

CAPTAIN T.C. PULLEN, RCN: POLAR NAVIGATOR¹

Graham Rowley

Captain T.C. Pullen must have felt the universe was unfolding as it should when he was appointed in 1956 to the command of HMCS *Labrador*.² Life in a peacetime navy is likely to become a routine of maintenance, training, and exercises. HMCS *Labrador* had a much more interesting and exciting role. She was on the one hand to assist shipping in ice-infested waters, and on the other to conduct and support scientific activities in the north. Her work was largely in the Arctic, where even the most frequented parts were little known scientifically, and where many years of work would be needed to bring naval charts and other defence needs up to acceptable standards. He also appreciated the opportunity to carry on a family tradition, for two of his great-uncles had played prominent roles as naval officers in the searches for HMS *Erebus* and *Terror*, the ships of Sir John Franklin's lost expedition. The Pullen name was already commemorated on maps of the Canadian Arctic,³ and this must have been one reason that both he and his brother had developed a long-standing interest in exploration and the history of the north.⁴

Captain Pullen commanded HMCS *Labrador* from February 1956 to December 1957. The ship's work lay mainly in the Eastern Arctic⁵ and included, as a major duty, providing assistance to the sea supply of the Distant Early Warning Line stations there. He himself was appointed senior officer of the supply convoy, and in 1957 he also commanded the US Navy Task Group for the conduct of "Operation Bellot," which was to ensure the safe completion of the Northwest Passage by three US Coast Guard ships. During this time his ship was able to gather extensive hydrographic and oceanographic information, especially in Foxe Basin, and to open new channels to shipping. HMCS *Labrador* also paid a goodwill visit to Oslo and Copenhagen on which Dr. Terence Armstrong and Dr. Charles Swithinbank of the Scott Polar Research Institute, Mr. F. Goulding-Smith, the Dominion Hydrographer, and I were invited. In both capitals we were able to introduce Captain Pullen to many of those involved in scientific work and navigation in Greenland and northern Europe. It was undoubtedly a great disappointment to him to hear the following summer, when in the north, that *Labrador* was to be paid off as a naval ship and transferred to the Department of Transport.

The flavour and the significance of Captain Pullen's experience in *Labrador* comes through in a few extracts from the daily diary entries that he made without fail on all his arctic

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and antarctic expeditions.⁶ His first efforts, for example, were those of a novice in ice navigation, but as he grew familiar with his ship and with the Arctic the record became increasingly diverse:

24 February [1956] at sea

During the middle watch the ship steamed (or is it dieselled) down the west coast of Cape Breton....

Brash ice was encountered at 0410 in considerable quantity and when I arrived on the bridge, having been informed by the Officer of the Watch that "we were in a little more ice," I was somewhat irked to find the ship stopped and the said officer busy maneuvering. I am sufficiently new to the icebreaking world not to be accustomed to officers handling the ship without so much as by your leave....

The old hands...were heard at breakfast-time to scorn the excitement of the novices and their non-Arctic ice....But the ship and her experts have never before worked in this type of ice and it is a melancholy fact that Labrador became stuck within 130 miles of Halifax....

At 1700 five engines were in use and at 1725 six engines were on the line. It then became apparent what real power was-the ship thereafter was only stopped twice.

When working in ice the ship is controlled from the bridge wings where the best view of conditions can be obtained. It was bitterly cold, the temperatures 10 degrees F. and the wind westerly at 17 knots. My face became chilled and my eyes sore....

Labrador sailed for the Arctic on 3 July, 1956, manned by twenty-one officers, 210 men, and nine civilians (oceanographers and hydrographers).⁷ They reached Hudson Strait on 11 July, and the ship got into pack ice on 14 July, near Brevoort Island:

...A beautiful clear, cloudless afternoon, extreme visibility, and a slugging match. Real icebreaking, ice sometimes loose, then tight, soft and slushy, and then great floes frozen tight, hard ice, blue and 12 to 15 feet thick. Every size, shape and variety. At 2100 we arrive off the entrance. Nine hours to go 33 miles and I was sun and wind burnt. Tired but thoroughly happy in the knowledge that I can handle the ship in her element. Parked in the ice and fell into my bunk....

18 July

We have named the very prominent headland on the western arm of the harbour "Pullen Point" after Captain T.C. Pullen, RN, who, as master of HMS North Star in Sir Edward Belcher's expedition in search of Franklin, wintered in Erebus Bay, Beechey Island, 1852-1854. I feel that, as his namesake, I have a right to submit this to the Canadian Board on Geographical Names for their consideration although it will have to be

done through the Dominion Hydrographer. The other prominent headland we are calling "Labrador" for obvious reasons.



Figure 1: T.C. Pullen in command HMCS *Labrador* going to rescue of USCG Edisto, September 1956.

Source: T.C. Pullen Papers.

In those seven days unremitting activity had produced the first survey of the year. The ship then sailed northeast to Foxe Basin, crossing the Arctic Circle on 1 August:

It has to be experienced to be appreciated. Another day of struggling. At 0205 crossed the Arctic Circle. At 0400 open water was reached and I fell into a deep sleep without knowing that was the reason. A good day's run....then at 1600 we were back in heavy pack. Six engines on the line from 1700 on the 1st to 0300 on the 2nd at which time open water was reached distant from Site 30 about 32 miles. A great relief. We have certainly bucked our way through some very heavy ice. The captain of the CD. Howe, sitting comfortably off Coral Harbour, is reputed to have

said that because ice conditions were so bad this year the sealift ships would never get through and that *Labrador* would not make it either. Well, here we are! Silly old man.

On 6 August he first noted that the ship had sailed through uncharted waters, and that matter of fact statement in the diary speaks volumes. The insouciance with which arctic navigators, who so often have been their own hydrographers, accept this hazard is illustrated by Tom Irvine's description of *Labrador's* transit of the Northwest Passage in 1954—not once does he mention the state of the charts he, as navigator, had been using.⁸ The training most mariners receive emphasises the importance of relying on up-to-date charts, and it was no doubt with this in mind that in the two years he commanded *Labrador* Captain Pullen exerted himself far beyond the basic requirements of his task to improve the state of hydrography in the Canadian arctic.⁹



Figure 2: HMCS *Labrador* breaking ice on a passage westbound through Bellot Strait. "On this transit much four-engine ice was encunted." 1957

Source: *T.C. Pullen Papers*.

It was on 6 August that he started erecting beacons on the islands in Foxe Basin. Then on 28 August the ship joined the US Coast Guard icebreaker *Edisto* and began the work of convoying supply ships:

...A total of six ships including myself. The *Soyce*, an AK or cargo ship, the *San Marcos* and *Fort Mandan*, Landing Ships Dock (LSD's), the *Peconic*, a tanker and the *Efdward] Cornwallis*, which is a Department of Transport tender. I steamed over, swept up the line, and took station ahead, signalling that they should follow me and indicating the speed-and so away we went. *Edisto* led his column consisting of four ships including himself. I have been saddled with the slowest ship of the lot—this is proper of course! The tanker-ten knots....

Encountered scattered ice, never more than two tenths, but CTG slowed us down from ten through eight, six, to three knots, which made station keeping difficult. A long night with little progress made; annoying because there is only enough ice to bother the timid.

29 August

Good progress after a slow beginning. The faster convoy left us behind but we steamed on at a good ten knots. The *Peconic* had difficulty in keeping up, particularly in ice, so I put him at the end of the line and moved the *Cornwallis* up. The *Boyce* did well today, no backchat, always in station....

On 4 September the diary records that "the efficient hydrographic section" had found a good deep trench in Navy Channel, which allowed *Edisto* to use a short cut, and on 16 September the two ships began a hydrographic survey of Fury & Hecla Strait. "At last a break," wrote Captain Pullen, "from the flat monotony of Foxe Basin, rocky and interesting, deep water though very 'pinnacly'." Unfortunately, *Edisto* lost her starboard screw the next day. Her commanding officer flew over to *Labrador*, and the two captains "discussed this and that....Filled him with two hookers of whisky and sent him back after agreeing to a plan." The Canadian icebreaker forged through some huge floes, "15 to 20 feet thick...blue and hard," to get to the other ship, and finally escorted *Edisto* through the eastern narrows at 0200 on 19 September.

The next adventure was nearly a misadventure. On 22 September the ship made four attempts to get through Bellot Strait, but withdrew each time as the water shoaled to within twenty feet of the bottom of the ship. The navigating officer, Lieutenant O.J. Cavenagh, took the surveying vessel *Pogo* out to confirm the existence of a deep trench on the south side of the channel on 25 September, but right in the middle was a rock "over which the water is boiling and frothing at six to eight knots, maybe ten." Captain Pullen reflected that the ship "must have been within feet of this rock and with the current behind us too. I flew over it and it was a sight to make one's blood congeal. We have named it 'Magpie Rock' -- a near miss."

The first sight of Erebus Bay on 26 September had special meaning for him: "...at this place...104 years ago William John Samuel Pullen and Thomas Charles Pullen passed two years." He visited various sites by helicopter, and among other things found the main cairn on Beechey Island, inside of which his helicopter pilot, Lieutenant J.A. MacNeil, found a brass pipe

with a screw cap on both ends. "Stamped on the pipe was 'RCMP St. Roch 21 Aug. 1944' and the names of his crew. It was too cold to study the papers I found inside so we returned to the ship with it to study them in comfort. They were mostly copies, the earliest was 1906—Bernier in CGS *Arctic*. That, and Larsen's papers, were the most interesting. I left a document...and we returned and stowed it carefully back in its original place."¹⁰

The return passage to Halifax began when the ship anchored at Brevoort Harbour to shelter from a storm on 4 October: "The first time we haven't been under way since leaving St. John's on 7 July."¹¹ The ship arrived at Halifax on 13 October:¹²

...103 days away, 100 days at sea, two days at St. John's, Newfoundland, and one night at anchor at Brevoort. Steamed 18,606 miles, approximately 12,000 of which were in uncharted waters. Had several close calls—the worst occurring in Foxe basin when we were within seven feet of taking the ground off the southwest corner of Rowley island, and in Bellot Strait when prudence kept us from attempting a passage which would have seen us on Magpie Rock (named by us). The ice passage off the western entrance to Fury & Hecla Strait was the worst we encountered. The rescue of USS *Edisto* was another highlight and a satisfaction too....

The 1957 season was no less active, and fraught with just as many difficulties. The ship sailed on 25 June, with the intention among other things of establishing a passage through Bellot Strait.¹³ In August *Labrador* also achieved what Captain Pullen thought an even more important survey, the approach to Frobisher Bay (now called Iqaluit):

13 August

Pogo had found a promising channel between Pike and Resor Islands so at 1000, with Pilot Osborne and Captain Mitchell of the [USCG] *Redbud* aboard, left Frobisher and ran down towards the entrance to the channel where we lowered *Pogo* and together we got moving. It went very well and it was not long before we were through. We have found, therefore, a channel which is deeper, wider, straighter and safer than any other of the routes through the upper reaches of the island-studded upper bay. The recommended route for 15 years has been through Algerine and Deep Channels which have abrupt course changes, shoals nearby and cross-tidal currents of five to six knots carrying ice which can be a menace to thin-skinned ships. Our new channel has no course changes greater than five degrees, is relatively ice free, *no* crosscurrents and a minimum depth of 23 fathoms and minimum width of 700 yards. The bottom is smooth and the sides give a good radar picture. The channel is 15 miles long and will make future shipping to F. an easy and safe matter.

The local pilots expressed delight, "but I wondered whether it was all genuine," noted Captain Pullen, "after all a pilot doesn't like to see his job disappear or even become too easy."

Less than a week later the Bellot Strait operation began:

22 August

At 0800 arrived off the peninsula and Long Island where the boats were lowered. The second motor cutter to erect a tide gauge at Fort R[oss],¹⁴ then to accompany *Pogo* running through the Strait to get four lines of soundings and to establish the western tide gauge party of three....

At 1600 *Pogo* and her consort were sighted coming back through the Strait. Lieutenant [R. St C] Norton reported on his return a successful day, no rocks or shoals encountered except for Magpie Rock. This was good news as I had been given to understand there was a rock at the halfway point and there was a strong suspicion that off the western entrance, between Pemmanic Rock and the Arcedeckne Islands, that shoal water might spoil our attempt to locate a deep water channel. So once Magpie is charted and a channel past it developed we're "in."

A truly remarkable day in that the plans made weeks ago, Phase 1 and its five parts, went off exactly as planned and without a hitch....

On 24 August all was ready to sail through the newly charted Strait. It was clear and sunny, with a little ice.

At 0830 *Pogo* away to lead me past the shoal and the HUP's [helicopters] airborne for picture taking purposes. With four engines on the line, special sea-duty men closed up, both anchors ready for letting go and the cable party closed up, we started through at 0900 with the sun behind us and a great torrent of foaming water tumbling over and around Magpie Rock. Making good about three knots over the ground-six and a half plus against us. We forged on. When abeam of Magpie out of the east flew a great four-engined USN aircraft stuffed with press people representing NY Times, Newsweek, Time, etc. It flew in at the most crucial moment. I had luckily insisted that my largest white ensign fly from the ensign staff on the flightdeck, to the annoyance I'm sure of the flyers,¹⁵ so that press photos would not mistake the identity of the ship. As the USN 'craft buzzed the ship my ensign was there as large as life.

The deep water channel past the rock is, we reckon, 1,000 feet wide. Quite a tense business....We got by Magpie, the only obstacle, and headed into the narrows after stopping to hoist *Pogo*. While doing so, the powerful east-running stream nearly carried the ship into shallow water, and possibly aground.

At 1125 cleared the western end and there was much jubilation. We are the fourth vessel to make it. *Fort James*, *Aklavik*, both H.B. Coy. schooners, and the *St. Roch*, and [*Labrador*] the first of consequence, drawing 29 feet mean for this transit....

This feat resulted in a flood of congratulations, all duly recorded, and undoubtedly a matter of enormous gratification. The ship engaged in more hydrography west of the Strait, returning to the western entrance on 31 August. During the eastbound passage, done at the full

eastgoing flood tide, "we were swept past Magpie Rock at a tremendous speed. Over the rock itself the water was frothing and swirling while great chunks of ice were flung about as they bounced over the shallows:"

Norton, my very efficient hydrographer, reported the rock is about 200 feet in extent (&) much larger than we reckoned. It was exciting but I doubt if I'll try it again, especially using a back transit with the ship twisting about so....¹⁸

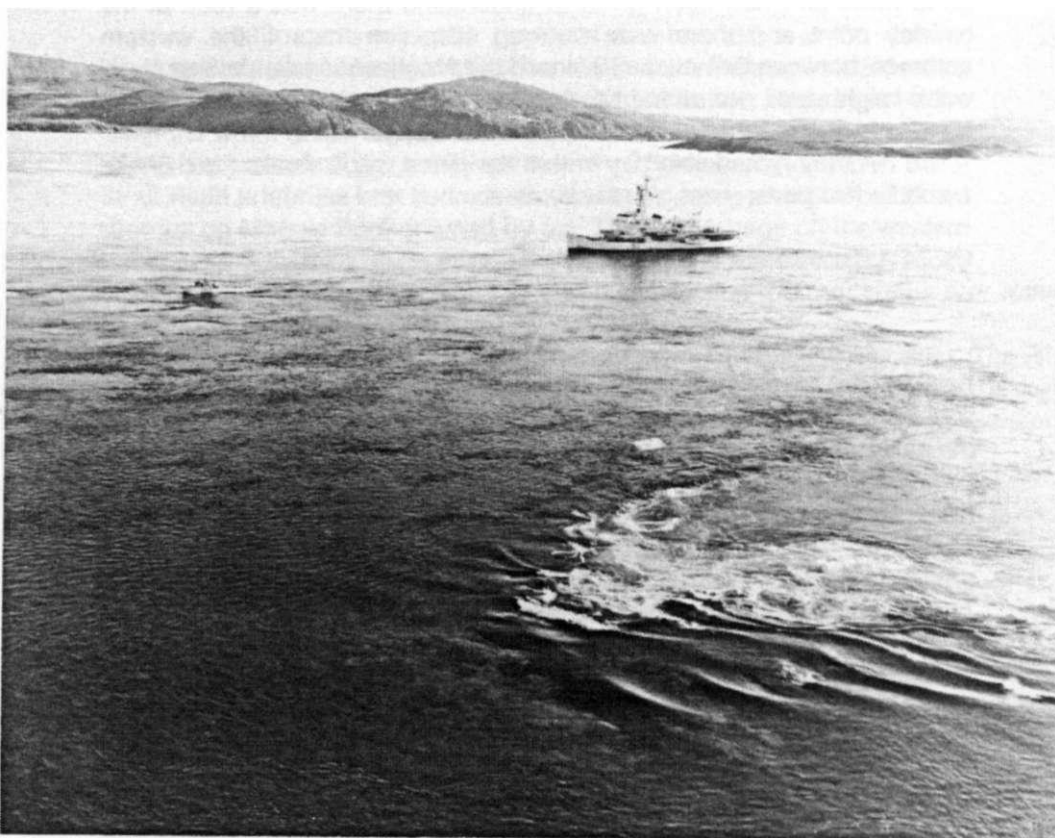


Figure 3: The first deep draft transit of Bellot Strait: *Pogo* leads HMCS *Labrador* past Magpie Rock: "At 0830 *Pogo* away to lead me past the shoal..." We started through at 0900 with the sun behind us and a great torrent of foaming water tumbling over and around Magpie Rock. 24 August 1957.

Source: *T.C. Pullen Papers*.

On 7 September 1957 the USN commander of Task Force 6, Admiral Roy Gano, sent a message noting what could be done by Canadian and US nationals of various services (the

RCN, RCAF, USN, US Coast Guard, and US Hydrographic Office) in a Task Group under the operational control of a Canadian officer "in a spirit of effective co-operation."¹⁷

It was just over two weeks later when Captain Pullen received a rude awakening from the euphoria of his dramatic success in Bellot Strait. The entry for 23 September, written while the ship was in Lancaster Sound, describes the situation:

...Tony, Chief^s and I were sitting in my cabin at about 2100 having our evening cup of coffee when a signalman handed me one of the most shattering messages I have ever received and which explained why a lot of things to us up here have seemed odd. Like a kick in the stomach.

1. "As a measure of economy it has been decided to transfer the operation of *Labrador* to the Department of Transport about 1 April 1958.
2. It is realized that this step will be deeply regretted by officers and men of the RCN particularly those who are now serving or have served in the ship.
3. However such considerations must give way to those of economy if we are to make our most effective [!] contribution to the defence of Canada and NATO.
4. The exploits of *Labrador* and the reputation she has gained for efficiency have done much for the prestige of Canada and the RCN. As the development of the Arctic continues this work will not be forgotten. [?]
5. Further information on the programme up to 1 April will be promulgated."

...We were all stunned....

...I've got to tell the ship's company....That will put the cat among the chickens....Those devils in HQ. Bill Landymore has had his way.¹⁹ VCNS, RAdm. Lay²⁰ too. Blast their eyes. Why couldn't they have waited until we got back? The only cheery news was the rescue of five survivors from *Pamir*.²¹ She sank and all that was found, before the five were sighted, was wreckage and some lifeboats-empty. What a black day this has been.

There was one happy experience in Davis Strait during the return passage, one that once again is best described by Captain Pullen himself:

2 October

In the Middle watch the vis. clamped down and I was on the verge of not altering into Cumberland Sound, but did. We arrived at midday and what excitement ashore at Pangnirtung where they had a problem. The Anglican missionary, the Rev. W.A. Graham, had been engaged to be married for 17 months. He could perform marriage ceremonies for everybody but himself, and he and his fiancée were resigned to wait until

next August, when we hove into sight with a chaplain. Would we wait and help them? We would, then it was realized the local RCMP man who had to issue or sign the license was away. But the Constable we picked up in Clyde River was authorized. So much hurrying and scurrying ashore. Tony [Law] and I flew ashore wearing Number Fives²³ and medals. The service went off well, the little church filled, mostly with Eskimos... [After the reception and arranging for supplies to be landed] we departed at 1700 leaving a breathless little community pinching [itself] to see if it was all true.

Padre told me that on the night of the 1st the Rev. G and his "wife"...had prayed to God putting the problem in His hands to deal with as they could do no more. All that day a gale had whipped up the sea, then the following morning all was calm and in we glided with the solution to their problems. "God moves in a mysterious way, His wonders to perform; He plants his footsteps in the sea and rides upon the storm."

So the ship ended her career in the navy, after a truly impressive series of accomplishments. In the 1957 Arctic operation she had steamed 18,500 miles and spent 109 days at sea. "Yet the experts," wrote Captain Pullen bitterly, "in their purblind wisdom, have decided that she has nothing to contribute in a war that will never be fought. And so she is got rid of so that a couple of obsolete frigates can be commissioned. The news that *Nautilus** had reached 87 degrees North latitude by way of Kennedy Channel Kane Basin, and was able to surface anywhere at will and with ease, has had no effect...All our inspired leaders can think of is fighting World War II over again in the N. Atlantic..."

Captain Pullen retired from the Royal Canadian Navy in 1965 after twenty-nine years service. He was 47 years old and anxious to find new and interesting employment. I remember his telephoning me late in June and asking if I had any suggestions. I was then in the Department of Northern Affairs and Natural Resources, and a few days earlier I had been talking to Mr. Murray Watts, well known for his arctic mining activities. He had told me about exceptionally rich iron ores he had recently discovered near Mary River in northern Baffin Island and we had discussed the problems that would have to be faced if they were to be exploited. I asked Captain Pullen if he would be interested in investigating the factors that would be involved in transporting this ore out of the north, and he replied that this was just the work he would most like to do. I then telephoned Mr. Watts, who was equally enthusiastic about involving a man with Captain Pullen's knowledge and experience. It was in this way that Captain Pullen began a new career as an adviser and consultant on arctic marine operations.

The Mary River ore bodies of Baffinland Iron Mines were well inland but a possible route for a forty-mile road or a railway led from the potential mine to tidewater at the head of Milne Inlet. Captain Pullen's first task was to examine the problems that would be encountered in shipping large quantities of ore south from there, including the selection of possible locations for a dock in Milne Inlet and determining the limits of the navigation season. The Department of Transport assigned the Canadian Coast Guard Ship *John A. Macdonald* to assist this work until freeze-up in the fall of 1965. Captain Pullen continued this investigation twice during the next navigation season in CCGS *d'Iberville* and *John A. Macdonald*, and again in 1967 when he was accommodated a third time in CCGS *John A. Macdonald*.

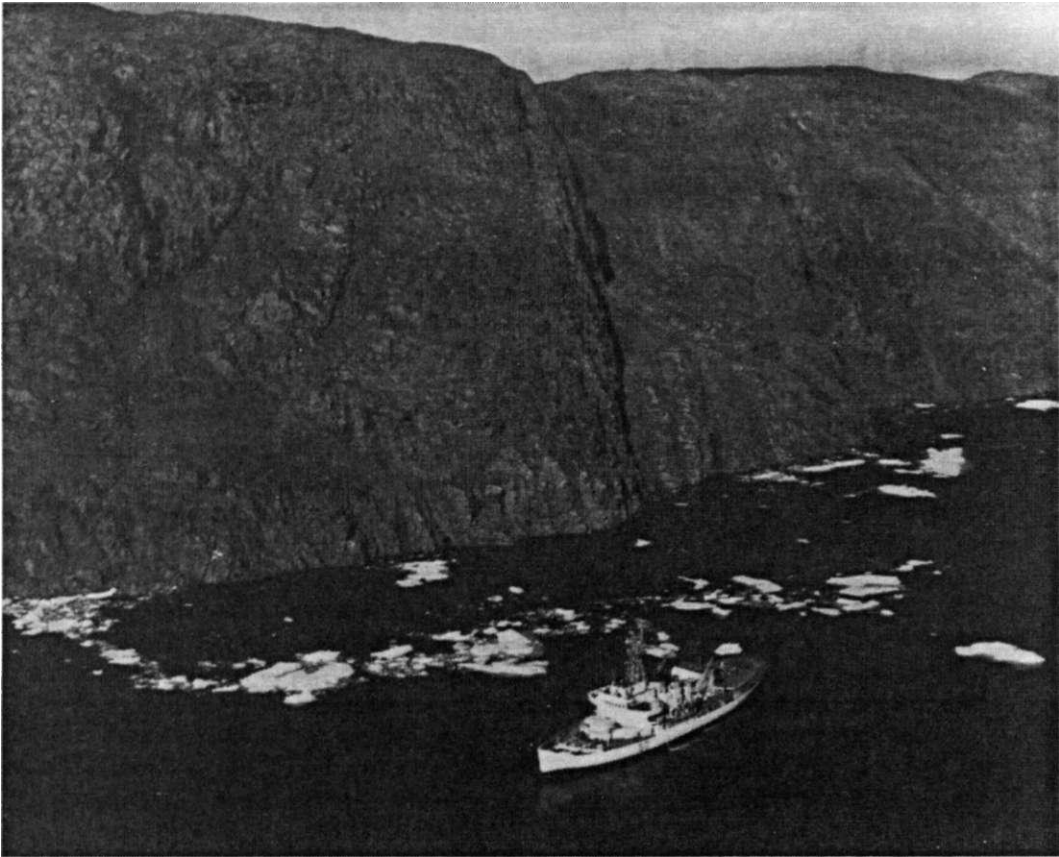


Figure 4: HMCS *Labrador* off Zenith Point, the northern-most continental point of North America. 1957.

Source: T.C. Pullen Papers.

Mr. Watts was also interested in the mineral potential of the Coppermine area, and in the early summer of 1968 he asked Captain Pullen to undertake a survey of ice conditions and a study of shipping possibilities from Point Barrow east to Coppermine, on board the icebreaking tender CCGS *Camsell*, on behalf of Coppermine River Limited.

With Ron Sheardown, who was then Mr. Watts' pilot, he carried out an ice reconnaissance along the coast. I accompanied him to Point Barrow, Captain Pullen piloting the aircraft much of the way. We passed over Prudhoe Bay, Alaska, then a small drilling camp. On the return flight Ron Sheardown and I landed there. It was the very day, I believe, that the discovery of the immense oil and gas field there became common knowledge. The activity at the camp, where it was difficult to find anyone awake, must have contrasted strongly with that on the world's stock exchanges, where the value of shares of the companies involved was increasing by hundreds of millions of dollars the same afternoon.

Captain Pullen, who had joined the *Camsell* at Point Barrow, flew a final ice reconnaissance on 26 July after leaving the ship at Coppermine. The diary entries for 1968 tell us something of his own reactions to these tasks.

July 11

Thursday...[Flew in] Air Canada's Viscount Flight No. 179 to Toronto with Jake Jacobsen & Graham Rowley. I seemed cluttered with gear, a sleeping bag, a zipper suitcase, a flight bag, a jacket, binoculars....On to Edmonton in a DC8....

July 12

Friday...To the Municipal Airport & off at 1045 in a rather shopworn DC6, of Pacific Western Airlines, up Hay River where we landed a few hours later in dashing form. On to Yellowknife where, some 3 hours after leaving Edmonton, we landed....[There] we loaded up a twin-engine *Aztec* (Piper) & took off...We flew north over thousands of lakes to Hope Lake-flying time 2 hours at 175 or so arriving at 2130 and landing on a gravel strip (3,200 ft) with great dash and skill. By truck over a very rough road to the camp—2 miles away~and to our quarters. One room to accommodate the 4 of us; Graham and I each had a box spring while Jake and Phil²⁵ used the two mattresses—a crowded but adequate arrangement. Millions of mosquitoes to make life unpleasant outside. After meeting Murray Watts & having some food we got out our sleeping bags & turned in....

July 23

Tuesday...Arranged to be flown [from *Camsell*] to Expedition Cove [a short distance north west of Coppermine] to examine it as a potential harbour. Ivor Roberts landed us on Mackenzie Pt & we arranged for him to recover us 2^h hrs later on Gurling Pt & that was a mistake. No sooner had the down wash from the chopper's rotors disappeared—if that is possible!—than a cloud of mosquitoes descended on us & never left—then it began to rain....We had no insect repellent and the only choice was to keep moving—and wearing my winter jacket I got hotter & hotter. Anyway, the cove makes an admirable harbour—protected on all sides from wind & ice except the Northeast & there were the Nichols Islands and Blaze Is. to provide some protection. The inside arm of Mackenzie Point outer part that is would make a good place for berthing & loading facilities—there is a [?] which could be useful for small craft & the top of the latter point would be quite readily adaptable to a roadway....

July 26

Friday...Loaded up & took off at 1425..There being no ice we flew direct for Cape Parry—were by Bluenose Lake at 1505....We landed at CP. at 1600...had coffee at Dew Line station & were off again at 1730. There

being no ice we flew direct down (or up I suppose would be correct) Liverpool Bay-over Sitidge Lake & after circling the town landed at Inuvik airport....Airborne [again] at 2124. Flew across the Mackenzie Delta -to Herschel Island- a strong 30 kt wind from the North East to give us a boost-were by Barter Is. at 2250. Overcast...off Flaxman encountered scattered floes & strings of loose ice-a few heavy floes. By Cross Is at 2315. No ice visible to seaward and a few large floes inshore of us. Passed 17 miles to seaward of Oliktok at 2330 & estimate 2/10 scattered ice....By Lonely Island at 2350 having seen only scattered ice-no ice in sight at Lonely & less than 1/10 to Cape Simpson. Off Dease Inlet at 2359 where there were some very heavy floes and ice cover 2/10 to 3/10. A large percentage of dirty dark ice-like Fox[e] Basin in the east. Heavy pack discerned to seaward which trailed away to the North and West of Dease Inlet. Off Point Barrow at 0015 ...²*

It was the Prudhoe Bay discovery that led to Captain Pullen's next assignment in the Arctic. He was asked to represent Canada on the Northwest Passage of the Steam Tanker *Manhattan* from the Atlantic to Prudhoe Bay and back in the summer of 1969, and to act as ice adviser to Humble Oil (later called Exxon) and coordinator of the Canadian icebreaking operations in support of the voyage. Captain Pullen prepared a typescript of the diary for 1969 from the original handwritten journal. A one line description of the contents for each of seventy-three days captures the spirit of the enterprise; thus: "Day 6 First encounter with ice. Timidity among the floes;" "Day 13 Ice problems and slow headway. Northwind withdraws with engine problems;" "Day 19 Sachs harbour. My kyack [sic] is bigger than your kyack;" "Day 23 Prudhoe Bay and the Golden Barrel;" "Day 49 Fun among the floes. Too many chiefs." "Day 73 Halifax and hubbub."

He joined the ship on 28 August, 1969, where he found three captains (Steward, Smith and Graham), the Project Manager (Stan Haas), and his cabin mates "my new friend Captain F A . (Beef) GoetteL US Coast Guard, Emil Stasyshyn, the Canadian ice observer from the Met. branch, and Donald Nevel an ice physicist from the University of Alaska."

The sheer size of the *Manhattan*, which drew forty-three feet in light condition, was awe-inspiring. On 2 September, when the ship was about to move into the ice for the first time, Captain Pullen had a variety of comments:

When some miles from the nearest ice the ship went astern and by 0535 was stopped. By the time her propeller swirl reaches a point below the bridge wings she is, as with most ships, dead in the water. Then, at 20 rpm, two to three knots, we advanced cautiously towards our icy objective but it takes such a long time to get this great behemoth moving it is a tedious procedure...

By 0630 I was wondering if we would ever reach the ice. Under the influence of a northerly wind it was moving faster than us....At 0730 the first piece of ice touched the ship. We didn't touch it....At 0740 we pushed between two heavy multi-year floes...which the ship had no difficulty in thrusting aside. The picture from the closed circuit TV camera mounted on

the starboard bow is excellent, showing the stem moving through the water, cracking and splitting the ice. There is so much bow overhang it is impossible to see anything standing in the eyes of the ship....It was almost noon before we were really in amongst the floes. I told Beef that if we approached all ice like this we would never get anywhere. Timidity is something which shiphandling can do without....

This day's demonstration was impressive. Manhattan tackled some very hard ice, at unfair angles, and emerged undamaged having shattered and fragmented the heavier floes. I had been concerned at the outset with timidity but ended the day wondering whether there was too much recklessness. There must be a limit to what a large icebreaking ship can take when hitting scattered floes in open water at speed but up to now it has not been reached.

On 5 September, day nine, he became concerned that the limit was being reached and even exceeded. After entering Lancaster Sound the ship "romped along" at fifteen knots and encountered scattered multi-year floes.

...As we continued the cover increased until it was impossible to avoid them all and it was then we began cannoning into them. The ice was fifteen feet thick, blue and hard, and the ship was going far too fast in such conditions. Finally I remonstrated with Roger [Seward] who, thank goodness, was in the process of reducing speed. That still was not enough as we continued to career around and through these hard centers splitting them, shattering them, into huge blocks of blue granite before thrusting them aside. Spoke again to Roger and he ordered another reduction. Beef and I both unhappy over this state of affairs. It is a difficult situation to be in and we are not really sure of our status....Such tactics with any icebreaker would, we felt sure, result in unnecessary damage.

From time to time the sovereignty question came up. It was on 9 September that "a message came in from the Canadian parliamentarians who flew overhead invisible to us in the murk. They were to have dropped a Canadian flag, but thank heavens conditions were unsuitable for this blatant act of chauvinism...." The same day William Tetley, member of the Quebec legislature for Notre Dame de Grace Montreal, sent a message to Captain Pullen to "Please fly the Canadian flag on the Manhattan in Canadian waters....We have enough flag trouble without American interference. Best regards from your former boats officer in La Hullose." The concern was unwarranted - the Canadian flag had been hoisted in accordance with the custom of the sea: "Southern Canadians are unnecessarily exercised. As for Bill Tetley he should know me better than that."

As the passage unfolded the presence of "too many chiefs" led to conflicts and tensions, faithfully recorded in the diary. On 27 September, noted Captain Pullen, "It seems the Ice Testers have upstaged the Ship Operators because we are now committed to work on a large floe somewhere ahead. Rod Edwards conferring with Beef when I got back and the situation as he sees it is one of total disillusionment felt by test personnel on board. They don't know

what the plans are, little work is being accomplished, and what is attempted is either poorly planned, interrupted, or both..." Later the same day a shiphandling problem brought out some frank comments in the diary:

1218-telegraphs full ahead and at 1235 the ship in another floe. This partly attributable to the determination by merchant marine officers to steer a straight course willy nilly, a tactic which in ice has nothing to commend it....

At 1400 the ship crunching steadily through the ice in the general direction of the larger floe most of which is off to starboard, Roger standing near me being encouraged to keep edging left to leave it all to starboard. Stan appeared and Roger told him what he was doing at which point Stan burst out: "Oh, for God's sake - that's what we're here for."....Roger [then]...gave the order to the man at the wheel: "Come right to 080 deg and steer for that floe." At any moment I expected an outburst from the red icebreaker astern of us. [The floe turned out to be less dangerous than thought. "Humble Pie," wrote Captain Pullen]....

At this time the uproar on the bridge was nearly unbearable, the clang of the engine room telegraphs, the buzz of the ship's telephones, the constant roar of the radio loudspeakers as ships and aircraft talked to us and we talked back. Add to this the coming and going of people and general bridge conversation. There is the Quartermaster on the wheel calling out the ship's heading because there is no repeat for the conning officer, there is Roger rushing about in his "mad Monk of the Manhattan" garb (tartan beret & rumpled duffel coat), John Heller, senior helo pilot, manning the radio circuits, and Al Scara, Mate of the Watch, running and shouting between telephones and telegraphs. Beef and I add our bit to the general confusion when working the icebreakers, plus assorted spectators. Finally, the enigmatic Stan, in his baby blue windbreaker and shocking pink fur hat standing at the back taking it all in. This performance, repeated whenever we are in the ice, is one reason we are so weary at the end of the day.

When S/T *Manhattan* returned to the Arctic the following spring her destination was Eclipse Sound, waters well known to Captain Pullen as the result of the work he had done there for Baffinland Iron Mines. He himself was on board the CCGS *Louis St. Laurent*, which accompanied and supported the *Manhattan*. The 1970 voyage was less wearing, perhaps, than in 1969.

It was another of Mr. Watts' interests that gave Captain Pullen an opportunity to extend his experience in Alaskan waters and in particular to the Bering Sea. Development of the Lost River Mining Corporation's property in the Seward Peninsula was being considered, and he was asked to advise on the location of a port to handle the ore, and the marine aspects of the operation. For this purpose he sailed in the US Coast Guard icebreaker *Glacier* during her midwinter survey of ice conditions in the Bering Sea in 1971.

For some years the Canadian Government had been attempting to encourage mineral exploration and development in the north. Discoveries had however failed to justify the high hopes that had been entertained and commercial activities had begun to wane.²⁷ The Prudhoe Bay discovery reversed this trend; the interest of many companies was restored and new companies, not only from North America, were attracted. Many of these companies knew little about the north and Captain Pullen found there was a growing demand for his services as a consultant on marine operations there, a field in which few could now rival his expertise. Government agencies, as well as international corporations, became his clients. His advice was increasingly sought not only on northern shipping routes and the operation of ships in ice but also on icebreaker specifications, design and construction. He was frequently invited to address northern scientific and other conferences concerned with arctic shipping and to contribute articles to northern and marine journals. His clients, publications, and lectures, listed in the appendices to this article, are ample evidence of heavy demands placed on him in these years.

Most of the renewed interest in the Canadian north was centred on petroleum exploration in the Mackenzie Bay area, owing to its proximity to Prudhoe Bay, and major oil companies became involved. Captain Pullen had already examined the feasibility of commercial marine operations in the region on behalf of Coppermine River Limited as well as on the Northwest Passage voyage of S/T *Manhattan*. It was therefore a field in which he was again able to play a particularly important and informed role.

The summer of 1974 saw the introduction of a new development in marine transportation in the north. Lindblad Travel, a New York agency, organised and conducted the first tourist cruise to the High Arctic of North America. The Motor Ship *Lindblad Explorer* visited Kane Basin, Barrow Strait, Lancaster Sound, the west coast of Greenland, and Baffin Island. Captain Pullen participated not only in the planning of the cruise but also as Ice Master and lecturer on the cruise.

In subsequent years he undertook the duties of Ice Master in ships engaged in a number of interesting and often pioneering voyages. Among these were the M/S *Gothic Vasa*, when she became the first ship to load lead/zinc ore concentrates at the Nanisivik mine in Strathcona Sound which runs into Admiralty Inlet in northern Baffin Island, and the M/S *South Rainbow*, an 80,000 tonne bulk carrier²⁸ in an ice transit of the Gulf of St. Lawrence. His experience in this ship was memorable. He had driven by taxi from Stephenville airport to Port aux Basques, and arranged with the skipper of a fishing vessel at Isle aux Moils, the *Flash III*, to take him out to *South Rainbow*. Gale force winds and ice pans notwithstanding, early on the morning of 20 March, 1979, he set out:

March 20

Tuesday...Seymour arrived at 0640 in gloomy form-rain, wind and a rising sea. A fine man and we hit it off all right. He was not too optimistic about my chances...His 60 [foot] fishing boat impressed me as did his two sons. Fired up the diesels & I got the ship on VHF [ship-to-shore radio]. We could see her away out in the mist & rain. Some agile shiphandling & we were on our way for a ride I enjoyed but will not forget for a long while. Pitching, rolling and leaping about in a good big sea but clearly we were going to get there. The ship finally, at our request, altered around more to provide a better lee. Crashed alongside & after a line was thrown I climbed

onto the Jacob's ladder²⁹...and before I had struggled up two steps I was alone-Flash III had decamped. The rope ladder with nothing to hold it down swayed so I could only with difficulty get a foothold & could only make a couple of rungs & hesitated exhausted with the effort. With the swell banging about below & nobody paying any attention above I was truly alone....

Eventually he completed this "arduous climb" of thirty-three feet, to be greeted on the bridge by the Indian captain "in friendly fashion," with an expression of "surprise that I was so old. From my voice over the radio he thought me much younger...." At the end of the week, having taken the ship to Sept-Iles and back through considerable Gulf ice, he came ashore in Isle aux Morts in the same fashion that he had embarked, using the *Flash III* to get ashore, and on Saturday 24 March "Tottered out of the Hotel...A \$2000 fee that I consider was well earned."

In the capacity of Ice Master he also accompanied the ocean tug *Irving Cedar* when she towed a 12,000 tonne barge on an ocean voyage from Trois Rivieres through Davis Strait and Lancaster Sound to the Arvik mine on Little Cornwallis Island. The barge had been constructed as the mill for concentrating the lead/zinc ore at the mine and was successfully placed there.³⁰ Another ocean tow with which he was involved took him to Prudhoe Bay to represent the underwriters during the ice transit of a 26,000 tonne sea-water treatment plant from Korea to Prudhoe Bay.

During this period his interest and involvement in arctic hydrography continued. In 1979 he conducted a hydrographic reconnaissance of uncharted waters in Prince Albert Sound while on board the CCGS *Sir John Franklin* for the Polar Gas Project. The next summer he continued this type of work with CCGS *J.E. Bernier* in Minto Inlet.

In more recent years public interest in commercial development in the north has again declined. On the other hand the tourist potential has become much more widely recognized. Every season now sees cruise ships in the north. For many years Captain Pullen took part in the planning of the more enterprising of these expeditions and often in their operations. They included the first transit of the Northwest Passage by a passenger ship, the *M/V Lindblad Explorer*. This was from St. John's, Newfoundland in the east to Yokohama in Japan, the first time the Northwest Passage had been used for its original purpose as a route to the Orient. Later he made a second transit, in the *M/V Society Explorer*, this time from west to east. On these cruises he served both as Ice Master and as a very popular lecturer. It was in these capacities that he was able to extend his experience to Antarctic waters, and to compare conditions in the south with the north he knew so well. And at last he was able to share his infectious enthusiasm with his wife Betty, who for about forty years having remained behind as he set off on all his expeditions could now accompany him. She complemented her husband to perfection. Some passages, one while in *Lindblad Explorer* in the voyage to Yokohama, and another while in *World Discoverer* during an unsuccessful attempt to navigate from east to west in 1986, also bear witness to his love of the arctic, and the memories the voyages brought back to him.

August 30, [1984], Thursday Early at Beechey Island. Off ashore to what for me is a so familiar place. On arrival at the beach below the Bellot Memorial I was surprised to find a big change-& one not for the better

either. It looked as if a man with a cement mixer and another with a supply of Tablets and Notices had been at work. Now visitors are greeted with plaques and Memorials to the Prince of Wales who dropped by one day, to a Danish Princess, to an 'Ed' Fog, to Mace Coffey (the last two are in fact interred there) & by the Franklin Probe, a group of "fireside" navigators to quote W.J.S.P[ullen], who have created a cairn with survival rations and their names on it. I could not believe my eyes on seeing all this "stuff" littering the beach of the most historic spot in the Canadian Arctic. It depressed me very much indeed....

September 13, Thursday Arrive early off Little Diomede Island...Calm sea....A local came aboard with the largest walrus tusks I've ever seen. Graham [Rowley] agreed he'd not seen as big. Asking price \$3,500....42 years ago the loss of *Ottawa*....

September 5 [1986], Friday. Bellot Strait Anchored off Fort Ross at 0100. To my entire relief *Mabel E. Holland* at [anchor] right off Fort Ross³¹[Then] I scrambled ashore to fly an ice recce with *P[ierre] R[adisson's]* helicopter. Ralph Hilchey ice observer & Emile Cote pilot. A marvellous flight through Bellot but in the right rear seat Bellot's Magpie Rock was not visible-otherwise a splendid view, of the Fox's Hole, Halfway Is., Pemmican Rock. Memories of 1957-very little ice. PR visible parked in the ice several miles off the W. entrance. For 40 mins or more we flew south-west & north for a fine view of the ice in Peel Sound-certainly vast floes as advertised in the ice report, but also leads and areas of open water-evidence of past pressure-quite recent-but not at this time. If W.W.³² is willing then the decision to proceed rests with the icebreaker and her Master-it appears to be heavy going but with good helo recce could be facilitated. These R. Class ships are hardly up to the task-23 ft draft-a design compromise to suit the Gulf of St Lawrence & seaway-twin unprotected screws and centre line rudder like *Labrador* but this is 1986 not 1956. I would prefer the *Macdonald*, even the *St Laurent*, for this kind of work....³³

Eventually *World Discoverer* had to turn back, although she did get to the western end of Bellot Strait.

In 1987 Captain Pullen was in the Antarctic on board *Society Explorer*, and in 1988 carried out what he considered to be his most successful transit of the Northwest Passage, from west to east, sailing from Dutch Harbour, Alaska on 18 August and reaching Narssarsuak in southern Greenland on 20 September. In 1989 he cruised from Iceland to the eastern Arctic, and from Greenland to Churchill Manitoba, in *World Discoverer*. He had hoped to transit the Northeast Passage, and began planning for such an expedition in 1990, shortly before his final illness.

It is in his 1986 diary that two comments deserving special note occur. On 5 September he recorded his strong feeling that advances in communications had interfered with Canadian

arctic enterprises. "There is far too much central office control, & with weak or indecisive men on the spot such control - which is really interference—can only grow. A bunch of 'sea-going cyphers' is what we are getting...." And on Thursday, September 16, he uttered a heartfelt sentiment as the ship approached Saglek Bay: "I do not like the grim Labrador coast nor trust it." No navigator who has followed the thin lines of soundings along that barren shore could disagree. And no words could offer a more appropriate *reprise* of his arctic career than these diary entries. He had become, and to the last he remained, one of the great polar navigators.



Figure 5: HMCS *Labrador* leads USCG *Storis*, *Bramble* and *Spar* eastbound through Bellot Stait, opposite Magpie Rock at the full eastgoing flood tide. "... It was exciting but I doubt if I'll try it again, especially using a back transit with the ship twisting about so ..." 31 August 1957.

Source: *T.C. Pullen Papers*.

NOTES

1. I would like to acknowledge the help of Mrs. T.C Pullen and Dr. W A B . Douglas in verifying my recollections with Captain Pullen's diaries. Dr Douglas has kindly edited this memoir, and compiled the endnotes.

2. Classified as "RCN Arctic Patrol Vessel" and built to the design of the US Coast Guard's *Eastwind* class icebreaker but modified to meet Canadian

needs. Dimensions: length 269 feet, beam 63H feet, displacement 5400 tons, to accommodate a maximum complement of 25 officers and 204 men. *Labrador* 8000, Directorate of History, National Defence Headquarters (DHist).

3. "Arctic Pullens:" *Pullen Island* in the Beaufort Sea for (then) Lieutenant W.J.S. Pullen, RN. in command of a boat expedition from HM ships *Herald* and

Plover, and who searched eastward from Wainwright Inlet, Alaska, to Cape Bathurst, during the years 1849, 1850 and 1851; **Pullen Strait** separating Cornwallis Island and Little Cornwallis Island, for Commander W.J.S. Pullen in command of HMS **North Star**, the only ship of the five to return from the Belcher Expedition of 1852-54; Mount Pullen, Northern Ellesmere Island, for Chaplain H.W. Pullen, HMS **Alert**, of the 1875 Nares Expedition. Pullen papers, "Arctic Curriculum Vitae." Captain Pullen himself named Pullen Point, East Baffin Island, for T.C. Pullen, Master (later Captain, RN), of HMS **North Star**, 1852-54, Pullen papers, diary, 18 July 1956.

4. See H.F. Pullen, ***The Pullen Expedition: In Search of Sir John Franklin***, (Toronto: **The Arctic Press**, 1979); indeed acquired by Captain Pullen.

5. The ship had completed the first deep draft transit of the Northwest Passage in 1954, under the command of Captain O.C.S. Robertson, GM, RD, RCN, ***Pilot of Arctic Canada***, Vol. 1 (Ottawa: Queen's Printer, 1959), 59; T.A. Irvine, ***The Ice was All Between***, (Toronto: Longmans Green, 1959).

6. The **Labrador** diaries form two typescript loose-leaf volumes transcribed from the MSS, in the Pullen Papers. These papers are at the time of writing in the possession of the family.

7. Thereby exceeding by thirty-one persons the maximum complement for which the ship was designed. In 1957, after a careful assessment of requirements in 1956, he was able to cut down the crew size by forty positions.

8. Irvine, ***The Ice was All Between***, *passim*.

9. **Labrador** was instrumental in the creation of six large scale, and eleven small scale, Arctic charts as a consequence of her hydrographic activity. Pullen papers, "Arctic Curriculum Vitae."

10. The first cruise of the Arctic in 1906 was authorised by a Royal Commission, dated 23 July 1906, to explore Hudson Bay and northern waters belonging to Canada, and for Captain Bernier to patrol these waters as a fishery officer. A second cruise took place in 1910. ***Report on the Dominion Government Expedition to the Northern Waters and Arctic Archipelago of the D.G.S. 'Arctic' in 1910, under command of J.E. Bernier, Officer in Charge and Fishery Officer***, (Ottawa: Department of Marine and Fisheries n.d. [1911]). For **St Roch** see ***Reports and other papers relating to the two voyages of the R. CM.***

Police schooner "St Roch" through the Northwest Passage... (Ottawa: King's Printer, 1945).

11. It was possible to "park" the ship in ice without letting go the anchor most of the time in the Arctic.

12. The entry for 6 October, during the passage home, reveals the existence of another diary, that of Commander C.A. Law, DSC, RCN, Pullen's second in command: "...Tony Law showed me his 'Cruise Diary,' a host of watercolours and some oils. All good, some very so and one in particular of Devon Island which 'clicked' with me and I asked for, [and] got first refusal to purchase, if one can do such a thing when dealing in pictures." The painting was

13. "28 June: A quiet night with no interruptions. Gave a historical review of Bellot Strait to the Wardroom officers followed by the proposed plan and a general discussion..."

14. In 1937 I had helped to build Fort Ross. It had been intended to serve both as a fur trading post and as a transshipment point to which supplies for the western arctic could be shipped out at much less cost than down the Mackenzie River.

15. Here he is referring to his own helicopter pilots.

16. Compare this to Henry Larsen's description of 1942: "The western end of [Bellot Strait] was clear of ice, but in the centre there was an impassable, tightly-jammed ice barrier, two or three miles wide... Aided by the tide, the 'St. Roch' rammed into this frozen wall and attempted to drift through, the current was very strong, and ice whirled, upended, and closed in from all sides, but finally the vessel drifted through and anchored off the Hudson's Bay post, Fort Ross...." ***Report***, 15.

17. On 9 September, in Victoria Harbour, there was found parts of a two-cylinder engine used for the paddle wheels of HMS **Victory**, used by Sir John Ross in his 1829 expedition. Hugh N. Wallace, ***The Navy, the Company and Richard King: British Exploration in the Canadian Arctic, 1829-1860***, (Montreal: McGill Queen's University Press, 1980), 16.

18. Commander C.A. Law, DSC, RCN and Commander D.E. Fairney, RCN.

19. Captain W.M. Landymore, OBE RCN, then Director of Naval Plans and Operations.

20. Rear Admiral H.N. Lay, OBE, CD, RCN, Vice Chief of Naval Staff.
21. The tall ship that sank in the autumn of 1957.
22. Chaplain Class II G.R Bell, RCN.
23. The usual order of dress for naval officers on parade.
24. The nuclear submarine USS *Nautilus*.
25. Phil Jenney, a geologist from Oakville, Ontario.
26. It was Sir Edward Parry who had first shown, in the expedition of 1821-3, that navigation could succeed in polar regions by hugging a shore line. Wallace, *The Navy, the Company and Richard King*, 8-9. Having commanded a deep draft ship in the arctic himself, Captain Pullen would not have been able to use this characteristic to advantage, but he clearly was aware of it.
27. Thus the extraordinary omission, in the highly acclaimed *Historical Atlas of Canada*, Volume III, *Addressing the Twentieth Century*, ed. Donald Kerr and Deryck W. Holdsworth (Toronto: University of Toronto Press, 1990), of any reference to the opening of the Northwest Passage to deep draft ships by HMCS *Labrador* in 1954-8. The terminal date of the Atlas is 1961, well before the Prudhoe Bay discoveries, although the North American Air Defence agreement, and the Distant Early Warning Line, had created important Canadian defence interests in the Arctic by 1958 at the latest.
28. The tonnage noted by Captain Pullen in his journal was 72913 and 60782 deadweight.
29. Jacob's Ladder a rope ladder with wooden rungs.
30. Captain Pullen's own description is in his article "A 3000-mile Arctic Towing Odyssey," *Canadian Geographic Journal*, CI, No. 6 (December 1981/January 1982), 16-23.
31. David Cowper, who had previously consulted Captain Pullen, was attempting a transit of the Northwest Passage in a sailing boat, and while at Fort Ross took on stores from *World Discoverer*. "He had decided (unwisely in our view) to over-winter there...."
32. Captain Werner Werkerstorfer of *World Discoverer*.
33. See T.C. Pullen, "Why we need the Polar 8," *Canadian Geographic* CVII, No. 2 (April/May 1987), 84-86; and "What Price Canadian Sovereignty," United States Naval Institute *Proceedings*, CXIII, No. 9 (September 1987), 66-72.