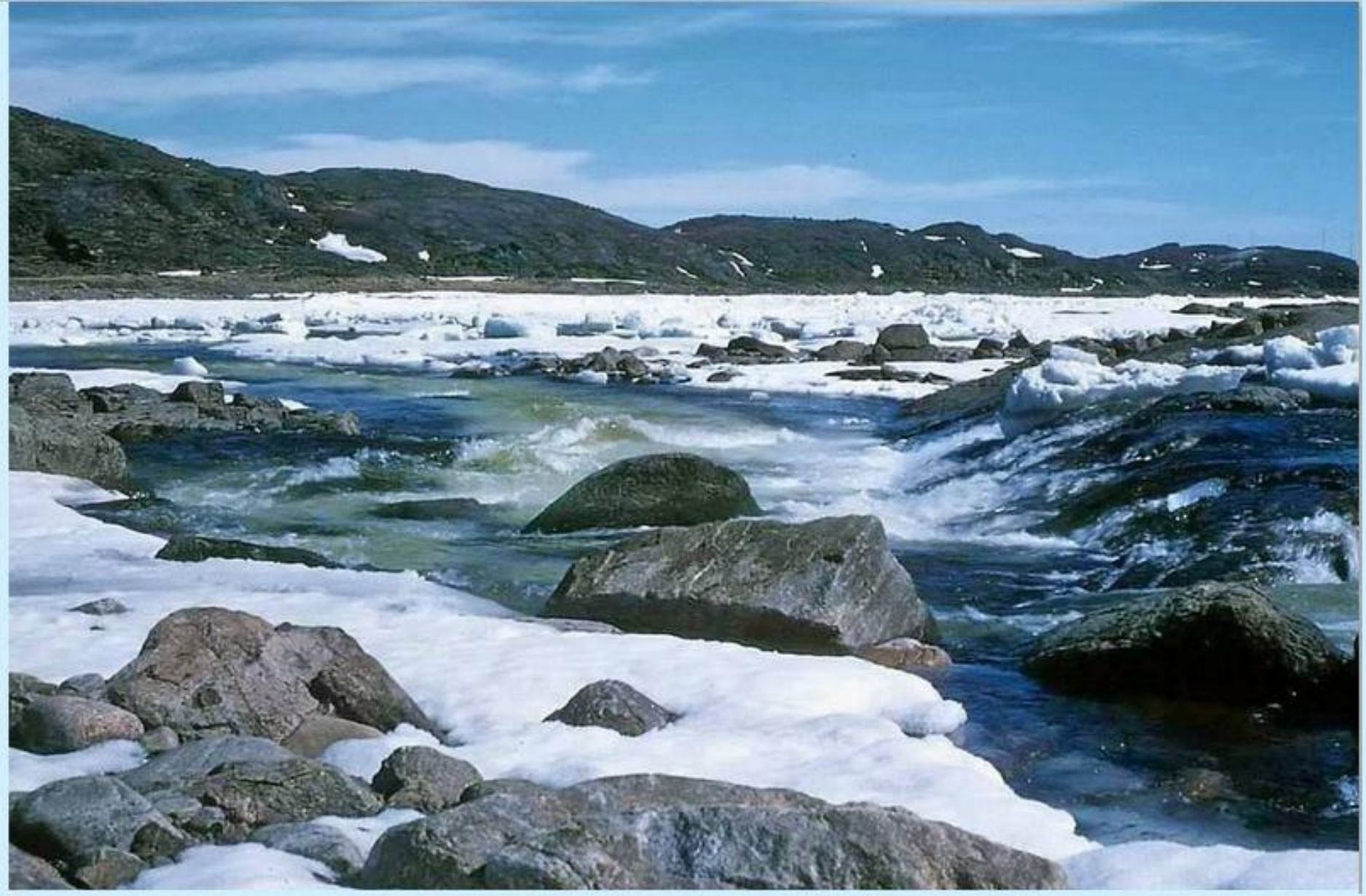
ARCTIC TOUR OF DUTY 1959 TO 1965 BY MICHAEL J. NEWARK



Sylvia Grinnell River during Spring breakup. Frobisher Bay

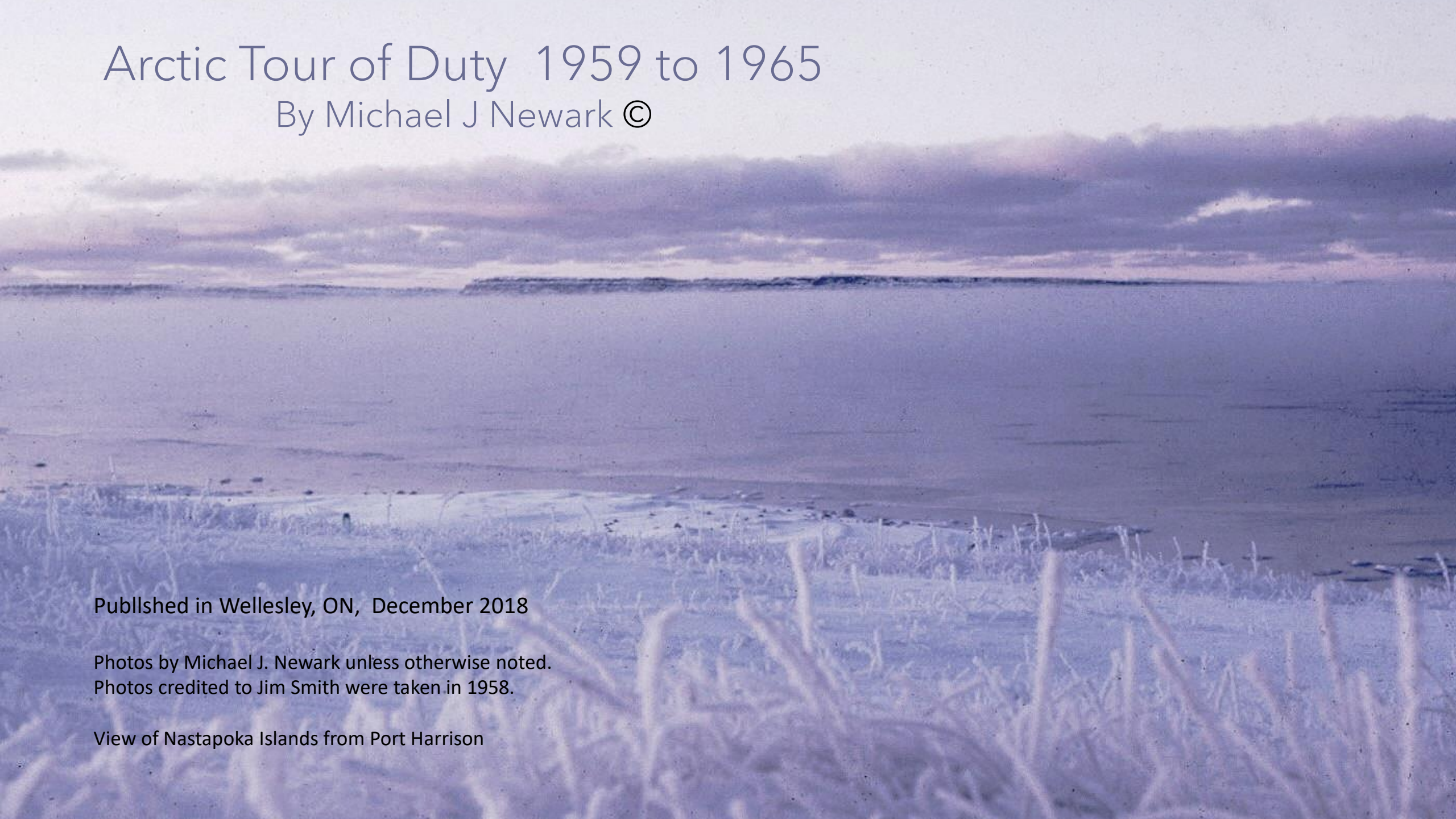
ARCTIC TOUR OF DUTY

1959 TO 1965

Back Cover: Foxe Basin. The ice floe edge and distant fog bank

Arctic Tour of Duty 1959 to 1965

By Michael J Newark ©



Publlshed in Wellesley, ON, December 2018

Photos by Michael J. Newark unless otherwise noted.
Photos credited to Jim Smith were taken in 1958.

View of Nastapoka Islands from Port Harrison

Michael Newark is a retired meteorologist whose career as a weatherman spanned 34 years. He started out with the Air Ministry in England after leaving school. After emigrating to Canada in 1957 at age 18 he joined the Canadian Meteorological Service which later became the Atmospheric Environment Service of Environment Canada.

His career spanned many different functions. He started out by serving at Arctic weather stations, followed by a period at the Toronto International Airport giving weather briefings to aircrews. Following graduation from the University of Toronto in 1970 he worked as a weather forecaster at the Ontario Weather Centre.

After a number of years on the forecasting front lines he specialized in studying severe local storms such as tornadoes, hailstorms and damaging thunderstorms. This led to a research position at the Weather Service headquarters in Toronto. Over his career he published numerous research papers in academic journals.

In addition to his regular job he also worked as a freelance weather commentator on CBC radio from 1973 to 1982, founded and published a popular weather magazine named "Chinook", wrote TV scripts for TVO and articles for newspapers and magazines.

Michael retired in 1991 and now lives in Wellesley with his second wife Shaeron. He has three sons (pre-deceased by Michael Jr in 2015), a daughter, a step-son and six grandchildren.

This book takes us back to his Arctic experiences living for six years among the Inuit of Canada's far north. Although married while at Hall Beach, his first posting, there were no facilities for families and he was posted there as a single man. At Frobisher Bay (his second posting where his son Michael Jr was born) and Port Harrison, he was accompanied by his first wife, Doris.

The map (right) shows the locations where Michael served in the north. Hall Lake was renamed Hall Beach shortly after his arrival.

On April 1, 1999, Nunavut separated from the Northwest Territories to become the newest Canadian territory and Frobisher Bay was renamed as Iqaluit. In 1980 Port Harrison was renamed Inukjuak and is situated in the semi-autonomous region of Nunavik in arctic Quebec. In this book, the old names are used.

Photo by Don Jackson

Michael at Hall Beach, Northwest Territories

Flying to Hall Beach

October 1959. A Wheeler Airlines flight to Hall Beach, NWT. with passenger Michael Newark on board.

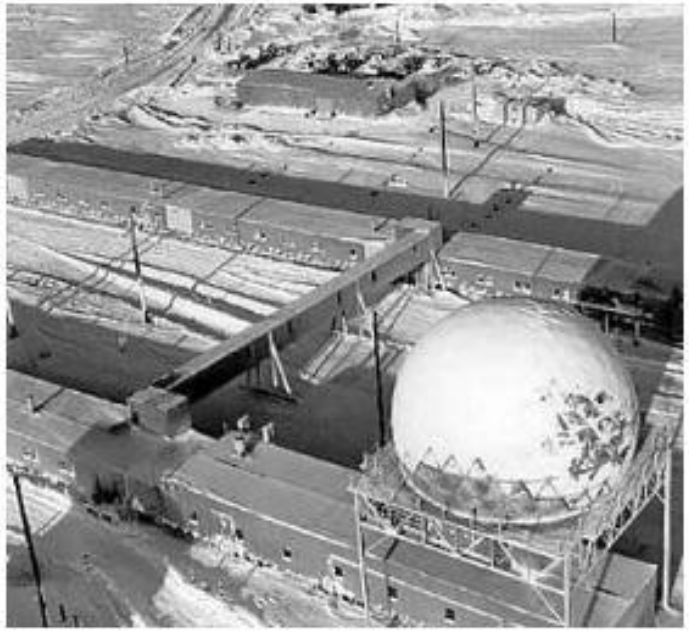
Above: Approaching Fort Chimo (now Kuujjuaq), Ungava and where the trees were beginning to thin out to tundra, his DC4 plane (registration number CF-ILI) was diverted to search for another aircraft which had crashed. The Wheeler pilot found it in a swampy area (where it is visible as a white spot in the centre of this photo to the left of the wing).

A few weeks later on November 4, 1959, the airplane from which this photo was taken was on a cargo run from Montreal to Hall Beach and itself crashed with the loss of pilot Jack Talmage Brown and his crew of four others.

Below: A crashed plane at the end of the runway, Hall Beach, NWT (Nunavut), Canada. This plane had crashed during the 1957 construction phase of the Distant Early Warning (DEW) line station at Fox Main (also known as Hall Beach). It was the first thing Michael saw from the air when landing at Hall Beach and didn't inspire much confidence.

Hall Beach, NWT, 1960. It was the cold war era and the station (built in 1957) was also known as Fox Main, part of a distant early warning (DEW) line of radar stations stretching across arctic Canada.
The radar is housed in the dome and the structures resembling drive-in movie screens are actually high energy radio transmitters operating by means of tropospheric scatter to communicate with NORAD headquarters far to the south.

Left: Michael Newark on the sea ice of Foxe Basin.
The radar station can be seen in the distance.



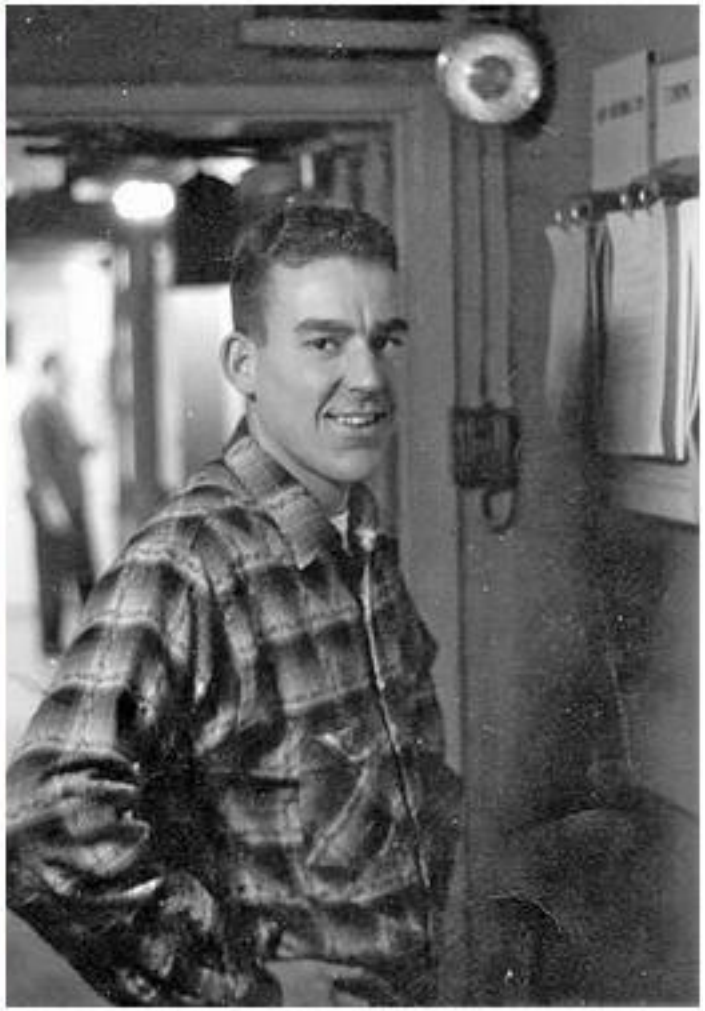
Fox Main/Hall Beach, NWT, 1960.

Top left; The H-shaped train of living and working quarters of Fox Main. The remaining three photos show the weather station of Hall Beach.

Lower left; In the foreground is the office and radiosonde dome. The building to the rear is the hydrogen shed. The station, operated by personnel of the Meteorological Branch of the Department of Transport (Canada), was established in 1957 during the construction of the Distant Early Warning (DEW) line site of Fox Main. The DEW line site was operated by Federal Electric under a US Airforce contract.

Lower right; The shed where hydrogen was generated (with Stevenson Screen instrument shelters in the foreground).

Top right: The weather station (middle distance) in relation to the H-train and the airstrip buildings (top distance).



Photos by Bill Moody

Fox Main/Hall Beach, NWT, 1960.

Above Left: Michael Newark releasing a Kaysam weather balloon at Hall Beach, NWT, 1960. A balloon was released twice daily. Depending on the wind speed this could be quite an ordeal. In a gale the balloon would frequently break as the wind pushed it into the edge of the hydrogen shed where it was filled. Up to three attempts were made to launch a balloon under these circumstances. After hydrogen was manufactured for the third try the hydrogen generator was too hot to try any further.

Above Right: Michael in the recreation section of the H-train. The Department of Transport employees lived in the H-train alongside the Federal Electric employees, ate in the same dining room and enjoyed the same recreation facilities. The main difference in working conditions was the requirement for the weathermen to travel outside to their place of work while the DEW line employees worked, as well as lived, indoors in the same location.

Out on the arctic ice of Foxe Basin Hall Beach, Melville Peninsula, NWT (now Nunavut), 1960.

Strong currents parallel to the shore create a zone of open water just beyond a shelf of fast ice next to the land.

A favourite off-duty pastime was to walk to the ice edge in search of walrus or flocks of eider ducks and long-tailed duck (Clangula hyemalis). It was necessary to be wary of polar bears. The individual in this photo is Don Jackson who was then the Officer-in-charge of the weather station.

Ancient Thule Dwelling

Left, whalebone use in the construction of an ancient Thule dwelling on the shore of Foxe Basin.

Below: The Thule people (precursors of the modern day Inuit) developed half-buried stone, whalebone and driftwood dwellings, but also built igloos on the sea ice. Whalebone and shells from this site are about 1000 years old according to radiocarbon dating.

Inuit Dog Team

When this photo was taken Hall Beach had only been in existence three years since 1957 when it was constructed as a station on the Distant Early Warning (DEW) Line and also a weather station. Its DEW Line name was Fox Main. It provided employment opportunities for Inuit from Igloolik, the closest community. The structures are construction remnants.

Foxe Basin supports high densities of bearded seals and the largest walrus herd in Canada.

At Hall Beach, winter fast ice forms along the coast but strong offshore currents maintain areas of open water. At the ice edge, walrus haul out and become prey for polar bears or hunters.

The Snowy owl (Bubo scandiacus) was not hit by the Bombardier snowmobile. It was found dead on the ground and placed on the vehicle for a photograph. Note the 1959 NWT licence plate.

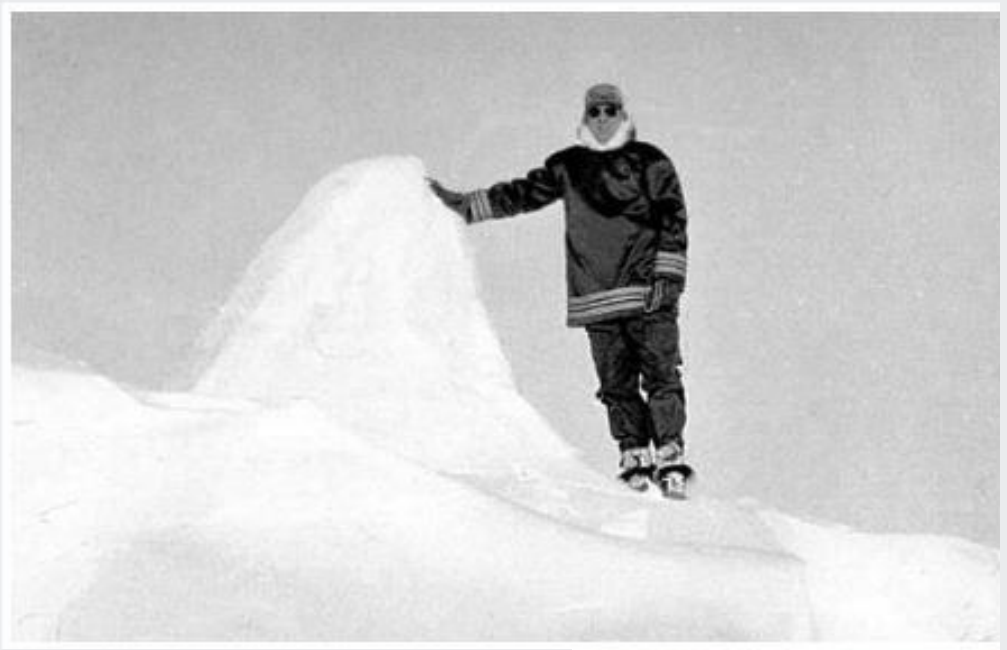
There was work to do on the sea ice

Top left; Michael Newark on the sea ice at Hall Beach/Fox Main, NWT, 1959. Standard arctic clothing was issued to weather station employees in the north - a military parka, large lined leather mittens, wind resistant pants, felt boots, rubber overboots, peaked hat with earflaps, thermal underwear, heavy socks and a leather fleece trimmed jacket.

Michael was given a requisition and sent to the Simpsons department store warehouse in Toronto to obtain these items before departure to the north.

In the ***top right*** photo he is wearing an Inuit-made parka with fox fur trim, sealskin gloves, and kamiks (sealskin boots).

Below left: One of the weather office duties was to measure sea ice thickness, which could be as much as 7 or 8 feet (2.1 to 2.4 metres). Weather technician Bill Moody measures the thickness of sea ice using an ice chisel, a drill and a special tape measure. The greatest problem in making this measurement was a tendency for the drill to freeze solid into the borehole as icy slush from beneath was carried upward by the drill bit.



Photos top and below right by Bil moody

Left: Over the waters of Frobisher Bay (an inlet of the Labrador Sea) on a flight from Montreal to Frobisher Bay, August 20, 1960 aboard a Nordair DC-4, registration number CF-NAA.
Michael and his wife Doris were aboard the aircraft en route to a two year period of service at the weather station in Frobisher Bay.

Below: Landing at Frobisher Bay, Northwest Territories. The rows of grey buildings were accommodation for families. A separate accommodation block was provided for single employees and itinerant workers.

At this time Frobisher was not an incorporated community. The majority of residents were employed by the Federal Government. An American airbase still operated but shortly afterwards was closed.

Frobisher Bay
1960 - 1961

Internet Photo

A Brief History

1576 - Sir Martin Frobisher sailed into the mouth of the bay, believing it to be a strait leading to China. Almost 250 years later Charles Francis Hall arrived at Frobisher's "Straites", knowing that it was not the Northwest Passage. He named the river flowing into it "Sylvia Grinnell River". In the 1800's commercial whaling brought men, ships and trade to the area. By the 1920's Hudson's Bay trading posts were set up throughout Baffin Island. The founding of RCMP posts in the Eastern and High Arctic established Canadian sovereignty. In the 1930's fur prices crashed leading to hard times for Inuit.

In 1942 the U.S. Air Force selected Frobisher as the site of a major airbase. Several years later the Hudson's Bay Company moved a trading post to Apex (part of the modern city of Iqaluit). From 1955 to '57 Frobisher Bay became the center for DEW Line construction operations, bringing tonnes of supplies and hundreds of men into the area.
By 1957 the population was approximately 1,200, of whom 489 were Inuit. In 1959 the Canadian federal government increased its comittment to the area. Inuit began in large numbers to settle permanently in Frobisher Bay and Apex. In 1963 the U.S. Strategic Air Command Unit departed Frobisher Bay which became the Canadian government administrative, communications and transportation center for the Eastern Arctic.

In 1974 Frobisher Bay was officially recognized as a village. Two years later the Inuit Tapirisat of Canada proposed the creation of the Nunavut territory which actually came into being in 1999. In 1979 Frobisher Bay had its first mayor of the officially recognized town. The name was changed in 1987 from Frobisher Bay to its original Inuit name of Iqaluit.

First Snow of the Winter. Apex, 1960

This is actually Apex in 1960. It was where most of the Inuit population lived and was about 3 miles (5 km) by road from the centre of the Government operated community of Frobisher Bay. Official recognition of the area as a town did not happen until 1979.

Hudson's Bay Company Store, Apex.

Right top: In 1949 the Hudson's Bay Company moved its south Baffin operations from Ward Inlet to the Apex Beach location to take advantage of the increased activity near the Second World War US Air Force Base and landing strip.

Right below: The view from the Hudson's Bay Store looking across Koojesse Inlet to the far side of Frobisher Bay about 12.5 miles (20 km) distant.

Below: A diminutive customer at the Apex Hudson's Bay Store***.***

The Sylvia Grinnell River during Spring Breakup

Life in Frobisher Bay

Left: Doris Newark with her newborn son Michael Jr. at the Frobisher Bay Hospital. May 16th., 1961.

Below: Clippings from the Toronto Telegram Newspaper of September 2nd., 1961. Reporter Stasia Evasuk visited Frobisher Bay for material to include in her "Modern Living" column. Mrs. Derek Challis (Beryl Challis) was the wife of Derek Challis the Officer-in-Charge of the Frobisher Bay Radiosonde Station.

THE ARCTIC IS home to Mrs. Michael Newark shown here with her husband and year-old son, Michael Jr.

MRS. MICHAEL J. NEWARK of Napanee, Ont. and Toronto, and Mrs. Derek Challis of Sept Isles, Que., find puddles a hazard as they take their babies for an afternoon stroll in Frobisher. The permafrost does not allow water to seep

Right: Doris Newark picking blueberries

Below right: St Simon's Anglican Church, Apex. Rev. Brian Gilbertson, Minister.

Introducing Davidee

Right top: Doris Newark in the living room area of the accommodation provided for married personnel at Frobisher Bay, NWT, 1960.

A four year-old Inuit boy named Davidee Veevee (little David) was sent from his home in Pangnirtung to the hospital in Frobisher Bay suffering from chronic nephritis. He needed care, medication and supervision which could be provided at home by a qualified person rather than in hospital. Doris (a registered nurse) and her husband Michael undertook to provide it in their home. See more on the following five pages.

Right: below: Christmas 1960. A community Christmas party was held in the Frobisher Airport hangar building. This Inuit choir provided seasonal music and carols.

Davidee responded well to his regimen of medication and rest.

Left top: Brushing his teeth while wearing pencilled-on eyeglasses and mustache.

Left below: Playing with a meteorological pilot balloon.

Davidee - Christmas 1960

Right Top: Davidee (encouraged by Inuit friends) meets Santa for the first time at the Frobisher Community Christmas Party.

Right below: Davidee opening his Christmas gifts. No trees grow on Baffin Island so Christmas trees were flown up to Frobisher from "the south".

Christmas dinner 1960

Left to right; Doris Newark, Davidee, Mary Ann Stejovic, a nurse colleague, Michael Newark (back to camera), Michael Burslem (a meteorologist friend).

Davidee returns home to Pangnirtung

After six months with Doris and Michael Newark, Davidee was well enough to return home.
Below left: Davidee and his Christmas bear aboard the aircraft leaving Frobisher for Pangnirtung.
Right: Davidee with his mother Rosie Veevee, about a year or so after his return. Rosie sent this photo as well as a hand-crafted seal-skin purse along with her thanks for caring for her son.

Photo supplied by Rosie Vevee

Photo supplied by David Vevee

David Veevee
(holding an arctic char) of the Qulliq Energy Corp at a potential hydroelectric site near Iqaluit during a pre-feasibility study (Summer 2005).

Arctic tundra

Autumn colour on Baffin Island near Frobisher Bay.

Arctic tundra

Doris Newark and cotton grass. Baffin Island near Frobisher Bay.

Frobisher Bay Shop, 1960

Left: Inuit art for sale.

Right: A soapstone carving of an Inuit hunter with two otters.

Right: A traditional Inuit hunting scene. The hunter has caught a whale which he is pulling by the tail. In front of him is a sealskin float (a sealskin full of seal oil, with a stopper in the neck) which was used to buoy the whale carcass and prevent it from sinking.

Below: In March 2005 Michael visited the Canadian Museum of Civilization. On dispay in their Inuit art collection was the piece on the left which he immediately recognized as a piece (on the right) he had seen and photographed 45 years earlier in 1960 while living in Frobisher Bay.

DOT District Aviation Forecast Office and Radiosonde Station Staff at Frobisher Bay, NWT, 1961

Left to Right
Rear Row: Mike Burslem, Michael Newark, John Clarey, Wayne Wilson
Centre Row: Gordon (Gord) Tremble, J. A. (Al) Sutherland, Art Cooper, Denis Bollinbrooke, Claire Callaghan
Front Row: Dennis Cormier, Blaine Coulcher (O.I.C), Gar Pardy
Missing : Derek Challis (O.I.C – Radiosonde Station)

Frobisher Bay Airport, June 1961

A squadron of cold war era RCAF Avro CF-100 Canuck jet fighter/interceptors.

Frobisher Bay, June 1961. The Avro CF-100 Canuck was a Canadian designed and built plane of the cold war era. The black nose housed a radar and fire control system enabling it to operate in all weather conditions and at night. The aircraft operated under the US/Canadian North American Air Defense Command (NORAD) to protect North American airspace from Soviet intruders.

Cold War Era

Top: U.S airplanes, known as Boeing KC-97 Stratofreighters. They refuelled American bomber aircraft in mid-air. The nuclear-armed bombers flew round-the-clock missions over Canada's far north to counter any Soviet threat across the North Pole.
The KC-97s were based in Frobisher Bay, where a military airstrip was built by the United States government during World War II and purchased by Canada in 1944 .
A US military base existed there until the early 1960s. Some commercial airlines also used the airport as a stop on their overseas routes.

During the cold war period Frobisher Bay's population grew rapidly to about 1400 (about 60% Inuit, 40% non-Inuit).

Below: A Canadian Department of Transport (DOT) snow clearing machine at work on the runway.

De Havilland Otter

This Otter, registration CF-MPY, belonged to the Royal Canadian Mounted Police. They took delivery of it in July 1959. In 1979 it was sold to Wardair as Max Ward's personal aircraft.

USN Lockheed P2V-7 Neptune

A cold war era Neptune on a stopover at Frobisher Bay. It featured an observer's bubble in the nose, a belly mounted surface search radar (for detecting submarines) and a Magnetic Anomaly Detector in its extended tail. The tail marking is LH 135549

Almost the entire community of Port Harrison as it was in 1962 can be seen in this view taken from the south side of the Innuksuac River. Port Harrison is located on the eastern side of Hudson Bay in arctic Quebec. The total population was about 200 of whom 90% were Inuit. At that time the Quebec government had no presence in Port Harrison with all the agencies (except the church and Hudson Bay Company) representing the Federal Government of Canada. The community served as the hub and service provider for a number of semi-permanent Inuit hunting camps scattered to the north and south along the Hudson Bay shore. There was no airstrip. In winter a ski-equipped DC3 flown by Austin Airways on a once-a-week schedule from Timmins or Moosonee, Ontario landed on the ice. In summer they flew an amphibious Canso aircraft that landed on the Bay. During the four months of freeze-up and break-up, Service by air (except by emergency helicopter) was not possible. All supplies were brought in on an annual sealift from Montreal

Far side (north) of the river: The red roofed buildings belonged to the Hudson Bay Company. The leftmost cluster of buildings comprised the school and Department of Northern and Indian Affairs. At the rightmost end (and partly up the hill) are the Department of Transport marine radio station buildings while to their left along the river edge is the nursing station and the Anglican church of St Thomas. The small white structures are the tents of Inuit families. ***Near side (south) of the river:*** The cluster of buildings at the far right is the Department of Transport weather station (which Michael and his family called home for three years)

A section of Port Harrison located on the north side of the Innuksuac River

The complex of buildings belonging to the Hudson Bay Company can be seen on the opposite point. The largest building is the warehouse and the store is the red roofed building immediately to its right and rear.

If Port Harrison was not isolated enough, the weather station was cut off from the rest of the community by the river. A couple of small freight canoes powered by outboard engine were used when the water was ice free. Otherwise it was a trek across the ice on foot in winter. For periods during freeze-up and spring thaw it was not possible to traverse the river.

A section of Port Harrison located on the north side of the Innuksuac River (Continued)

The Anglican church of St Thomas can be seen on the left. The minister (Billy Graham at that time) and his wife lived in the house at the centre of the photo. The buildings at the far right belonged to the nursing station operated by the Department of Northern Affairs. On the hill between the radio masts is the diesel electric generating plant belonging to the Marine Radio Station operated by the Department of Transport. There were no roads nor any heavy equipment except for one bombardier used by the nurses to reach outposts and another owned by the Marine Radio Station.

The Mouth of the Innuksuac River, Port Harrison

A view from the south bank of the river, looking across at the Hudson Company complex. On the horizon the Hopewell Islands are reflected in the waters of Hudson Bay.
In January 1962 Michael Newark (accompanied by his wife Doris and son Michael Jr) was posted to Port Harrison as the Officer-in-charge of the Radiosonde Station operated by the Meteorological Service of the Department of Transport. Although the most southerly of the three arctic locations at which he served, it was by far the most isolated. There were no roads, no heavy equipment, no airstrip, no air traffic control, no doctor, no police, no telephone and only short wave radio reception. The polar climate of the area is dominated by the cold waters of Hudson Bay. The result is an extremely cold climate given the latitude. Below freezing temperatures are experienced from mid-October to late May (with an all time low reading of minus 49.4 Celsius recorded in 1955). Summer weather is generally damp, unsettled and cool, with rainfall especially frequent in August and September. Swarms of mosquitoes are a scourge in July. October sees the return of heavy snow. Ice formation on the river can reach a thickness of 2 metres over the winter.

Treacherous Ice Conditions
Strong currents between the Hopewell Islands and the mainland cause unpredictable and changing ice conditions in some areas.
The Nursing Station in Port Harrison used a Bombardier snowmobile to visit the outlying Inuit camps. On one such trip it went through the sea ice. Fortunately for the nursing team of John and Rita McGirl and their Inuit assistant, it hung on by its front skis. They were able to get out through the roof escape hatch before the back end sank. They had a long walk back in frozen clothes to the Port Harrison Settlement and were lucky to survive.
On another occasion the upstream falls and rapids on the river froze more than usual. Water continued to flow and forced its way to the ice surface thereby flooding over the thick existing downriver ice and out into the frozen Bay. The flood then froze, resulting in a sandwich of water between thin ice above and thick ice below.
The weekly Austin Airways DC 3 supply plane arrived as usual but from the air nothing about the ice below looked amiss. Upon landing the plane's skis went through the thin top layer of ice and the plane was tripped over onto its nose, bending both propellors in the process.
Fortunately nobody was hurt but the rush was on to extricate the airplane before it became frozen in. As ice formed it had to be chopped away. Port Harrison had no heavy equipment - just the two Nursing Station and Marine Radio Station Bombardiers. Neither of these had the power, even pulling together, to extract the airplane. The whole community assisted with ropes and dog teams to pull the plane free and drag it to the shore. When the ice was considered safe for a landing, another plane arrived with equipment and spare parts to make repairs. Both planes were able to fly out.

The Community
Port Harrison Inuit were living in a transition period. Still semi-nomadic, most lived in outlying coastal hunting camps while the remainder lived and found work in the settlement or else subsisted by trading fox fur, seal-skins or items such as Inuit crafts and soapstone carvings for Hudson's Bay Company store credits. The credits could then be used to purchase a variety of items such as food staples, rifles, ammunition, gasoline etc.
Some of the hunters made winter trips by dog sled (the only means of winter travel for all local Inuit) to the treeline to hunt caribou and gather wood. Although one or two traditional kayaks were still in use, they were largely replaced by 16-foot square-sterned freight canoes powered by outboard motors. Just before departing the north, Michael saw the first ever skidoo to be used in Port Harrison.
Igloos were constructed as temporary shelter while travelling, but otherwise the Inuit lived in small one-room houses or tents. Clothing was also changing. Some still wore traditional parkas, seal-skin mitts and boots. But many wore clothing bought at the store or from mail order catalogues.
School children from outlying camps lived in a hostel with Inuit supervisors. They were learning English in addition to their native language, while the majority of older individuals spoke only Inuktitut. Infant mortality in the camps was high and so was the incidence of upper respiratory diseases such as tuberculosis or flu during the annual late winter outbreaks.
The traditional methods of living and subsisting off the land were in the process of being replaced by a cash economy. Life for the Inuit of Port Harrison was on the cusp of a dramatic shift in their society.
There were approximately twenty or so non-Inuit southerners. All were Federal Government employees at the Marine Radio Station, Radiosonde Station, Nursing Station, School and Northern Affairs. The exceptions were the Anglican minister and the Factor and some employees of the Hudson's Bay Company.

Austin Airways PBY Canso amphibious airplane CF-JCV

In 1962 this was the only practical way to reach isolated communities along the eastern shore of Hudson Bay. At that time Austin Airways flew this plane from Moosonee to Port Harrison, which had no airstrip. At first, service was one flight every two weeks carrying mail, fresh food items, freight and sometimes a few passengers.

In 1963 service was increased to once per week flights. The plane was only able to land during the ice free season and since there was no dock it was necessary to go out to the plane in a small boat. After freeze up, a ski equipped DC3 was used which required at least a foot thickness of ice before it could safely land.

A freight canoe heading out to the plane

The arrival of the Austin Airways plane was always greeted enthusiastically. In addition to those expecting a delivery of some sort there were others who went out just to see what was going on.

Photo by Jim Smith

The Austin Airways DC3 landed on a makeshift runway on the ice of Hudson Bay. Forty gallon drums were used to mark out a landing zone. During the freeze-up period beginning in October, sufficient thickness of ice to support the plane was eagerly anticipated. A minimum of 12 inches (30 cm) was required. It was usually thick enough by mid-December to allow the delivery of Christmas mail, fresh supplies and Christmas trees.

Photo by Jim Smith

A crowd of curious onlookers always accompanied those who went out to the plane to accept deliveries.

Photo by Jim Smith

One of Austin's famous black and red Norseman planes

Sometimes an unscheduled or replacement flight would arrive with deliveries or simply to refuel.

An itinerant De Havilland Beaver stopping to refuel. It was fortuitous for Michael Newark as he was able to hitch a ride south to be at the birth of his daughter Sandra in Kingston, Ontario. Doris Newark had departed before the previous freeze-up to ensure a flight south.

The Weather Station, Port Harrison

The function of this Radiosonde Station was to take twice daily instrumented balloon soundings of the upper atmosphere. It was operated by the Meteorological Branch of the Department of Transport. The building at the rear was the shed where potentially explosive hydrogen was manufactured and used to fill the balloons. It was too expensive to ship helium (a non-combustible gas) in cylinders to the arctic.
The main building was the office where radio signals from the balloon borne weather instrument were received (by equipment in the checkered tower), deciphered and computed. A weather report was then encoded and sent by radio to a central collecting office in the south to be used along with many other simultaneous observations made elsewhere in the hemisphere. The collection of data was the raw material for making weather forecasts.

Besides the weather observing duties the staff also had the responsibility of maintaining the buildings and equipment (there were no repair people nearby) as well as generating electricity by diesel engine. The wife of the Officer-in-charge was responsible for preparing staff meals.

As the Officer-in-charge it was Michael's job to also determine the amount, and place the order for, the annual delivery of office supplies, spare parts, food, fuel, equipment, furniture replacements etc etc. These were all delivered by the annual sea-lift from Montreal, along the St Lawrence River, up the Labrador Coast, through the Baffin Strait into Hudson Bay.

This weather station established circa 1953 was demolished in the early 1970s and a new station built on the north side of the Innuksuac River in the main community.

Photo by Jim Smith

Austin Airways Norseman on the Innuksuac River ice

Foreground: Hardy Husky sled dogs covered in snow while asleep.

Distance: The weather Station on the south river bank. The left-most buildings were empty having been previously occupied by the Royal Canadian Mounted Police who had departed Port Harrison. The right-most building was occupied by the Officer-in-charge of the weather station.

Photos by Jim Smith

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Generating Hydrogen and releasing a weather balloon

Right top: One of the jobs at the weather station was to generate hydrogen gas to fill the balloons that carried instrument into the upper atmosphere twice daily. Here, Peter Gurba (1937-2016), meteorological technician, is cleaning a generator after use. Another obsolete and disused generator can be seen on the right.

The gas was generated by mixing proportions of caustic soda flakes and powdered aluminum in the bottom chamber and then adding water very slowly from the brown reservoir. The reaction was exothermic (i.e. produced much heat) and the resulting hydrogen and steam passed upward through cooling tubes immersed in antifreeze (contained in the upper portion of the generator) in order to remove the steam. The hydrogen was then taken off by tubing directly attached to the balloon so that there was no build-up of pressure in the generator. It was essential to prevent static electrical charges that might ignite the highly flammable hydrogen.

Right Below: Meteorological technician Ray Sauvé is releasing a balloon connected by a length of twine to the instrument package in his hands. The generator was housed in the left section of the building while the balloon was filled in the tall section containing a door riding on overhead tracks.

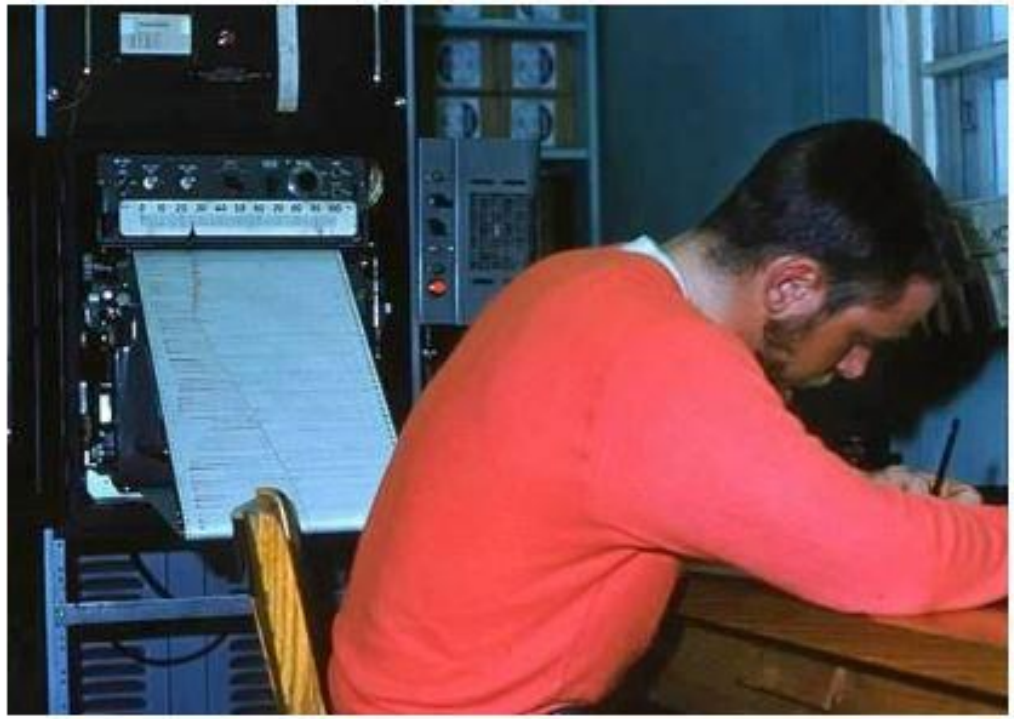
A year before this photo was taken Michael Newark was working at Frobisher Bay, NWT and was blown up. While he was releasing a balloon very strong winds blew it against the building and it broke. This was a fairly common incident which simply meant refilling another balloon and trying again. However, in this case a spark from the weather instrument ignited the hydrogen and caused an explosion which blew down the overhead door on the hydrogen shed as well as part of the ceiling. The flaming gas singed off his hair as well as the fur trim on his jacket, gave him a flash burn which blackened the skin of his face, and seared his throat by breathing it in. Luckily he recovered fully after a few days in the hospital.

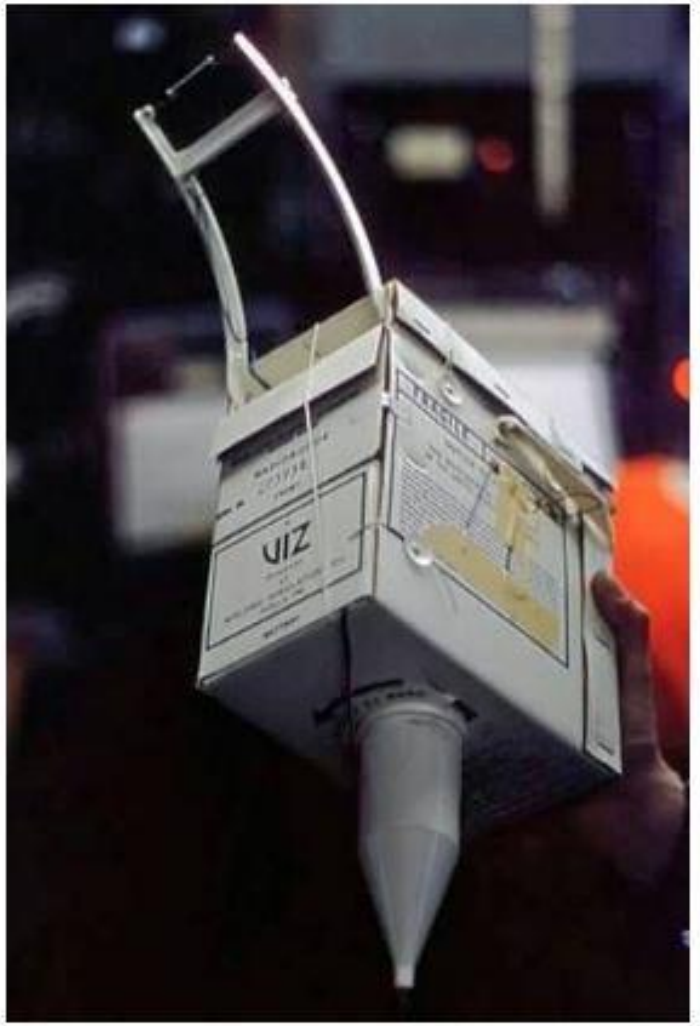
Tracking the balloon

Meteorological technician Duncan Morgan operating a special radio receiver which tuned in to signals from balloon-borne weather instruments known as radiosondes. The "bedspring" antenna array could be moved 360 degrees in azimuth and 90 degrees in elevation.

By keeping track of these bearings of the radiosonde's position (which depends upon where the wind has carried it) at minute time intervals he will calculate the wind speed and direction at various altitudes aloft through the atmosphere. This procedure has since been automated.

Top Photo by Ray Sauvé





Left top: O.I.C. Michael Newark on shift calculating upper atmospheric wind speeds and directions after tracking a balloon release.

Left below: Ray Sauvé converting the signals on the chart (to his left) into values of upper atmospheric temperature and relative humidity.

Above: A radiosonde instrument containing a barometric device (to determine the altitude of the instrument), temperature sensor and relative humidity sensor. Powered by a small battery it sends signals by means of a radio in the cone-shaped housing

Radiosonde Station Staff , Port Harrison -1962

Left to right clockwise around the table: Norman Thesberg Herb Butler, Michael Newark (OIC), Doris Newark (Cook), Laurence (Larry) Pokrant***.*** ***Missing: (photographer):*** Duncan Morgan.

Radiosonde Station Staff

During Michael's tour of duty at Port Harrison, a number of staff rotated through the station. Some of them are shown here.

Above left: Left to right; Duncan Morgan, Carl Bursey, Doris Newark (cook), Michael Newark.

Below Right: Left to right; Peter Gurba, Doris Newark, Duncan Morgan, Ray Sauvé.

Radiosonde Station Staff

Left top: Charlie Nayoumealuk, caretaker and handyman. Charlie worked at the Radiosonde Station for many years and lived only steps away with his wife Susanna and their family. He was very resourceful and reliable.

Left below: Rynee Kutchaka (1935-2018, Disc number E9-1778) with her friend Annie Weetaluktuk (1941 - , Disc number E9-1761). Both worked as domestic helpers.

Right below: Lizzie Palliser. Domestic helper, until early 1964. She is carrying Michael Jr.

Radiosonde Station Staff

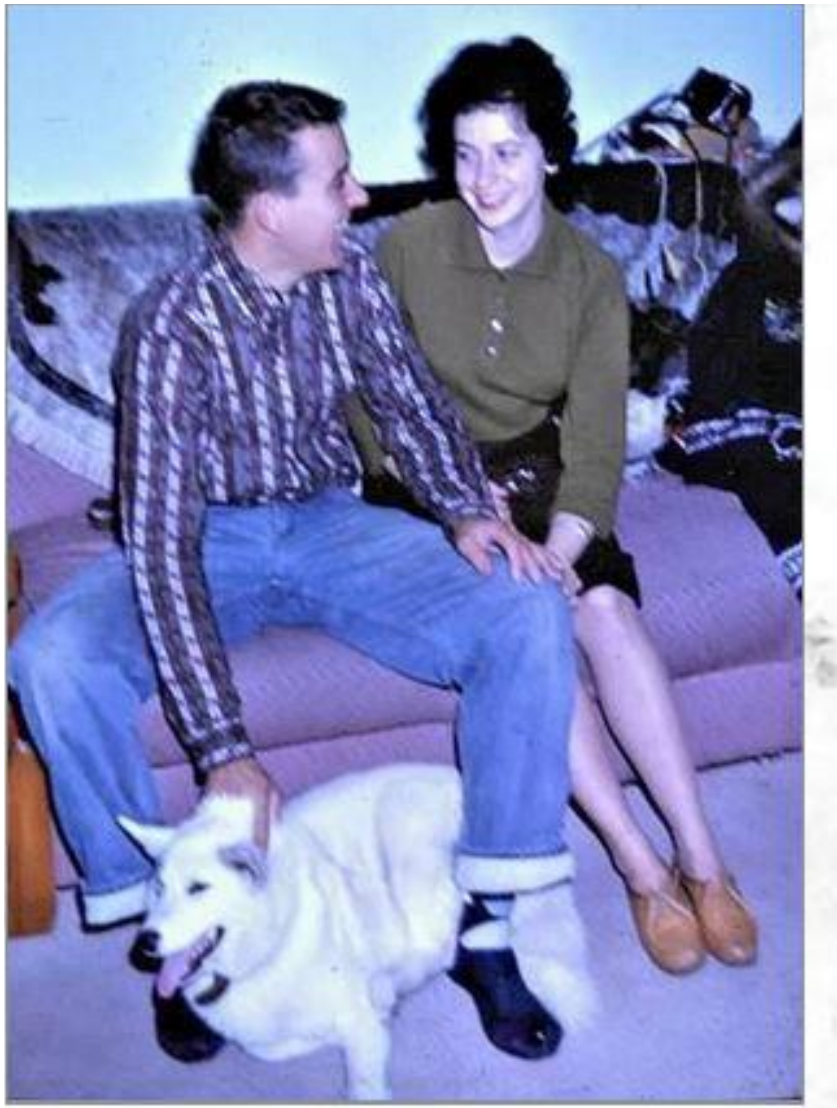
Rynee Kutchaka in 1964 with the accordion she loved to play and also (***above right***) with Sandra Newark and Michael Newark Jr.

Black and White photo: Michael Newark Jr (Michaelapik, 1961-2015) with the children of Charlie and Susanna Nayoumealuk.

Family

Left: Michael Newark Jr in Port Harrison on his 1st birthday, May 16, 1962.

Below: with his sister Sandra in 1964**.**

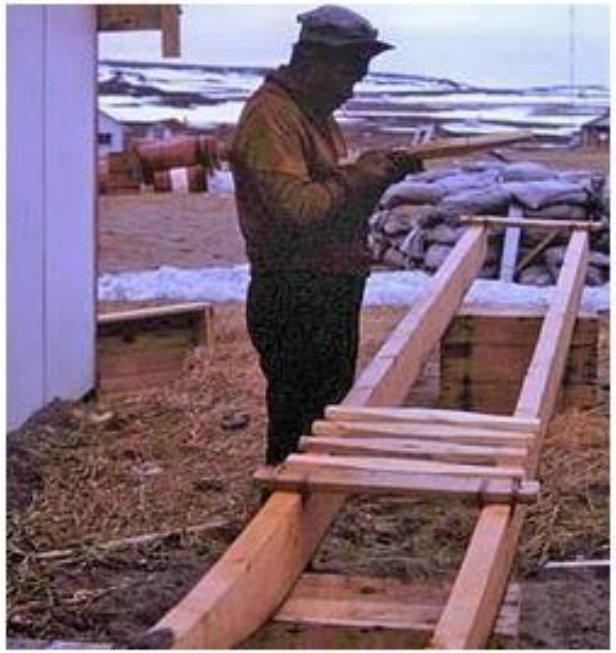


Michael and Doris Newark, with Purky, 1964.

Michael Newark Jr. out for a walk past the house of Charlie and Susanna Nayoumealuk.

Black & white photos by Charlie Nayoumealook

Black and white photos provided by Charlie Nayoumealuk



Top : Susanna Nayoumealuk and two of her daughters.

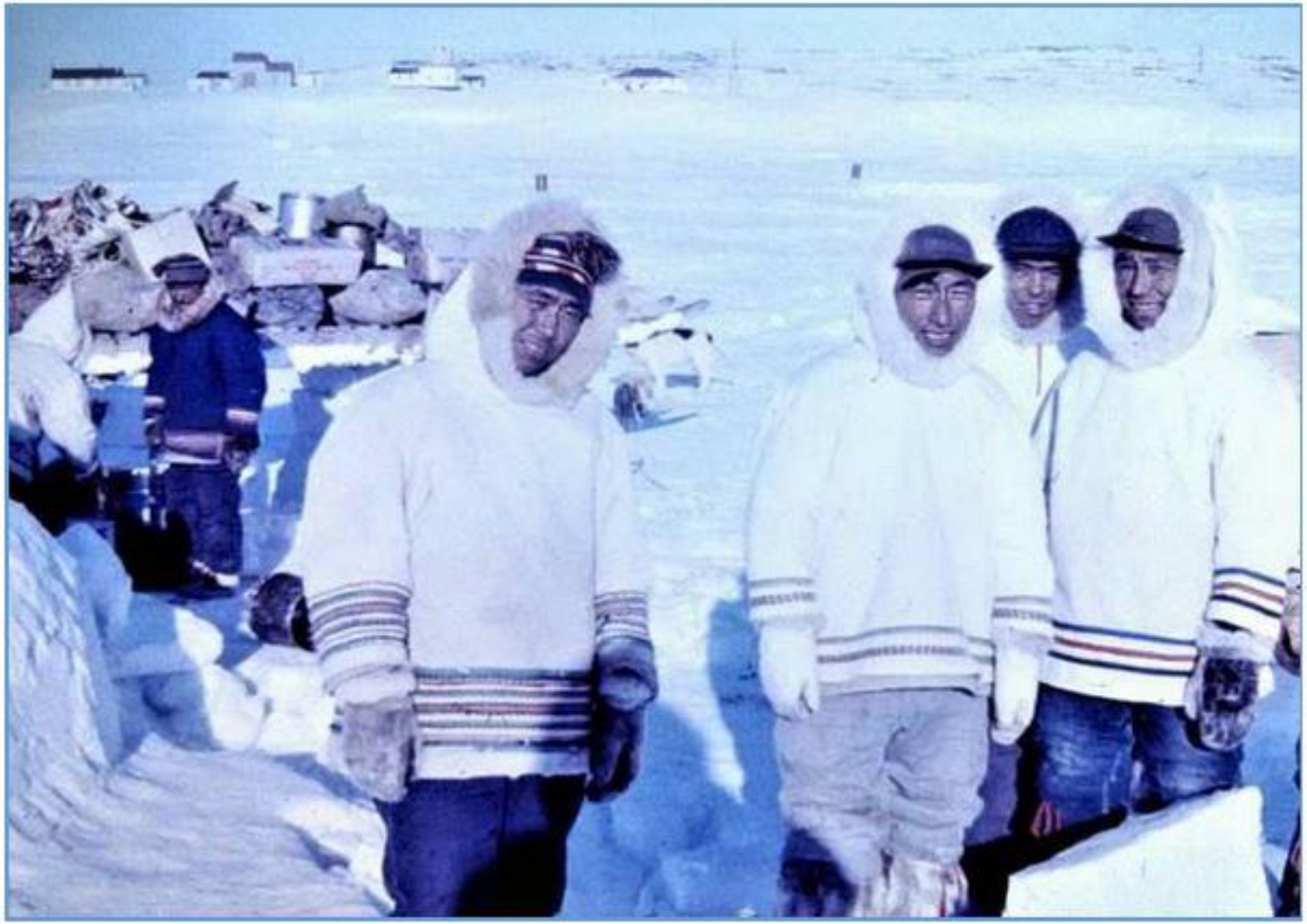
Left below: Michael Newark, his son Michael Jr and one of Charlie Nayoumealuk's daughters.

Right below: Charlie Nayoumealuk building a komatik (dog sled). The Inuit dog sled of the barren eastern arctic is very different than those of the western arctic where there are trees. This sled is long and narrow so that it would bridge open leads in the sea ice where most winter hunting was done.
The fastenings used in its construction were traditionally sealskin thongs which tied all the members together. This gave the sled flexibility to withstand the rough terrain and ice that it traversed. Fastening such as screws, bolts or nails would make it too rigid to withstand the load placed upon it .
In this case Charlie has used strap iron for runners but the traditional method that could still be seen in 1963, at the time of this photo, was the use of mud. The mud was formed into a bulb along the length of the sled and when frozen it was slicked with water to form the sliding surface.

Michael Jr. on the tundra.

60

A whiteout in blizzard conditions.



Hunters returned from the treeline

A group of Inuit hunters and their families had returned from a 200 mile (320 km) return trip by dog sled to the treeline in search of caribou. Before returning to their outlying hunting camp they set up a temporary encampment of igloos while they shopped for supplies at the Hudson's Bay Company Store.

Hunters returned from the treeline

Top left: The komatik (sled) in the background beside the igloo has been raised on blocks of snow to keep it and anything stored on it out of reach of the dogs' voracious appetite. Inuit husky dogs roamed freely and were very tough. Typically they were fed frozen fish and could survive outdoors without shelter, even in harsh blizzards (see lower left).

Photo by Jim Smith

Dog Island

During the summer Inuit dogs were placed on this island and allowed to roam free. They were fed by their owners who threw food (often fish parts) onto the shore. The dogs were not pets and were essential to Inuit survival. If the dogs could not survive the rigours of the Arctic, they were of little use to their owners. As pack animals they have been known to sense fear in someone and to turn on them, and even very rarely, to maul them.

The Seal Hunt

Kimerk (dogs) pulling a komatik (sled). The eight dogs can easily pull a sled loaded with three men and their supplies. The team is approaching the north end of Harrison Island.

The method of hitching the dogs to the sled varies markedly in the eastern arctic (where there are no trees) compared to the western arctic (where there are trees). This fan hitch is used in the east because it allows the dogs to find their own way across open leads in the ice. Where one dog may fall in the others can pull it out, something not possible using the western method of hitching in a single line which would cause all the dogs to fall in. Conversely the fan hitch would be hopeless where there are trees. Every so often with the fan hitch the team must be stopped and the lines untangled.

Seals were a vital part of Inuit subsistence. They are a resource rich in Omega 3 fatty acids, Vitamin C and protein. Their skin can be used to make clothing, boots, mitts and lengths of thong. Inuit made use of every part of the seal and what little remained became sustenance for their dogs. This and the following five pages document a seal hunt on the ice of Hudson Bay.

Seal Hunt (continued)

Top: An Inuit hunter scans the ice of Hudson Bay for marine animals such as beluga whales (which surface in open leads of water) or seals basking on the ice. The white parka was preferred for hunting on the ice as it made the hunter less conspicuous to the prey animals.
This vantage point was located on Harrison Island which was actually part of the Northwest Territories although just offshore from arctic Quebec. On this particular day a whale was spotted in an open lead.

Left: Travelling across the sea ice was frequently made more difficult by the necessity of crossing pressure ridges such as this. The ridges are forced up between ice pans by the forces of wind and tide.

Seal Hunt (continued)

Very rough going across pressure ridges

Top left: Willie Weetaluktuk takes a break to eat bannock during a seal hunting trip on the sea ice of Hudson Bay.

Above: While the dog team takes a rest, Inuit hunters take a tea and bannock break. Bannock (which Charlie Nayoumealuk on the right is eating) makes an easy meal and is easy to carry on trips such as this. The Inuit parkas have no front opening and are pulled on over the head. They are composed of two layers - an inner duffel parka with a fur lined hood and an outer windproof covering of Grenfell cloth.

Left: Crossing an open lead between ice pans. The lead of open water is choked with floating chunks of ice. The dogs cross, each finding their own way by jumping from one block to another. If one falls in, the others carry on and it is pulled out, shakes itself and carries on. The long sled bridges across the blocks.
This photo was taken just before jumping on the fast moving sled which at this point was not going to stop for anyone left behind. Notice that Charlie is wearing a white wrapping on his head to better camouflage himself against the snow. Seals basking by their breathing holes are very cautious and slip down into the water at the slightest sign of danger.

Seal Hunt on Hudson Bay

Below left: Eider ducks swim in an open lead between pressure ridges.

Below right: Willie Weetaluktuk has caught a seal. It is his rifle in a skin case that he carries, not a club.

Seal Hunt on Hudson Bay

Willie Weetaluktuk loads seals onto the komatiks.

After the Hunt. Preparing and utilizing seal products

Charlie Nayoumealuk butchers a seal. Nothing was wasted - the skin for boots and mitts, meat and blubber for food, seal oil for the qulliq (lamp) and leftovers for the dog team. Seal skins were also used to make floats when hunting for whales. The complete skin was sewn closed, filled with seal oil and the neck filled with a stopper. The whale carcass was tied to the float to prevent it from sinking out of sight.

After the Hunt. Preparing and utilizing seal products

Susanna Nayoumealuk scraping fat from the inside of a sealskin. It is then placed on a stretcher and allowed to dry.

The final stage for this skin is to be made into kamiks. They were made in 1963 and are for a woman (horizontal pattern, a man's pair would be patterned vertically). The foot section is made from a tougher sealskin than the upper portion and was chewed to make it supple. The inner embroidered liner is made of duffel material.

Caribou Hunters

A komatik returned from the distant treeline after a caribou hunt. It is loaded with caribou meat, skins and supplies. Notice the bundle of twigs at the back.

St Thomas Mission Church and Minister's residence in the distance.

Caribou hunters and their families return to Port Harrison

Living on the Land

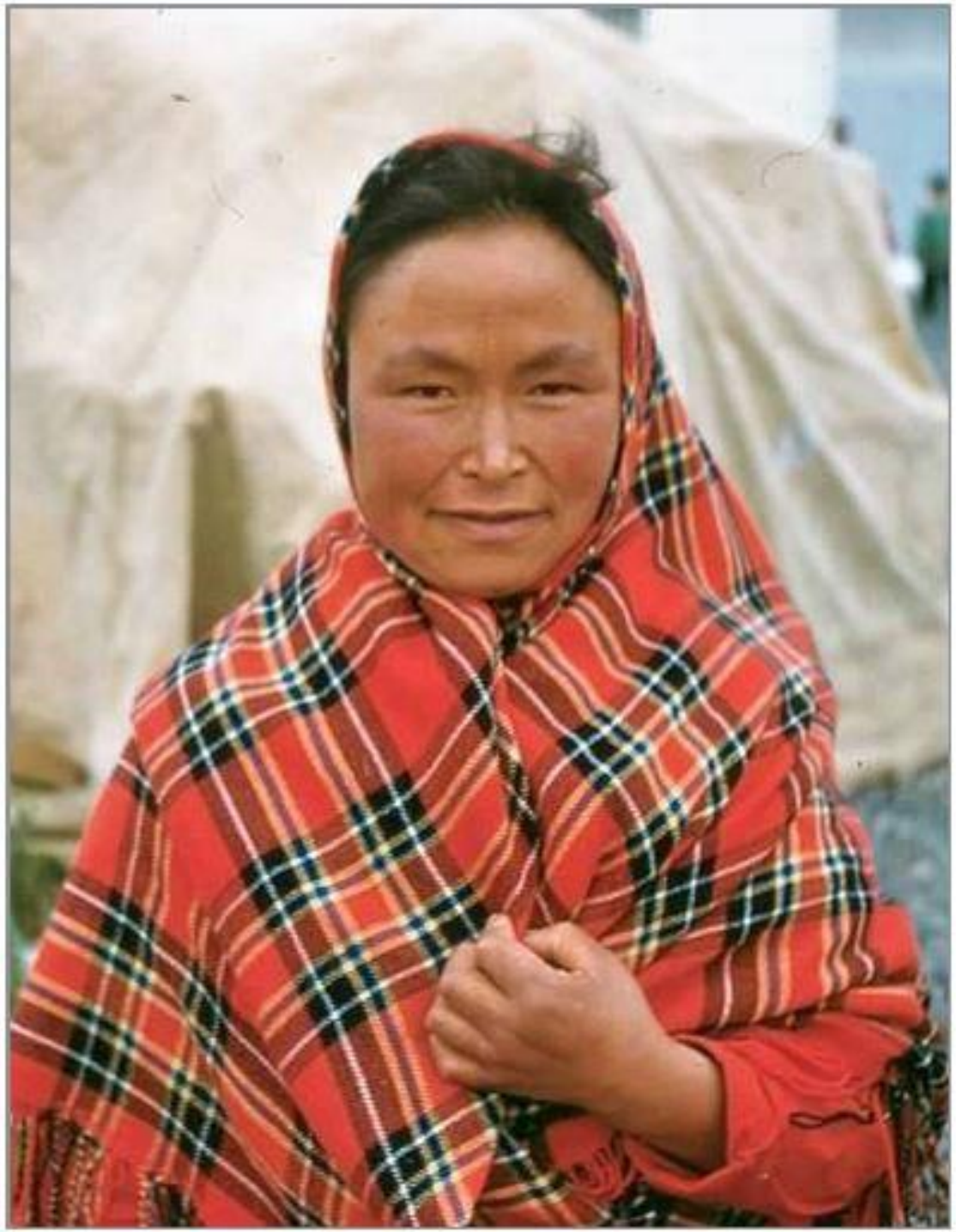
This igloo was built as temporary accomodation by an Inuit visiting family in Port Harrison. The visitors were from an outlying hunting camp. Notice the round pane of clear ice to allow light into the interior and just above it a small circulation vent to allow moisture to escape from inside.

The snow block wall at the entrance was to provide shelter from the wind.

The komatik (sled) has been placed out of reach of the dog team which would otherwise eat its sealskin bindings or anything else edible stored upon it. The runners of the komatik are formed from mud which has frozen hard and then kept slicked when necessary with water to create a more slippery surface.

Living on the Land

The igloo entrance is made small to limit cold air from entering the interior. The igloo itself is located over the excavion made by cutting and removing snow blocks used in its construction. Cold outside air pools into the excavation while the domed inside area retains warmth.



Photos by Jim Smith

Living on the Land

Left: Shawls such as this Inuit lady is wearing were often used by women to secure an infant carried on their back

Right: Willie Weetaluktuk ice fishing. At one time he worked for the Royal Canadian Mounted Police who had departed Port Harrison at some point before 1962.

Living on the Land

Below left: A temporary encampment of igloos set up by returning hunters while they replenished supplies at the Hudson Bay Company Store. Those in the forefront were no longer in use and were beginning to slump.

Right top: An Inuit tent at an outlying camp is kept warmer in winter by banking it up with snow to keep out the wind.

Right below: Winter at the Narrows Camp, Harrison Island in Hudson Bay.

Living on the Land

In 1963 this tent was the year round home for Sarah Nayoumealuk living at the Narrows outpost camp on Harrison Island near Port Harrison. There is an interesting story about her concerning the Inuit tradition of using everything to the fullest. She showed Michael a box she had received in the mail from a relative convalescing from tuberculosis in the hospital at Moose Factory. It contained chewing gum (more easily obtained in Moose Factory than in the isolated hunting camp where she lived). The only thing was - the gum had already been chewed before she received it !

Summer at the Narrows Camp

This outlying camp was about 5 miles (8 km) from Port Harrison and located on Harrison Island which technically was in the North West Territories. Although there were one or two "matchbox" (one-room) houses, most people were living in tents year-round.

Photos at left by Jim Smith

Summer at the Narrows camp

Some of the traditional ways, such as the sealskin kayaks, were still in use. The kayak was up on the driftwood frame to keep it out of reach of dogs. A one-cylinder engine powered Umiak (actually a small open whaleboat rather than the traditional skin boat) was used to reach the Port Harrison settlement for supplies.

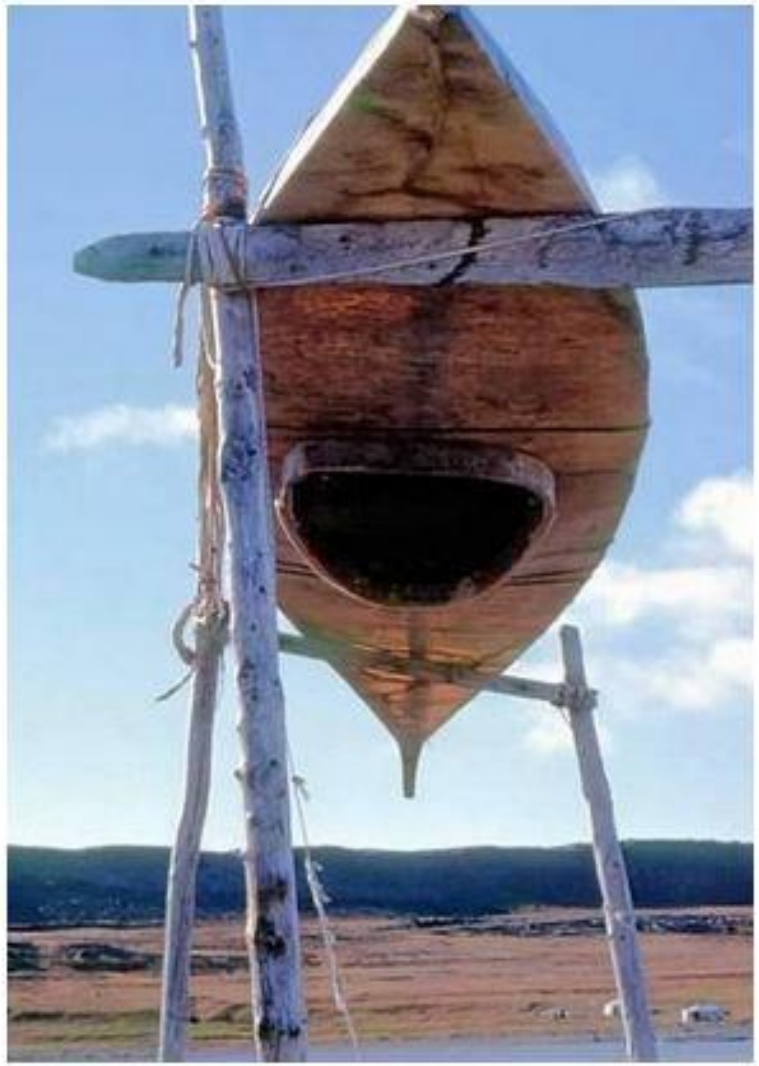


Photo at left by Walter Getman

The Only Way to Travel

Left above: Returning from Five Mile Inlet in choppy weather with Charlie Nayoumealook at the tiller.

Left below: Crossing the Innuksuac River by outboard motor powered canoe to visit the Hudson's Bay Company store. The Radiosonde (Weather) Station can be seen on the bank. The bearded individual is meteorological technician Michael McLennan (better known as "Mac").
The position at the tiller of the boat (in this case Michael Newark), was commonly subjected to a lot of spray.

On one occasion an individual from the Marine Radio Station was spotted expending youthful energy by executing high speed tight figure eights in that Station's canoe. As the circles became even tighter the torque lifted the outboard motor off the stern of the boat and down into the river! Needless to say, after that, the motor on the Radiosonde Station's boat was fastened to the stern by a safety chain.

Off Duty Fishing Expeditions

Right: A portage at Five Mile Inlet during a fishing trip to the inland lakes for lake trout.
Below: Michael Newark returns with a good catch from upriver.

Photo below by Larry Pokrant

Photo at left by Jim Smith

Left: The Peterhead boat owned by Abraham Nastapoka ties up to a rock face at Five Mile Inlet. Passengers disembark to fish for arctic char. The Hudson's Bay Company sold this type of boat, starting with boats actually built in Peterhead, Scotland and then having similar designs built in Canada. The boats themselves were fishing/workboats (originally sailing schooners and later powered like this one). They had an aft cabin. The Inuit used them for hunting, fishing, and moving small cargoes around the north.

Below left: An outlying hunting camp scene. The type of Atlantic walrus found in Hudson Bay is smaller than others. The walrus was important to the Inuit for food (beneath their skin is a layer of blubber about 6 cm thick), dog food and ivory.

Photo by Jim Smith

An outlying hunting camp scene

The woman is wearing tradional Inuit style clothing of the eastern arctic. Her parka has an amautik (enlarged hood with a pouch used for carrying an infant).

Johnny Inukpuk
carving a masterpiece

A standing Inuit woman, her child in her amautik, playing "Cat's Cradle 1964"

Johnny Inukpuk (1911-2007) a famous Port Harrison sculptor at work creating a soapstone carving which stands 22 inches (56 cm) high. He spent several days stretched over a week working in situ with an axe, chisels and files to shape the stone found in the rock-face shown on the opposite page. His hood is raised around his face to ward off swarms of mosquitoes.

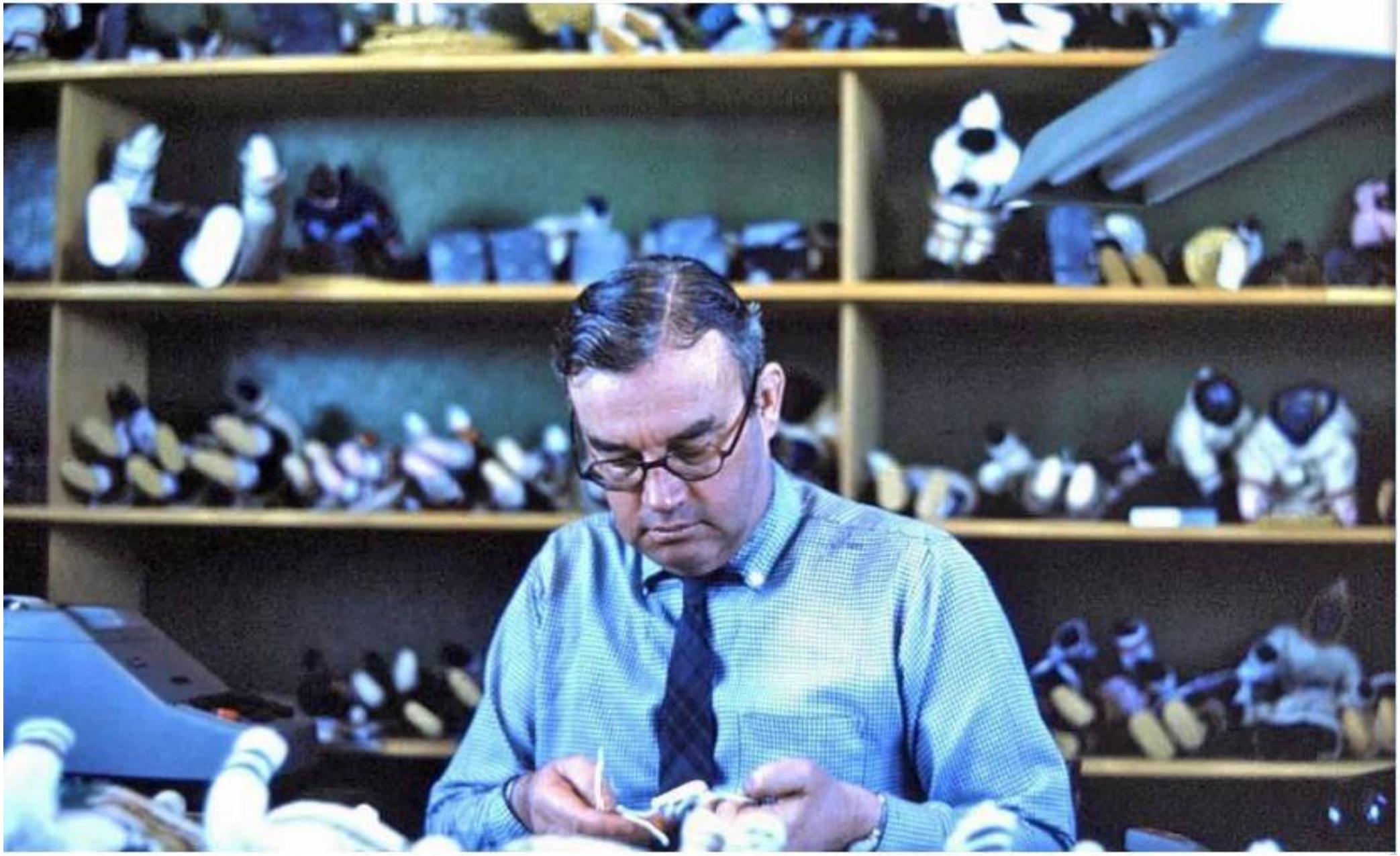
A standing Inuit woman, her child in her amautik, playing "Cat's Cradle 1964"

The finished work, created at the location where a suitable source of soapstone was found. Inuit carvers said that they were simply releasing their creation from the stone rather than preconceiving what they wanted to make.

Port Harrison is well known for the fine quality of Inuit carvings produced there. It was there that James Houston, an artist responsible for helping the Inuit develop a market for their artwork, first interacted with Inuit carvers in the 1940s.

Inuit Crafts

Rod Evans, the Administrator of Indian and Northern Affairs at Port Harrison, seen here about 1962, encouraged the craft of doll making by local Inuit women. The dolls were marketed in southern Canada and the proceeds returned to the crafts people.
The dolls were generally crafted in two stages with husbands carving soapstone heads and hands while their wives made the bodies dressed in traditional Inuit clothes.



Inuit Crafts

Left: Life and death struggle with a polar bear possibly carved by Jacob Echalook about 1962. At that time, Inuit carvers brought their work to the Hudson's Bay Company store. The carvings were then shipped to the south for resale.

Below Left: A woman dressed in traditional clothes (tailed embroidered parka of Hudson's Bay blanket material with a large hood and pouch for carrying a child, kamiks and a print dress) carrying a child in her parka. She is bent over lifting a qulliq (seal oil lamp). The heads of the woman and child, her hands and the qulliq are made of grey soapstone. The woman and qulliq are attached to a base of coiled grass. Artist: Elisapee Inukpuk

Below Right: Inuit grass basket. Although made for the southern market, they were originally used by the Inuit themselves.

Waiting for the Hudson's Bay Company store to open

A family from one of the outlying hunting camps has travelled by dog sled to Port Harrison to shop at the Hudson's Bay Store. The mother on the sled has a child in her amautik.

The Hudson's Bay Company

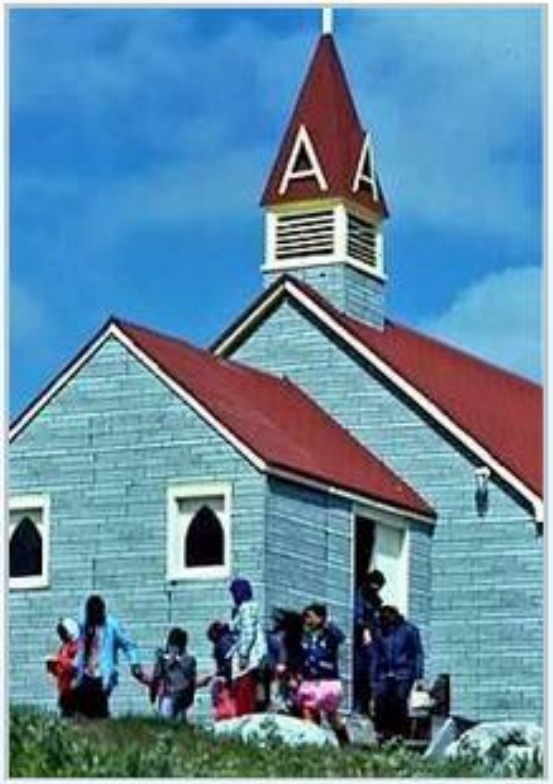
Left top: Howard Dove, the HBC Factor, and his main Inuit clerk Tommy Palliser (1900-1965). Photo taken in 1962.

At that time, the Hudson's Bay store held a trading monopoly. It gave a credit to hunters and artisans for pelts (notice the sealskins piled on the left) and artwork such as carvings, grass baskets, Inuit dolls or clothing. The price in credits paid by the store was determined by the Post Factor. Items required by the Inuit community could then be bought using the credits in the Company store. This system was unfair to the Inuit community because the Company sold-on the traded items at a profit in the South and also reaped a profit on the locally store-bought items purchased by store credits. In other words, the Company profited twice from their captive market. In 1964 the Inuit community in Port Harrison formed its own co-operative store to compete with the Hudson's Bay Company store and give the community an equitable share of profits derived from the furs, pelts, country foods and artwork they produced.

The French fur trading company Révillon Frères was the first to establish a trading post in Port Harrison in the early 1900s. The Hudson's Bay Company (HBC) opened its post in 1920. Competition between these companies ended in 1936 when the HBC bought out Révillon Frères.

Above: The individual second from the left is Isa Smiler (1921-1986), a well known and talented Inuit carver.

Inuit Square Dance Night



St Thomas Mission Anglican Church

Left Top: Rev. William Graham, Minister. The mission curch was founded in 1927 although first contacts were from 1888,

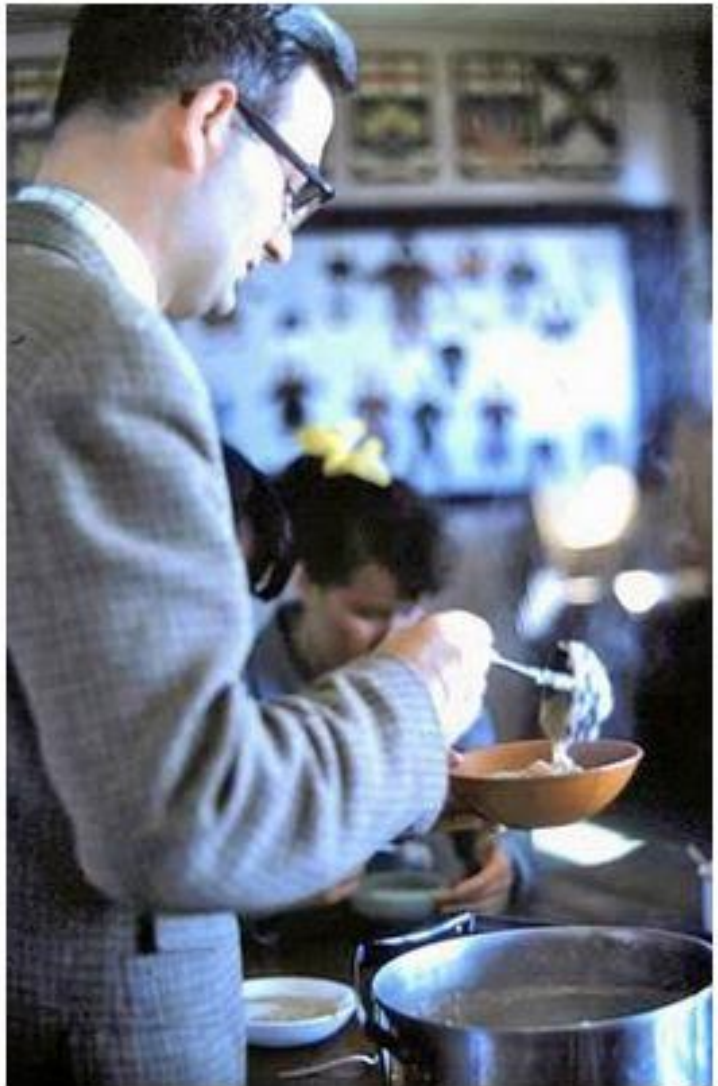
The Nursing Station

The Port Harrison Nursing Station was opened in 1947. In the early 1960s it was staffed by husband and wife team Rita and John McGirl. In addition to the settlement population they were responsible for providing health care to the outlying hunting camps. They reached the camps by Bombardier snowmobile in winter and by boat in the summer.

Above left: A tuberculosis patient awaits transfer to the sanitarium at Moose Factory, Ontario. The Moose Factory General Hospital was built in 1949 in response to a tuberculosis epidemic. It served both First Nations and Inuit patients. Flu epidemics were also an annual concern at Port Harrison.
Above Right: Rita McGirl treating a young patient.

The School

The schoolteacher, John McArthur, was Scottish and on this particular day had made a lunch meal of hot porridge. His influence can be seen in the children's artwork (***right***). The school was operated by the Federal Department of Northern and Indian Affairs. ***Right lower:*** The children are saying grace before their meal. In these days of multiculturalism, such practices are no longer followed.



The Marine Radio Station

This station was operated by the Federal Department of Transport. Its job was to monitor and communicate with shipping on Hudson Bay. It was also the community's only link to the outside world through its radio-telephone communication with the south.

Above: Ted Baker, the Officer-in-charge.
Left: These diesels, run by the Marine Radio Station, generated the electricity used in Port Harrison on the north side of the river.

The Weather station on the south side had its own diesel electric generator. It ran 24 hours a day. If there was a mechanical failure, a backup generator was available to be started and put online. Thankfully the equipment was very reliable and breakdowns were rare. However, the weather station employees were not trained how to repair the machines and due to the isolated nature of the location a mechanic was not available. When a breakdown did occur, then quick thinking and intuitive problem solving was required to repair the machine before the oil in the sump became too thick from the cold, making a restart very difficult.

The Hudson's Bay Company re-supply vessel "Pierre Radison"

This Hudson's Bay Company vessel made annual visits in late summer to re-supply company posts in Hudson Bay. The photo was taken in 1963.

Annual Resupply

Virtually all supplies at isolated communities along the east coast of Hudson Bay were delivered annually from Montreal by vessels such as the Vega. Here it is at anchor off Port Harrison. It was Michael Newark's duty as Officer-in-charge to obtain and check the manifest of cargo destined for delivery to the weather station. This involved travelling out to the vessel in a small boat to meet with the captain. This ship had little for the Station as it was transporting a cargo of small prefabricated houses for the local Inuit population, many of whom were still living in tents in 1963.

Photo below by Jim Smith

Annual Resupply

left top: With no dock facilities, all supplies were brought to shore by means of these WWII landing craft.

An annual re-supply ship from Montreal brought all the supplies needed by the weather station to operate for the coming year. Here the annual supply of diesel fuel, heating oil and gasoline is delivered to the beach in 40 gallon drums (blue) while stockpiled empty drums and propane cylinders wait to be taken away.

With no mechanized equipment, it was necessary to hire help to move everything manually up the steep bank to the station. Inuit women labour to roll the drums uphill, three to a barrel. This work would be done by some women while carrying an infant on their back.

Innuksuac River falls and rapids

Innuksuac River falls and rapids

Meteorological technicians Walter Getman (left) and Peter Gurba. This was a popular fishing spot where trout could be caught.

Photo by Jim Smith

The tundra in flower

1

2

4

3

Arctic Flora and Fauna

Clockwise: 1: With no trees, nests were built on the ground. 2: A young ptarmigan. 3: Diminutive Arctic Willow (Salix arctica) which grows flat along the ground and usually forms dense matted structures. It has adapted to the permafrost by growing a shallow root system. 4: Arctic poppies.

Willow Ptarmigan (Lagopus lagopus)

Masters of disguise at any time of the year on the arctic tundra. The male has a black neck and a small red eye patch. They rely upon stillness to escape detection and fly only short distances low to the ground when disturbed. There are two in the winter photo. Can you spot them?

The miniature willows (Arctic Willow, Salix arctica) are the tallest growing plant in the vicinity of Port Harrison.

Five Mile Inlet

A good place to fish for Arctic Char

The Innuksuac River

A Peterhead fishing boat owned by Abraham Nastapoka on the banks of the Innuksuac River.