Canada’s Arctic Sovereignty: Key Documents, 1904-58*, Documents on Canadian Arctic Sovereignty and Security (DCASS) No. 2 (Calgary and Waterloo: Centre for Military and Strategic Studies/Centre on Foreign Policy and Federalism, 2014); and Lajeunesse, *Lock, Stock, and Icebergs*, 88-103.

⁴² “The *Labrador* and the DEW Line,” *Crowsnest* vol. 8, no. 3 (1956), reprinted in Adam Lajeunesse and P. Whitney Lackenbauer, eds., *Canadian Armed Forces Arctic Operations, 1945-2015: Historical and Contemporary Lessons Learned* (Fredericton: Gregg Centre for the Study of War and Society, 2017), 184. Navy Clearance Divers conducted beach operations in support of the DEW Line construction, developing standard operating procedures and adding a chapter on the Arctic to the RCN diving manual. Lieutenant(N) Jason Delaney, “The Cold War Frogmen of the Far North,” *Canadian Naval Review* 7/4 (Winter 2012): 21-25.

sealift into the Western Arctic, for instance, five ships lost or damaged their anchors, fourteen lost or damaged rudders, there were thirteen groundings, twenty-two instances of damaged propellers and shafts, forty-three electrical casualties, forty-four ships with hull damage, and twenty-eight cases of “miscellaneous” damage. On average, two US ships sustained damage each day.⁴³

While *Labrador* could conduct independent operations, Canada chose to employ it in partnership with its American ally – and the importance of making a highly visible and useful contribution to that partnership should not be understated. The narrative history that follows is replete with examples of close bilateral cooperation. Part of *Labrador*’s first mission was to the Beaufort Sea to take part in an American charting project with American navy icebreakers. The construction of the DEW Line in the years that followed saw *Labrador* busy escorting, assisting, and even rescuing US cargo vessels and icebreakers. Equipment was shared between *Labrador* and her American counterparts; even helicopters were traded back and forth as mechanical casualties were sustained in the course of operations. At times, *Labrador* came under overall American command. At other times, the captain of *Labrador* assumed command of task forces comprised of American vessels. When transferred to US operational control for the 1957 DEW Line sealift, Captain Pullen described the cooperative command structure as a “novel and thoroughly enjoyable experience.”⁴⁴ The Canada-US relationship worked seamlessly at an operational level.

The shared mission of running task groups to build the DEW Line and execute what was described at the time as “probably the greatest single construction order in history”⁴⁵ proved daunting. Shepherding and then landing enormous loads of construction equipment and material by landing craft over Arctic beaches, after first charting and clearing the approaches,

⁴³ Commander, MSTS to Chief of Naval Operations, “MSTS Arctic Operations 1955,” February 15, 1955, NARA, RG 313, entry UD-13C 11, box 5.

⁴⁴ T.C. Pullen, “What Price Canadian Sovereignty?” *US Naval Institute Proceedings* 113 (September 1987), 68.

⁴⁵ Richard Morenus, *DEW Line*, quoted in Farish, *Contours of America’s Cold War*, 185.

posed enormous challenges. “The work was not glamorous or adventurous,” Robertson explained about *Labrador’s* Arctic voyages. “Most of it was just plain hard work, long-hours, bad weather and monotony; but we did know that what we were doing was important to Canada—that was our reward.”⁴⁶ The narrative that follows provides a systematic overview of the conditions that the ship faced while conducting preliminary reconnaissance of unknown waters, surveying new routes, charting beaches and anchorages, undertaking scientific research, or carrying out rescue operations. Ice convoy work could be strenuous, exciting, and dangerous, even if it did seem at time to become a daily routine of breaking out supply ships that had become beset in the ice. As the narrative reveals, these operations yielded valuable lessons learned—not only for immediate benefit, but that informed future Arctic convoy operations more broadly.

The official Naval Historical Section operational history also provides important insights into *Labrador’s* important contributions to Arctic science. “HMCS *Labrador’s* job was to be the floating platform and the sea-going laboratory from which her scientists could work to develop the techniques and establish the doctrines for more efficient and less costly research—research which would increase our knowledge of our northern lands—research which would kill forever the myths that this was a land so inhospitable that man could not use it—research that would tell us how to live, work, and play in these Queen Elizabeth Islands and the Northwest Territories,” Robertson described.⁴⁷ Although this scientific work was done on a “not to interfere basis” with the ships’ primary mission to support DEW Line resupply operations, the record of scientific achievement was truly impressive. “Besides her sealift duties, *Labrador’s* people made major revisions to ten charts and produced twelve completely new ones, opening innumerable harbours and channels to deep-draft ships,” historian Tony German explained. “In her last two seasons under Pullen [in 1956 and 1957], she navigated and charted Bellot Strait for the first time, discovered a deep channel into Frobisher Bay, and surveyed and erected beacons around

⁴⁶ O.C.S. Robertson, “Foreword” to Irvine, *The Ice was All Between Us*, xxii.

⁴⁷ Robertson, “Foreword” to Irvine, *The Ice was All Between Us*, xxii.

Foxe Basin. That made a huge area newly safe for navigation. Oceanographic observations were taken by the thousands. Meteorological data piled up.”⁴⁸

The official narrative that follows provides more detail on these contributions, which covered the fields of hydrography, oceanography, meteorology, bathymetry, marine biology, ice physics, and ice observation. For example, in 1956 *Labrador* performed “an immense amount of hydrographic work, running some 12,000 miles of soundings, preparing numerous charts and sailing directions, taking many panoramic photographs,” and other activities contributing to safe navigation in Canada’s Arctic Archipelago. “The oceanographic work ... constituted the most extensive program ... ever taken in the Canadian Arctic,” Russell and Thorgrimsson observed.⁴⁹ Dr. Neil Campbell, the chief scientist on *Labrador*, observed that the expert research conducted on board the icebreaker catapulted Canada to “the forefront of those nations engaged in Arctic research.”⁵⁰ While a secondary tasking, these substantive contributions to polar knowledge secured *Labrador’s* legacy as much as its direct support to the construction of the DEW Line.

Labrador’s hydrographic work along the Northwest Passage had obvious, direct benefits for the DEW Line operations and other resupply missions, but another strategic partnership played out beneath the surface as well. The official narrative omits the classified work undertaken to advance the longer-term American objective of deploying nuclear submarines into the region. This initiative dates to the joint Beaufort Sea Expedition of 1954, mentioned in this book, which charted the Beaufort region primarily for the benefit of surface traffic but with an eye to the possibility of future use by US submarines, which were only beginning to develop technologies and procedures for operating under ice. Subsequently, the US Navy built on

⁴⁸ Tony Pullen, *The Sea is at Our Gates: The History of the Royal Canadian Navy* (Toronto: McClelland & Stewart, 1990), 257.

⁴⁹ See page 67 in this volume.

⁵⁰ Russell and Campbell, quoted David Maclellan, “Pullen of the Arctic,” *Canadian Geographic* 104/2 (1984), 28.

Labrador's work in the Northwest Passage to prepare the way for submarine transits. In the mid-1950s, Waldo K. Lyon (the head of the US Navy's Arctic Submarine Laboratory and the man widely recognized as the father of the Arctic submarine) asked the Canadian military to expand its hydrographic work through the Northwest Passage, with special attention to soundings as possible along potential submarine routes. The RCN obliged and much of the hydrographic work described in this history was passed along to the Americans.⁵¹

Despite the importance and uniqueness of *Labrador*, its time in the RCN was short lived. For the Canadian Navy, operations in the Arctic were considered superficial to the service's core mission. The Navy's focus was simply not on the North. It had spent the 1950s preparing to fight a third world war against the Soviet Union in the North Atlantic and many within the RCN felt that any effort spent elsewhere was simply being wasted. In October 1956, the Canadian Naval Staff therefore accepted arguments put forward by Captain William Landymore and others that the Navy did not need an icebreaking capability and recommended a departmental transfer. By the summer of 1957 the Department of Transport had offered to take over operations and in 1958 *Labrador* was transferred to the Coast Guard.

By that time, the vessel had contributed more to Canada's understanding of the Arctic than had any other ship or expedition in the country's history. *Labrador* had conducted over 12,000 miles of soundings and prepared a host of charts and sailing directions while also taking thousands of panoramic and radar photographs. She had established 200 oceanographic stations, 236 bathythermograph casts, collected 72 bottom samples and thousands of salinity and oxygen samples, and this was simply

⁵¹ Jason Delaney and Michael Whitby, "The Very Image of a Man of the Arctic: Commodore O.C.S. Robertson," *Canadian Naval Review* 4:4 (Winter, 2009), 27. Since much of the hydrographic information in areas such as Barrow Strait and Lancaster Sound had not been updated since William Parry's expedition in the early 1820s, the assistance of *Labrador* and the Canadian mapping agencies proved essential to the safe operation of American vessels during the DEW Line construction phase and resupply operations that followed.

the scientific work which was never allowed to interfere with her other operational duties.⁵²

The record was certainly impressive and there were those in the Navy who objected strenuously to the transfer. Captain T.C. Pullen criticized it harshly: “those devils at HQ. Bill Landymore has had his way. VCNS, Radm. Lay too. Blast their eyes.” According to Pullen, *Labrador’s* place in the Navy made sense. He believed that a military vessel made a more convincing symbol and demonstration of sovereignty. This ship also offered the RCN a unique suite of capabilities that it could not easily replace. Pullen therefore lamented the fact that the Navy had had chosen instead to commission a couple of obsolete frigates.⁵³ The transfer also meant that the RCN had chosen to withdraw from the Arctic and thus lost “the ability to expand on its hard-won wealth of northern knowledge and operating experience,” Cable concludes. “The RCN also lost the opportunity to exchange information with the US Navy. With no information to trade the RCN had to rely on the good graces of its southern neighbour for advances in Arctic science and submarine operations under the polar ice.”⁵⁴

After her transfer to the Department of Transport on 22 November 1957, the ship was re-designated the Canadian Government Ship (CGS) *Labrador*. “With her first rate capability and extended endurance she was a welcome addition to the fleet of Arctic icebreakers,” official coast guard historian Thomas Appleton noted, “but the arrangement of decks and bulkheads, built to naval standards of watertight sub-division, leaves little room for cargo and her supply role is therefore limited.”⁵⁵ Subsequent large icebreakers were considerably bigger and more powerful (such as the *John A. Macdonald*, completed in 1960), but *Labrador* continued to make substantive contributions to polar scientific knowledge and to community

⁵² J.M. Lemming, “HMCS Labrador and the Canadian Arctic,” *RCN in Retrospective*, ed. James A. Boutilier (Vancouver: University of British Columbia Press, 1982), p. 302.

⁵³ Elliot-Meisel, *Arctic Diplomacy*, 108-9.

⁵⁴ Cable, “HMCS *Labrador* Opens Canada’s Arctic,” 9.

⁵⁵ Appleton, *Usque Ad Mare*.

resupply in civilian service, deploying to the Arctic every year until 1977.⁵⁶ When the Government of Canada established the Canadian Coast Guard in 1962, she joined its nascent fleet and was renamed Canadian Coast Guard Ship (CCGS) *Labrador*. Two years later, CCG Captain N. V. Clarke took the icebreaker up Kennedy Channel, between Ellesmere Island and Greenland, to reach the most northerly position ever attained by any Canadian ship to that time. By the mid-1970s, *Labrador* was used primarily for hydrographic survey work. Restricted to southern waters in its later years owing to metal fatigue, the ship was taken out of service in 1987 and broken up for scrap in Taiwan two years later.⁵⁷



In his foreword to Tom Irvine's account of *Labrador's* 1954 voyage, Captain Robertson situated the icebreaker in evolving geopolitical, cultural, and economic contexts, anticipating changes to the region that still ring true more than six decades later:

POLAR navigation is as old as the Eskimo. The Eskimo has not found the problems of living in these latitudes or navigating in these waters to be insurmountable, as he has learned to make nature work for him, rather than against him.

Today, we are learning what the Eskimo learned 3,000 years ago, that any good seaman can make his way around the Arctic, so long as he understands, either empirically or scientifically, the principles that govern movements of masses of ice and water. Operations in these northern waters have been characterized by a fear of being frozen in for the winter. In the days of the sailing ship, or the low-powered steamer, there was a great deal of justification for this sort of concern.

⁵⁶ Charles D. Maginley and Bernard Collin, *The Ships of Canada's Marine Services* (St. Catharines: Vanwell, 2001), 150.

⁵⁷ Charles Maginley, *The Canadian Coast Guard 1962–2002* (St. Catharines: Vanwell, 2003), 61, 124–26, and *passim*.

In recent years successful operations in high latitudes have robbed the Arctic of most of its old terrors. The Arctic is no longer a region of forbidding and uninhabitable wasteland. It is a fascinating, beautiful, though rugged, area of land and water, ice and snow, sunshine and darkness, where those with the know-how, the desire, and the equipment which modern technology has placed at our disposal can work and live comfortably, safely and profitably the year round.

This Arctic, this Canadian Arctic, is our business—ours to exploit, ours to defend. I believe it was the hope of the far-seeing men who conceived HMCS *Labrador* that this, her maiden voyage, might set the pattern for the work that must be done if Canada is truly to govern her northern domains.

The rich resources that lie within the Canadian Arctic will remain there until such time as we have need of them. It behooves us, however, to carry out the research that is necessary to exploit these raw resources now, before we need them. They are in our storeroom and will remain there as long as we protect this storeroom.

It is our misfortune that we must now look to the Arctic, not just as a source of future resources, but as an immediate defence against possible aggression. We must define the place that the Arctic could, or might have to, play in the defence of the North American Continent.... The concept that the Arctic is a barrier to an aggressor is no longer acceptable—the Arctic is a highway to those who have the wit to use it.⁵⁸

This language, much of which bears a striking resemblance to the discourse on Arctic sovereignty and security that circulated under Prime Minister Stephen Harper,⁵⁹ trumpeted the importance of developing the capabilities

⁵⁸ Robertson, "Foreword," to Irvine, *The Ice was All Between Us*, xxi.

⁵⁹ See P. Whitney Lackenbauer and Ryan Dean, eds., *Canada's Northern Strategy under the Harper Conservatives: Key Speeches and Documents on Sovereignty, Security, and Governance, 2006-15*, Documents on Canadian Arctic Sovereignty and Security No. 6 (Calgary and Waterloo: Centre for Military, Strategic and Security Studies/Centre on Foreign Policy and Federalism/Arctic Institute of North America, 2016).

to defend an Inuit homeland, resource frontier, and geostrategically vital space.

Anticipating near-future activity has always been a staple of Arctic strategic imaginaries.⁶⁰ “One of these days, in the not too distant future, ships will ply these waters bringing out ore and carrying tourists, supplying our northern airports on the short polar route to Europe,” Captain Robertson anticipated in 1959. “They will sail safely and on schedule, using the charts and data obtained by *HMCS Labrador* and her people, and by other ships and people who preceded and followed her.”⁶¹ In the twenty-first century, some commentators and naval experts believe that this prophecy is coming true. Political, commercial, and strategic interests abound in a region being transformed by climate change, the prospect of expanding resource development, and other global forces. Melting ice and increasing accessibility mean more actual and potential activity, conjuring visions of new transarctic transit routes, new security threats, and new economic opportunities. In light of these changes, the Royal Canadian Navy has been tasked with playing a more prominent and visible role in the region.

Rear-Admiral John Newton, Commander Maritime Forces Atlantic, has been a consistent advocate for the RCN to prepare for a busy future in Canada’s North. “We take note of the significant changes being felt in the environment, industry, commerce, tourism, society and culture,” he explained in late 2016. That summer, the cruise ship *Crystal Serenity* transited the Northwest Passage, maritime coastal defence vessel *HMCS Moncton* patrolled in Hudson Bay, while *HMCS Shawinigan* operated to

⁶⁰ On Arctic imaginaries, see Shelagh D. Grant, “Arctic wilderness—and other mythologies,” *Journal of Canadian Studies* 33/2 (1998): 27-42.; Sherrill E. Grace, *Canada and the Idea of North* (Montreal and Kingston: McGill-Queen’s University Press, 2002); Hannes Gerhardt, Philip E. Steinberg, Jeremy Tasch, Sandra J. Fabiano, and Rob Shields, “Contested Sovereignty in a Changing Arctic,” *Annals of the Association of American Geographers* 100/4 (2010): 992-1002; and Franklyn Griffiths, Rob Huebert, and P. Whitney Lackenbauer, *Canada and the Changing Arctic: Sovereignty, Security, and Stewardship* (Waterloo: Wilfrid Laurier University Press, 2011).

⁶¹ Robertson, “Foreword” to Irvine, *The Ice was All Between Us*, xxii.

the west along the Northwest Passage. “For several years now our crews have been increasingly busy familiarizing themselves with Arctic waterways and the communities that struggle with shifting economies, climate, and human activities,” Newton described. “We have engaged in new partnerships with government agencies that are keen to benefit from the support of the RCN.” The naval refueling port at Nanisivik, Nunavut, ongoing scientific research, and continuing international interest in the circumpolar Arctic all portended an expanding role for the RCN, making the construction of the navy’s new fleet of Arctic Offshore Patrol Ships (AOPS) a “timely development.”⁶²

So far, the keels have been laid for the first two *Harry DeWolf*-class Arctic Offshore Patrol Vessels (the official class designation), currently under construction by Irving Shipbuilding in Halifax. “Trials will begin in 2018 and more routine seasonal deployments will be underway commencing in 2019,” explains Lieutenant-Commander Corey Gleason, the commanding officer of the first ship due for delivering in 2018. “However, there is a great deal of work to do before those deployments can take place.” Along with a small preliminary crew, LCdr Gleason is busy preparing—just as Captain Robertson did in anticipation of *Labrador*’s commissioning in 1954. “It’s truly exciting to have this role as first commanding officer,” LCdr Gleason told reporters. “The first ship in its class is always a lot of work and there’s a long road ahead – about five years between shore office work and the first operational cruise for the lead ship. We get the opportunity to pave the way for everyone else.”⁶³

⁶² Darlene Blakeley, “New Ships Prepare RCN for Expanded Arctic Operations,” *The Lookout* (CFB Esquimalt Navy News), 17 November 2016, <http://www.lookoutnewspaper.com/new-ships-prepare-rcn-expanded-arctic-operations/>.

⁶³ Gleason quoted in Blakeley, “New Ships Prepare RCN.” See also Royal Canadian Navy, “Arctic and Offshore Patrol Ship Project,” <http://www.navy-marine.forces.gc.ca/en/fleet-units/aops-home.page>, and Ryan Dean, “Arctic Offshore Patrol Ships: Adrift in Inflationary Waters,” *Canadian Naval Review* 11/2 (2015): 4-9.

As much as *Harry DeWolf* may pave the way for its sister ships in the coming years, the original path for RCN operations in the Arctic was laid decades ago. Historian Kenneth C. Eyre, who wrote extensively on the Canadian military's efforts to establish a footprint in the Canadian North during the twentieth century, observed in 1987 that "during its brief naval career, *Labrador* ranged far and wide throughout the Arctic, becoming the first warship ever to transit the Northwest Passage. *Labrador* was an anomaly in the anti-submarine navy. In essence, she was yet another symbolic gesture of sovereignty through presence." Eyre draws from the official history, reproduced in this volume, to describe how 1954 "marked the first incursion of a Canadian naval vessel into waters which the US Navy and Coast Guard might well be excused for considering *mare nostrum*." Apart from a few Canadian government supply ships who made annual voyages to the Arctic Archipelago, most ships operating in this area "were those flying the Stars and Stripes." *Labrador's* entrance onto the scene meant that "for the first time Canada had a ship patrolling her northern waters." By 1957, however, the RCN had decided that it had no operational interest in the Arctic, and transferred the icebreaker to Transport. "While Canada may have had a ship patrolling its northern waters, there was no particular imperative that the ship wear naval colours," Eyre noted. "Again, the Navy vanished from the North, not to reappear in any major way until the Trudeau government ordered it back in 1970."⁶⁴

Eyre's tight summary touched on various themes: *Labrador's* place within the RCN, its connection to Canadian sovereignty and continental defence, and the federal government's vacillating interest in an Arctic naval presence. It also references the 1960 official history of the ship which has remained unpublished – until now. By bringing Thorgrímsson and Russell's operational history of HMCS *Labrador* into broader circulation, we seek to contribute to an emerging body of literature that seeks to better understand, disseminate, and promote "lessons learned" from Canada's long history of Arctic operations. We hope that making their overview more accessible to

⁶⁴ Kenneth C. Eyre, "Forty Years of Military Activity in the Canadian North, 1947-87," *Arctic* 40, no. 4 (1987), 295.

readers will help to stimulate additional, in-depth research on HMCS *Labrador's* contributions to Arctic security and science, operational relationships between Canadian naval personnel and their American counterparts, and the RCN's Arctic operations more broadly.

Editors' Note

The document has been reproduced almost verbatim, with some minor grammatical edits. We have retained the original wording in the report to preserve its integrity as an historical document produced at a specific time (1960) and bearing the biases of the era in which it was written. Accordingly, some of the terms used by the authors are no longer preferred usages for people or places. The name "Eskimos" has been replaced by "Inuit" ("the people" in Inuktitut) as the preferred nomenclature. Various locations described in the text have also been renamed. For example, the settlement of Frobisher Bay is now Iqaluit, and Godthab is Nuuk. In other cases, there are Inuktitut names for the locations described in this history that reinforce that the Arctic had not been, and is not, an "uninhabitable wasteland" (as Captain Robertson described it) but instead is the Inuit homeland.⁶⁵

⁶⁵ For the extent of Inuit land use and occupancy at the time of the *Labrador's* operations, see Milton Freeman Research Ltd., *Inuit Land Use and Occupancy Project*, 3 vols. (Ottawa: Department of Indian Affairs and Northern Development, 1976).

HMCS *Labrador*

A History

Naval Historical Section, Naval Headquarters,
Ottawa, Ontario.
30 December 1960.

There were many reasons that led the Royal Canadian Navy (RCN) early in 1948 to begin making plans for the construction of its first Arctic Patrol Vessel. There was a great deal of interest in the Arctic regions at this time, spurred largely by Russian activities in the area. As relations between the Soviet Union and the West progressively worsened in the years following the war, the supreme importance of the entire north polar cap became increasingly obvious, and by 1946 the so-called “Polar Concept” had become one of the chief guiding principles of United States, and to a lesser extent Canadian, grand strategy. High-ranking admirals and generals were beginning to compare the Arctic Ocean with the Mediterranean in the days of the Roman Empire as the “crossroads of the world,” the natural pathway for commercial aircraft in peace and for military planes, rockets, and guided missiles in war.¹

Canada had always maintained a considerable amount of interest in her Arctic possessions,² but the emphasis had not been on their military aspects. Even before the end of the war, however, the Canadian Army had begun to conduct special Arctic training, which culminated in the elaborate Exercise “Muskox” in the winter of 1945-1946. The Royal Canadian Air Force (RCAF) too had shown considerable interest in the Arctic, both as a training ground for cold weather operations and as a site for weather stations. The Royal Canadian Navy was slower than the other services in beginning Arctic studies, and when the United States and Canada set up an all-services Joint Experimental Station at Churchill in 1946, the Navy was not represented. The RCN did not take any part in the large scale USN Arctic Exercise *Nanook* in 1946 nor in the activities of the USN task force sent out to establish weather stations in 1947. As late as May 1947, a

meeting of senior naval officers advised against RCN participation in Arctic operations.³

Shortly afterwards, however, opinion began to change, and research projects were set on foot to determine the type of vessel best suited for naval operations in the far north. The following year RCN ships entered Hudson Bay for the first time, when *Nootka* and *Haida*, accompanied by *Magnificent* as far as Wakeham Bay, paid an operational visit to Churchill, Manitoba. RCN observers were sent on most subsequent USN Arctic expeditions, and in 1949 the frigate HMCS *Swansea* went on a training and research cruise to Frobisher Bay on the east coast of Baffin Island. That same year HMCS *Cedarwood* accompanied the Joint Canadian-United States Aleutian Scientific Expedition and penetrated into the Chuckchi Sea as far as 73° 15' North. By this time plans for the building of an RCN Arctic patrol vessel were well advanced.

The Privy Council had approved the letting of a contract to Marine Industries, Limited, Sorel, P.Q., in January 1949, and in the following month preliminary work began. The design chosen by the RCN experts for the new ship closely followed that of the Wind Class icebreakers of the US Navy and Coast Guard. Particulars of the new Canadian vessel were laid down as:

Length overall	269'
Breadth, extreme	63' 6"
Draught, full load	29' 1"
Displacement, maximum	6,490 tons
Speed, maximum	16 knots.

Her twin screws were driven by six diesel-electric engines delivering a total of 10,500 shaft horse-power. The ship possessed heeling tanks which enabled her to be rocked from side to side, thereby facilitating release when frozen in or closely beset by ice. Three reversible-propeller type pumps literally threw the water from one set of tanks to the other at the rate of approximately 40,000 gallons per minute. As one means of breaking ice is to force the bow of the ship on top of it and break it by sheer weight, a trimming system was also incorporated consisting of water tanks fore and aft. Pumps similar to the one in the heeling system transferred the water to the after tank before the ship charged an ice-floe and then, with the bow resting on the ice, transferred it forward again to give added weight.

The ship was by no means an exact copy of the American icebreakers, for advantage was taken of USN experience to incorporate many improvements. The stem of the Canadian ship, for instance, was given a knife edge instead of the U shape of the American vessels, and the bow propeller fitted in the original Wind Class was omitted. The flight deck was made about half as big again as those fitted in the American ships and could accommodate three helicopters. Another major deviation from the US design was the fitting of retractable Denny-Brown stabilizing fins in an attempt to cut down the excessive roll of the Wind Class ships in rough weather. A great many changes involving accommodation of personnel were also made in order to provide better quarters and more recreational space for the ship's company. Further modifications were necessitated by the fact that the RCN communications and radar requirements were about twice as great as those of the American ships. The ship's first Commanding Officer, Captain O.C.S. Robertson, GM, RD, RCN, was responsible for many of the improvements made in the ship. He spent several months working with USN icebreakers, and his fertile mind conceived improvements and modifications at a rate that almost had the Naval Constructor in Chief wishing the ship had been assigned a less efficient and enthusiastic CO.

Partly as a result of all the improvements made but more because of material and equipment shortages,⁴ construction was slow, and it was not until 15 December 1951 that the ship was launched. Because of the winter weather the launching, necessarily an outdoor affair, was rather informal, and the christening which is usually held at this time was deferred until the following summer. On Saturday, 14 June 1952, Madame St. Laurent, wife of the Prime Minister, pronounced the words that gave CN-1071 her new name, HMCS *Labrador*.⁵

The origin of this name, which honours Canada's newest province, Newfoundland, is not undisputed. Most authorities agree that it is taken from the Portuguese word for farmer or labourer, and this explanation, supported as it is by the Wolfenbuttel Map (circa 1530), appears to be the most likely. The territory called "Tierra del Labrador" on this map is described as "discovered by the people of the town of Bristol, and because he who first sighted land was a labourer from the islands of the Azores it was named after him."⁶ Several other explanations have been suggested, among them the theory that the name derives from the French phrase *le bras d'or*, supposedly applied to a land the early explorers thought abounded in precious minerals.

It was this latter explanation that provided the inspiration for *Labrador's* official badge. The badge depicts a vertical blue band with zigzag edges upon a white field and is meant to represent a path broken through an ice-field. Upon this blue band appears *le bras d'or*, the golden arm, erect, and holding aloft a six-pointed heraldic star. The star represents Polaris, the North Star, which is a symbol both of the Arctic North and of faith and constancy. Upon this star is superimposed the red maple leaf of Canada.

Following the christening ceremony two more years were to elapse before *Labrador* was ready for service. Tardiness in the delivery of certain machinery and equipment orders was the chief reason for the delay. Finally on 8 July 1954, all was ready and, with the exception of a few items which were not immediately required,⁷ the ship was complete. Early in the morning she slipped from the Marine Industry Limited (MIL) jetty at Sorel for final acceptance trials. These were completely successful, and at 1030 Rear-Admiral (E) J.G. Knowlton, OBE, CD, RCN, accepted her on behalf of the Royal Canadian Navy, whereupon she returned to MIL to await commissioning. At 1415 the ship's company, led by a band from *Stadacona*, paraded the White Ensign through the streets of Sorel to the commissioning stand where, at 1530, *Labrador* officially entered upon her short but distinguished career with the RCN. The ceremony was an impressive one, attended by numerous service and civilian dignitaries headed by the Chief of the Naval Staff, Vice-Admiral E.R. Mainguy, OBE, CD, RCN. Following the commissioning a reception was held on board for some seven hundred invited guests.

Labrador has been, and still often is, referred to as an "icebreaker," but she is much more than that. Before she was commissioned her functions had been established as follows:

- a) to carry out patrols in northern waters to provide the Navy with the knowledge and experience required for the planning and conduct of future naval operations;
- b) to perform such icebreaking duties as are found to be necessary during the conduct of naval Arctic operations;
- c) to assist in the logistic support of Canadian Arctic bases where icebreaking is necessary, and to provide limited logistic support to such bases;
- d) to carry out such hydrographic and scientific surveys as are, from time to time, considered desirable by the Navy; and

- e) to perform rescue and limited salvage in Canadian Arctic areas.⁸

This seems a formidable programme, but *Labrador* was to perform all the functions enumerated and many more besides.

The first of the duties listed in the preceding paragraph was undoubtedly the most important: to carry out patrols which would provide the RCN with the knowledge and experience necessary for the planning and conduct of naval operations in the Arctic. For it is surely axiomatic that any strategic use of Canada's Arctic areas, whether defensive or offensive, must depend upon a thorough knowledge of those lands and the seas around them. Before *Labrador* was commissioned the RCN had come to accept this view⁹ and, from that time through to the autumn of 1957, considerable progress was made in collecting this essential information.¹⁰

A long and arduous summer programme had been mapped out for *Labrador*, and after the commissioning no time was wasted in preparing the ship for sea. Early on the morning of 11 July *Labrador* slipped and

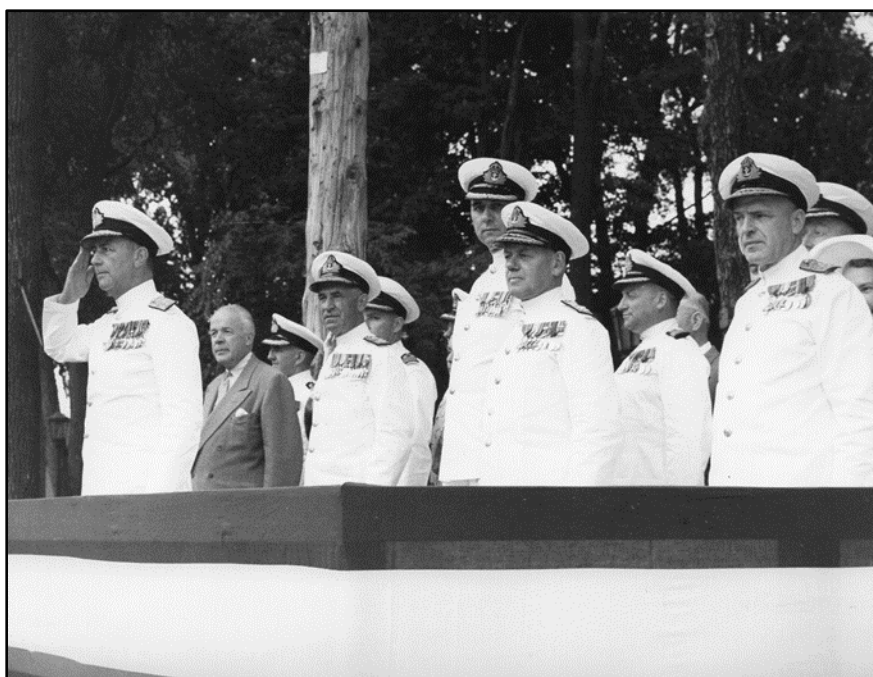


Figure 1. Admiral R. Mainguy takes the salute as the ship's company march past in parade through Sorel during Labrador's commissioning. Also present are OCS Robertson and Admirals Knowlton, Pullen, and Bidwell and Commodores Paul Earl and Baker. Credit: Department of National Defence (DND), Directorate of History and Heritage (DHH), Ottawa.

proceeded down-river towards Halifax. While in the river, two steering gear failures occurred, one while the ship was negotiating the dangerous Richelieu Rapids, but otherwise the passage was uneventful, and *Labrador* arrived safely at Halifax on 14 July.

Only nine days were spent at Halifax in storing ship, making good minor defects, calibrating equipment, and generally readying the ship for what might be considered her maiden voyage, an Arctic cruise expected to take some two and one half months. This involved even more work than is usually necessary when fitting out a naval vessel for an expedition of this kind. *Labrador*, for instance, carried ten civilian¹¹ scientists¹² whose immensely complicated and often bulky equipment had to be set up or stored for later use. Then too *Labrador* had to take on cargo, including eighty tons of coal for the Royal Canadian Mounted Police base at Alexandra Fiord, in addition to the hundreds of tons of supplies and provisions she required for her own use. There were also the usual last-minute items to be taken care of; the ship's thirty-six-foot sounding boat,¹³ for instance, did not arrive until a few hours before sailing. The two HTL-4 (Bell) helicopters had also to receive a final servicing at Shearwater, and they did not rejoin the ship until the day before she sailed.

Finally, on the morning of Friday, 23 July, all was ready. The Flag Officer Atlantic Coast¹⁴ came aboard to bid farewell, and as he was piped ashore the lines were cast off, and the ship set out on her first and, as it turned out, her most famous voyage.

The Canadian Arctic, that vast area to the north towards which *Labrador* shaped course when she left Halifax, is virtually unknown territory to most Canadians – to most people anywhere for that matter. It is difficult even to define its boundaries. Some authorities define the Arctic as that area which lies within the permafrost line; others base its limits upon the length of the growing season, the limits of sea ice, or even the arbitrary line called the Arctic Circle. Perhaps as good a definition as any, for naval purposes, is that which describes the Arctic as the area within which sea navigation is partially or completely impeded by ice during most of the year.

That part of the Arctic with which this narrative is chiefly concerned may be roughly defined as the area lying between the continental land mass of North America and the southern limits of permanent polar ice, bounded on the east by the waters along the western coast of Greenland and on the west by Bering Strait and the Chuckchi Sea. By far the greater part of this area, roughly between 60° and 125° West, is dotted with innumerable

islands, sixteen of which have an area of over 2,000 square miles,¹⁵ and one of which, Baffin Island, is the fifth largest in the world. In the area from 125° West to 169° West (which runs roughly through the centre of Bering Strait), there are few islands worth the name,¹⁶ but that does not mean that this expanse is all open sea. Even in the most favourable seasons the permanent polar ice lies very close – 100 to 150 miles at the most – to the continental coast-line of Alaska and the Yukon.

It was the region of islands, the Canadian Archipelago itself, that was the scene of most of *Labrador's* activities, but it is very difficult to describe except by means of a chart, as it is a veritable maze of islands separated by innumerable gulfs, sounds, bays, inlets, and straits. On a gnomonic projection it appears roughly triangular in shape, with Baffin, Somerset, Prince of Wales, Victoria, and Banks Islands forming the base, and the great mass of Ellesmere Island the apex. The east side of the triangle is made up of the southern projection of Ellesmere, Devon Island, and the northern projection of Baffin. The west side consists of Banks, Prince Patrick, Borden, Ellef Ringnes, Meighen, and Axel Heiberg Islands. The islands in the centre of the archipelago are most of them smaller in size than those



Figure 2. The bridge and fo'c'sle of HMCS Labrador under ice as the ship passed through the Gulf of St. Lawrence. Credit: DND, Directorate of History and Heritage, Ottawa.

along the sides, the chief ones being Melville, Bathurst, and Cornwallis. The intricate system of water-ways which separates these islands is impossible to describe adequately without reference to a chart, except perhaps for one distinctive feature, a more or less direct sea route cutting across the archipelago near its centre. This channel begins with Lancaster Sound on the east between Baffin and Devon Islands, flows through Barrow Strait between Cornwallis and Somerset Islands into Viscount Melville Sound between Melville and Victoria Islands, and opens into the Beaufort Sea through M'Clure Strait and Prince of Wales Strait on either side of Banks Island. The remainder of the Canadian Arctic water system is too complicated for description, and the reader must be referred to the map which is attached as Appendix I.

Upon leaving Halifax on 23 July *Labrador* sailed through the Gulf of St. Lawrence via Cabot Strait and out into the Atlantic through the Strait of Belle Isle.¹⁷ Reaching 55° West the ship altered course and headed due north towards the Arctic Circle. Five days out, at midnight on 27 July, *Labrador* crossed this imaginary line and, appropriately enough, at once encountered the floating mass of sea ice and icebergs known as the Middle Pack.¹⁸ Turning north-west, she skirted the edge of the pack until she had reached approximately 74° North. Here, since the ice appeared to extend for a considerable distance north and west, *Labrador* turned into the pack, setting course directly for Lancaster Sound. The pack was not heavy at this point, of only 4/10 coverage and consisting mainly of rotten ice,¹⁹ yet the ship's company had reason to be proud of the effortless manner in which *Labrador* forged ahead through the first ice she had ever encountered. She was well and truly in the Arctic now; the temperature had dropped; fog was pretty well general, lifting only for short periods;²⁰ floating ice-floes were everywhere. Seals had put in an appearance when the pack was first encountered, and occasionally, when the fog lifted, the slightly ludicrous faces of a herd of walrus might be seen as their owners, sitting stolidly on their floating ice-rafts, turned to watch the ship steam by.²¹

Life on board was beginning to settle down into a routine, though there was still a good deal of work to be done. The ship and her company had not had the opportunity of "working-up" after commissioning, a fact which becomes doubly important when it is recalled that *Labrador* was like no other Canadian naval vessel. Much of her gear was wholly foreign to most of her company; her diesel-electric motors, the Denny-Brown stabilizers, and the heeling and trimming systems, for instance, were items

which very few members of the RCN had ever handled. To add to the difficulties, preparations for the cruise had necessarily been very hurried, and hundreds of tons of stores had to be unpacked, sorted, and re-stowed while the ship was at sea. Fortunately, the ship's company, partly no doubt because of the fine leadership qualities of the Commanding Officer, performed their formidable tasks in a fine spirit of adventure, and *Labrador* seems to have been a happy ship from the moment of her commissioning.

During this Arctic cruise, and indeed throughout *Labrador's* naval career, a ship's newspaper founded a few days out from Halifax by Chaplain Thomas L. Jackson, RCN, played a considerable part in upholding morale in the ship. This publication, though it began as a one-page daily newsletter, soon became much more than that. The ship's company, both officers and men, and members of the civilian scientific staff contributed articles, stories, poetry, and cartoons. The emphasis was on the humorous side of shipboard life, but "Bergy Bits"²² published practically everything, including serious articles on such matters as Arctic wildlife and fish, meteorology, terrestrial magnetism, and various other subjects currently being studied by the ship's scientists.

Making good headway through the open pack, *Labrador* turned west into Lancaster Sound early on 30 July. In the Sound the ice was even more open than in Baffin Bay, and shortly after midnight on the 31st the ship arrived off Resolute²³ on Cornwallis Island.

Labrador's mission at Resolute was to carry out a recharting of Resolute Bay, to take soundings and prepare charts of other points in Lancaster Sound, and to undertake other scientific work in the area. Though hampered by fog and ice, the ship's company and her civilian scientists managed to accomplish a great deal during their four days in Lancaster Sound and Barrow Strait.²⁴ A hydrographic party was put ashore at Resolute to begin the survey of the harbour. Magnetic parties and beacon parties were put ashore at various points on both sides of the Sound, and from the ship herself much oceanographic work was done. Experiments were also conducted on Arctic survival equipment and on cold-water immersion suits.



Figure 3. Charles J. Pilger reading barometric pressure for a weather observation. Credit: DND, Directorate of History and Heritage, Ottawa.

On 4 August *Labrador* set off on her next mission, the re-supply of the most northerly RCMP post in the Arctic at Alexandra Fiord on Ellesmere Island. Sailing east into Baffin Bay again the ship entered Jones Sound through Lady Ann Strait and anchored off Craig Harbour, an RCMP post at the southern tip of Ellesmere. The harbour was blocked with heavy ice, so an RCMP official, Inspector Batty, who had sailed with *Labrador* from Halifax to carry out inspections of posts in the Eastern Arctic, was put ashore by helicopter along with the ship's magnetic party. *Labrador* spent the day in carrying out soundings and gathering oceanographic data at the mouth of Jones Sound, but the following day Craig Harbour was still ice-bound. The ship could wait no longer, and Inspector Batty and the magnetic party were brought aboard by helicopter. An Eskimo employed by the RCMP, Special Constable Ariak, his wife, four children, seventeen dogs, and the family's entire possessions were embarked in a small Eskimo boat, making use of a narrow lead at the southern extremity of the harbour, for the passage to Alexandra Fiord.

The passage north was relatively uneventful – uneventful, that is, for everyone except the Chief Petty Officer who had charge of Constable Ariak's seventeen Eskimo dogs. Fairly heavy ice was encountered in Smith Sound, but *Labrador* had little difficulty in making her way through. Soundings were taken and oceanographic work carried out en route in Glacier Strait, Smith Sound, Kane Basin, and Buchanan Bay on which the Alexandra Fiord post is located. *Labrador* arrived at her destination on 8 August; Constable Ariak and his family were landed, and work began at once to discharge the post's annual stores which *Labrador* had brought from Halifax. This task was greatly complicated by the shallowness and general unsuitability of the beach for unloading operations by landing craft, as well as by high winds and ice. It is typical of the ship's company that this wearisome chore was treated as a game. For the unloading of the last fifteen tons of coal a contest was organized between a team of officers and a team of Chief Petty Officers. The latter won the unloading race by a scant thirty seconds and were rewarded by the Commanding Officer with a battered old porcelain mug and an ancient tin plate donated, if one may believe the inscription, by the Ellesmere Island Jockey Club. During one lull in the unloading operations, resulting from high winds and heavy ice, *Labrador* stood out into Buchanan Bay to pay a visit to the US Coast Guard Ship *Eastwind*,²⁵ who was performing scientific duties there. *Labrador* came alongside, and officers and men of both ships exchanged visits.

When unloading had been completed at Alexandra Fiord, *Labrador* proceeded into Kane Basin to 79° North to conduct trials with the Admiralty gyro-magnetic compass, returning thereafter to Craig Harbour to deliver a coal stove which had been carried to Alexandra Fiord by mistake in the preceding year. On the passage back to Resolute oceanographic studies were carried out in the so-called North Water area at the head of Baffin Bay.²⁶

When *Labrador* arrived back to Resolute early on 15 August, she found there the ships of the Department of Transport²⁷ Arctic re-supply force: CGS *D'Iberville* at anchor outside and *C.D. Howe*, *N.B. Maclean*, *Grander Bay*, and *Maruba* inside the bay. The hydrographic party which had been landed during the first visit had finished triangulating the harbour and was carrying out soundings in a borrowed boat when *Labrador* returned. During the next three days the ship's two motor cutters and thirty-six-foot sounding boat completed the task of surveying the harbour and its approaches. *Labrador* herself, meantime, was not inactive. Gyro-magnetic

compass trials were carried out, oceanographic stations were occupied out in the Sound and soundings taken. On the 17th a magnetic party was landed at Erebus Bay, in which lies Beechey Island where Sir John Franklin and his party wintered in 1845-1846 during his third and fatal Arctic expedition. Three of his more fortunate seamen, who died a natural death and did not perish of starvation as did so many of their companions, lie in a little cemetery on Beechey Island. *Labrador's* party visited the island, took numerous photographs, and collected several relics,²⁸ which are now in the possession of the Maritime Museum of Canada in Halifax.

The survey of Resolute Bay and its approaches was fully complete by the 18th, but *Labrador* remained in the area, using Resolute as a headquarters, while she continued taking soundings and carrying out scientific work. An attempt to perform hydrographic and oceanographic work in Peel Sound, between Somerset and Prince of Wales Islands, was defeated by heavy ice under extreme pressure. It was while the ship was returning to Resolute from this abortive expedition that news arrived that a vessel called the *Monte Carlo* was in distress.

The *Monte Carlo* was a seventy-eight-foot Boston dragger, privately chartered, carrying a small company of civilian scientists and manned largely by college youths. The expedition was conducting studies in terrestrial magnetism and collecting specimens for the American Museum of Natural History. Captain Robertson had met the members of this party in Halifax before *Labrador* sailed, and when it was reported that *Monte Carlo* was beset by ice in Baring Channel,²⁹ he went at once to her aid. The ice in Baring Channel is generally very heavy – *Monte Carlo* is, in fact, the first vessel known to have entered the Channel – but *Labrador* experienced little difficulty in extricating the distressed vessel, except that fog and the limited range of the helicopters caused a delay in locating her. *Labrador* took *Monte Carlo* in tow late on the 21st, and brought her out of the heavy ice. When the open pack was reached, the tow was slipped, and the dragger followed *Labrador* north to open water. The ships were clear of the ice by the evening of the 22nd; *Monte Carlo* was supplied with food, water, and fuel and advised to leave Lancaster Sound as soon as possible, as *Labrador* was leaving the area and would not be available for a second rescue mission. Apparently the warning was heeded, for *Monte Carlo* returned safely to Boston.

When her rescue mission had been completed, *Labrador* returned to Resolute to land mail and pick up stores. Course was then set westward into Viscount Melville Sound towards Dealy Island, where a rendezvous had

been arranged with ships of the joint US-Canadian Beaufort Sea Expedition.³⁰ *Labrador's* original programme for the summer of 1954 had intentionally been left rather vague, since her movements in the Arctic would necessarily depend on the ice conditions encountered. On 15 August, however, Captain Robertson informed Naval Headquarters that it probably would be possible to contact the Beaufort Sea Expedition, and on the 18th a message from Headquarters authorized him to do so. *Labrador* was to operate in company with, but not become a part of, the expedition, and a decision was not taken as to the withdrawal route to be followed. It was hoped that *Labrador* would be able to navigate the Northwest Passage, but no firm decision was taken, nor any advance publicity permitted, until it had become certain that she would be successful.³¹

The westward passage through Melville Sound was slow, as the ship was impeded by fog and heavy ice under considerable pressure.³² A circuitous route was followed to avoid the worst of the ice, skirting the southern tip of Byam Martin Island and following the coast-line of Melville as far as Dealy Island. Oceanographic and hydrographic stations were occupied at several points en route.

On the morning of the 25th *Labrador* arrived off Dealy Island, where USS *Burton Island* lay at anchor in a polynya.³³ A magnetic party was put ashore on the island³⁴ by helicopter, while Captain Robertson and Dr. Rose, Chief Scientist, went aboard *Burton Island* to work out plans for the co-operation of *Labrador* with the Beaufort Sea Expedition. As this was the first time a naval vessel from the Atlantic had met one from the Pacific in Arctic waters, the occasion was celebrated by a dinner party on board *Labrador* at which the ship's officers played host to the Commanding Officer and some of the senior officers and scientists from *Burton Island*. Soon, fog settled in, and the latter were confined aboard *Labrador* until noon the following day. A helicopter then returned them to their ship and picked up the shore magnetic party, whereupon *Labrador* weighed anchor and set course across Viscount Melville Sound to rendezvous with the second ship of the Beaufort Sea Expedition, USCGS *Northwind*. The latter was acting as a fixed transmitting station for hydrographic survey work and lay at anchor in Richard Collinson Inlet on the north shore of Victoria Island.

There was a certain amount of suppressed excitement aboard *Labrador* as she turned south to enter the heavy ice of Viscount Melville Sound, for the decision had now been made to allow her to accompany the Beaufort Sea Expedition into the Pacific.³⁵ To the *Labrador* this was an

important decision. Should she succeed in reaching the Pacific, she would become the first naval vessel, and indeed the first large ship of any description, to complete the Northwest Passage. Perhaps more important, she would become the first large ship to complete the Passage in one season.



Figure 4. Burton Island in Arctic ice. Credit: Burton Island Association.

The Northwest Passage across the top of the North American continent, providing a short, direct sea route to the riches of Cathay, was the bait which, for centuries, lured explorers into risking their lives in the ice-filled waters of the Canadian Arctic. As soon as it became obvious that North America was a continent, barring any direct sea route to the Far East, a Northwest Passage became the best hope of the English, the French and, later, the Dutch, to reach the fabled East and begin to reap the riches then being gathered by Spain and Portugal in the Americas, India, and the Spice Islands.

The theory that the shortest way to reach the East was to sail west led to the voyages of John Cabot in 1497, of the Cortereal brothers in 1500 and 1501, and of Jacques Cartier in 1534, but the first expedition organized solely for the purpose of finding a Northwest Passage was that of Martin Frobisher in 1576. Though he had proved to his backers “that such a passage was as plausible as the English Channel,” he was unable to find it in three attempts, and his patron, the Cathay Company, went bankrupt. The English were not discouraged and in 1585 the Northwest Company, which had been chartered the year before, sent John Davis out on the first of his three voyages. Davis found no Passage, but his explorations added considerably to geographers’ knowledge of the eastern Arctic. He skirted the western shores of Greenland beyond 72° North, deep into Baffin Bay. He followed the eastern shores of Baffin Island, partially exploring Cumberland Sound and Frobisher Bay, noting the “mighty overfall, with divers circular motions like whirlpools” which is Hudson Strait.

Exploration took a back seat while England fought the Anglo-Spanish War, but early in the 17th century the search for the Northwest Passage began again with the voyages of Hudson, Baffin,³⁶ Weymouth, and Knight. Hudson's expedition of 1610, penetrating Hudson Strait and following the east shore of Hudson Bay down to James Bay, was a false lead as far as the Northwest Passage was concerned. Many abortive expeditions were to follow his route, including those of Button in 1612, Baffin in 1615 and 1616, James in 1631-1632, and Foxe in the same years. It was Baffin in his voyage of 1616 that made the greatest contribution to the search for the Passage; his work was not to be equalled until Edward Parry began his explorations over two hundred years later. Baffin sailed north into the bay which bears his name, as far as Smith Sound, beyond 78° North, and on his return journey noted the existence of Jones Sound and that all-important Lancaster Sound, the entrance to the Northwest Passage.

For some two hundred years thereafter, exploration in the Arctic was virtually abandoned,³⁷ and it was not until after the defeat of Napoleon that Great Britain again renewed her attack on the North. The first major expedition,³⁸ that of 1818, led by Captain John Ross, RN, did little more than confirm Baffin's discoveries, though it did penetrate Lancaster Sound some fifty miles. Ross' expedition was accounted a dismal failure in England, and the man who had been his second-in-command, Captain (later Sir) Edward Parry, RN, probably the greatest explorer of the century, was chosen to continue the Admiralty's explorations in the north.

On his first expedition, in 1819, Parry made for Lancaster Sound and sailed west with HM Ships *Hecla* and *Griper*. He was on the right path, for Lancaster Sound, Barrow Strait, and Viscount Melville Sound, via both Prince of Wales Strait and M'Clure Strait, into the Beaufort Sea. But there were many false pathways leading from this broad avenue to lure the explorer astray. At the very entrance to Lancaster Sound there was Navy Board Inlet leading south, and a few miles further west another cul-de-sac, the long narrow Admiralty Inlet. West of Baffin Island, between it and Somerset Island, lies Prince Regent Inlet, which would lead him hundreds of miles south into another dead end, unless he happened to sight the very narrow Bellot Strait separating Somerset Island and Boothia Peninsula. Further west there was Peel Sound, between Somerset and Prince of Wales Islands, and M'Clintock Channel, between the latter and Victoria Island. All these false leads ran south, but there were others to the north: Wellington Channel, MacDougall Bay, Austin Channel, and Byam Channel.

Parry avoided most of these pitfalls as he made his way westward. Ice in Lancaster Sound forced him to make a short foray into Prince Regent Inlet, but there was ice there too, and he retraced his tracks into the Sound. By September he had passed the 110th meridian and was in sight of McClure Strait. Had ice conditions been more favourable, he could have sailed straight through into the Beaufort and very probably have completed the Passage before winter set in. As it was, the Strait was impenetrable, and Parry had to put into a bay on the southern shore of Melville Island, which he called Winter Harbour, and there wait for spring. It was August 1820 before the ships were free of the ice in Winter Harbour, but this year too McClure Strait was icebound. Parry could not continue westward, so he turned and sailed for home. He did not, unfortunately, come within sight of Prince of Wales Strait, a route which offered the best chance of reaching the Beaufort.

Parry was convinced that the strait he had sighted could not be forced, so on his next expedition he decided to try a more southerly route, through Hudson Strait. He had guessed wrongly this time, but once again Parry proved his brilliance as an explorer. In two seasons he explored the east coast of Melville Peninsula and penetrated the western outlet to Foxe Basin, which he named Fury and Hecla Strait after his ships. On his third expedition, in 1824, he intended to sail via Lancaster Sound again, but this time to turn south into Prince Regent Inlet and reach the western end of Fury and Hecla Strait. From there he believed he could sail westward into the Beaufort. The year 1824 happened to be most unfavourable, with very heavy ice conditions, and Parry was forced to winter on the east shore of Prince Regent Inlet. The following year was no better; *Fury* was nipped by the ice and had to be abandoned. Parry took her company aboard *Hecla* and sailed for home. The ice that had slowed Parry down in 1824 defeated another expedition, that of Captain George F. Lyon, RN, in Parry's old ship, the *Griper*, and she barely managed to make her way home.

With the failure of Lyon and Parry in 1824-1825, the Admiralty lost interest in Arctic exploration for a time, and the next expedition was outfitted by Mr. Felix Booth, Sheriff of London, in 1829. He provided Captain Sir John Ross and his nephew, Commander James Clark Ross, RN, with the SS *Victory*, a combination sailing vessel and paddle steamer.³⁹ Ross took Parry's route of 1824, via Lancaster Sound and Prince Regent Inlet. He followed the coastline of Somerset Island and Boothia Peninsula down to what is now Lord Mayor Bay. Unfortunately, he missed the one waterway

through to the west, Bellot Strait, which he took to be a bay. Ross spent four winters in the Arctic, during which his nephew James Clark Ross located the North Magnetic Pole and explored much of the surrounding land on foot. The *Victory* eventually had to be abandoned, and Ross' party was rescued by the whaler *Isabella*.

While Parry and Ross were exploring these seas, efforts were also being made to explore the land on foot. Captain John Franklin, RN, and Dr. John Richardson in 1819-1822 explored the coast of the mainland from the mouth of the Coppermine to Point Turnagain. In a second expedition, 1825-1827, Franklin charted 347 miles of coast-line west from the mouth of the Mackenzie, while his companions, Richardson and Kendall, charted the shore-line from the mouth of the Mackenzie to the mouth of the Coppermine. In 1833, Commander George Back, RN, explored the Back, or as he called it, the Great Fish River. From 1837-1839, Thomas Simpson and Peter Dease of the Hudson's Bay Company completed the charting of the coast-line from the Mackenzie to Point Barrow and from Point Turnagain to the mouth of the Back. To complete the charting of the entire northern coast-line of North America there remained only the stretch from the mouth of the Back to the northern tip of Boothia Peninsula and this was completed by another Hudson's Bay man, Dr. John Rae, in 1846 and 1847.

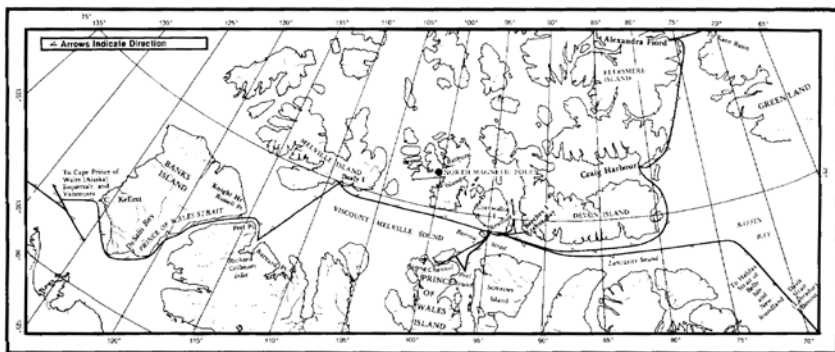
Before Rae set out, the expedition which was to have a greater influence on Arctic exploration than any before or since had already sailed. Captain Sir John Franklin, with HM ships *Erebus* and *Terror*, had left England in May 1845. The ships were beset in the summer of 1846 to the north of King William Island and never got out. Franklin died in 1847, and in the spring of the following year the remnants of his party perished from starvation and exposure. Franklin's expedition had failed, but by its failure it inspired a search which in twelve years resulted in the charting of much of the Canadian Arctic Archipelago and the discovery of the Northwest Passage. Over forty expeditions were sent in search of Franklin and his men, far too many to recount here.

One of the most important was that of Captain Robert McClure, RN, in 1850-1854. McClure sailed eastward from Bering Strait, through Prince of Wales Strait into Melville Sound, and was within sixty miles of Barrow Strait when ice forced him back. Had he made the sixty miles he could easily have completed the Northwest Passage. As it was, he turned back and was eventually frozen in at the Bay of Mercy,⁴⁰ and there had to abandon the *Investigator*. Early in 1853, he and his party were found there

by Lieutenant Bedford Pim, RN, of the *Resolute*, one of the ships of the Belcher Expedition. M'Clure and his men walked across the ice to Dealy Island, and from there to Beechey Island, where they were taken on board the *Phoenix* and the *North Star* and returned to England. They had completed the Northwest Passage. Admittedly part of the journey had been made on foot across the ice, but at least they had proved the existence of a water-way across the top of North America.

Many wonderful stories might be told of the Franklin search: stories of great feats of endurance, terrible events, starvation, disaster and death, for all the expeditions contributed something to man's knowledge of the Canadian Arctic. But they are so many that one cannot begin to recount them. It was Dr. John Rae of the Hudson's Bay Company who, in 1853-1854, found the first definite evidence that Franklin and all his men had perished. Captain Leopold M'Clintock, RN, in Lady Franklin's steam yacht, *Fox*, filled in the missing parts of the story during his expedition of 1857-1859, and the Franklin search was over.

Almost the entire southern half of the Canadian Arctic Archipelago had now been charted, but many years were to elapse before a ship successfully negotiated the Northwest Passage. It was in 1903 that Roald Amundsen set out from Christiania, Norway towards the Arctic. He sailed through Lancaster Sound and then, instead of taking the obvious route straight west, turned south into Peel Strait between Prince of Wales and Somerset Islands. Hugging the western coast of Somerset and Boothia



Northwest Passage Transit, HMCS Labrador: 23 July-20 September 1954

Figure 5. Map of HMCS Labrador's 1954 transit. From: J.M. Leeming, "HMCS Labrador and the Canadian Arctic" In *RCN in Retrospect*, ed. James A. Boutilier (Vancouver: University of British Columbia Press, 1982)

Peninsula, he sailed south, turning west when he had rounded King William Island. For the remainder of his voyage he followed fairly closely the northern coast-line of the mainland. On 31 August 1906, he dropped anchor in the harbour at Nome, Alaska. His little forty-seven-ton fishing vessel, the *Gjoa*, had succeeded where hundreds of others had failed.

Not for over thirty years was the Northwest Passage attempted again. In 1940-1942, Sergeant Henry Larsen, RCMP, in the eighty-ton schooner *St. Roch*, navigated it from west to east, closely following, in reverse, the route taken by Amundsen, except that instead of entering Lancaster Sound through Peel Sound, he sailed through Bellot Strait and entered it from Prince Regent Inlet. Two years later, in 1944, the *St. Roch* navigated the Passage again, this time from east to west. Following the route taken by Parry in 1819, she sailed west through Lancaster Sound, Barrow Strait, and Melville Sound. Unlike Parry, who had tried to force M'Clure Strait, the *St. Roch* turned southward and entered the Beaufort Sea through Prince of Wales Strait, completing the Passage in one season. The Northwest Passage had, therefore, been negotiated three times when *Labrador* began, late in August 1954, to make her way westward.

Labrador and *Burton Island* left the vicinity of Dealy Island on the 26th, setting course southwest across Viscount Melville Sound towards Richard Collinson Inlet, where the USCGS *Northwind* lay at anchor. The ice was very heavy in the Sound, as was to be expected, for some of the most difficult ice conditions in the Archipelago are to be found at the junction of M'Clure Strait and Melville Sound.⁴¹ It took more than two days to cross the Sound. Scientific work took up some of the time, but the chief reason for the slow passage was the ice, which was under heavy pressure, and the fog, which hindered the efforts of the helicopters to lead the ships through it.

It was early on 29 August before *Labrador* and *Burton Island* arrived in Richard Collinson Inlet, on the north shore of Victoria Island, where *Northwind* lay at anchor. The three Commanding Officers and the three Chief Scientists held a conference aboard *Northwind* to discuss their plans for the next few days.

For the remainder of the month *Labrador* was extremely busy. She set up day-mark beacons on Barnard Point, Victoria Island, and on Russell Point on Banks Island. Oceanographic stations were occupied in the eastern end of Prince of Wales Strait, and magnetic parties were landed at several points. On 30 August *Labrador* made a quick dash twenty miles down

Prince of Wales Strait to pick up a party from the Dominion Hydrographic Office,⁴² which had been conducting a survey of the Banks Island side of the strait. The party's vehicles⁴³ had broken down and it was unable to continue the survey, so *Labrador* picked up its members and returned to Russell Point.

The following day, however, *Labrador* returned with the hydrographic party to the point where she had picked it up, and the survey was continued, with helicopters taking the place of the abandoned "weasels." This proved to be a most successful operation, and in four days the hydrographers surveyed forty-five miles of coast-line. Using the "weasels," it had taken them eighteen days to survey fifteen miles.

The survey was interrupted on the first day when a Lancaster from Resolute arrived with mail and some spare parts which had been requested. The RCAF had retained this aircraft at Resolute for the express purpose of providing a mail drop for *Labrador*, and this action was much appreciated by the entire ship's company.

After retrieving the air drop *Labrador* anchored, planning to lay to for the night. Shortly before midnight, however, a message arrived from



Figure 6. Flight deck crew warming up a Bell helicopter with a Herman Nelson heater. Credit: DND, Directorate of History and Heritage, Ottawa.

Northwind saying she was having difficulty in the ice off Peel Point. A few moments later an “Operational Immediate” message asked for assistance. *Labrador* and *Burton Island* both set out to rescue their companion. Progress was slow through the ice, and when it became light enough, the helicopters were sent to contact *Northwind*. The helicopter pilots located the ship and reported that she was in no danger, so *Labrador* lay to while the helicopters led her out into the open pack. This was accomplished by 1745 that day, 1 September, and *Labrador* returned to Prince of Wales Strait to continue the interrupted survey.

For the next four days the survey continued, with the helicopters being used to transport and set up beacons and move the surveyors and their equipment from one beacon to the next. *Labrador* in the meantime continued her other scientific work, occupying oceanographic stations and taking soundings in Prince of Wales Strait. On the 1st, the helicopters flew to the vicinity of Knight Harbour, on Banks Island a few miles from the eastern end of the Strait, to look for a cache left there by Canadian explorer Vilhjalmur Stefansson when he explored Banks Island during the Canadian Arctic Expedition of 1912-1918. The cache was still there, and the pilot recovered, among other items, a large wooden sledge, a small anchor, and a magnetic compass. These relics were later turned over to the National Museum of Canada.⁴⁴

On the morning of 5 September the weather deteriorated and fog and rain prevented the helicopter survey party from continuing its work. Ice conditions in the Strait were also worsening, and it was considered prudent to move out into the more open waters of Amundsen Gulf. When the ships were clear of the ice, *Northwind* and *Burton Island* came alongside and transferred microwave gear to *Labrador* for later use in carrying out soundings. The three then continued in company out of the Strait, separating on the morning of the 6th to go about their respective tasks. *Labrador* sailed northwestward towards De Salis Bay on the south coast of Banks Island, carrying out oceanographic studies en route. The ship then remained there for four days, landing a “survival team” to test Arctic clothing and equipment and another party to make magnetic observations. Microwave stations were also set up to assist *Labrador* in making soundings out in the Bay. On the 7th, one of the LCVPs⁴⁵ engaged in taking off the survival and magnetic parties was caught in heavy surf and washed up on the beach. There were no casualties, but not until the morning of the 10th did the wind abate sufficiently for the salvage party to recover the boat.



Figure 7. Taking salt water samples in the Gulf of St. Lawrence. Credit: DND, Directorate of History and Heritage, Ottawa.

When the LCVP had been brought on board, *Labrador* sailed for Cape Kellett, the most westerly tip of Banks Island. For the next eleven days she cooperated with the two US ships in taking soundings and carrying out bathymetric surveys in Amundsen Gulf and the Beaufort Sea in the area between Banks Island and Cape Halkett on the Alaskan coast. In addition to helping the Beaufort Sea Expedition in this work, *Labrador* continued her own scientific duties in oceanography and hydrography and in experimenting with the Admiralty Gyro Magnetic (AGM) compass. Her last

scientific duty was, in fact, an AGM trial carried out off Cape Lisburne on the 19th before she made for Cape Prince of Wales in the Bering Strait. She arrived there on 21 September and made contact with *Burton Island* which had arrived shortly before. Several members of the Beaufort Sea Expedition who had been on board *Labrador* were transferred back to *Burton Island*.

After abandoning attempts to carry out studies of ocean currents in Bering Strait because of heavy weather, *Labrador* lay to for the night. In the morning, the Medical Officer reported that Chief Petty Officer C.S. MacArthur, who had been ill for the past three weeks, was now in serious condition. It was decided to leave immediately for Esquimalt in order to get him to a hospital. All scientific work was abandoned, except the cosmic ray studies, which could be carried out while the ship was travelling at top speed; all six engines were brought on the line and the ship headed south.

For over five days *Labrador* steamed southward, the Medical Officer, his staff, and volunteers from the ship's company working day and night in an effort to save the life of CPO MacArthur. An amazingly complicated

oxygen tent apparatus, capable of utilizing the commercial oxygen meant for the ship's oxy-acetylene welders, was put together from bits and pieces of equipment found on board. Blood transfusions, the improvised oxygen tent, and around the clock nursing succeeded, and the patient was alive and as well as could be expected when *Labrador* arrived at Esquimalt on the evening of 27 September. He was immediately taken to hospital, but owing to the nature of his illness it was impossible to save his life, and he died ten days later.

When *Labrador* arrived at Esquimalt there were some seventeen press representatives waiting on the jetty, for the *Labrador* was now "big news." Not only was she the first ship to complete the Northwest Passage since *St. Roch's* historic voyage of 1944, but she was the first naval ship, and indeed the first large ship, ever to do so. The completion of the Passage was, per se, of relatively minor importance, but it was this feature that caught the eye of the press and consequently of the public. For as long as *Labrador* remained at Esquimalt reporters swarmed over the ship snapping photographs and conducting interviews.

But as the ship's company and scientists were well aware, it was not the fact that *Labrador* had completed the Passage, but the work performed while she was doing so that made her 1954 summer cruise an immensely important one. For a great deal of work had been done during *Labrador's* maiden voyage. The ship's boats had run 265 miles of soundings in Resolute Bay and Alexandra Fiord, and *Labrador* herself had completed some 7,280 miles of reconnaissance survey. Her oceanographers had occupied ninety-six stations, lowered bathythermographs 370 times, made 183 plankton hauls, and taken 1,050 salinity samples. Ten magnetic positions were occupied for periods of from six hours to three days. The meteorologists took 1,320 weather observations, sending up 115 weather balloons, and transmitting 440 weather forecasts to outside centres as far afield as Washington, D.C. Fifteen trials were held to test the Admiralty Gyro Magnetic compass, and a great deal of valuable data, which would otherwise have been very difficult to collect, was thereby obtained. Much the same might be said of the important cosmic ray studies which were carried out throughout the voyage.

It is possible to put down in facts and figures some of the work done by the scientific personnel in *Labrador*, but other equally valuable results of the cruise are most difficult to assess. Its value from the point of view of training RCN personnel in northern operations certainly cannot be overlooked. The summer cruise of the *Labrador* was the first truly Arctic

cruise undertaken by an RCN ship in peacetime.⁴⁶ It provided an opportunity not only to train personnel but also to test a variety of machinery and equipment under Arctic conditions.⁴⁷ Another feature of *Labrador's* cruise should also not be overlooked, which is that it marked the first incursion of a Canadian naval vessel into waters which the US Navy and Coast Guard might well be excused for considering *mare nostrum*. For a good many years, particularly since the establishment of the joint US-Canadian weather stations in 1947, the only ships seen in the waters of the Canadian Archipelago, apart from a few government supply ships, were those flying the Stars and Stripes. In 1954, for the first time, Canada had a ship patrolling her northern waters which was the equal, if not the superior, of any US ship in the area.

Labrador remained at Esquimalt until 12 October. The Commanding Officer, Executive Officer, and other members of the ship's company were kept busy giving talks and lectures to various interested groups in the area, entertaining the many visitors who wished to see the ship, and fending off reporters eager for stories of man-eating polar bears. In spite of all these distractions, a certain amount of work was accomplished on board. A good deal of back maintenance work was caught up and, with Dockyard help, most of the ship was given a coat of paint.

Labrador sailed for Vancouver on the morning of 12 October, and arrived there that same day. Off Point Atkinson she made contact with the RCMP Schooner *St. Roch*, still under her famous commander,



Figure 8. *St. Roch* and HMCS *Labrador* at dock in Vancouver, 1954. Credit: City of Vancouver Archives, CVA 447-5625, photographer Walter E. Frost.

Superintendent Larsen, and escorted her to Vancouver on what was to be her last voyage. At Vancouver, as at Esquimalt, a great deal of interest was taken in the *Labrador*. Receptions and other entertainments were the order of the day. One of the most pleasant, and certainly the most fitting, duty which Captain Robertson and his Executive Officer, Commander Leeming, were called upon to do, was to attend the ceremony at which the *St. Roch* was transferred to the ownership of the city of Vancouver.⁴⁸ Most of the ship's company were given short leave, a privilege that was eagerly sought after, especially by the young, unattached members, for because of the wide publicity given the *Labrador* they seem to have suffered rather from a surfeit than a shortage of feminine companionship.

The busy routine of entertaining and being entertained put a considerable strain on the mental and physical processes (particularly the digestive processes) of the senior officers in *Labrador*, and her departure from Vancouver on 16 October was not entirely unwelcome.⁴⁹ An uneventful passage of three days brought the ship to San Francisco. A three-day stop-over at this port was not nearly so hectic as the visits to Vancouver and Esquimalt had been. For one thing, *Labrador's* visit was an operational one, and therefore the usual official calls on US civilian and service authorities were not made. For another, the local press had given very little publicity to the *Labrador* and her famous cruise, and there was little civilian interest shown. The US naval authorities were, as always, very helpful and assisted *Labrador* in securing urgently needed spare parts and in undertaking certain minor repairs. *Labrador* repaid this hospitality when an appeal was made for blood donors; following a good old service custom, "35 volunteers were *selected* from the ship."⁵⁰

San Francisco was left behind on the 22nd and course set for Balboa in the Panama Canal Zone. The weather was abominably hot and humid, and it proved necessary to rig hammocks and cots on the quarter-deck and boat deck so that those below could get some rest. The ship reached Balboa on 2 November, passed through the Canal three days later, and arrived at the next port-of-call: St. George's, Grenada in the Windward Islands on 10 November. Upon arrival, it was found that a most extensive entertainment programme had been prepared for the ship's company, but as the main purpose of the visit was to paint the ship, most of the invitations had to be refused. As it turned out, even the curtailed programme arranged had to be cut short, for on the morning of the 12th it was discovered that the starboard motor room had been flooded with salt water owing to a broken plug in one

of the booster-pump lines. To save the motor, dockyard assistance was required, so after emergency repairs had been made *Labrador* set course for Halifax.

On passage north everything possible was done to flush and dry out the motor and other electrical gear, which had been immersed in the salt water. This remedial action was fairly successful and considerably reduced the amount of damage suffered from the flooding. The passage from Grenada was uneventful and on 21 November *Labrador* arrived at Halifax, thus becoming the second ship in history to circumnavigate the North American continent.⁵¹

Upon arrival in Halifax, the busy social round began again for the senior officers in *Labrador*. Invitations to attend receptions and banquets, to give informal talks, and to deliver formal lectures poured in. Heaps of congratulatory messages and letters arrived to be added to the many received at Esquimalt and Vancouver.⁵² Answering all the letters was a heavy chore, but every communication was acknowledged, though some of them had indisputably to be assigned to the “crackpot” category.

The Commanding Officer left the ship on 4 December on what may best be described as duty leave, since it was interspersed with many speaking engagements and conferences. The brunt of the lecturing in and around Halifax fell consequently on his Executive Officer, Commander Leeming. Practically every organization in Canada seems to have wanted to hear about the now famous cruise of the *Labrador*, and most of the senior officers aboard took some part in the Navy’s attempt to fulfil this desire.

Labrador went in for refit on 26 January at Halifax Shipyards, Ltd. She was to undergo not only a thorough overhaul but also an extensive programme of additions and alterations. The experience gained during her long summer cruise had suggested a good many improvements that might make the ship more efficient, in fact the defects and alterations and additions lists ran to over three hundred items. All this took time, and it was 8 May 1955, before *Labrador* left Halifax Shipyards. Owing to this delay it was necessary to cancel an ice survey operation in the Gulf of St. Lawrence, which had been planned for early 1955.

During the winter, plans were drawn up for *Labrador*’s 1955 summer programme. At first it was planned that this programme would be similar to that of 1954, but early in the New Year it became clear that other, more urgent, commitments would make this impossible. Late in 1953 the Canadian and American governments had agreed to build a radar warning

line in the far north to supplement the Pinetree Line and the Mid-Canada Line.⁵³ During 1954, the preliminary work on the Distant Early Warning (DEW) Line had been completed, and it was planned to deliver the building and maintenance supplies for all the stations during the following summer. Two naval task forces, one from the Atlantic and the other from the Pacific, were to carry the bulk of the required material, much of the remainder being shipped by road, rail, and air to the mouth of the Mackenzie and to Frobisher Bay. Early in January a request was received from the Chief of Naval Operations, USN, for the assistance of *Labrador* in the Eastern Arctic sea-lift and was at once approved. After a series of conferences with the US naval authorities concerned, it was decided that *Labrador* would perform all the initial survey work required and would take over-all control of operations in the Foxe Basin area. This was to be her primary commitment in the summer of 1955, though scientific work would be carried on as well when circumstances permitted.

Labrador's long refit was finally completed by 8 May. Owing to the need for haste the previous year, *Labrador* had never undergone her first-of-class trials, and these were now to be carried out. Storing ship, which had been in progress during the refit, was completed. Numerous scientists and technicians who were to perform tests and experiments during the trials came on board and "erected pulpits on the fo'c'sle and podiums on the quarter-deck to support impressive looking gadgetry."⁵⁴

On 14 May all was ready, and the ship sailed for the Maine coast to conduct the trials. Except for the usual minor incidents *Labrador* came through her trials with flying colours and by 25 May was back at Halifax. The remainder of the month was taken up with final preparations for the Arctic cruise: last minute storing, embarking the scientists and their gear, installing newly received equipment, and tidying up the ship. Because of the experience gained in the previous summer, and because a different programme was planned for 1955, several changes and additions had been made. *Labrador* now carried an Underwater Demolition Unit⁵⁵ to assist in beach survey work and an underwater television camera to make the work of that Unit easier. To the two (HTL) Bell helicopters carried in 1954 a third had been added, a HUP-3 (Piasecki), which could carry a heavier load than the HTL. *Labrador's* primary concern in 1955 was to be the DEW Line sea-lift, but eleven civilian scientists and two civilian technicians were also carried.



Figure 9. A HUP helicopter aboard the Labrador. Credit: DND, Directorate of History and Heritage, Ottawa.

On 1 June, 1955, *Labrador* sailed on summer operations. As in 1954 preparations had been rushed, and the final draft only embarked at the last moment, after the brow had been landed and most of the lines cast off. Immediately upon leaving Halifax, *Labrador* ran into fog which persisted for several days. Entering the Gulf through Cabot Strait the ship made for the Strait of Belle Isle, where oceanographic and hydrographic work was to begin. On the morning of the 5th, however, course had to be reversed in order to land the Commanding Officer and Staff Officer at Stephenville, Newfoundland. They had been called to Washington to discuss DEW Line sea-lift problems with the Commander Task Force 6, the US naval group responsible for this operation. While her commander was absent *Labrador* continued with scientific projects in the Belle Isle area, heading south again to pick up the officers when they returned on the 8th.

The passage north was relatively uneventful.⁵⁶ Almost as soon as she entered Strait of Belle Isle *Labrador* began to encounter icebergs, and there was extensive fog. Two days later, as the ship approached Davis Strait, the pack-ice appeared. There was a heavy swell at this time, and when the

stabilizers had to be retracted because of the ice, the ship rolled heavily. Oceanography had hitherto been *Labrador's* main interest during the voyage but now, after occupying a line of oceanographic stations across Davis Strait from Baffin Island to Greenland, the ship made for Hudson Strait to begin her main task.

Labrador passed Resolution Island and entered Hudson Strait on 15 June, thereby coming under the orders of CTF-6. Ice in the Strait was heavy and sometimes, depending upon winds and tides, under considerable pressure. On her very first evening in Hudson Strait *Labrador* suffered ice damage to her hull, which fortunately was not serious enough to impair her efficiency. Progress through the ice was very slow, however, and it took six days to cover the some four hundred miles to Cape Dorset on the southwest tip of Baffin Island. A good deal of scientific work was done en route, and many valuable additions were made to the rather inadequate charts of the area.

After *Labrador* arrived off Cape Dorset⁵⁷ on the 22nd, one of the helicopters flew the Medical Officer to visit the Hudson's Bay Company post there, while the HUP took a geodetic party south to Salisbury Island to obtain a fix. The following day the geodetic party was recovered and the Medical Officer flown in to Iqaluit, Northern Quebec, to treat a case of meningitis. On the 24th, *Labrador* set off for Coral Harbour, Southampton Island, where the first unloading operations of the current DEW Line project were to take place. She had not gone far when heavy ice closed in,⁵⁸ and for the first time in her career *Labrador* was thoroughly and completely beset. For more than two days the ship waited for wind and tide to loosen the ice sufficiently for her to proceed but without success. On the evening of the 26th an ice reconnaissance plane appeared and advised *Labrador* to attempt to force her way through, as she was not far from the more open pack. Putting all six engines on the line *Labrador* began to forge ahead, but progress was very slow and after some ten hours the ship had to stop again to prevent further damage to the hull. She was now only some ninety miles from her destination, Coral Harbour. During the night the ice began to loosen and *Labrador* pushed forward, finally reaching South Bay, in which Coral Harbour⁵⁹ lies, on the morning of the 28th.

The work of preparing Coral Harbour for the forthcoming supply operation began at once. It took *Labrador* less than three hours to break up the harbour ice, which was then carried out by a north-west wind and an ebb tide. By the following morning, 29 June, LCVPs were landing parties on the beach to erect day-mark beacons, and the helicopters were at work setting up triangulation beacons. The sound boat and the motor cutters were busily taking soundings. On the morning of the 30th, both inner and outer harbours were almost completely clear of ice, and the divers, supported by volunteers from the ship, began to clear the landing area itself which, appropriately enough, was named Snafu Beach. It was not an easy task, as the beach was by no means ideal for unloading operations with LCUs and LCMs,⁶⁰ the gradient was not sharp enough, and the approaches full of shoals, rocks, and other obstacles. It was not very difficult for the divers to remove or destroy with explosives all the chief underwater obstacles, but it was left to the civilian contractor to fill in the beach so that the landing craft could unload at all stages of the tide. Before the ship left the area, good charts were prepared, tracings of which were left behind for the use of the US ships which would be using the harbour.



Figure 10. LCV and LCM craft unloading supplies on the beach at site 30. Credit: DND, Directorate of History and Heritage, Ottawa.

On 3 July 1955, *Labrador's* work at Coral Harbour was complete, and course was set for Cape Fisher on the north-east coast of Southampton Island. The passage was slow. Ice in Foxe Channel was heavy, about six feet thick and of 10/10 coverage, and *Labrador* did not reach the Cape Fisher area until 7 July. Her task there was to set up an Electronic Position Indicator (EPI) station and a suitable site was found at nearby Cape Donovan, but the ice made landing of materials and supplies by boat impossible. An air-lift was the only solution, and the helicopters were pressed into service. The success of this operation exceeded everyone's expectations. In less than two days (21.5 hours), *Labrador* had the EPI in operation. Some fourteen tons of material had been landed at a cost of about twenty flying hours and 290 man hours on shore.⁶¹ Leaving a team to operate the EPI, *Labrador* now crossed Foxe Channel to the Baffin Island side to erect another station. The distance was only ninety-five miles but it took over forty hours for *Labrador* to reach her destination, off Cape Queen. On arrival, the helicopters took off to locate a suitable site for the EPI, and after several flights at last located one on Cape Enaulik. As at Cape Donovan, the personnel and equipment were flown in, and again the operation was a complete success. This time, however, the prevailing current, the tidal streams, and uncharted shoals and rocks rendered the proceedings very dangerous for the *Labrador* herself. Within twenty-three hours of the start of the air-lift, the EPI station was transmitting, and *Labrador* left shortly after noon on 14 July to return to Cape Donovan. The station there had been damaged in a storm which had blown down the antenna and destroyed some of the personnel tents. Fortunately there were no casualties, and when *Labrador* returned on the 16th the storm damage was quickly repaired.

Late that same day *Labrador* set course north toward Foxe Basin. The ice was heavy and progress slow, and several times the ship was stopped. Occasionally explosive charges were used to break up very heavy floes. Throughout the passage, soundings were taken using radar and EPI fixes from the stations previously established, and a rough chart prepared of the route which would later be used by the cargo ships.

On 21 July, *Labrador* arrived at her destination, a site on Melville Peninsula at the north end of Foxe Basin. Here the routine was much the same as at Coral Harbour: a thorough survey and charting of the beach, clearance of navigational hazards where possible, and a survey of the anchorage area. Day-mark beacons surmounted by a radar reflector made from old oil drums were erected to assist future navigators entering the area. The entire operation took one week, but it was not all work and no play. The ship's company scraped up a softball team which managed, in a close if not well-played game, to beat the locals by a score of twenty-four to twenty-three. The Medical Officer was flown to the settlement at Igloolik Island,



Figure 11. A display of Inuit artifacts found at site 30 in 1955. Credit: DND, Directorate of History and Heritage, Ottawa.

and a Roman Catholic missionary there returned with him to celebrate mass on board the *Labrador*. During the ship's stay at this site it was found that one of the contractor's bull-dozers had uncovered an ancient Eskimo dwelling. In order to rescue this find from complete destruction the chaplain and a party of the ship's scientists went ashore to take pictures and collect what artifacts could be found.⁶²

On 29 July, *Labrador* headed south again towards Coral Harbour to meet the ships which would soon be arriving. A zigzag course was taken in order to establish a safe route for the cargo ships. The running of these sounding lines was often hampered by the antics of herds of female walrus and their pups. These beasts were not at all co-operative; a mother, with her pup tucked under a flipper, would loll about in the path of the ship and refuse to yield the right-of-way. Sometimes it was necessary to stop the ship to avoid running them down. Large, free-floating ice-floes also proved a nuisance during the passage. The ice had now become more open, and these heavy floes were often encountered floating in open water free from the pack. Though their rate of drift was relatively slow, they were heavy and could strike the ship a considerable blow. When attempts were made to

break them up by ramming, they merely slid through the water, there being no pack behind them to offer resistance. Despite these hindrances fair progress was made, and *Labrador* arrived off Cape Enoaulik on 3 August, the same day that the first elements of the supply force, escorted by the icebreaker USS *Edisto*, arrived at Coral Harbour.

At Enoaulik the EPI station was resupplied and the personnel brought on board to enjoy the amenities of shipboard life for a few hours before going back to their lonely task. When this mission had been accomplished *Labrador* crossed the Channel to Cape Donovan to resupply the other EPI station. Rain and fog grounded the helicopters, and ice prevented the boats from operating, so *Labrador* carried out surveys in the area while waiting for conditions to improve. Resupply of the Cape Donovan station was not completed until the 6th, whereupon *Labrador* made for Coral Harbour.

Meanwhile, the first task unit, consisting of five ships escorted by *Edisto*, had completed the unloading of all the materials destined for Coral Harbour. On the following day *Labrador* joined the USN ships and a conference was held to decide the next move. The main Foxe Basin operation was now about to begin. The ships taking part were organized as Task Group 6.3, with over-all command resting with Captain Robertson in *Labrador*. Within the task group were four task units: a support unit of landing and cargo ships, a survey unit, an icebreaker escort unit, and a logistic task unit which supplied the man power to unload the cargo ships. The support unit, TU-6.3.0, consisted of two Attack Cargo Ships (AKA), three dock landing ships (LSD), eight Military Sea Transportation Service (MSTS) cargo ships, one MSTS aircraft cargo and ferry ship, and one civilian Victory ship.⁶³ The survey unit (TU-6.3.1) consisted of *Labrador* and two USN surveying (AGS) ships, USS *Tanner* and the much smaller USS *Pursuit*. The icebreaker escort unit (TU-6.3.3) consisted of *Labrador*, USS *Edisto*, who was later relieved by USS *Atka*, and USNS *Bondia*, which acted as food replenishment ship for this unit. The logistic task unit consisted of twenty-four officers and 726 men of the US Army Transportation Corps, who were carried in the ships of TU-6.3.0. *Labrador* was the only RCN ship in this large force, but there was never any danger of her being lost sight of in the crowd. She was certainly the most active, and probably the most valuable ship in the task group. One other fact is certain and that is that as Commander Task Group and Commanding Officer of

the leading ship, in both the icebreaker escort unit and the surveying unit, Captain Robertson's position was no formality.

After conferring with the Task Unit Commanders present and making an aerial ice reconnaissance of Foxe Channel, Captain Robertson decided to postpone the projected attempt to take the cargo ships into northern Foxe Basin. There were other more southerly sites to be supplied, Eskimo Point and Chesterfield Inlet in Hudson Bay, and a third at Repulse Bay. Leaving the other ships at Coral, *Labrador* and *Pursuit* set out at midnight on 8 August to make the preliminary survey at Chesterfield. Rough weather there prevented the carrying out of the survey, and when *Edisto* arrived at Coral on the 11th with the second group of cargo ships, *Labrador* left *Pursuit* to continue the survey and proceeded to join them.

While *Labrador* was en route to Coral *Edisto* reconnoitred Foxe Channel to test ice conditions. *Labrador* arrived on the 13th and, on the basis of *Edisto*'s information, it was decided to make the attempt to reach the northern Foxe Basin sites. It was unlikely that ice conditions would improve much in the next two or three weeks, and time was running out.

Labrador left Coral on the morning of the 14th to meet *Pursuit* who was returning from Chesterfield. At noon, the two ships were joined by the force from Coral and course set towards Foxe Basin. The Foxe task unit consisted of fourteen ships and these were split into two columns led by *Labrador* and *Edisto*. After only a short advance, the force was formed up in a single column. At midnight on the 14th the column entered the pack to begin a strenuous, exciting, and dangerous week of ice convoy work. The ships had not been long in the ice when it was discovered that the line-ahead formation was too unwieldy, and again the force formed up in two columns.

During the first day, the 15th, reasonably good progress was made, but the ice coverage increased towards evening and at 2330 the columns were forced to stop. The following morning the icebreakers broke the ships out of their columns and set off again. Ice conditions were now so difficult that the two columns were unable to advance together, so column two, led by *Edisto*, set out independently in order to take better advantage of any leads or soft spots which might appear. By 2300, when the leading ships stopped for the night, the force had advanced thirty-five miles.

During the next few days the routine was much the same. At about 0600 the icebreakers would begin to break out the ships which had frozen in during the night, and usually the convoy was under way within an hour. During daylight hours the rate of advance was always slow, and it was often

necessary for the icebreakers to leave their positions at the head of their columns to break out ships which had been beset. Ice reconnaissance by the helicopters was of little value as conditions changed very rapidly in the strong tidal currents. It was soon discovered that the best method of beating the ice was to keep moving and forget about keeping convoy stations. So long as a ship was under way she could usually make some progress; once she stopped the ice would pile up around her, and she would have to sit there waiting for the icebreaker to come and break her out.

On 18th, before these lessons had been learned, was a difficult day, and the columns made good only 8.9 miles. The following day was even worse for column one, which made only 8.1 miles, though the second column struck a few good leads and gained some twenty miles on its companion. By the 20th, the convoy had become very badly scattered, but conditions now began to improve gradually, and on the following day at 1300 the lead ships entered the selected anchorage. Nine hours later the last ship of the convoy arrived, and the most difficult phase of the Foxe Basin operation was over.

In spite of all the difficulties encountered, the operation had been very successful. Though the ice had been very heavy, averaging six to eight



Figure 12. HMCS Labrador leading a convoy through Foxe Basin, August 1956. Credit: DND, Directorate of History and Heritage, Ottawa.

feet, damage to the ships had been negligible. Only four ships had suffered hull damage and three propeller damage, and in none of these cases was efficiency seriously impaired. A great deal had been learned about ice convoy operations which would materially assist not only TG-6.3 but all future expeditions in the Arctic.

Discharging of cargo began at once on a twenty-four-hour schedule. Conditions were far from ideal, and fog, rain, wind, ice, and unsuitable landing beaches hampered the unloading parties. Casualties to the landing craft were many, and the Underwater Demolition teams were kept busy removing newly discovered obstructions. Still, despite the difficulties, considerable progress was made, and on the 25th the first ship, the SS *Monroe Victory*, completed cargo discharge and left for southern waters.

On 28 August, with unloading operations at the first base well advanced, *Labrador* and *Pursuit* sailed to the second site to complete beach surveys.⁶⁴ *Pursuit* remained to continue the survey when *Labrador* returned to Site One on the 30th in order to meet a party of American VIPs. This party, led by Vice-Admiral F. C. Denebrink, Commander of MSTs, arrived on the 31st, and a conference was held in *Labrador* to decide on future operations. One of the more important results of this meeting was that the survey ship USS *Tanner* and the LSD *Fort Mandan*, which had completed their work with the task group operating in Davis Strait, were ordered to join TG-6.3. Their assistance helped in speeding up operations in the southern area, at Eskimo Point, Chesterfield, and Repulse Bay.

The Admiral's party left on 1 September, and the same day *Labrador* escorted *Lindewald* and *Crain* to Site Two to begin operations there. Ice, snow, and fog held up unloading for the next two days. On the 3rd conditions improved, and *Labrador* began to explore the route to Site Three. A fairly safe channel was found between Koch and Rowley Islands, and when the ship arrived at Site Three Captain Robertson flew ashore to confer with the civilian contractor. As he was returning to the ship he spotted a large polar bear stalking a tent occupied by members of *Labrador's* geodetic party. This same bear, or perhaps only a near relative, had entered the contractor's camp the evening before and frightened some of the construction workers, causing two on-the-spot resignations. Consequently, whatever his designs on *Labrador's* geodetic party, this bear was disrupting DEW Line operations, and Captain Robertson shot him.⁶⁵

After this incident *Labrador* set out for the fourth site. The distance was not great, but it took some time to survey a safe route. Because of ice it

was impossible to use the sounding boat, and the ship had to take her own soundings. At one point *Labrador* was in only seven fathoms of water, which did not leave a large margin of safety, considering that the draft was over twenty-nine feet and the area was uncharted. All went well, however, and *Labrador* arrived at Site Four before midnight on the 4th.

The following morning the survey of the beach and anchorage began and progressed well in spite of the fifteen-foot tides. The tides did, however, make it very difficult for the civilian contractor to prepare a ramp for the landing craft. On the 6th, *Labrador* left to bring in the two cargo ships destined for Site Four, leaving the sounding boat to continue the survey. Contact was made and the two ships brought to the anchorage that night. The following day discharging began and the survey was extended, and when all was well under control *Labrador* left to return to Site Three.

When the ship arrived at Site Three on the 9th, the usual routine was carried out. Radar beacons were erected, beach obstructions cleared, and the beach and anchorage charted. Before all the charting had been completed the weather deteriorated and *Labrador* sailed for Site Two. At this Site the



Figure 13. HMCS Labrador proceeding through Fury and Hecla Strait. Credit: DND, Directorate of History and Heritage, Ottawa.

interrupted survey was resumed and continued until the 14th, when the ship returned to the base site.

Here most of the activity was over, and only the ships which were to supply Sites Two and Three remained. The escort icebreaker USS *Atka*, which had relieved *Edisto*, was also there and had on board the personnel from *Labrador's* EPI station at Cape Donovan. She also had fresh stores for *Labrador*, but unfortunately the perishables had lived up to their name and perished. After resupplying *Labrador*, *Atka* escorted USNS *Craig* to Site Three to discharge her cargo.

On the 16th a distress signal from the Fisheries Research Vessel *Calanus* was received. *Labrador* went north to assist her, but by the time *Calanus* was contacted she was in no danger, and after topping her up with fuel, *Labrador* returned to Site One. That evening the Deputy Minister of Northern Affairs, Gordon Robertson, came on board for an overnight visit. Captain T.C. Pullen, CD, RCN, a future Commanding Officer of *Labrador* but then the Director of Naval Gunnery, had joined the day before for a three-day visit.

While *Labrador* had been supervising operations in northern Foxe Basin other ships had been supplying the southern sites. On the 18th, *Labrador* and three other ships of the northern force sailed southward to join them, the three cargo ships putting in at Repulse Bay and *Labrador* going on to Eskimo Point. There was little similarity between the passage back and the earlier struggle north. The ice had virtually disappeared, and the ships could steam in hours the distances that earlier had taken days.

Labrador arrived at Eskimo Point on the 21st and, after inspecting the site, picked up charts from *Tanner* and headed for Coral Harbour. The survey ship *Tanner*, together with *Pursuit* had been engaged for the past two weeks in charting the southern sites and supporting the cargo ships in the area.

Labrador arrived at Coral on the 22nd and, after picking up stores, started out for Repulse Bay. That same day the last ship, USS *Rushmore*, left Site One, bringing to an end the operations in northern Foxe Basin. On the 23rd *Labrador* made contact with *Rushmore* and took off Lieutenant-Commander Ruse and his demolition team, who had been on detached duty with US ships in upper Foxe Basin. Making her way through Frozen Strait, *Labrador* arrived at Repulse the following day. The channel through the Strait is relatively deep, but uncharted sharp rocks and pinnacles are numerous enough to cause nightmares in all but the most stolid officers-of-

the-watch. On the way through, *Lindenwald* was met, and the HQ group of the logistic support team, which had been carried in *Labrador*, was transferred for return home. Lieutenant-Commander J.P. Croal, *Labrador* Gunnery Officer, who had been on detached duty with the American ships for the past month, was embarked.

When the ship arrived at Repulse, she recovered one of her motor cutters and its crew and two civilian hydrographers who had been serving in *Pursuit*. A petty officer who had been repairing *Pursuit's* gyro was recovered on the following day, and *Labrador's* complement was once again complete, for the first time since 7 July, when the EPI party was landed at Cape Donovan. At Repulse, *Labrador* had the unusual experience of being adopted as a mother. It happened that on the day before an Eskimo killed a mother Beluga whale, a relatively small white whale which abounds in the Hudson Bay area. Her calf, a little fellow about five feet long, was apparently still on a milk diet and wished to make *Labrador* its foster parent. As the ship had neither the required food supply nor the necessary equipment with which to feed it, nothing could be done for the little whale. It remained alongside, however, until *Labrador* sailed on the 28th.

Rushmore had left Repulse the day before, and the resupply operations of TG-6.3 were virtually completed. By the end of the month all the ships of the group except *Labrador* were on their way home. *Labrador* still faced a formidable programme of work, and when she left Repulse she set course back to northern Foxe Basin. Her mission was to improve, and if possible expand, the route surveys and the charting of the beaches and anchorages at the various northern sites.

Labrador arrived at Site One on 30 September, but as this was the best surveyed of all the bases, it was decided to leave it until last, and the ship went on to Site Two. This was to prove a wise decision. Early October in the Arctic is not a favourable season. Winter is setting in; new ice forms on protected shores; snow-storms and gales are frequent. The year 1955 was no exception, and the weather seriously hampered *Labrador's* work. It took two weeks to make reasonably complete surveys of the first three sites visited, for more than half the time no work of any kind could be attempted because of ice, fog, snow, and wind.

Labrador arrived back at Site One on the 15th where, for the next three days, she lay at anchor, pitching and tossing in a heavy gale. It was impossible to extend the stabilizers because of ice, and the ship rolled most violently, one particularly sharp roll carrying away the Captain's dining



Figure 14. Iceberg from which *Labrador* collected soil samples enroute to Brevoort Island, 1956. Credit: DND, Directorate of History and Heritage, Ottawa.

table. In his Report of Proceedings the Commanding Officer hints that perhaps this little incident may have had something to do with the subsequent decision to abandon the uncompleted survey of Site One.

The weather moderated on the 18th, but it was still not possible to use the sounding boat, so the survey was abandoned and course set for Coral. It was not a pleasant passage. Gale winds of up to sixty knots blew for three days, and sometimes it became necessary to heave to and wait for the wind to abate. *Labrador* arrived off Coral on the 21st and, as the ship was beginning to ice up, she put in to the harbour. The respite was short for another gale blew up and *Labrador* spent the next day and a half riding it out at sea. On the 24th it proved possible to return to Coral to pick up mail, but as another gale was forecast, the ship did not stay long but set out for Cape Enaoulik to pick up EPI equipment and conduct oceanographic and hydrographic studies.

After the departure of the American ships of the task force, a great deal more scientific work could be done. Prior to their departure such work had necessarily been on a “not to interfere with operations” basis, and *Labrador* had been far too busy to stop for such relatively unessential matters as the taking of oceanographic stations or the landing of scientific

parties. During the remainder of the expedition, however, a great deal of important scientific data was collected in spite of the prevailing foul weather.

The EPI equipment was picked up on the 25th, and for the next three days *Labrador* carried out oceanographic studies in Foxe Channel. On the evening of the 27th the condition of Captain Robertson, who had not been well for some weeks, became very much worse, and the following morning the Medical Officer decided that it was essential to fly him to a well-equipped hospital where he could get proper medical attention. Course was immediately set for Coral where an aircraft had been arranged for. *Labrador* arrived there at 1130 on the 29th and, though the weather forecasts had threatened unfavourable flying conditions, the aircraft was able to take off. Captain Robertson was flown to Montreal and there underwent an operation which was so completely successful that he was able to resume command on 1 December. During his absence Commander J.M. Leeming took over the ship.

Upon leaving Coral again, *Labrador* sailed for the western end of Hudson Strait to begin an intensive programme of hydrographic work. For the next nine days the weather was very nearly perfect, and no difficulty was experienced in carrying out the programme that had been planned. The oceanographic work was complete on 8 November, and *Labrador* began to make her way eastward.

En route through Hudson Strait the ship received a radio message from Lake Harbour, Baffin Island, asking for the assistance of the Medical Officer to treat an RCMP corporal there. The available charts of the Lake Harbour area were not reliable, and there were known to be many rock pinnacles thereabouts. When a huge tabular iceberg was sighted, apparently grounded on one of these pinnacles, it was decided not to enter harbour but to fly the Medical Officer in by helicopter.

The Medical Officer completed his mission, but it was not without incident. The helicopter bringing him back threw a fan belt while still seven miles from the ship. The remaining belt fortunately held, and the craft landed safely.

Upon the return of the helicopter *Labrador* set course for the open Atlantic and home. The fine weather had held for a remarkably long time, but now, at noon on the 9th, it began to deteriorate. As the ship steamed eastward, the wind began to rise and, by 1400, it was blowing at forty knots. Two hours later *Labrador* was in a sixty-knot gale and was forced to heave to for the night. The next morning the wind had dropped a little, and it was possible to get under way again. It was but a temporary improvement, and soon *Labrador* was struggling through a forty-five-knot northerly into Davis Strait. Davis proved no better than Hudson; indeed, before nightfall the ship was enduring gusts up to ninety knots. Even in a moderate swell *Labrador's* behaviour was none too good, and in the short, steep, and extremely heavy seas then prevailing, she pitched and tossed in the most frantic manner. The stabilizers, though they were fairly effective in damping

the roll of the ship when she was travelling at a fair rate of speed, were of very little use when she was stopped.

The gale continued throughout the night and all the following day, the 11th. Shortly before dark it grew colder, and the ship began to ice. In an attempt to reduce the seas being shipped, Commander Leeming decided to turn to so as to have the wind on the quarter. It was a tricky manoeuvre in the fifty-eight-knot gale prevailing, but it was successful, and the ship rode much more comfortably. On



Figure 15. Scientists aboard Labrador undertake sea water studies. Credit: DND, Directorate of History and Heritage, Ottawa.

the 12th, the wind dropped to twenty-four knots, but this did little to ameliorate the conditions aboard. The seas now came from every direction at once, and *Labrador* flung herself about so wildly that about ten percent of her company, experienced though they were, became sea-sick. Strangely enough the ship suffered little storm damage during these gales, the only

item worth mentioning being a smashed ladder on the port side forward of the breakwater.

By the time *Labrador* reached the Strait of Belle Isle on 13 November the wind had risen again to forty knots. The seas were too heavy to permit oceanographic studies to be conducted, so course was maintained through the Strait into the Gulf of St. Lawrence. In the Gulf conditions were much different, with winds of fifteen knots and a calm sea. As it was now dusk the ship was brought to anchor. It was intended to return to the Strait in the morning to conduct oceanographic studies.

The following day, *Labrador* ran a line of oceanographic stations across the western end of the Strait and then set course eastward to conduct a similar operation at the Atlantic end. This work had just been completed when the Medical Officer reported that a petty officer, who had been admitted to the sick bay the evening before with suspected carbon tetrachloride poisoning,⁶⁶ had taken a turn for the worse and now required urgent hospital attention. For the second time in her career *Labrador* had to cut short her cruise because of the illness of one of the ship's company. All the engines were brought on the line, course was set for Stephenville, Newfoundland, and the RCAF requested to have an aircraft ready to fly Petty Officer Robinson to Halifax.

Labrador arrived at Stephenville at noon the following day, the 15th, and landed the patient, who was immediately put on board an RCAF Canso aircraft and flown to Halifax where he soon recovered. The Supply Officer was landed to purchase fresh provisions, but weather conditions forced him to remain ashore until 0900 the following morning. He was very warmly received when he did arrive, bringing with him a helicopter load of the first fresh milk and vegetables the ship's company had seen in months.

At noon the Flag Officer, Atlantic Coast, Rear-Admiral R.E.S. Bidwell, CBE, CD, RCN, came on board, and *Labrador* started back to Halifax. That evening the Admiral addressed the ship's company and the following morning inspected most parts of the ship. By noon on the 17th the wind had risen again and was blowing forty knots. By evening there was a fifty-knot gale, and before midnight the ship had to heave to. The weather moderated on the morning of the 18th, and when she reached shallow water *Labrador* was able to make good speed. She arrived at Halifax at 1100, after an absence of 170 days.

Labrador's work in 1955 received less publicity than her navigation of the Northwest Passage in the previous summer, but it was certainly more

difficult and probably more valuable. More scientific data was collected in 1954, but considering the nature of her commitments in 1955, the amount of scientific work done before and after the DEW Line operation itself was by no means negligible. Nor must the hydrographic work she performed during the actual resupply mission be discounted. Her triangulated surveys of DEW Line site beaches and anchorages and her charts of sea routes in the Foxe Basin-Hudson Bay area were a very valuable addition to cartographers' knowledge of these waters. *Labrador's* chief task, of course, had been the conduct of the resupply mission, and this work she performed with the greatest distinction. Some 56,000 measurement tons⁶⁷ and 30,000 long tons of cargo had been landed at eight different Arctic sites at a cost of negligible damage to a few ships, this in spite of the fact that the operation had been carried out under most difficult conditions in what had formerly been virtually uncharted waters.

A generous share of the credit for the success of the entire operation must go to *Labrador*, who combined the duties of leader of the task group with those of survey ship and escort icebreaker. This triple-role put a considerable strain on certain branches, notably the communications branch⁶⁸ and the medical branch, which were called upon to perform duties greater than those for which they were designed. But it was the Commanding Officer who bore the heaviest load; he had not only to conduct the operations of a task group of twenty ships in ice-filled, practically uncharted waters, but he had also to continue to carry out the duties of Commanding Officer, HMCS *Labrador*, no light task in itself. That the difficulties of his position, and the manner in which he handled them, were appreciated is borne out in all of the messages received from high-ranking US naval officers engaged in the operation, including one from the Chief of Naval Operations himself, who stated that: "The successful attainment of all objectives is a tribute to your leadership professional ability and courage."⁶⁹ Certainly everyone in the ship, and in the Royal Canadian Navy for that matter, had every reason to be proud of *Labrador's* work in 1955.

Upon arrival at Halifax, after the first flurry of excitement caused by welcoming relatives and friends had subsided, the work of preparing the ship for refit began. Two weeks special leave had been granted to the entire ship's company, and as many of the crew had not set foot on shore since 1 June, this was much appreciated. By the end of the month only fifty percent of the

company remained on board preparing for the refit; the remainder were all on leave.

Well before *Labrador* returned to Halifax, discussions had begun about her employment in 1956. There was a good deal of competition for her services. Vice-Admiral F. Denebrink, USN, Commander, Military Sea Transportation Services, when he visited the ship late in August, had warned Captain Robertson that the USN would be requesting the ship's services for the 1956 DEW Line operations. The Department of Transport wanted her help in resupplying Arctic weather stations. The Defence Research Board requested her services for an oceanographic survey of the Gulf of St. Lawrence in the winter of 1955/1956, and for scientific operations in the Arctic during the summer. The Department of Mines and Technical Surveys and the Fisheries Research Board also expressed a desire to make use of the ship's facilities.

Preliminary discussions about *Labrador's* future programme began soon after the ship's arrival in Halifax, and meetings attended by RCN personnel only were held on 23 and 30 November and on 5 December. At these meetings it was recommended that *Labrador* carry out a survey of the Gulf of St. Lawrence during the winter, visit New York to confer about DEW Line commitments, visit a southern US port to paint ship, and return to Halifax early enough to make adequate arrangements for the summer Arctic operations and provide leave for the ship's company. A fourth meeting was held on 9 January 1956, attended by representatives of the RCN, the Defence Research Board, the National Research Council, the Department of Mines and Technical Surveys, and the Fisheries Research Board. This meeting recommended the scientific projects to be undertaken during *Labrador's* forthcoming operations.

Labrador went in for refit on 15 December, and nearly all of those still on board went on leave. Captain Robertson had resumed his command on 1 December, but this was a temporary arrangement, as it had been decided to appoint Captain T.C. Pullen, CD, RCN, in command before the ship began her next operation. The Executive Officer was also due for replacement, and Commander C.A. Law, DSC, CD, RCN, took over from Commander J.M. Leeming, CD, RCN, on 23 January 1956.

Labrador's second refit did not take nearly so long as her first. There was in fact little to be done – astonishingly little considering the heavy ice conditions met during the summer and the length of the Arctic cruise. In less than two months the ship was ready for sea duty.

Captain Pullen took over command on 13 February, and nine days later *Labrador* put to sea to begin an oceanographic and ice survey of the Gulf of St. Lawrence. Four oceanographers, headed by Dr. L. Lauzier of the Atlantic Oceanographic Group, made up the scientific complement, but their work was supplemented by that of the ship's officers. The Meteorological Officer and his staff, for instance, assisted with the ice survey, and the officers-of-the-watch made observations and kept records of the mammals, chiefly seals, which were encountered during the cruise.

The cruise occupied twelve days, 22 February to 6 March, during which a great deal was accomplished. A total of forty-five oceanographic⁷⁰ and bathythermographic stations were occupied and much valuable data collected.⁷¹ Nor must the training value of the cruise be neglected, as it provided valuable experience for the many new members of *Labrador's* company who had never before served in a ship operating in ice under severe winter conditions. The ice conditions encountered were varied, ranging from pack-ice similar to that found in Arctic regions to soft, sticky mush which *Labrador* had never met before. Strangely enough, it was the soft, sticky ice which presented the greatest difficulty.

In George Bay, on 24 February, with four engines on the line, *Labrador* was brought to a full stop by two feet of soft ice, which was of 10/10 coverage, with snow cover, and under slight pressure. It was necessary to use all six engines and to operate the heeling and trimming tanks frequently⁷² in order to push through. As the Commanding Officer pointed out, however, this was not so much ice-breaking as "slush shoving." Further valuable experience in Arctic operation, though it is doubtful whether many of the ship's company appreciated its value at the time, was gained during a severe blow on the 26th. The wind rose to gusts of sixty knots, with driving snow, and heavy icing occurred. Around the 3"/50-calibre gun platform on the forecastle, the ice formed to a depth of several feet and rendered practically every upper deck fitting inoperative.

Labrador returned to Halifax on 6 March and remained alongside until the 15th preparing for a cruise to Mayport, Florida. The outward passage to Mayport was not entirely uneventful, as on the third day out, the ship ran into strong winds which provided additional experience for the newcomers to *Labrador*. The storm and its effect on the ship are best described by the Commanding Officer himself:

The weather began to deteriorate on the 16th and by the Middle Watch on the 17th, the wind was gusting to 65 knots and had rolled up a sizeable sea. I have been through storms worse than this one but not many of them in such an uncomfortable ship. She was leaping about - corkscrewing and taking green seas in over the bow and flinging them back up at the bridge in sufficient quantity and with enough weight of water to endanger the bridge windows. The stabilizers broke down and the motion of the ship was wild and quick and the extent of her roll was such that she was describing an arc in excess of 90°. It seemed as though many otherwise well secured items were flung out of their stowage or broke out. The roll was severe enough for the main diesels to lose, albeit momentarily, their lubricating oil which slid from the bottom of the engines up the side, causing the "Loss of Lube" alarms to ring. The flight deck stanchions were doubled back and the 36' sound boat was afloat on her chocks. Most of the damage, however, was due to heavy items crashing to and fro ..."⁷³

The ship was, of course, never in any danger, but the storm did cause a certain amount of inconvenience and discomfort to all on board. Fortunately, the weather moderated on the 19th, and the following day *Labrador* arrived at Mayport.

The purpose of the visit to Florida was to paint ship, and as the weather was perfect and the ship's company worked long and hard, what is normally a three-week job was virtually complete when the ship sailed ten days later. Not all the time was devoted to work, however, and full advantage was taken of the recreational facilities available, particularly those of nearby Jacksonville. About the only disturbing incident that occurred was no one's fault, at least no one on board *Labrador*. While the ship was being painted a large steel catamaran had been slung under the port bow, the port anchor being hove up into the hawse pipe out of the way. Two men were standing on the cat, painting industriously. Suddenly a link in the anchor chain parted, and three tons of anchor descended with a crash on the catamaran, narrowly missing the two seamen. Fortunately, neither man was hurt; the anchor remained on the catamaran where it could be easily recovered, and this unlucky accident was not allowed to spoil an otherwise pleasant visit.

On 30 March, *Labrador* left Mayport, setting course for New York where Captain Pullen was to confer with US naval authorities about his

ship's duties with the DEW Line task force during the coming summer. The passage was uneventful, and *Labrador* arrived at New York on 2 April. On the 4th a conference was held aboard ship to discuss *Labrador's* assignments with the Foxe Basin resupply mission. It was not to *Labrador's* disadvantage that the chairman of the meeting was Captain O. C. S. Robertson, who was now on loan from the RCN serving as deputy to Rear-Admiral R. Mason, USN, Commander, Military Sea Transportation Service, Atlantic, and Commander Task Force 6. *Labrador's* duties during the summer were to be somewhat lighter than in 1955 in that [it] would not be serving as command ship for the task force. It had been pointed out at the conclusion of the 1955 operation that she did not possess flagship facilities and was, in any case, far too busy with her multifarious duties as the leading survey ship and escort icebreaker. At this conference and at later informal discussions *Labrador's* Commanding Officer was provided with all the latest information on and the plans for the coming operation.

It had been intended that *Labrador* would leave New York on the 6th and join other ships of the Atlantic Command for exercises in the Caribbean. Late on the 5th, however, orders were received from Naval Headquarters to delay the ship's departure. On the following day came the message to proceed with despatch to rescue nine Norwegian sealers trapped in the ice off Scoresby Sound, Greenland, some 3,000 miles away. By 2100 that night *Labrador* had cleared the Ambrose Lightship and was on her way to Halifax to pick up her other two helicopters and necessary stores before proceeding north. At 1300 on the 8th the ship arrived off Sambro Lightship where the helicopters and stores were quickly embarked. As *Labrador* set course for Cape Race the weather began to worsen, and by the time she had cleared the Cape on the 11th and had begun the long haul north to Greenland, the ship was once again "leaping about, shovelling water and spray all over herself."⁷⁴ But the discomfort of the ship was a minor consideration, and morale was very high. Once again *Labrador* was on a spectacular mission, which would add to her stature and confirm her established reputation as the best known ship in the Royal Canadian Navy.

It was with a feeling of great disappointment that the ship's company learned of the cancellation of the rescue mission. All the sealers had managed to extricate themselves; there was nothing for the *Labrador* to do except return home to Halifax. It merely added to the sense of frustration that it was now too late to embark upon the promised southern cruise.

When the cancellation message arrived on the 11th, the ship had reached almost 52° North, the latitude of Belle Isle. Captain Pullen, in order to give the ship something useful to do and thereby improve morale, asked for and received permission to return to port through the ice of the Strait of Belle Isle. On the evening of the 12th *Labrador* entered the Strait. The ice was close pack but quite hard, and the ship smashed her way through with relative ease; the one hundred miles through the ice into the open waters of the Gulf were negotiated in about ten hours. On the 13th *Labrador* steamed to Pictou, Nova Scotia, where HMCS *Wallaceburg*, which had recently completed a refit, was ice-bound. The latter managed to make her own way through the slush into deep water where *Labrador* could reach her. The tow was passed to *Wallaceburg* and winched into the notch,⁷⁵ and the two ships set out. There was a 10/10 coverage of ice, snow, and slush, but the ten miles to open water were negotiated without difficulty. When the ships reached open water the tow was slipped, and *Labrador* proceeded to carry out stopping trials. It was found that at sixteen knots, with all six engines on the line, it was possible to stop the ship in one and one-half times her own length. The tremendous power of her screws may be judged by the fact that they stirred up mud from the bottom ninety feet below.

Labrador and *Wallaceburg* remained in company until they reached the open Atlantic, which was just as well as ice was encountered late on the 13th. It was not heavy, however, and there was no need to pass the tow again; *Wallaceburg* merely followed close astern of *Labrador* as she cleared a path through the floes. The ships reached open water again on the morning of the 14th, and in the afternoon it was safe for *Wallaceburg* to detach and make her own way to Halifax.

Labrador arrived at Halifax on the 16th and for the next two months remained alongside carrying out repairs of various kinds, training personnel, and in general readying the ship for Arctic operations. One interesting feature of the repair work carried out was the use of frogmen from the Underwater Demolition Unit to effect repairs which would ordinarily have required docking. Not only did this procedure save time and money, but it provided very valuable experience should the ship ever get into similar difficulties while in the north far from dockyard facilities.

On 16 June *Labrador* sailed to St. Margaret's Bay for various trials and calibrations and to train boat crews and other personnel. She returned to Halifax on the 21st to complete last minute repairs and to take on the last of the stores. The nine scientists⁷⁶ who were to accompany *Labrador* to the

Arctic came on board with all their elaborate equipment. One by one all the necessary tasks were completed, and finally the ship was ready to sail. This was the most unhurried departure for Arctic operations that *Labrador* had ever enjoyed, and her company made the most of it. When the last item had been taken aboard her draft aft was down to a full thirty feet.

At 1330, local time, on 3 July 1956, *Labrador* set out on her third Arctic operation. As was his custom Rear-Admiral R.E.S. Bidwell was on the jetty to see the ship off, accompanied by Commodore E.W. Finch-Noyes, CD, RCN. For once *Labrador* left Halifax in perfect weather, and it remained fine during the two-day passage to St. John's, Newfoundland. At St. John's conferences were held with the leading US naval and military authorities concerned with the forthcoming operations. Captain C. Rousseau, US Army, was embarked as liaison officer, and a USN photographer also came aboard to make a film record of *Labrador's* northern activities for the MSTs. *Labrador* and her company were very well received by the Lieutenant-Governor, Sir Leonard Outerbridge, and by the private citizens of the city, and received a great deal of favourable publicity from the newspapers and radio and television stations.

On 7 July *Labrador* left St. John's and set course for Resolution Island at the eastern end of Hudson Strait. For four days she steamed northward in fog and drizzle, meeting very little ice. The fog still persisted when *Labrador* approached Resolution late on the 11th and was expected to continue for several days, so instead of continuing north to survey Brevoort Island, it was decided to conduct oceanographic studies in Hudson Strait until the weather improved. A total of seventeen stations were occupied in the Strait in the next two days. On the morning of the 13th the weather forecasts for the south-east coast of Baffin Island were more favourable, and course was set back to Resolution. At noon on the following day the ship entered the uncharted waters and heavy ice off Brevoort Island. The fog had persisted throughout the passage from Hudson Strait, but now it lifted suddenly revealing a cloudless sky and brilliant sun. This was just as well for the going was heavy, with a 10/10 coverage of polar pack-ice of considerable thickness and strength. It took the six engines a full nine hours to force *Labrador* through the thirty-three miles to Brevoort Harbour.



Figure 16. HMCS Labrador in Brevoort Harbour. Credit: DND, Directorate of History and Heritage, Ottawa.

For four days *Labrador* remained at Brevoort Harbour surveying the inner and outer harbour and clearing the landing beaches. The ice in the harbour was fortunately much lighter than that outside, and after *Labrador* had churned it up several times much of it drifted out. “Pogo,” the sounding boat, and the two specially-strengthened motor cutters did most of the work in the inner harbour, while *Labrador* carried out soundings in the heavy pack-ice in the approaches. The weather was of great assistance: calm, sunny, and relatively warm, permitting the most effective use to be made of the boats and helicopters. Had it remained foggy and cold the four-day Brevoort survey might have taken weeks.

Labrador sailed from Brevoort Harbour late on the 18th, her work completed. As the ship stood out into the pack the fog which had so obligingly remained clear of the harbour during *Labrador*’s stay closed in again. During the run to Resolution the data collected at Brevoort was incorporated in charts while panoramic photographs and radar photographs were processed, and sailing directions prepared. While the ship was making her way through the pack the going was slow; in one particularly heavy

stretch of ice it took five hours to make five miles. Open water was reached on the afternoon of the 19th, and on the following day *Labrador* arrived off Resolution. In open water it soon became apparent that the Brevoort survey had not been accomplished without cost. The starboard stabilizer fin and the steering gear had both been damaged slightly, and a few other mishaps of a minor nature were noted.

At Resolution the charts, photographs, and sailing directions were flown in for later delivery to USS *Edisto*, who was due shortly to escort the cargo ships to Brevoort. *Labrador* did not remain long at Resolution but continued west into Hudson Strait and by 2200 on the 20th had arrived off Lake Harbour. Here the Medical Officer⁷⁷ was flown in by helicopter to treat two urgent cases before the ship continued on her way. During the passage down Hudson Strait oceanographic stations were taken at various points and soundings made. This work was sharply curtailed when, on 22 July, both echo sounders in *Labrador* broke down. Fortunately the echo sounders in "Pogo" and the motor cutters remained in operation. On the 23rd, *Labrador* arrived off Ivugivik, P.Q., and, after sending "Pogo" in with the Medical Officer, stood out into open water to permit the frogmen to examine the echo sounder transducers. No visible damage was apparent. Eventually the echo sounders were made workable, but they operated at reduced efficiency throughout the voyage. After recovering "Pogo" the ship made for Coral Harbour. The visit of the Medical Officer to the Eskimo village of Ivugivik had been warmly appreciated, but its value had been diminished because, in the absence of the local priest, there was no one present who could speak a word of English.

A strong wind was blowing when *Labrador* arrived off Coral Harbour early on the 24th. The helicopters could not be flown off, but as there was no ice the boats were able to go in and pick up mail and stores. Leaving Coral the ship headed north into Foxe Channel to recover the EPI equipment left at Cape Enaulik and Cape Donovan in 1955. There was ice in Foxe Channel, but the passage was uneasy one, and *Labrador* arrived off Cape Enaulik at 1500 on the 25th. The air-lift began at once, and within seven hours the entire station had been brought on board. It took sixteen sorties of a total flying time of ten hours to complete the operation which, however, was not without incident. A 110' mast which was being transported by the HUP somehow broke loose from its fastenings and fell into the sea. A little later one of the Bells broke its fan belts and was forced to land on the water.

Fortunately the craft suffered no damage and was quickly recovered by *Labrador*.

When all the EPI had been embarked the ship crossed the Channel to Cape Donovan. This time the passage was far from easy. Heavy pack-ice was met, and when the ship arrived off Cape Donovan a thick fog descended. There was no chance of recovering the gear under such conditions, and *Labrador* set course for Coral to embark a liaison officer from the Royal Navy, Commander E.G. Savage, DSO, DSC, RN. It took until 1100 on the 27th to reach Coral, but there it was discovered that Commander Savage was now at Site One in northern Foxe Basin, so *Labrador* reversed course to return to Cape Donovan. Upon arrival, the weather was unfit for flying, and the boats recovered the few items from the EPI station which had been left behind when *Labrador* removed the rest of the station the previous year. The Atwell hut was found to be in poor condition. A polar bear had evidently forced the front door, destroyed the contents of the hut, and then walked through the back door without bothering to open it.

After recovering the gear, *Labrador* turned south to the vicinity of the Ascension Islands, and when the weather proved suitable for flying the next day, the helicopter was sent to Coral to pick up Commander Savage. The helicopter returned with its passenger in the evening, and course was shaped for the main field of operations in northern Foxe Basin.

The passage north to Site One at Hall,⁷⁸ some three hundred miles, took over three and one-half days. Heavy ice was encountered, but the going was not exceptionally difficult, though *Labrador* had been warned at Coral that conditions would be much worse than in 1955. Oceanographic stations were occupied, soundings taken, ice studies conducted, and other scientific work undertaken during the passage.

The ship arrived off Hall Lake on the morning of 2 August. Hall is the main base in northern Foxe Basin, the site from which men and materials are shipped north and east to the secondary bases, and was to be the centre of *Labrador's* operations for the next six weeks. Work began at once to disembark the personnel who were going to work from shore bases. The Underwater Demolitions Unit was to work out from Hall, travelling by air to the other sites when the need arose. Equipment for two EPI stations, each manned by three men, was also landed. One station was to be set up at Hall, the other was to be flown by the civilian contractor, Foundation Company of Canada, to be set up on Bray Island. The following day, after

the first EPI had been established, *Labrador* sailed for Site Two at Rowley Island.

The ship's mission at Rowley was to land two civilian hydrographers, the two Bell helicopters, maintenance personnel, and supplies for three weeks. This party was to survey Rowley Island and its smaller northern neighbour, Koch Island.⁷⁹ Most of the supplies were ferried in by LCVP, and it was during this operation that a member of the ship's company was seriously injured. During the loading of the LCVP one of its bow doors dropped down and struck Leading Seaman G.D. Guertin who had been standing beneath it. A message was sent at once to arrange for air evacuation of the injured man from Hall. The aircraft was not expected immediately, and the unloading operation was completed before the ship returned to Site One. *Labrador* arrived off Hall at 2300 on 4 August and three hours later the injured man was flown ashore. From there the aircraft of the Foundation Company and the RCAF Search and Rescue organization took over. Thirty-one hours after he had suffered the injury, Leading Seaman Guertin was in hospital at RCNH Halifax.

On the 5th, *Labrador* began to erect a series of radar beacons at strategic points throughout the area. These beacons consist of a thirty-foot steel mast surmounted by a specially designed radar reflector and serve as navigational landmarks on low-lying and otherwise featureless coasts.

They are heavy, some three hundred pounds, and are far from easy to erect on solid rock. *Labrador* carried a special rock drill to facilitate the erection of the mast and the securing of the guy wires.

The first beacon erected was on North Ooglit, an island just north of Hall, and took eight hours to set up, though the HUP was used to transport all the materials ashore. Departmental teams were then formed, a favourite resort in *Labrador* when faced with laborious or uncongenial tasks. The usual good natured competitive spirit of the ship's company soon resulted in the reduction of erection time to less than half of that required for the first beacon.

During the next week *Labrador* erected another eleven beacons at various points, though not without cost. On 11 August, when preparing to land a beacon party, the HUP took off before the flight deck personnel had detached the tail steering arm. The craft was signalled to return to the ship and, when landing, the pilot set the machine down with the tail wheel over the side of the deck. The fuselage hit the deck with a crash and was so badly buckled that the helicopter was rendered unserviceable for the remainder of

the voyage. This was a most unfortunate and inconvenient accident, since the HUP was the only helicopter aboard capable of transporting heavy cargo.

The loss of the HUP was costly, but still a great deal of work was accomplished during the week. Besides setting up the twelve beacons, *Labrador*, on the 10th, discovered a new route between Rowley Island and Hall which reduced the distance to be travelled from eighty-five to forty-five miles.

Labrador left Rowley on the 13th and, flanked by “Pogo” and one of the motor cutters, proceeded to sound the new “short-cut” route to Hall. Fog and ice caused delays, but *Labrador* reached Hall at noon on the 14th. That evening there was considerable excitement when “Pogo,” sent ashore at Hall in heavy weather and fog, became stranded. The LCVP which went to the rescue broke down. With some trepidation, the one remaining LCVP was sent in, but this time all went well, and eventually all three boats were safely recovered.

The following day, the 15th, the weather was unfit for operations, so the Commanding Officer wisely seized the opportunity to give as many of the ship’s company as possible a well deserved and much needed rest. The 16th was spent in a quick trip to Rowley Island for the purpose of extending the survey of the “short-cut” route and recovering one of the Bell helicopters from the hydrographic party working on Rowley and Koch. *Labrador* returned to Hall that same evening, as the Chief of Naval Personnel, Rear-Admiral H.S. Rayner, DSC and Bar, CD, RCN, was expected to arrive on a three-day visit to the ship. The Admiral’s aircraft was delayed by weather, so *Labrador* spent the following day carrying out extensive radar calibrations before returning to Hall to await her visitor.

Admiral Rayner and his party⁸⁰ arrived early the following morning, and *Labrador* set out to erect more beacons. As the Bell had to return to Rowley to continue the survey work and the ice was too heavy for the boats, the beacon erection programme had to be postponed. Instead, *Labrador* proceeded through Navy Channel, between Rowley and the Spicer Islands, taking soundings as she went. Without any difficulty she reached the sounded area east of Rowley, thus becoming the first ship to navigate Navy Channel.

On the following day, the 19th, both the Bell helicopters were recovered from the hydrographic party on Rowley. After lying to during the night, *Labrador* returned to Hall to fly off the Admiral and his party for

return to Ottawa. The Admiral's visit was much appreciated, the more so because he took in hand the problem of mail deliveries to *Labrador* and succeeded in greatly improving the service. After landing Admiral Rayner and picking up mail the ship returned to Labrador Channel between Rowley and Koch Island, and on the following day recovered the hydrographic party, its helicopters, and equipment. The triangulation of the two islands had been completed and another of *Labrador's* commitments successfully met. As some four hundred miles of soundings in Labrador Channel still remained to be done, caches of fuel for the boats were established on Rowley for later use.

During the return passage to Hall on the 22nd a shoal discovered in the "short-cut" route was thoroughly investigated, a dangerously shallow point of five fathoms being located. Mail was picked up at Hall, and then *Labrador* set out for the south to meet the resupply force off Southampton Island.

The passage south took five days, not because conditions were difficult but because a good deal of scientific work was done en route. More



Figure 17. Admiral Rayner's departure. L/S Kenneth R. Canadian adjusts the admiral's lifejacket before flying ashore in a Bell helicopter to Site 30, August 1956. Credit: DND, Directorate of History and Heritage, Ottawa.

than thirty oceanographic stations were occupied, bringing the total for the voyage to over one hundred. Time was also spent in taking soundings, much of it in trying to locate two shoals marked on the existing charts. Neither of these shoals could be found in the positions given.

The ships of the task force were met in the appointed place off Seahorse Point, Southampton Island, at 0900 on 28 August. Captain Pullen flew aboard USS *Edisto* to confer with the Commander, Task Force 6.3, Captain A.G. Ward, USN, and to turn over the new charts prepared by *Labrador*. There were nine supply ships to be convoyed to northern Foxe Basin, and five of these were assigned to *Labrador*: the two LSDs *Fort Mandan* and *San Marcos*, the cargo ship USNS *Lieutenant George W.G. Boyce*, the petrol carrier *Peconic*, and the Canadian Department of Transport ship *Edward Cornwallis*. *Edisto* took charge of the remaining four.⁸¹

Shortly after 0930, the columns set out led by *Edisto* with her four ships. This leading column was made up of fast ships, and *Labrador* and her group were hard put to keep up, as *Peconic* could do little more than ten knots. Ice conditions were far better than during the convoy operations of 1955, when the northern supply force had set out some two weeks earlier in the season. Despite *Peconic*'s slow speed, good progress was made through the open water. Fog closed in during the early afternoon, but necessitated no reduction of speed, though it did lead to a rather amusing incident. *Lieutenant Boyce* was the ship next astern of *Labrador*, and in the fog she began to close up on the latter until she was almost in the towing notch. Captain Pullen politely signalled to enquire just what she thought she was doing. The unsuspecting *Lieutenant Boyce*, not detecting any hint of irony in the message, replied promptly and concisely: "ten knots."

During the night a little scattered ice was encountered, and speed had to be reduced to prevent damage to the cargo ships. The following day, conditions were excellent and by midnight *Labrador* and her column were at Hall. The convoy had taken some thirty-eight hours; last summer the same voyage had taken over five days. Here *Fort Mandan*, *Peconic*, and *Edward Cornwallis* were detached, while *Labrador* steamed on with the two remaining ships to Site Two on Rowley Island, where they arrived early next morning, the 30th.

That day a helicopter was sent to reconnoitre Labrador Channel to see whether ice conditions there were suitable for the sounding boat and the motor cutter. All was well, and on the 31st "Pogo" and a cutter, provisioned



Figure 18. LCVP proceeding ashore to Beechey Island from Labrador. Credit: DND, Directorate of History and Heritage, Ottawa.

for three weeks, were set down in Labrador Channel to complete the sounding of this important route. An LCVP was also lowered to pick up the cache left on the 21st and move it to a more accessible place. No sooner had the boats got away and *Labrador* turned back to Rowley than a blinding snow-storm, the first of the season, swept in from the north, reducing visibility to zero. The storm had no serious effects, though at its height the LCVP ran aground and did not get back to Rowley until the following morning.

The following day, 1 September, a gale was blowing, and it became necessary to recover the motor cutter in Labrador Channel. “Pogo” was left to ride it out and continue with soundings when the weather improved. That day and the next two, *Labrador* ran sounding lines in Navy Channel. At one point during the soundings she found herself with seven feet of water under the keel. As there was a Force Five wind, with six-foot waves, the situation was viewed with some concern. Shortly after the ship had withdrawn from the shoal area, a message came from *Edisto*, which was near Site Four at Longstaff, that her main motors had broken down and that the cargo ships she was escorting needed icebreaker support. *Labrador* was off immediately at best speed, but she had not gone far when *Edisto* radioed that all was well again and no help needed.

On the 4th, *Labrador* returned to Hall for mail and then proceeded via Navy Channel to erect radar beacons on the west coast of Baffin. En route the new charts *Labrador* had prepared of Navy Channel were

transferred to *Edisto* so she could take advantage of the short cut the former had recently discovered. On the 5th, two radar beacons were set up on the low-lying shores of Baird Peninsula, Baffin Island, the ship then making for Site Four to act as escort for the cargo ships there.

At noon on the 6th, *Labrador* arrived off Site Four, where *Boyce*, *San Marcos*, and *Peconic* were completing unloading operations. *Peconic* was unable to discharge all of her oil before she left. It seems that the three-mile pipeline leading from the beach to the main site was made up of fifty-foot lengths of pipe welded together. When shipped, these pipes had been sealed at both ends with wooden plugs to prevent moisture getting in and causing rust and corrosion. These plugs were not removed when the pipes were welded together, and *Peconic's* pumps were altogether unable to overcome such obstructions!

That day, at 2100, *Labrador* set out with the three supply ships to Site Three on Bray Island, arriving after an uneventful passage at 0730 on the 7th. While at Bray, *Labrador* was visited by Vice-Admiral J.M. Will, USN, Commander, MSTs; Rear-Admiral B. Mason, USN, Commander Task Force 6; his deputy, Captain O.C.S. Robertson, RCN; the Commander of TG-6.3, Captain A.G. Ward, USN, and Commander J.E. Plummer, USN, commanding *Edisto*. After the Admirals had left, the remaining officers conferred with Captain Pullen regarding *Labrador's* future activities. It was decided that, after being released from task force duties, *Labrador* would conduct a reconnaissance survey of the Gulf of Boothia, Prince Regent Inlet, and Bellot Strait before returning to Halifax about mid-October. This area, particularly Bellot Strait, was of considerable strategic interest. It had been found that the ships which came in from the Pacific to supply the central and western DEW Line bases had very little time in which to accomplish their missions before heavy ice cut off their retreat. An alternative escape route to the east, perhaps through Bellot Strait, would prove very useful in the event of the Pacific force being trapped.

On the day following the conference, the 8th, *Edisto* arrived to relieve *Labrador*, and the latter then set out to Hall as escort to *Boyce*, who had completed her unloading. Fairly heavy ice was met in Navy Channel, but *Boyce* was brought through safely to Hall early on the 9th. At Hall, *Labrador* took on fresh supplies from *Fort Mandan* and *Donner*. Once again, as in 1955, the perishables had perished, and the ship's personnel had to do without the fresh vegetables to which they had been looking forward.

During the next three days *Labrador* operated in central Foxe Basin, occupying oceanographic stations and investigating shoals. The motor cutters ran over one hundred miles of soundings while delineating a dangerous shoal, known unofficially as Croal Shoal,⁸² running athwart the main ship channel through Foxe. Most of the time, however, was spent on oceanographic work, and seventeen stations were occupied in the central Basin. The ship returned to Hall on the evening of the 12th.

At Hall, a party was landed to conduct an aerial reconnaissance of Fury and Hecla Strait and the waters to the west in preparation for the coming operation. *Labrador* herself in the mean time set out to try to find a deep-water channel between Prince Charles Island and the Spicer Islands which could be used as an alternative to Navy Channel in emergencies. The channel was found, but no attempt could be made to sound it adequately, as the ship had to return to Hall to begin preparations for the expedition to the west.

Labrador arrived back at Hall early on the 14th and spent the next two days settling her affairs in northern Foxe Basin. "Pogo" returned from Labrador Channel after running 480 miles of soundings and was taken aboard. All remaining shore parties were embarked, except for the divers, whose services were still required, and who were flown back to Halifax when the resupply mission was completed. After last minute conferences with *Edisto*, who was to accompany her west, *Labrador* sailed from Hall at 2300 on 15 September.

During the 16th, *Labrador* occupied oceanographic stations and conducted current studies while *Edisto* began to erect a radar beacon on an island at the eastern end of Fury and Hecla Strait. When the latter experienced difficulties in erecting the beacon, *Labrador* decided to go it alone and pressed on through the Strait. Ice conditions were most favourable, and *Labrador* had no difficulty in reaching the Gulf of Boothia. The helicopters set up a radar beacon on Crown Prince Frederick Island at the western end of the Strait to help *Edisto* in her transit, and then the ship charged into the heavy pack which barred the way to the open waters of the Gulf of Boothia. Conditions in the pack were very difficult, as new ice had begun to form, binding together the heavy floes of polar and one-winter ice. Not until 1630 on the 16th did *Labrador* reach open water where she could continue her oceanographic and hydrographic work.



Figure 19. Cdr. C.A. Law presenting scroll to Capt. T.C. Pullen in commemoration of the first East to West passage of Fury and Hecla Strait. Credit: DND, Directorate of History and Heritage, Ottawa.

Edisto, in the mean time, had passed through the Strait and entered the heavy ice. All was going more or less according to plan when, at 2100 on the 17th, a message was received from *Edisto* that she had lost her starboard propeller and was in difficulties. She was lying to off the south-east corner of Crown Prince Frederick Island in the midst of a pack which was hourly becoming more solid due to the formation of new ice. *Labrador* reversed course immediately and, by 0500 on the 18th, was within eighteen miles of *Edisto*. The going was very difficult, however, and it took eight hours to make these last few miles. Not only was the ice very heavy, but *Labrador* was not so efficient an icebreaker as she had been during the early weeks of the cruise. As fuel and supplies were used up, the ship rose higher and higher in the water. Even with all heeling and trimming tanks flooded *Labrador* was noticeably lighter now than she had been in July, and bouncing off a floe instead of cracking it or shouldering it aside was becoming a more common experience. Furthermore, as the ship rose in the water so did the propellers, thereby increasing their vulnerability to ice damage.

On reaching *Edisto*, the *Labrador* broke her out and set course eastward, cutting a path which *Edisto*, with her one propeller, could follow. Ice conditions to the east were not unfavourable and, by 0845 on the 19th, the ships had reached relatively open water in Foxe Basin. Here, off Tangle Island some fifty miles north of Hall, *Labrador* left *Edisto* to her own devices and headed back to the Gulf of Boothia. The decision to continue the western survey was not an easy one to make. If for any reason *Labrador* were to break down while in the Gulf, it would probably not be possible to extricate her, and she would have to spend the winter in the ice. Her Captain was well aware of this when he decided to steam west, his attitude being: "If *Labrador* is to operate in ice and in uncharted waters only when in company with another icebreaker, then very little will be achieved."⁸³

Labrador's third transit of Fury and Hecla was completed by 2100 on the 19th, and as soon as the heavy pack was met, the ship lay to for the night. The following day was one of the most trying of the entire cruise. Heavy floes, some as much as twenty feet thick, cemented together by eight inches of new ice, made progress very difficult. During the first four hours, the ship covered only five miles. At one point, *Labrador* was thoroughly beset, taking over an hour to work herself free. During the first few hours, the further the ship struggled westward the worse the ice conditions became, but then the pack began to loosen and, by 1900, *Labrador* was in open water.

The following day, the 21st, *Labrador* made her way north through the Gulf and into Prince Regent Inlet, stopping to take oceanographic stations en route and, by 1230 on the 22nd, had reached the eastern entrance to Bellot Strait. On a point of land on the Somerset Island side of the Strait is an abandoned Hudson's Bay Company post, Fort Ross, and a party went ashore to examine the buildings and to deposit a document recording *Labrador's* visit.

It was decided to attempt the passage of Bellot Strait at once, and "Pogo" was sent to lead the way. Bellot Strait is an impressive place. It is narrow, some three-quarters to one mile in width, and about twenty miles long. On both sides towering cliffs, 1500 to 1600 feet high, rise sheer from the water. Through this narrow gorge the tidal currents race back and forth, sometimes attaining a speed of eight knots. No sooner had "Pogo" entered the Strait than she reported shoaling water. Four times the little boat, followed by *Labrador*, attempted to penetrate the Strait, and each time she was forced back by shoals. The tide was now running strongly to the west, and Captain Pullen decided it would be prudent to abandon the attempt for

the time being. That this decision had been wise was discovered later; *Labrador* had been within a very short distance of a rock, since named Magpie Rock, lying hidden only three feet below the surface. This is a vivid illustration of the value of helicopters when sailing in uncharted waters; had the weather been suitable for flying, one of the craft would probably have spotted this dangerous rock.

Recognizing that it would probably be impossible for *Labrador* again to force her way through the pack barring her from Fury and Hecla Strait, it was decided to check ice conditions in the northern end of Prince Regent Inlet, now the only escape route, before making another attempt at Bellot. At 1630 on the 22nd *Labrador* therefore headed north. During the next two days snow and strong winds hindered scientific work but did not prevent the ship from discovering that the route to Lancaster Sound was open. As soon as this had been determined course was set back to Bellot where the ship arrived at 0800 on 25 September.

The weather was fine for both helicopters and boats so “Pogo” was put to work sounding the entrance and an LCVP lowered to erect a radar beacon ashore. Captain Pullen flew off to reconnoitre from the air. When



Figure 20. Labrador in Fury and Hecla Strait en route to Brevoort Island Harbour. Credit: DND, Directorate of History and Heritage, Ottawa.

“Pogo” reported finding Magpie Rock the helicopter flew over it, and the Captain was much impressed by the sight of the swirling, boiling waters eddying over and around it. The realization of how close *Labrador* must have come to striking it a few days before detracted not at all from the impressiveness of the sight.

Though the helicopters reported that the Strait was all free of ice and apparently quite deep once the eastern shoal had been negotiated, the soundings made by “Pogo” convinced the Commanding Officer that a more detailed survey was necessary before it would be safe to attempt the passage. As the weather was deteriorating, making boat work impossible, it was decided to leave Bellot Strait for next year, and at 1630 course was set for Lancaster Sound.

There was a moderate gale blowing, but the passage north was uneventful, and at noon on 26 September *Labrador* lay to off Beechy Island in Erebus Bay in the position occupied 104 years before by HMS *North Star*. It was a proud moment for Captain Pullen. *North Star* had been under the command of his great-uncle, Commander W.J.S. Pullen, RN, and her master had been another T.C. Pullen, also a great-uncle.⁸⁴ Recreation parties were sent ashore, and Captain Pullen himself made a tour of the various cairns and monuments, depositing a document commemorating *Labrador's* visit in the cairn which honours the memory of Sir John Franklin.

Upon leaving Erebus Bay, course was set for Resolute. After stopping to occupy oceanographic stations en route, *Labrador* arrived at Resolute Bay at 1100 on the 27th. Here a helicopter flew in to pick up mail, and then the ship turned east down Lancaster Sound, homeward-bound.

Labrador's work was not yet complete, and the scientists continued their work during the passage of Lancaster Sound. A side trip was also made to the little settlement of Arctic Bay, half way down Admiralty Inlet, while “Pogo” was occupied in taking soundings out in the Sound. As the ship left Admiralty Inlet late on the 29th the weather rapidly worsened, and *Labrador* crossed the Sound to seek shelter off the south coast of Devon Island. The following day the wind abated, and oceanographic stations were occupied across the eastern entrance to Lancaster Sound. By evening, however, there was another gale blowing, and the ship was hove to to ride it out. It had been intended to occupy an oceanographic station out in Baffin Bay, but when the gale showed no signs of abating this plan was given up and course set south to get in the lee of Bylot Island. On the morning of 2 October,

Labrador reached the shelter of Pond Inlet, and a visit was paid to the settlement there.

The weather began to improve in the afternoon, and at 1700 *Labrador* set off again. With a following wind the ship made good time during the 3rd, but on the 4th another severe gale began to blow up. *Labrador* was not far from Brevoort Harbour, which she herself had surveyed at the start of the cruise, and it was decided to seek shelter there. It was a wise decision, for soon a full gale was howling down from the north with gusts up to eighty knots. Even in her sheltered anchorage the *Labrador* spent a most uncomfortable night.

Early on the 5th it was possible to put to sea again and, for the next three days, the ship made good progress and oceanographic stations were occupied frequently during the passage. On the 8th, the wind began to rise again, but *Labrador* was able to reach the Strait of Belle Isle before the seas became too heavy. On the following morning the ship anchored in York Bay, Newfoundland, to clean up a little before the arrival of the Flag Officer, Atlantic Coast, who was to join *Labrador* at Stephenville. For two days the ship remained in York Bay, getting everything shipshape, and then sailed at 2200 on the 10th to take over the disabled vessel *Lady Cecil* from the USS *Fort Mandan*. At daylight on the 11th *Labrador* took over the tow, arriving with the *Lady Cecil* at Corner Brook in the afternoon. As the disabled ship had no means of propulsion and no anchors, *Labrador* hauled her into the notch and literally pushed her alongside her berth.

Upon leaving Corner Brook, *Labrador* proceeded to Stephenville, arriving there shortly after midnight on the 12th. In the morning, an aircraft arrived carrying Rear-Admiral R.E.S. Bidwell, CBE, CD, RCN, Flag Officer, Atlantic Coast, who was coming to join *Labrador*, as he had in 1955, for the last lap of her passage back to Halifax. The custom of Admiral Bidwell of seeing the *Labrador* off when she left for the Arctic and of joining her when she returned did much for morale. It brought home to the ship's company, more than any number of congratulatory messages would have done, the esteem in which their ship was held and the importance of the work they were doing.

At 1130, *Labrador* set out for Halifax. The weather was fine, and at full power the passage did not take long. By 1445 on 13 October *Labrador* was alongside Jetty 2 in the Halifax Dockyard where a band was turned out to greet her. Friends and relatives lined the jetty and, mingled with them,

were the newspapermen who could always rely on an interesting story when *Labrador* returned from the Arctic.

But the stories most welcome to the reporters – interesting anecdotes about polar bears, walruses, and little foxes, and tales of dramatic rescue and narrowly-averted disaster – were of little importance beside the bare record of *Labrador's* accomplishments in the summer of 1956. She had been at sea for 102 days and had steamed 18,606 miles, more than 12,000 of these in uncharted waters. She had performed an immense amount of hydrographic work, running some 12,000 miles of soundings, preparing numerous charts and sailing directions, taking many panoramic and radar photographs, and otherwise contributing to the safety of navigation in the waters of the Canadian Archipelago. The oceanographic work performed constituted the most extensive programme of such studies ever undertaken in the Canadian Arctic and included:

200 oceanographic stations,
263 bathythermographic casts,
1,536 salinity samples,
923 oxygen analyses,
486 phosphate determinations, and
72 bottom samples.

Other scientific work of great importance was conducted in the fields of marine biology, ice physics, and ice observation. This record of scientific achievement is the more impressive since the DEW Line resupply operation was *Labrador's* primary commitment, and scientific work was on a “not to interfere” basis.

Though *Labrador's* scientific achievements were impressive it would not do to ignore her work in support of the resupply force. One of the most important units in the task force, she conducted the preliminary reconnaissance and prepared essential charts and sailing directions for the ships supplying Brevoort Harbour and the four sites in northern Foxe Basin. In addition, she acted as an escort icebreaker for the Foxe area and was available for rescue and salvage operations should they become necessary. Not the least of her achievements in 1956 was her rescue of *Edisto* from the ice of the Gulf of Boothia. Her preliminary reconnaissance of the Gulf of Boothia, Prince Regent Inlet, and the eastern entrance to Bellot Strait was also of great value and laid the groundwork for future operations in the area.

For almost three months *Labrador* remained at Halifax. The ship's company were given their leave, and during most of this time the ship was deserted except for a skeleton crew carrying out routine maintenance tasks. On 4 December, the ship was docked to have her propellers replaced. Considering the length of time the ship had operated in heavy ice, the propellers were in excellent condition, the damage being confined to the tips. Later in the month a defective echo sounder transducer was replaced, but this was again done by the divers, and it was not necessary to dock the ship.

On 7 January 1957 *Labrador* sailed from Halifax for Jamaica to paint ship. As during last year's southern cruise the weather was foul, and for the next five days *Labrador* pitched and rolled in winds of up to seventy-three knots. For the second time in its career the table in the Captain's day cabin broke loose and, with its eight chairs strapped securely to it, charged around in the cabin, smashing every breakable object within its reach. It was a most uncomfortable passage until the wind moderated on the 13th; thereafter the ship enjoyed fair weather until her arrival back at Halifax.

Labrador arrived at Montego Bay, Jamaica, on the 15th and remained there for two weeks while the ship was being painted. Montego Bay proved to be a pleasant spot; the inhabitants were very friendly, and full use was



Figure 21. *Labrador* in ice in the Gulf of St. Lawrence, 1956. Credit: DND, Directorate of History and Heritage, Ottawa.

made by the ship's company of the excellent facilities for swimming and sun-bathing. The ship sailed on the 30th for a recreational visit to Port Everglades, Florida, before returning to Halifax. The visit to Port Everglades was pleasant but uneventful, and *Labrador* set off for home on 6 February. For once the ship did not encounter a storm, but it was a narrow escape, for on the 10th, just after *Labrador* had reached Halifax, a violent gale blew up.

Labrador remained alongside until 21 February, when she left on her second Gulf of St. Lawrence winter cruise. The CNAV *Sackville*⁸⁵ was taken in tow at Halifax for towing to Sydney. Very heavy ice was met near Scatari Island off Sydney, and *Sackville* had to be pulled into the notch while *Labrador* battered her way through. Breaking through heavy ice with a ship in the notch is a difficult operation, as great care must be exercised when going astern, but *Labrador* overcame all obstacles, and *Sackville* was safely delivered to Sydney at 1600 on the 22nd.

Ice conditions in the Gulf were very much worse than in 1956, but not severe enough to defeat the *Labrador*. The scientific programme which had been planned was fully carried out and, during the month, some forty-four oceanographic stations were occupied. Upon leaving the Gulf, *Labrador* made her way up the St. Lawrence to Quebec where she arrived on the 28th. The river ice proved to be no problem; the main difficulty was to keep to the channel from which the usual navigational aids, such as lights and buoys, had been removed.

Labrador left Quebec on 1 March, and after an uneventful passage arrived back at Halifax on the 4th. The next week was spent in hurried preparations for *Labrador's* first, and only, long non-operational cruise, a cruise which was to take her to England, Norway, and Denmark.

At 0900 on 11 March *Labrador* stood out to sea to begin her first transatlantic crossing. Strong winds and heavy seas buffeted her about during the first four days, but thereafter the weather improved, and the ship was able to make up for lost time. Precisely on time, she arrived at Portsmouth at 1500 on 19 March.

Ten very busy but pleasant days were spent at Portsmouth. Great interest was shown in the *Labrador* not only by the naval authorities but by such organizations as the Scott Polar Institute and by the general public. More than the usual number of official calls were paid and returned, and the Commander-in-Chief, Portsmouth,⁸⁶ himself found time to walk round the ship. As usual the press was very interested in *Labrador*, though some of the

stories written about her contained more melodrama than plain, unadorned fact.

Labrador left Portsmouth on 29 March and shaped course for Oslo, Norway, where she arrived on 1 April after an uneventful passage. It is perhaps worthy of record that she berthed alongside Tyveholmsutstikkeren which, as the Commanding Officer points out, “despite the formidable length of the word, is like any other decent jetty.”⁸⁷ The visit to Oslo was at least as successful as the one to Portsmouth. Keen interest in the ship was shown by the general public, and 3,000 people took advantage of an invitation to come aboard. There were receptions and other entertainments in progress most of the time. The ship’s hockey team was challenged to a game by the second best team in the city and was most soundly beaten. A visit was paid to the museums exhibiting Nansen’s famous polar exploration ship *Fram*, Thor Heyerdahl’s raft, the *Kon Tiki*, and a number of ancient Viking long-ships.

On the morning of the 8th *Labrador* set out for Copenhagen, where she arrived the following morning. As she came in to berth, several hundred people assembled on the quay to welcome her. This was merely a taste of what was to come, for the welcome accorded *Labrador* in Copenhagen far exceeded even those of Portsmouth and Oslo. Following the customary press conference, the usual courtesy calls were made and, what is more unusual, they were all returned in person by the dignitaries involved. Then began the hectic round of entertainments: a reception by His Excellency, the Canadian Ambassador Mr. H.F. Feaver; a supper dance given by Vice-Admiral A.H. Vedel, the Commander-in-Chief, Royal Danish Navy; a wreath laying ceremony at which Captain Pullen officiated; a large luncheon given by the Commander-in-Chief, RDN; a talk by Captain Pullen for officers of the Danish Navy; an official luncheon in *Labrador*; a reception given by the Canadian Naval Attache; a dinner party at the Canadian Embassy; and a second reception in *Labrador*. In addition, *Labrador* played host to over 6,000 people who came aboard to look over the ship. All this in four days.

No doubt the senior officers in *Labrador* were looking forward to the comparatively restful occupations of being at sea when the ship left Copenhagen on the morning of the 15th, but there was to be little rest, at least for the Commanding Officer and the Navigator, during the next two days. Taking a ship of *Labrador*’s draught from Copenhagen, north around Zealand and through the Kiel Canal, out into the North Sea can be almost as nerve-wracking as an uninterrupted round of receptions and dinners

ashore. Neither the Captain nor the Navigator was able to leave the bridge until 0200 on the 17th, when the pilot was dropped at the mouth of the Elbe and the ship stood out into deep water.

The passage home was relatively uneventful. The weather was far from perfect, and off Cape Race the ship encountered 10/10 pack-ice which slowed her down considerably. *Labrador* arrived back at Halifax on 26 April where she remained for the next two months preparing for the summer's Arctic cruise.

Labrador's programme for the 1957 summer season was a most ambitious one. She was to survey and prepare landing beaches at ten radar detection sites stretching from northern Newfoundland along the Labrador coast to Resolution Island. Following this she was to conduct surveys and support resupply operations on the south-east coast of Baffin Island. After a short goodwill visit to three Greenland ports, her third and most important mission was to make a complete survey of Bellot Strait to determine whether it could be used by deep draught ships. She was then to make a reconnaissance of Barrow Strait and Wellington Channel before returning to Halifax. Oceanographic and other scientific work was, of course, to be carried on throughout the cruise when circumstances permitted.

At 1100 on 25 June, when Rear-Admiral Bidwell had gone ashore after his customary farewell visit, *Labrador* stood out to sea to begin her fourth and, as it turned out, probably her last Arctic expedition under the command of the RCN. The first port-of-call was St. John's, Newfoundland, where a USN officer with a team of writers and photographers was embarked. This team was to record in detail *Labrador's* activities during the summer, particularly the Bellot Strait mission. An officer of the US Army also came aboard to accompany the ship during her survey operations in Newfoundland and along the Labrador coast.

Labrador did not remain long at St. John's, as she was called upon to take over icebreaker escort duties on the Labrador coast for the *Eastwind*, which had been forced to return to Boston with a damaged main engine. These duties involved the escorting of two US tankers through the pack which barred them from Hamilton Inlet, and shortly before midnight on the 28th *Labrador* was in contact with the two ships, *Kankakee* and *Memphis*, off the Inlet. By 0430 the ships were in the ice, steaming westward toward the Inlet. The ice was not very heavy and all would have been well had *Memphis* kept closed up behind *Kankakee*. Dawdling along some two miles astern, the former had trouble with the heavier floes,



Figure 22. USCGC Eastwind in the ice. Credit National Science Foundation

eventually rupturing one of her forward tanks and losing eight hundred barrels of bunker fuel. *Kankakee*, who kept close astern of *Labrador* throughout, had no trouble whatsoever. When *Edisto* arrived, and offered assistance, *Labrador* was only too happy to turn over *Memphis* to her. By 1700 *Labrador* and her charge were into relatively open water west of George Island, whereupon the former set course back to Newfoundland.

During the passage south, *Labrador* narrowly averted a dangerous collision. In fairly heavy ice, on 1 July, and with the visibility reduced to a few yards by fog, the ship was approaching St. Anthony on the north-east tip of Newfoundland. Suddenly out of the fog appeared a gigantic iceberg, dead ahead. The radar had given no indication of its presence. Once again *Labrador's* tremendous power proved its worth, and the ship was brought to a stop just short of the berg. So close was she that when she was manoeuvring clear the side actually scrapped the iceberg.

To make matters worse this hair-raising experience had been suffered in vain, for St. Anthony's harbour was full of ice. *Labrador* withdrew to seaward and sailed south making for La Scie further down the coast. She arrived there at 2000 on the 1st and at once set to work putting out her boats and landing her diving team to prepare the approaches and the beach for the

forthcoming landing operations. The officials ashore were visited to determine whether they had any problems and whether all preparations had been made to receive the supplies when they arrived. By noon on the following day, *Labrador's* work at La Scie was complete, and back she went to St. Anthony.

For the next seven days *Labrador* performed similar tasks at St. Anthony, and at Fox Harbour, Spotted Island, Cartwright, Cutthroat Island, Cape Makkovik, Hopedale, and Saglek along the Labrador coast. During these operations the weather remained foul, with continuous rain or fog but, with the exception of one incident, all went well. The exception occurred when the radar screen showed as a lead what turned out to be the shadow effect of a large iceberg. Fortunately, the visibility was reasonably good, and the berg was spotted before it could do any harm.

The survey of the Labrador sites completed, the ship made for Resolution Island where she arrived on 9 July. Here the divers were put ashore to begin preparing a landing beach, while *Labrador* headed west into Hudson Strait. It had been intended to visit Lake Harbour, but when heavy ice was met on the 10th this plan was abandoned. Instead, a survey of the Gabriel Strait area was begun. This year, instead of the BPI, the *Labrador's* hydrographers were using an apparatus called a tellurometer⁸⁸ for controlling sounding operations, and as these devices require a direct line of sight, hydrographers were to be landed by helicopter on two prominent headlands before the survey was begun. Two helicopters were engaged in this operation, and one of the two hydrographers had been landed when a thick fog suddenly descended, reducing visibility to zero. Both helicopters were eventually "talked down" through the fog and homed to a safe landing on the deck, but the civilian hydrographer was left sitting on the cliff top, carrying his tellurometer but equipped with no emergency supplies. It was essential to rescue him before nightfall, and fortunately the fog cleared briefly, allowing a Bell (HTL4) to fly off and pick him up. After this incident the survey was abandoned, and *Labrador* made her way to Frobisher Bay to investigate ice conditions there.

Frobisher Bay was entered on the 11th, but the ice was too heavy to permit a deep penetration as *Labrador* was scheduled to arrive in Greenland on the 15th. She therefore reversed course and made for Resolution Island to pick up the diving team and to land civilian hydrographers⁸⁹ and the two Bell helicopters which were to assist them in surveying the island during the absence of the ship in Greenland. *Labrador* left Resolution on the 12th and

set off across Davis Strait. The passage was slow as oceanographic stations were occupied en route and as heavy fog persisted throughout, but *Labrador* arrived at Narssaq in south-western Greenland on the morning of the 15th as planned. This visit to Greenland had been tentatively planned during *Labrador's* stay in Copenhagen in April, and it was intended that the ship embark a party consisting of the Canadian Ambassador to Denmark, His Excellency Mr. H.F. Feaver, and the Danish head of the Greenland Department, Dr. Eske Brun, for a visit to three Greenland ports. When *Labrador* arrived at Narssaq, however, the party had grown considerably in numbers, and now included not only the Ambassador and his wife and Dr. Eske Brun, but also the famous atomic scientist Professor Niels Bohr and his wife, and five other guests. This was a somewhat larger party than *Labrador* could well cater to, particularly as it included three women, for whom accommodation was not normally provided in RCN warships. After some shuffling around of cabin space, however, all the guests were soon made comfortable, and *Labrador* set off down the west Greenland coast.

The second port-of-call in Greenland was at Gronne Dal, where *Labrador* and her distinguished party received a welcome which would have been considered adequate in a settlement twenty times its size. The visit was, however, somewhat marred by a near disaster. The ship's company had been given leave, and two of the men went mountain climbing. They were by no means expert in the art, and one of them "froze" when almost to the top of a very steep rock face, being unable to retreat or advance. The other fortunately was able to get down and go for aid, and Danish mountaineers rescued his companion. They were only just in time; the man had been clinging to the rock face with his fingernails, one might say, for over four hours and had during that time slipped down some thirty feet. In another few moments he would undoubtedly have had to let go from sheer exhaustion and have plunged hundreds of feet to his death on the rocks below.

Another event which partially detracted from the jollity of the celebrations, at least so far as *Labrador's* Commanding Officer was concerned, was when a large iceberg drifted into the fiord where the ship lay. The berg was making straight for the ship when it grounded some 250 feet abreast of the funnel. As the water at both ends of the jetty to which *Labrador* was secured was quite shallow, it seemed for a time that she was completely trapped. As it turned out, there was room for the ship to escape, and this she did shortly after midnight on the 17th.

Labrador's third and last call in Greenland was to Gothaab, the capital of the island, where she arrived late on the same day. En route *Labrador* passed a small Danish coaster who dipped her ensign twice in a double salute. This rather puzzled the ship's company until it was explained that the second salute was to the ship, the first having been for Dr. Eske Brun, the unofficial "king of Greenland." *Labrador* remained at Gothaab until the morning of the 19th, all the company taking advantage of this opportunity to spend a short leave ashore.

Upon leaving Gothaab, *Labrador* made straight for Resolution, arriving there at 1300 on the 21st. The hydrographers there had completed their survey and were re-embarked, but the helicopters could not be landed immediately because of the fog. During the ship's absence one of the helicopters had been of assistance in locating the body of a man from the radar station who had been killed during an unauthorized mountain climbing expedition. The body was found at the base of a nine hundred-foot cliff, and the Commanding Officer of *Labrador* comments that "the flying skill displayed by Lieutenant D.A. Oliphant working in against the face of the cliff was remarkable."⁹⁰

On the following day, the helicopters were able to return to the ship after she had been brought close inshore. "Pogo" spent the day taking soundings in an effort to find a deep-water channel between Edgell and Resolution Islands. The next day, the 23rd, *Labrador* set out for Frobisher Bay, a settlement near the head of the bay of that name on south-eastern Baffin Island. On the way in, supplies were airlifted to Ney Harbour where a Dr. MacLaren and his wife were conducting studies for the Fisheries Research Board. Ice conditions were not nearly so difficult as they had been when *Labrador* first investigated the bay and, early on the 24th, she arrived off Frobisher's Farthest, a point where the bay narrows considerably and is congested with islands, rocks, and shoals. At this time there were available two passages through the islands, Deep Passage and Bartlett's Narrows⁹¹ but, as the former was jammed with ice, the latter and more direct route was taken. Once through the maze of islands all was clear sailing and *Labrador* arrived at Frobisher at 2000 that same day. Upon arrival, Acting Commodore H.L. Quinn, DSC, CD, RCN, who had flown in to observe icebreaking operations, was embarked.

The weather was not favourable for surveying, and it was the morning of the 26th before work could be started. The two Bells were flown off carrying the hydrographers⁹² and a tellurometer. Shortly after their departure

a message arrived saying that one of them had crashed. The second Bell was directed to the scene and reported that the wrecked machine was upside down but that its two occupants appeared to be unhurt. It also reported that it was going in to land. For more than an hour nothing was heard from this aircraft and then, at 1340, a fragment of a message was picked up over the distress frequency to the effect that the only possible approach for a search party was from the north-west end of York Sound.

It was now obvious that something had happened to the second Bell, and *Labrador* worked her way around into York Sound in an attempt to get closer to the scene of the accident. Once there, R/T (radio-telephony) reception between ship and helicopter was strong and clear. The HUP helicopter meanwhile was still on board. It had been classified as unserviceable because of some unlocated trouble with the controls, but now the remaining pilot, Lieutenant Oliphant, offered to fly it off to rescue the downed men. The wrecked craft was near the top of a 2,400-foot mountain, in a position where air turbulence made a helicopter landing very dangerous except in ideal flying weather. It was decided, therefore, not to jeopardize the one remaining craft but to wait for the weather to improve. Instead of moderating, the wind increased, so rescue efforts had to be confined to dropping food, water, and essential supplies. The drops had to be made from five hundred feet, though even these were dangerous owing to the great turbulence. Considerable ingenuity was shown in organizing these impromptu air drops; water was delivered in the form of ice cubes, and hot soup was sent down in steel flasks from the ship's fire extinguishers.

When an attempted air rescue at 0500 on the 27th failed, a shore party was sent in to try to find a safe route up and down the mountain. Remembering the unfortunate results of the mountain climbing expedition at Gronne Dal, it was with some trepidation that Captain Pullen sent the party ashore, and he was greatly relieved when the stranded party suddenly reported that the wind had dropped and that a helicopter approach could now be safely made. Within moments, Lieutenant Oliphant had the HUP in the air hovering over the summit. Lieutenant Zbitnew and Mr. Dunbrack scrambled in and were soon safely aboard ship. Again the HUP took off, but now a dense fog could be seen rolling in from the west, obliterating every feature of the countryside as it rolled across. Soon, the HUP was over the summit; Mr. Van Dyck climbed in, and then Lieutenant-Commander Vibert. Scarcely had the latter begun to scramble in than the fog engulfed everything, and at the same instant the HUP shot skyward. When the

Lieutenant-Commander realized that his legs were dangling not four feet but hundreds of feet above the rocks, he wasted little time in hoisting himself into the craft and shutting the hatch. Fortunately the fog was less dense at ship level than on top of the mountain, and in a few moments the HUP had landed on safely. The final rescue operation had taken only some forty minutes. The Commanding Officer in his Report of Proceedings warmly commended the pilot of the HUP, Lieutenant D.A. Oliphant, RCN, for the courage and flying skill shown throughout the operation.

After recovering the climbing party, *Labrador* returned to Frobisher Bay to land Commodore Quinn and then sailed back to Resolution Island.



Figure 23. Frogman in the ice. In *United States Navy. Military Sea Transportation Service. Arctic Operations: Public Information Report, 1957.*

Here *Edisto* was waiting and, after *Labrador* had picked up her mail, the two set off in company towards Brevoort Harbour. On meeting the pack at 0700 on the 30th *Edisto* stopped to await the arrival of the supply ships, while *Labrador* went on to Brevoort. The ice was much lighter than it had been the previous summer and, by 1300, *Labrador's* divers were at work preparing the landing beaches. Five hours later the cargo ships arrived, escorted by *Edisto*, and unloading began.

Labrador remained at Brevoort until 3 August, extending the surveys previously made of the harbour and its approaches, acting as ice escort for ships which had completed unloading, and in general assisting with the resupply of Brevoort. All went well, and by 1430 on the 3rd *Labrador* was on her way from Brevoort escorting the last of the supply ships into open water.

Upon leaving her charges, *Labrador* entered Frobisher Bay and proceeded to York Sound, the scene of the helicopter accident, arriving there on the 5th. Here a salvage party under the ship's executive officer, Commander C.A. Law, was landed to investigate the possibility of

recovering at least one of the wrecked aircraft. When the party had been landed, *Labrador* sailed to rendezvous with *Eastwind* near Edgell Island, from whom she received a HUP which the latter had picked up for her at Halifax, a Bell which was being loaned to *Labrador* by the USN, and 1,000 pounds of stores.

When the ship returned to York Sound early on the 6th, the salvage party had made no progress. High winds, driving rains, and fog had made climbing impossible, and the only matters of interest the party could report were that the tents leaked badly and that the ship's chaplain, who had insisted on accompanying the party, had been eating sandwiches made from sardines and honey.

Leaving the party to wait for better weather, *Labrador* set off for Frobisher, stopping at Ney Harbour en route to call on Dr. MacLaren and his wife. Early on the 7th, having reached the islands near Frobisher's Farthest, "Pogo" was lowered to carry out a survey, while the ship went on to Frobisher to pick up mail. On the morning of 9th, *Labrador* left Frobisher to return to York Sound. When "Pogo" was picked up en route, the hydrographers reported finding a new and much better channel through the islands. The party at York Sound had still made no progress, indeed they had not even been able to see the mountain through the fog, let alone climb it. When the weather was no better the next morning it was decided to embark most of the party, leaving only three die-hards who wished to remain another few days in the hope of improved weather.

Labrador sailed out of the bay towards Resolution Island to make contact with two USNS tankers, *Tamalpais* and *Tonti*, for whom she was to provide ice escort to Frobisher. At 0800 on the 10th, the two ships were met and set course into the bay. The convoy made good progress until it entered the pack, where the civilian-manned *Tamalpais* became so cautious that speed was reduced to about half a knot. It took considerable encouragement from *Labrador* to get her to increase it to some four knots. By dark the ships had reached the dangerous narrows and lay to for the night. In the morning *Labrador* went on ahead to investigate ice conditions, picking up an MSTs ice pilot for *Tamalpais* from a USNS ship north of the narrows while doing so. That day conditions for passing a convoy through the narrows were unfavourable, and it was not until the morning of the 12th that the ships set out.

It had been forecast that the fog would lift, but this did not occur, and consequently the convoy missed the high water slack which provided

the best conditions.⁹³ Heavy ice had drifted in since the last reconnaissance, and all in all the passage proved most difficult. Not until midnight did the convoy reach Frobisher, and then only after *Labrador* had experienced several hair-raising escapes from being run down by the 22,000-ton *Tamalpais* astern of her. In ice convoy it is the practice to keep the ships well closed up and to steam at the best practicable speed. Occasionally *Labrador* would be temporarily stopped by a heavy floe and, as a 22,000-ton tanker is not the best ship to manoeuvre in close quarters or to bring to a stop, near collisions were a fairly frequent occurrence.

The hazards of this night convoy had turned thoughts to the new and safer channel through the narrows which “Pogo” claimed to have found between Pike and Resor Islands. In the morning, *Labrador* set out to investigate it. At the entrance, “Pogo” was lowered to lead the way. Through the channel went “Pogo” closely followed by *Labrador*. It proved to be straight, deep, and safe and, when the southern entrance was reached, the two vessels reversed course and sailed back towards Frobisher. The discovery of this channel, named Resor-Pike Channel by *Labrador*,⁹⁴ was of the greatest importance to Frobisher. For over fifteen years ships had been relying on tortuous, dangerous, longer, and often unusable routes through the narrows;⁹⁵ now, the use of Resor-Pike Channel would immensely simplify the resupply of Frobisher.⁹⁶

After refuelling from *Tamalpais*, embarking stores and gear, and taking on board thirty USAF personnel destined for Resolution Island, *Labrador* sailed at 0200 on the 15th on the first leg of her journey to Bellot Strait. She was to have escorted two USNS ships through Resor-Pike Channel, but when she arrived at the rendezvous at the northern entrance the ships had already passed through on their own. It was a striking commentary on the value of the work done by *Labrador* a few days before.

Labrador stopped at York Sound to take off the three climbers. They had had two days of fine weather, and two of them had reached the top and salvaged as much movable gear as they could. They reported that one of the Bells appeared to be in very good condition. There was, however, no time to attempt salvage, and *Labrador* pressed on to Resolution where she arrived at 2145 that same day. When the USAF personnel had been put ashore the ship sailed north into Davis Strait.

The four-day passage through Davis Strait, Baffin Bay, and Lancaster Sound was entirely uneventful, and *Labrador* arrived at Resolute Bay at 2300 on the 19th. The following day, she sailed southward into Prince

Regent Inlet, making for the eastern entrance to Bellot Strait. Oceanographic stations were occupied en route and it was late on the 21st before *Labrador* arrived off Bellot. Fog and rain prevented operations, so the ship lay to during the night.

Operation *Bellot*, as it was called, was organized as a joint operation consisting of *Labrador* as Task Unit 6.5.0, and the USCG Cutters *Storis*, *Bramble*, and *Spar* as TU-6.5.1. The two units together were known as Task Group 6.5, which was under the orders of Captain Pullen in *Labrador*. The task of the Coast Guard cutters was to come in from the west, following roughly the route taken by Superintendent Larsen in the *St. Roch* in 1940-1942, and meet *Labrador* at the western entrance to Bellot. *Labrador* in the meantime was to find and accurately survey a deep-water channel through Bellot;⁹⁷ upon arrival of the American ships, she was to escort them through the strait into the open waters of Prince Regent Inlet, from where they would sail unescorted for Lancaster Sound and home. The purpose of the operation was to prove the existence of a route through which ships trapped by ice in the central or western Arctic could escape to the Atlantic.

Labrador's part in the operation began early on 22 August with a helicopter flying off to conduct an ice reconnaissance of the strait. It was found to be completely ice-free. A supply base was then established ashore in abandoned Hudson's Bay Company buildings at Fort Ross.⁹⁸ This base, in charge of the newly-appointed "Governor of Fort Ross," Lieutenant-Commander(S) A. D. Manning, CD, RCN, was to be the headquarters for the boats operating in the strait and for scientific parties ashore. Relieved of the necessity of returning each night to attend to the small boats, *Labrador* would be free to concentrate on taking soundings and conducting scientific work in Boothia Gulf and Prince Regent Inlet. Tide poles were set up at both the eastern and western entrances to the strait and parties put ashore to maintain them. Other parties were busily erecting survey beacons on both sides of the strait.

At 1000 "Pogo" and a motor cutter set off on a preliminary reconnaissance of the strait, from which they returned at 1830 with the news that Magpie Rock, whose existence "Pogo" had discovered the year before, appeared to be the only major obstacle to the navigation of the strait by deep-draught ships. This was encouraging news, and plans were made to make a concerted effort to find a channel past Magpie Rock, while at the same time continuing the survey of the rest of the strait.

The following morning, the 23rd, ice began to move into the strait, making boat work more difficult, so the work of establishing survey markers was pushed forward. The task of assembling a thirty-foot radar beacon near Fort Ross was also begun. Fortunately, by evening the ice and tidal conditions near Magpie Rock improved, and “Pogo” was able to sound a channel which would take *Labrador* past this obstacle.

The 24th dawned clear and calm, and it was decided to take *Labrador* through the strait. At 0900, led by “Pogo”, she set out, stemming a strong tidal stream. Fifteen minutes later Magpie Rock was astern, and the worst was over. When abreast of Magpie, and in what seemed to those on board to be most dangerous waters, there had been a full sixty feet of water under the ship’s keel.

When safely past Magpie, “Pogo” was hoisted as the tidal stream was becoming too strong for her to stem and blocks of ice were beginning to drift in from the west. In an eight-knot current it would not have taken a very large ice-floe to demolish the little “Pogo.” Such a current is dangerous enough for a large ship; when *Labrador* was hoisting the boat it carried her shoreward rapidly into shoaling water from which she escaped only just in time.

The passage of the strait was uneventful. One heavy belt of ice was encountered, but it proved no obstacle to *Labrador*. The towering cliffs on either side of the strait were most impressive, particularly at the narrows near the western entrance, where low-lying cloud touched the tops and gave those on board the impression of travelling through a tunnel. By 1125, less than two and a half hours after starting out, *Labrador* entered the open waters of Peel Sound, and the first and most difficult phase of the operation was over.

There was still a great deal of work to do, however, before Bellot could be declared safe for navigation. At the western entrance an LCVP was sent in to erect a radar beacon, while the ship made a preliminary reconnaissance of the southern approaches out into Franklin Strait. No heavy ice nor dangerous shoals were found and *Labrador* returned to pick up the beacon party. The night was spent in occupying oceanographic stations north and south of the strait.

The following morning, the 25th, fog and ice made boat work at the western entrance impossible so the ship returned through the strait. For the next two days the work of surveying the strait went on, hindered somewhat by the ice which came and went with the tides. On the 26th the tide pole party at the western end of the strait met with a serious accident. An attempt



Figure 24. A walrus herd holds the attention of Cpt. Thomas Pullen (left), commanding officer of HMCS Labrador, and Rear-Admiral Herbert S. Rayner, Chief of Naval Personnel. Credit: DND, Directorate of History and Heritage, Ottawa.

by one of its members to light a portable stove inside the tent led to an explosion and flash fire which destroyed the tent and everything in it, including the tide records. Fortunately, no one was seriously injured, the man lighting the stove escaping with first degree burns to his hands.

On the 27th *Labrador* set off north towards Resolute, occupying oceanographic stations en route. A visit was paid to Fury Beach on Somerset Island, and Captain Pullen, ever interested in historical matters, went ashore to inspect the remains of HMS *Fury*, who was driven ashore there in 1825.⁹⁹ Many interesting relics littered the beach, and a representative selection was later collected to take back to civilization. These relics are now in the possession of the Maritime Museum of Canada at Halifax.

At 0230 on the 28th *Labrador* arrived at Resolute where she picked up mail. After stopping to occupy oceanographic stations in Barrow Strait, *Labrador* sailed south into Prince Regent Inlet, making for the western entrance to Bellot. The passage was uneventful, and by the morning of the

31st the ship had arrived, thus completing the circumnavigation of Somerset Island. After replacing the personnel of the western tide pole party *Labrador* continued on through the strait.

On the following day, 1 September, *Labrador* again transited the strait, leaving two LCVPs to continue survey work at the eastern entrance. Once through, “Pogo” and a motor cutter were lowered to continue the western survey while the ship carried on with oceanographic work.

Little remained to be done to complete the Bellot survey except for some soundings at the eastern and western ends, and *Labrador* began to get impatient for the arrival of the US ships. It was known that they had penetrated Rae Strait and that the route as far as the northern end of James Ross Strait was clear. The only uncertain portion of the route was that between James Ross and Franklin Straits.

On the morning of 2 September, *Labrador* set out to reconnoitre southward to James Ross Strait to make absolutely sure that the way was open for the Coast Guard cutters. “Pogo” was left behind to continue her soundings. On her way south, *Labrador* conducted oceanographic studies but continued to make good progress until 1500 when ice and fog were met. She was working her way slowly through the ice when, at 1600, an urgent message was received from *Storis* saying that she had on board a medical case requiring emergency treatment. Abandoning all scientific work, *Labrador* pushed forward, making fair progress in spite of the fog and heavy ice. During the night, another message arrived saying that the patient had improved and that emergency medical attention was no longer required, but *Labrador* continued to press on. By 0100 on the 3rd she had reached the northern end of James Ross Strait and was in direct radio communication with *Storis*. When the fog cleared at 0730 that morning all three US ships were in sight and the success of Operation *Bellot* was assured.

At 0930 *Storis* came alongside, and it was agreed that the ships would leave at once for the north before ice conditions worsened. At noon *Labrador* set out, closely followed by *Storis*, *Bramble*, and *Spar*, and a few hours later they were clear of the ice. The US ships went on independently while *Labrador* occupied another line of oceanographic stations across Franklin Strait.

The following morning, the 4th, all four ships were at the western entrance to Bellot. While the US ships remained to continue survey work in the approaches, *Labrador* went through to Fort Ross where “Pogo” now lay

having completed her soundings at the western end. Most of the day was occupied in setting up leading marks in the strait.

On the 5th, more leading marks were erected and *Labrador* transited the strait to rejoin the Coast Guard ships, which had reported the completion of their hydrographic assignments in the area. That night, all four ships lay to in False Strait, a small bay north of Bellot, and the opportunity was taken by *Labrador* to dine all the Captains, Executive Officers, and the official observers travelling with TG-6.5.

It had been decided to take the Coast Guard ships through the strait on the 6th, but in the morning there was heavy fog. *Labrador* picked up her western tide pole party, and then all the ships lay to awaiting improved visibility. Gradually the fog thinned and lifted, and by noon the column, led by *Labrador*, was steaming east through the strait. The passage was entirely uneventful and by 1315 the four US ships had been detached at the eastern entrance. They carried out some hydrographic work there until 2245 and were then escorted by *Labrador* out into the open waters of Prince Regent Inlet. By midnight they were on their way home. Operation *Bellot* had been successfully completed.

Labrador had still some last-minute items to complete before leaving Bellot. One of her HUPs had developed engine trouble, and it was necessary to carry out an engine change on shore at Fort Ross. This difficult operation was completed in less than two days. Meanwhile, *Labrador* was busy completing the last of the Bellot survey and conducting scientific operations in the Gulf of Boothia. While in the Gulf on 9 September, she sent a helicopter to Thom Bay on the Boothia Peninsula and recovered several relics left there by Sir John Ross' expedition of 1829-1833. Among the relics recovered was a small anchor and several parts from *Victory's* discarded steam engine. She returned to Fort Ross on the morning of the 10th, closed down the base, and recovered its personnel. "Pogo" and one of the motor cutters finished the last few yards of soundings, and the other cutter carried out the last current studies in the strait. By dark, all the essential work had been done except for one tellurometer measurement which could not be obtained because of a defect in the apparatus. *Labrador* therefore remained overnight while the tellurometer was being repaired, and the measurement was taken early next morning.

At 0730 on 11 September *Labrador* steamed westward into the strait, bound for Resolute by way of Peel Sound. For over three weeks she had been engaged on Operation *Bellot* and, as usual, had performed her assigned

mission with efficiency and despatch. Congratulatory messages had poured in following the successful completion of the operation. Morale was high and the ship's company were enjoying that pleasant feeling of having performed an important and useful task as the ship set out on her next assignment.

Labrador arrived at Resolute at 2230 and, after taking on mail, lay to for the night. After resting all the next day, she set out again at 1130 on the 13th to begin oceanographic and hydrographic work in Barrow Strait. Ice and cold weather hindered operations and, on the 14th, *Labrador* turned north into Wellington Channel between Cornwallis and Devon Islands. Despite most pessimistic reports of heavy ice from the reconnaissance group operating from Resolute, the ship pressed north through Wellington Channel and Queens Channel, almost to Penny Strait. It was late on the 15th, when the ship had crossed 76° 40' North, and was off Pelham Bay on the Grinnell Peninsula that the pack was first encountered. *Labrador* lay to for the night, and at 0900 on the 16th began to penetrate the ice. The edge of the pack was soft, and for the first mile all went well. Suddenly *Labrador* struck the true polar pack; her nose slid up on the floes, and she came to a dead stop. All her heeling and trimming was useless; the ice, twenty to thirty feet thick, and stretching away north and west to the horizon, would not even crack. There was nothing for it but to back out and hope that a lead could be found. Such a lead was found but it led eastward toward the shore, and *Labrador* had not gone far when shoaling water forced her out into the pack again. Once more she was stopped, and now snow had begun to fall, reducing visibility to one cable. A precipitate retreat was the only course, if indeed it was still possible. Somehow the ship was turned and brought back into the lead, which was now slowly closing as the pack pushed, inexorably towards the land. Fortunately, in this area the water near shore was deep, and *Labrador* was able to escape southward; shortly afterwards the lead had completely disappeared.

There was no point in endangering the ship in another attempt to penetrate the pack, so *Labrador* continued southward. By 0900 on the 17th she had entered Erebus Bay and there she remained most of the day. Recreation parties were sent ashore, visits were made to the various cairns on Beechey Island, and the Franklin Memorial was painted to preserve the wood.

Leaving Erebus Bay, *Labrador* sailed south into Prince Regent Inlet to recover relics from HMS *Fury* at Fury Beach. An attempt was made to

recover a large bower anchor but it was unsuccessful, as was the attempt to air-lift a pair of carronades¹⁰⁰ by helicopter. Two small anchors, a quantity of twenty-five-pounder shot, and other smaller relics were, however, collected.

The ship left Fury Beach on the evening of the 19th and, during the following day, made her way eastward through Lancaster Sound, conducting oceanographic studies en route. On the 21st a call was made at Arctic Bay in Admiralty Inlet. It was most fortunate that *Labrador* called, for otherwise the Hudson's Bay Company manager there would have had a long and cold winter without light or power. He had arrived there during the summer to find nearly all of his electrical and radio gear inoperative. A party of technicians from *Labrador* soon put things right, and the ship sailed again, happy to have done yet another good turn.

The following day, *Labrador* put in at Pond Inlet, but there all was well. Indeed, *Labrador* departed in debt to the settlement, for the Roman Catholic missionary there had come on board to conduct mass and hear confessions for his co-religionists in the ship.

On the 23rd, after investigating a shoal at the entrance to Navy Board Inlet, *Labrador* set course north again, making for Grise Fiord on Ellesmere Island. Late that evening there arrived a message from Naval Headquarters beginning: "As a measure of economy it has been decided to transfer the operation of *Labrador* to Department of Transport about 1 April, 1958." The effect of this message may be imagined and may best be described by the Commanding Officer himself:

Almost without exception there was shock and regret. What really hurt was the report contained in the RADIO NEWS for the FORCES which, commenting on the announcement, said that the "Navy was the least upset. In fact it wasn't upset at all."¹⁰¹

At midday on the 24th, *Labrador* arrived in Grise Fiord and boats were sent in to visit the RCMP post there. All was well at the post, and *Labrador* set off for Thule, Greenland. At Thule, where the ship arrived on the afternoon of the 25th, most of the ship's company were given leave. As at other Arctic bases, recreational facilities were very limited, but at Thule there was at least a wet canteen.

Early next morning *Labrador* left Thule to conduct an oceanographic programme in Baffin Bay and Davis Strait. The weather proved unexpectedly favourable, and scientific work continued for the next three and a half days. On the afternoon of the 28th, the ship put in at the

settlement of Clyde River on the east Baffin coast to pick up an RCMP constable and a Department of Transport employee for passage home. The opportunity was taken to land a recreational party for an hour's romp on the beach before setting out to occupy more oceanographic stations.

Labrador continued southward into Davis Strait, carrying out scientific observations en route. On 1 October, a brief call was made at Cape Dyer to collect mail. On the same day, *Edisto* was contacted and the Bell helicopter, which had been lent to *Labrador* in August, was returned.

It had been planned to visit the little settlement of Pangnirtung in Cumberland Sound on the 2nd and, fortunately, the plan was carried out in spite of heavy fog, for there was a crisis at Pangnirtung. The Anglican missionary there, the Reverend W.A. Graham, wanted very much to get married, but though he could perform marriage ceremonies for others he could not very well do it for himself. The arrival of *Labrador* solved the problem. The RCMP constable taking passage in the ship was able to supply the license, while *Labrador* provided a chaplain, the refreshments for the



Figure 25. Stanley J. Willis about to release pilot balloon to determine the height of the clouds. Credit: DND, Directorate of History and Heritage, Ottawa.

reception, and a photographer. Once again it had been demonstrated: whatever the problem, *Labrador* can solve it.

On the 3rd, *Labrador* entered Frobisher Bay to make one last attempt at salvaging her stranded helicopters. She arrived towards evening, but winds were too strong for flying so she lay to for the night. Suddenly a USAF H21 helicopter appeared and landed on the flight deck. The pilots reported that a second H21 had been forced to put down a few miles inland, and that they had taken off only to report their position to base before returning to join their downed companions. *Labrador* was able to repair the defect to the grounded craft, but both crews spent the night on board before flying back to their base the following morning.

As soon as it was light enough, a salvage party was flown off to examine the wrecked Bells on the mountain top. Almost immediately, however, the wind began to rise. The salvage party could do little except remove the radio compasses, gyros, and other bits of valuable equipment from the Bells, as it was necessary to get back to the ship before flying conditions became too dangerous.

Leaving York Sound and abandoning forever her wrecked helicopters, *Labrador* proceeded into the bay to pick up gear, which was to have been left at Ney Harbour by Dr. MacLaren and his wife. Much to everyone's surprise, not only was the gear at Ney Harbour but also the doctor and his wife. They were more than a little relieved to see *Labrador* steam into the harbour, as they had begun to think that they had been forgotten.

After leaving Ney Harbour the ship set out for Frobisher. Going by way of the channel discovered earlier in the summer by "Pogo," now called Labrador Passage, *Labrador* made a swift and uneventful run to Frobisher, arriving there late on the 4th.

In the morning, *Labrador* set off for home. The weather was fine and a fast and uneventful passage brought her through the Strait of Belle Isle and into the Gulf by the morning of 8 November. That afternoon she lay to off the Quebec coast where a start was made at washing down and generally tidying up ship after a long and arduous cruise. During the night, *Labrador* crossed over to the Newfoundland side, anchoring in George Bay at 0930 on the 9th, where the task of cleaning up the ship began again in preparation for an expected visit from the Flag Officer, Atlantic Coast.

In the afternoon HMCS *Lauzon*, flying the flag of the Flag Officer Atlantic Coast, steamed into the bay and anchored near *Labrador*. During the latter's absence in the Arctic, a new Flag Officer had been appointed to

the Atlantic Command, Rear-Admiral H.F. Pullen, OBE, CD, RCN, having taken over from Rear-Admiral Bidwell. Admiral Pullen transferred to his brother's ship and, at midnight, *Labrador* sailed for Halifax. During the passage home, the Admiral made the rounds of the various departments in the ship and later addressed the ship's company.

At 1500 on 11 October *Labrador* secured alongside a jetty in HMC Dockyard, Halifax. She had been away for 109 days and had steamed some 18,500 miles, and now the cruise, and perhaps her career in the RCN, was at an end. As usual, her summer cruise to the Arctic had been an outstanding success; not only had she done efficiently and well all she was called upon to do; she had also proceeded independently to perform many other important and useful tasks.

When *Labrador* returned to Halifax plans were already far advanced for turning her over to the Department of Transport. More than a year before, in August 1956, during a discussion of the Naval Estimates, such a course had been suggested by the Director of Naval Plans and Operations.¹⁰² At that time the Naval Staff were not prepared to support this recommendation but DNPO, assisted by the Naval Warfare Section, was asked to prepare a supporting paper dealing with the possible role of the RCN in future military operations in the Arctic. The Director's conclusions, as set forth in the resulting paper, were:

- a) even if RCN ships were strengthened for operation in ice areas the problems of resupply and removal of enemy lodgements could be more effectively met by other methods;
- b) the movement of ships is dictated by seasonal navigation regardless of operational requirements;
- c) as anti-submarine forces the RCN ships do not possess the capability to pursue and destroy submarines sheltering under ice strewn areas.¹⁰³

These conclusions apparently proved decisive for, in October 1956, the Naval Staff reversed their previous stand and recommended the transfer of *Labrador* to another government department. The chief reason for this decision, apparently, was that while the valuable peace-time contributions of *Labrador* to Canada and the Royal Canadian Navy were recognized, the Navy was faced with a Government directive ordering that the highest priority be given to ensuring the availability of the greatest possible number of effective fighting ships.

The subject of *Labrador's* transfer was taken up at a meeting of the Naval Board on 14 November 1956, but it was decided not to act upon the Staff recommendation. While it was agreed that the continued operation of *Labrador* might at some future time prejudice the commissioning of a fighting ship, such a circumstance had not yet arisen. Until such a crisis did arise it was felt that *Labrador* should not be offered to another department.

This was the RCN's position regarding *Labrador* when, on 31 July 1957, the Minister of National Defence, the Honourable George R. Pearkes, received a letter from his colleague in the Department of Transport, the Honourable George Hees. In this letter the Minister of Transport requested that *Labrador* be made available to his department for icebreaking duties in the Gulf of St. Lawrence area during the winter season. Operational control was to remain in the hands of the RCN, but the ship's general tasks were to be allocated by DoT. A previous request by DoT that *Labrador* work under that department's orders during the 1958 resupply operations in the eastern Arctic¹⁰⁴ was also reaffirmed in the letter. The Minister of Transport further suggested that, should his suggestions not meet with the approval of the Defence Department, his Department would be pleased to take over complete control of the ship by direct transfer.

The Minister of National Defence referred this letter to the Chief of the Naval Staff¹⁰⁵ for his comments, and the whole subject of *Labrador's* role in the RCN was reopened. On 6 September, Admiral DeWolf replied to the Minister:

The operation of HMCS *Labrador* by the Navy provides valuable experience in the Arctic for officers and men and in particular valuable sea experience for the Captain. The number of sea-going billets for senior officers is strictly limited. It provides also the satisfaction of performing useful service to the country and assistance to other Government departments with resultant goodwill. In addition, there is, I believe, very real value in showing the white ensign in the Canadian north where the stars and stripes are so much in evidence.

It must be admitted that the work carried out by *Labrador* is not essentially military. The ship has no operational role in war and would in our current plans be paid off to permit the manning of additional escorts. The need to reduce our expenditure in 1958-59, in accordance with your instructions, has led to the recommendation

that *Labrador* be paid off prior to 31 Mar. 58. In these circumstances, it is recommended that the proposed transfer of HMCS *Labrador* to the Department of Transport be agreed to in principle and that appropriate officers of the two Departments consider the terms of transfer. For our part, we would wish to be assured that the ship would be available in war or a national emergency in which the military operation of an icebreaker was necessary.¹⁰⁶

The Minister concurred with the recommendations of the CNS and, on 11 September, a letter was sent to the Minister of Transport reporting that *Labrador* would be available for transfer and appointing Commodore D.L. Raymond, CD, RCN, Assistant Chief of Naval Staff (Plans), to discuss the terms of transfer on behalf of the RCN.

At first there seems to have been some hesitation on the part of senior officials in the Transport Department to make firm arrangements about the transfer¹⁰⁷ but, on 19 September, it was agreed that DoT would take over *Labrador* on 1 April 1958, on the terms set forth in the letter from CNS quoted above. Four days later, on 23 September, in a speech at Charlottetown, P.E.I., the Minister of Transport officially announced that the transfer was pending. A few hours before, the Flag Officer Atlantic Coast and *Labrador* herself had been informed of the decision taken.

The transfer of *Labrador* occasioned considerable comment both in the press and later in the House of Commons. Several objections were raised, the most common being the one originally put forward by the CNS, that there was “real value in showing the white ensign in the Canadian north where the stars and stripes are so much in evidence.” Another point frequently raised was that, because of the transfer, *Labrador’s* scientific and exploratory activities would be curtailed, thereby causing Canada to fall even further behind Russia in the field of Arctic research. It was further pointed out that *Labrador* had been built as an Arctic Patrol Vessel, not as an ordinary icebreaker;¹⁰⁸ she was a large ship with immense range and carrying a great deal of highly technical gear, but these advantages would be partly wasted if she were placed in Department of Transport hands. Furthermore, her very limited cargo capacity would be a serious drawback as far as her new owners were concerned.

There appears to have been no adverse comments emanating from Naval Headquarters in Ottawa. Here, spokesmen stated to the press that the role of the RCN was the defence of Canada, particularly as it involved anti-

submarine operations in the North Atlantic, and that *Labrador* could play no part in this. It was also pointed out that the transfer of *Labrador* would release some two hundred officers and men for duties in fighting ships. It was emphasized most particularly that the need for economy had been a major factor leading to the transfer.

When *Labrador* returned to Halifax on 11 October, consultations were still going on about the final details of the transfer. DoT was of course not in a position to take over at once. Precise lists of what equipment was to be removed and what left in the ship had to be prepared. The ship had also to undergo a refit during which any changes desired by DoT could be made.

While waiting for these details to be settled, the ship was busy destoring and preparing for refit. On 4 November, Commander C. Anthony Law, DSC, CD, RCN, formerly the Executive Officer, took over command from Captain Pullen. Shortly before, Captain James Cuthbert of the DoT had arrived in Halifax to discuss details of refit, conversion, and transfer, and to familiarize himself with what was to be his new ship. Finally, the preliminary work was completed and, at 0830 on 18 November, *Labrador* sailed on her last voyage under naval command. At the jetty when she departed was a party of naval officers from the Atlantic Command headed by Commodore E.W. Finch-Noyes, CD, RCN, accompanied by the band from MACS Stadacona. Six helicopters from Shearwater formed up as close escort as *Labrador* steamed out past HMC Dockyard where Flag Officer Atlantic Coast took the salute. All the ships in harbour manned the side. HMCS *Labrador* was leaving her home port probably for the last time, and all who knew her wished to make it a memorable occasion.

Labrador was making for Saint John, New Brunswick, to enter refit, and the passage proved entirely routine. Captain Cuthbert, her Commanding Officer designate, and Mr. MacClements, Marine Superintendent for the Department of Transport, had taken passage to observe the ship's behaviour at sea and to discuss further the problems of the transfer. At 0800 on 19 November, *Labrador* secured in the Saint John Dry Dock, and all the remaining stores, furniture, and spare parts were landed. On the morning of the 22nd at 0900 the paying off ceremony was held. The Protestant and Roman Catholic chaplains from HMCS *Brunswicker* attended, and the Commanding Officer made a final address to the remnants of the ship's company. To them was read the last congratulatory message received by *Labrador*, a message from the Minister, the Honourable George R. Pearkes, VC, to the ship and to all who had served in her:

On the occasion of the paying off of *Labrador*, I wish to express my admiration of the splendid record established by the ship under the white ensign, and my congratulations to all concerned

As the only naval icebreaker in the commonwealth and as a unit of the fleet she became the first warship to complete the northwest passage and circumnavigate North America. Of her numerous other pioneering exploits, the discovery of a safe shipping channel in Frobisher Bay and the first transit of Bellot Strait by a deep draught ship were particularly outstanding ...

To those who have served in the *Labrador*, I express congratulations on their individual and collective contributions to the ship's outstanding record. Their professional skill and initiative have been a great credit to the Royal Canadian Navy, and have provided a valuable service to Canada. Well done.¹⁰⁹

With the paying off ceremony, *Labrador* did not leave the RCN, and during the refit and until taken over by DoT officially she became the responsibility of the Commodore Superintendent, HMC Dockyard, Halifax. It was not until 5 March that all the necessary formalities were completed. There was no elaborate ceremony; a few signatures, a little paper work by the naval overseer's office, and *Labrador* had left the Royal Canadian Navy, perhaps forever.

But whatever her future, whatever her ultimate end, HMCS *Labrador* has become a part of the history of the Arctic, her name forever linked with those of *Discovery*, *Fury*, *Investigator*, *Gjoa*, *St. Roch*, and the many great names of the North. Her achievements during her short but illustrious career in the Royal Canadian Navy are too many, varied, and important to be briefly summarized; but it is perhaps no exaggeration to say that during her four years in the RCN she contributed more to man's knowledge of the Canadian Arctic than any ship of this century.

Endnotes

¹ Copies of articles and newspaper clippings on this subject may be found in NSS 1660-67, vol. 1.

² For instance, the Canadian Government sponsored the voyages of A.P. Low in the *Neptune* in 1903-1904, Captain J.E. Bernier's three expeditions in the *Arctic* between 1906 and 1911, and Stefansson's expeditions between 1912 and 1918.

³ See memorandum: Assistant Naval Secretary to DNPI, dated 23 June 1947, in NSS 8000-AW-50, vol. 1.

⁴ Steel, which was brought from the United Kingdom, was the first hold-up. Later, machinery and electrical equipment proved to be the main difficulty.

⁵ Only one other naval vessel has borne this name. Late in the 18th century the Royal Navy purchased a ten-gun schooner in Newfoundland. She served on that station from 1776 to 1780, when she was found to be unfit for service and ordered to be sold.

⁶ W.G. Gosling, *Labrador* (London, 1910), 55.

⁷ Among the chief items on the deficiency list was the 3"/50 calibre gun. It was decided to mount this weapon during the ship's first refit, but this was never done. Her original armament consisted, therefore, of only two Bofors guns. The ship's thirty-six-foot sounding boat was also not available before commissioning but was received before *Labrador* began her first Arctic operation.

⁸ See Deputy Minister's (DND) letter of 3 March 1954, in NSS 8200-AW-50, vol. 7.

⁹ It is interesting to compare a memo from the Assistant Naval Secretary to Directorate of Naval Plans and Intelligence, dated 23 June 1947 with a Vice Chief of the Naval Staff memo dated 2 November 1953; NSS 8000-AW-50, vols 1 and 2.

¹⁰ It is to be feared, however, that the navy of the Soviet Union is still in a very advantageous position as compared to that of the RCN in the matter of Arctic research. As far back as 1932 the Russians set up the Main Administration of the Northern Sea Route (usually known as GUSMP) to co-ordinate scientific, exploratory, and economic activities in the Soviet Arctic area. This organization has been extremely active, maintaining innumerable permanent weather stations and commanding whole fleets of icebreakers. It sponsors scientific and exploratory expeditions to the Arctic, and it is not inconceivable that its submarines have conducted, or perhaps are conducting, scientific or even military studies in Canadian Arctic waters. Recently (that is, late in 1957) it launched the new 16,000-ton atomic icebreaker, *Stalin*. Since this paper was written, a report by a US-Canadian, military-scientific committee on Arctic research has been made public. This report warns of Russian superiority in Arctic research and suggests that Soviet submarines have operated in the Canadian Arctic in the post-war period; *Ottawa Journal*, 25 January 1958.

¹¹ Dr. D.C. Rose of the National Research Council performed the duties of Chief Scientist during the cruise and carried out research on cosmic rays. Commander E.M. Penton, DSC, RN, (Ret'd), conducted studies of the Admiralty's new gyro-magnetic compass. Dr T.E. Armstrong, on loan from the Scott Polar Research Institute, studied ice conditions. Messrs W.B. Bailey, J.G. Clark, and C.C. Cunningham dealt with oceanography, and Messrs D.D. Lelievre and M. Boulton with hydrography. Meteorological studies were conducted by Mr. A.B. Lowe and research in terrestrial magnetism by Mr. E.I. Loomer. Several of *Labrador's* own officers also carried out scientific duties during the cruise.

¹² *Labrador's* own company consisted of twenty-one officers and 204 men.

¹³ This boat is of welded aluminum construction. She is 35'10" overall, 12' (moulded) in breadth, and 3'7" in depth. Seven men with stores for six weeks can be accommodated in her. She is fitted with radio-telephone, gyro compass, echo sounder, and radar gear. Shortly after arrival on board she was unofficially christened "Pogo", and this name she bore while in the RCN.

¹⁴ Rear-Admiral R.E.S. Bidwell, CBE, CD, RCN.

¹⁵ By way of comparison, Prince Edward Island has an area of 2,184 square miles.

¹⁶ What few islands there are lie close to the coast and are quite small.

¹⁷ All references to courses taken and points visited during the 1954 summer cruise are taken from *Labrador's* Reports of Proceedings, July to September 1954, in NSS 1926-AW-50, vol. 1.

¹⁸ So-called by the early explorers presumably because it lay between the lighter, more open pack often encountered in the North Atlantic and the permanent polar pack. In the vast sea which is Davis Strait and Baffin Bay, the water circulation is counter clockwise. The West Greenland Current, as its name implies, follows the west coast of Greenland, carrying relatively warm Atlantic water northward into the Arctic. The cold Canadian Current flows southward along the east coast of Baffin Island, joins the waters flowing out from Hudson Strait, and then continues along the Canadian coast as the Labrador Current. The Canadian Current brings with it pack-ice from Smith, Jones, and Lancaster Sounds, and icebergs from the great glaciers of northern Greenland and, to a lesser extent, Ellesmere, Devon, and northern Baffin Islands. In the winter, the ice carried in the Labrador Current extends south along the coast of Labrador and out to sea for a considerable distance. In the Canadian Arctic generally, the drift is from west to east, but in many of its bodies of water this drift is obscured by local conditions of wind and tide.

¹⁹ Ice coverage is usually given in tenths; thus 10/10 is complete coverage, 5/10 means that ice covers only one half of the water area. The practice of giving the ice coverage in eights is, however, becoming more common. "Rotten" ice is that which has become honeycombed through the action of the sun or of warm water and is in an advanced state of disintegration. Where the ice cover is from 4/10 to 6/10, the usual term is "open pack."

²⁰ While the ship was north of the Arctic Circle the average air temperature was 37.2° Fahrenheit. During the first week of the cruise fog was encountered every day. Advection fog is common in pack-ice during the summer as it is caused by the movement of warm air over a cold surface.

²¹ “Goofing” was the term applied in *Labrador* to the practice, common to all members of the ship’s company, of rushing on deck whenever an unusual sight was to be seen. The pipe “All hands to goofing stations!” was sounded often during the early part of this cruise, but the company soon became quite blasé about polar bears, walruses, and other Arctic fauna and about huge icebergs and other unusual sights. It was not long before the midnight sun was viewed with abhorrence rather than interest.

²² One of the chief reasons for the creation of “Bergy Bits” was to arouse the interest of the crew in the history of Arctic exploration, and hence in the mission of the *Labrador*. Thus, when the ship entered Baffin Bay an article would appear on Baffin; when she entered Kane Basin one would appear on Kane’s exploits, and so on. In addition, the original “Bergy Bits” published the news bulletin received from the WT office daily. Technically speaking, a “bergy bit” is the term applied to a piece of ice less than thirty-five feet across and seventeen feet above the water which has broken from an iceberg.

²³ A weather station and airstrip were established at Resolute on the previously uninhabited island of Cornwallis in 1947, and ionospheric, seismic, magnetic, and other stations were established shortly thereafter. It is now one of the main centres from which re-supply of other Canadian bases in the area is carried out.

²⁴ Barrow Strait is the westward extension of Lancaster Sound and separates Cornwallis and Somerset Islands.

²⁵ One of the Wind Class icebreakers whose design was used as the basis for that of *Labrador*.

²⁶ This area extending from the vicinity of Cape Herschel south into Baffin Bay is one in which the ice, even in mid-winter, is relatively loose and open. This phenomenon has not yet been adequately studied, but possibly the turbulence caused by the meeting of relatively warm water from the Atlantic carried by the West Greenland Current with the icy waters of the Canadian Current has something to do with it.

²⁷ Prior to *Labrador*’s commissioning, the Department of Transport was, and after 1957 will be again, completely responsible for the re-supply of weather stations, RCMP posts, and other government establishments in the Arctic.

²⁸ It is unlikely that these are relics of the Franklin expedition. The island became the headquarters for most of the ships participating in the search for Franklin. In 1850 alone, ten ships visited the island, and in 1852 it was the headquarters for the five-ship Belcher expedition.

²⁹ A narrow strait to the north of Prince of Wales Island, separating it from Russell Island.

³⁰ USCGS *Northwind* and USS *Burton Island*.

³¹ The press release announcing that *Labrador* would attempt the Northwest Passage was not distributed until 3 September.

³² Pressure is the greatest enemy of the icebreaker. A ship like the *Labrador* can make her way through ice of considerable thickness, but even relatively thin ice under pressure can present a formidable obstacle.

³³ A polynia (or polynya) is a sort of lake in the ice. It remains in the same general area year after year.

³⁴ It was at Dealy Island that Captain Kellett wintered in the *Resolute* in 1852-1853. It was a party from the *Resolute* that rescued Captain M'Clure and his men who were then wintering at Mercy Bay. When McClure travelled across the ice to Dealy, and thence to Beechey Island and home to England in the *North Star*, he had technically completed the Northwest Passage, for he had entered the Arctic from the west through Bering Strait.

³⁵ CANAVHED 261414/8/54.

³⁶ Baffin sailed in the *Discovery*, the same ship in which Henry Hudson made his last voyage.

³⁷ The Hudson's Bay Company showed a certain amount of interest in northern exploration in the 18th century, but his was chiefly confined to the Canadian mainland. Samuel Hearne, who reached the mouth of the Coppermine in his journey of 1770-1772, and Sir Alexander Mackenzie, who in 1789 reached the mouth of the Mackenzie, were the two most important explorers of the period. Some exploration was carried out in and around the north end of Hudson Bay. Captain Middleton explored Wager Inlet, Repulse Bay, and Frozen Strait in 1741. Captain Moore in 1746 followed much the same route. To test the belief of the latter that Chesterfield Inlet was a strait, Captain Christopher in 1761 and Captain Norton in 1762 completed the charting of this area.

³⁸ This expedition was sponsored by the Admiralty, and consisted of HM Whalers *Isabella*, *Alexander*, *Dorothea*, and *Trent*. Only the two former sailed with Ross, the others sailed to Spitsbergen.

³⁹ As a paddle steamer she was useless and the steam engine was soon discarded. A piston from this engine was recovered by the *Labrador* in September 1957.

⁴⁰ Now called Mercy Bay to distinguish it from the Bay of God's Mercy on Southampton Island.

⁴¹ The ice in M'Clure Strait, which drifts east into the Sound, contains a high proportion of ice from the permanent polar pack. It was this ice that defeated Parry in 1819 and 1820 and prevented him from completing the Northwest Passage.

⁴² The party, under Mr. Blandford, was a part of the Beaufort Sea Expedition and was accommodated in *Burton Island*.

⁴³ They were using “weasels”, a tracked vehicle used in rough and broken country.

⁴⁴ The *Northwind* had picked up a few barrel staves and coal from Captain M’Clure’s cache at Mercy Bay, and *Burton Island* had recovered several tins of food from Captain Kellet’s cache on Dealy Island, and all these relics were turned over to *Labrador* for delivery to the Museum.

⁴⁵ Landing Craft, Vehicle, and Personnel. *Labrador* carried two thirty-six-foot LCVPs, especially built for Arctic use by Marine Industries, Ltd.

⁴⁶ The cruise of the *Nootka* and *Haida* to Churchill in 1948, and that of *Swansea* to Baffin Island in 1949 may be more properly described as northern cruises rather than Arctic cruises, though *Swansea* did make a quick dash to River Clyde, which is above the Arctic Circle, and *Cedarwood* operated for a time in the western Arctic in the same year.

⁴⁷ Captain T.C. Pullen, CD, RCN, later stated that: “Nowhere in the RCN do officers and men get such good training in seamanship, boat work, pilotage and the problems associated with ‘making do’ in boats or on shore.” *Labrador*, Report of Proceedings, August 1956.

⁴⁸ *St. Roch* is now maintained by the city as a museum. When *Labrador* was at Esquimalt, Superintendent Henry A. Larsen presented her with a replica of the badge of *St. Roch*.

⁴⁹ “A blessed respite!” said the Commanding Officer. *Labrador*, Report of Proceedings, October 1954.

⁵⁰ *Labrador*, Report of Proceedings, October 1954.

⁵¹ *St. Roch* had been the first.

⁵² Congratulatory messages were received from the Admiralty from Naval Headquarters and many others.

⁵³ The Pinetree Line roughly follows the Canadian-US border. The Mid-Canada Line lies some five-hundred miles north of the Pinetree.

⁵⁴ *Labrador*, Report of Proceedings, May 1955.

⁵⁵ Six men, under the command of Lieutenant-Commander J.C. Ruse, RCN.

⁵⁶ All facts about courses taken and points visited during the 1955 Arctic cruise are to be found in *Labrador’s* Report of Proceedings; NSS 1926-AW-5O, vols 1 and 2 and in Report of Summer Operations, 1955 in NS 192O-AW-5O, vol. 1.

⁵⁷ A chart of the Foxe Basin area is attached as Appendix II.

⁵⁸ The coverage was 10/10 and the ice some twelve feet thick.

⁵⁹ Coral Harbour is a fair sized settlement for the Arctic. Even in pre-DEW Line days the community had an HBC post, Roman Catholic and Anglican missions, a government school, an air-field, and radio and meteorological stations.

⁶⁰ Utility Landing Craft and Medium Landing Craft.

⁶¹ The year before, USCGS *Northwind* had landed an EPI by boat on Banks Island. The operation took thirty-six hours to complete and consumed 444 man hours.

⁶² These relics are now in the Provincial Museum of Nova Scotia in Halifax.

⁶³ The AKAs were USS *Thuban* and *Vermillion*; the LSDs were US ships *Fort Mandan*, *Rushmore* and *Lindewald*; the MSTs were US ships *Lieutenant Robert Craig*, *Greenville Victory*, *Sergeant Morris E. Crain*, *Dalton Victory*, *Private John R. Towle*, *Lieutenant George W.G. Boyce*, *Haiti Victory*, and *Kingsport Victory*; the MST cargo ferry ship was USNS *Lieutenant James E. Robinson*; and the lone civilian was the SS *Monroe Victory*.

⁶⁴ The first site, henceforth referred to as Site One, was at Hall Beach, on the Melville Peninsula. The other northern Foxe sites are: Site Two – Rowley Island; Site Three – Bray Island; and Site Four – Longstaff Bluff on Baffin Island.

⁶⁵ A report of this shooting had to be reported in detail to the RCMP as the ordinances of the Northwest Territories forbid anyone except Eskimos to shoot wild game in the area.

⁶⁶ During the gale on the 10th, a strong carbon tetrachloride smell was detected in the shipwright flat aft. The flat was immediately put “out of bounds” and thoroughly aired out. Several members of the ship’s company were exposed to the effects of the fumes, but only Petty Officer B.W. Robinson was seriously affected.

⁶⁷ Light, bulky cargo is usually measured in tons of forty cubic feet. Cargo weighing more than 2,000 pounds to forty cubic feet is measured in long tons of 2,240 pounds.

⁶⁸ CPO G.J. Dufour of *Labrador’s* communications branch received a commendation from Vice-Admiral F.C. Denebrink, Commander, MSTs, and endorsed by the Chief of Naval Operations and the Naval Board of Canada for his work during the operation.

⁶⁹ CNO 292230Z/9/55, a copy of which is attached to *Labrador’s* Report of Proceedings, November 1955. A message from Rear-Admiral R. Mason, USN, read in part: “It has indeed been a pleasure to have been associated with the Royal Canadian Navy. I commend you and HMCS *Labrador* personnel for a most successful operation, safely carried out despite the great hazards of ice, fog and uncharted waters ... Your careful planning and skillful management of a combined and joint operation resulted in the accomplishment of a dangerous and difficult task in an outstanding manner. Well done.” Congratulatory messages were also received from the Commander, Military Sea Transportation Service, the Commander, US Army Transportation Corps the Secretary of the Navy, and others. The Chief of Naval Operations, USN, also informed the RCN through the Naval Member, Canadian Joint Staff, that “The performance of Captain O.C.S. Robertson, RCN, as task group commander in charge of the operations in Foxe Basin was outstanding.” NMCJS, letter dated 21 December 1955, in NSS 8375-AW-50, vol. 2.

⁷⁰ To take an oceanographic station the ship must be stopped, beam to the wind, while the scientists, perched on a special platform jutting out from the ship, lower

their instruments into the water. The time required to take the station depends upon the depth to which the instruments are lowered.

⁷¹ For the route taken by *Labrador* and the oceanographic (though not the bathythermographic) stations taken during the cruise, see chart attached as Appendix III.

⁷² This was the first time the trimming system had been used during actual operations.

⁷³ *Labrador's* Report of Proceedings, March 1956.

⁷⁴ *Labrador's* Report of Proceedings, April 1956.

⁷⁵ The usual mode of towing is not practicable in ice, as a ship being towed at the end of a long cable would be endangered by the ice broken and set in motion by the lead ship. The Wind Class icebreakers were designed with a notch at the stern into which the towed ship could be winched; the two ships could then proceed through the ice as if they were one. A slipping device was incorporated in the winch mechanism to prevent the breaking of the tow should the strain become too great.

⁷⁶ Dr. N.J. Campbell (who served as Chief Scientist), Mr. A.E. Colin, and Mr. C.C. Cunningham, all from the Atlantic Oceanographic Group, were the oceanographers. The Canadian Hydrographic Service sent Mr. M. Bolton Mr. S. Van Dyke, and Mr. R.K. Williams, hydrographers, and a draftsman, Mr. W. S. Crowther. The glaciologist was Dr. C.W.M. Swithinbank of the Defence Research Board, and the US Naval Electronics Laboratory of San Diego sent Dr. E.M. Little. Mr. A. Bursa, a marine biologist, represented the Fisheries Research Board. Dr. Swithinbank did not join the ship until mid-August.

⁷⁷ Surgeon-Lieutenant Kidd, who had accompanied *Labrador* on her first two Arctic expeditions, had now been replaced by Surgeon Lieutenant-Commander D.A. Maciver, RCN.

⁷⁸ The other northern Foxe sites are: Site Two-Rowley Island; Site Three-Bray Island; and Site Four-Longstaff Bluff.

⁷⁹ The Channel between the two islands is named Labrador Channel.

⁸⁰ He was accompanied by his Secretary, Commander (SB) A.O. Solomon, CD, RCN, and by Dr. C.W.M. Swithinbank of DRB, who was joining the ship to conduct ice studies.

⁸¹ The LSD *Donner*, the cargo ship USNS *Dalton Victory*, the aircraft cargo and ferry ship USNS *Lieutenant James E. Robinson*, and the oiler *Millicoma*.

⁸² Presumably named for Lieutenant-Commander J.P. Croal, RCN, Gunnery Officer in *Labrador* for 1954 and 1955, and later the ship's Scientific Staff Officer.

⁸³ *Labrador's* Report of Proceedings, September 1956.

⁸⁴ The *North Star* was depot ship for the five-ship Belcher Expedition which left England in 1852. She spent two winters at Erebus Bay before returning to England, the sole survivor of the expedition.

⁸⁵ Of the 123 corvettes serving with the RCN in the Second World War, only *Sackville* remains [in 1960]. Commissioned in 1942, she served on escort duties until late in 1944, when she was allocated to HMCS *Kings* for officers' training duties. A short while later she was converted to an anti-submarine fixed defence laying vessel and served in this capacity until 1946. She was then paid off and relegated to Canadian Naval Auxiliary Vessel status.

⁸⁶ Admiral of the Fleet Sir George E. Creasy, GCB, CBE, DSO, MVO.

⁸⁷ *Labrador's* Report of Proceedings, April 1957.

⁸⁸ A light, compact, relatively simple, and highly efficient device for measuring distances by means of ten-centimeter radar. It will perform under almost all climatic conditions so long as a direct line of sight is assured

⁸⁹ Seven civilian scientists were carried during the 1957 summer operation. The Chief Scientist was Mr. M. Bolton of the Canadian Hydrographic Service.

⁹⁰ *Labrador's* Report of Proceedings, July 1957.

⁹¹ See chart attached as Appendix V.

⁹² The craft were piloted by Lieutenant-Commander B. F. Vibert, DSC, RCN, and Lieutenant L.T. Zbitnew, RCN. The two civilian hydrographers aboard were Mr. Dunbrack and Mr. Van Dyck.

⁹³ It was considered preferable to take advantage of the turn of the tide and proceed with the ebb flow.

⁹⁴ Now called Labrador Passage.

⁹⁵ See chart attached as Appendix V.

⁹⁶ Vice-Admiral John M. Will, USN, Commander, MSTs, later sent a congratulatory message to Captain Pullen saying, among other things: "Use of this deeper, wider, straighter and safer channel will greatly facilitate shipping in this port where previously known approaches have been difficult and hazardous My congratulations to you and your officers and crew for continued outstanding operations in developing the Arctic sea lanes. Well done." Cited in "HMCS *Labrador*, Bellot Strait Survey and the Northwest Passage," by Chief Journalist J.H. MacDonald, USN.

⁹⁷ When the HBC established Fort Ross on Somerset Island in 1937 the HBC Schooner *Aklavik* penetrated the strait from the west and joined the HBC Ship *Nascopie* off the eastern end. This was the first time commercial use was made of the strait.

⁹⁸ An interesting account of the activities of this base may be found in "HMCS *Labrador*, Bellot Strait Survey and the Northwest Passage," by Chief Journalist J.H. MacDonald, USN. Chief MacDonald was a member of the US Public Information Team attached to *Labrador*. He went ashore with the Fort Ross party and, as senior non-commissioned officer present, was appointed "Deputy-Governor of Fort Ross". Fort Ross was founded in 1937 but abandoned in 1943. It was reopened in 1944 but abandoned again in 1948 following the loss of the *Nascopie*.

⁹⁹ This occurred during Parry's third Arctic expedition. With *Fury* and *Hecla* he planned to sail south in Prince Regent Inlet to the western entrance of Fury and Hecla Strait where he believed he would find open water leading westward. Ice conditions were very difficult in 1824, and he was forced to winter at Port Bowen. He again pushed southward in July 1825, but *Fury* was nipped in the ice and then driven ashore. Her company were taken aboard *Hecla*, who then returned home.

¹⁰⁰ Carronades were short-barelled, large-calibred guns.

¹⁰¹ *Labrador's* Report of Proceedings, September 1957.

¹⁰² Captain W. M. Landymore, OBE, CD, RCN,

¹⁰³ Memorandum, VCNS to CNS, dated 8 August 1957, in NHS 8000, *Labrador*, vol. 3.

¹⁰⁴ It was envisaged that the Department of Transport would take over these duties from MSTs in 1958.

¹⁰⁵ Vice-Admiral Harry G. DeWolf, CBE, DSO, DSC, CD, RCN.

¹⁰⁶ A copy of this letter is in NHS 8000, *Labrador*, vol. 3.

¹⁰⁷ See particularly a memorandum from Commodore Raymond to CNS and VCNS, dated 5 September, in NHS 8000, *Labrador*, vol. 3.

¹⁰⁸ Her original cost was more than twice that of the largest DoT icebreaker, commissioned a year before *Labrador*.

¹⁰⁹ Minister of National Defence, 211722Z/Nov/57, in NHS 8000, *Labrador*, vol. 3.

HMCS *Labrador*: Commanding Officers

Capt. O.C.S. Robertson 8 July 1954-29 October 1955

Cmmdr. J.M. Leeming 29 October 1955-1 December 1955

Capt. O.C.S. Robertson 1 December 1955-13 February 1956

Capt. T.C. Pullen 13 February 1956-4 November 1957

Cmmdr. C.A. Law 4 November 1957-22 November 1957

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HMCS Labrador: An Operational History

Naval Historical Section, Royal Canadian Naval Headquarters

The early Cold War was a transformational time for state interest in the Canadian Arctic. New strategic threats, massive defence projects, and an influx of American maritime activity transformed the region, with significant implications for Canadian sovereignty and defence policy. Her Majesty's Canadian Ship (HMCS) *Labrador* was a key part of Canada's official response.

The country's first naval icebreaker, *Labrador* was a pioneering vessel in the Arctic during mid-1950s. Leading American task forces, charting new supply routes, and breaking ice for the construction of the Distant Early Warning (DEW) Line, *Labrador* was the versatile tool that Canada wielded to assert its presence in the Far North.

This operational history, originally authored in 1960 by the Naval Historical Section, provides insight into *Labrador's* four years of service with the Royal Canadian Navy (RCN).

More than an historical narrative, the *Labrador* story contains important lessons as the RCN returns to Arctic operations in the twenty-first century, from the unpredictability of Arctic navigation to the ever-present hazards of weather and ice.

Edited and Introduced by P. Whitney Lackenbauer (St. Jerome's University) and Adam Lajeunesse (St. Francis Xavier University), with Lieutenant(N) Jason Delaney (staff historian with the Canadian Armed Forces).



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