



# ARC 404

## Canadian **Sailing Directions**

Great Slave Lake and Mackenzie River

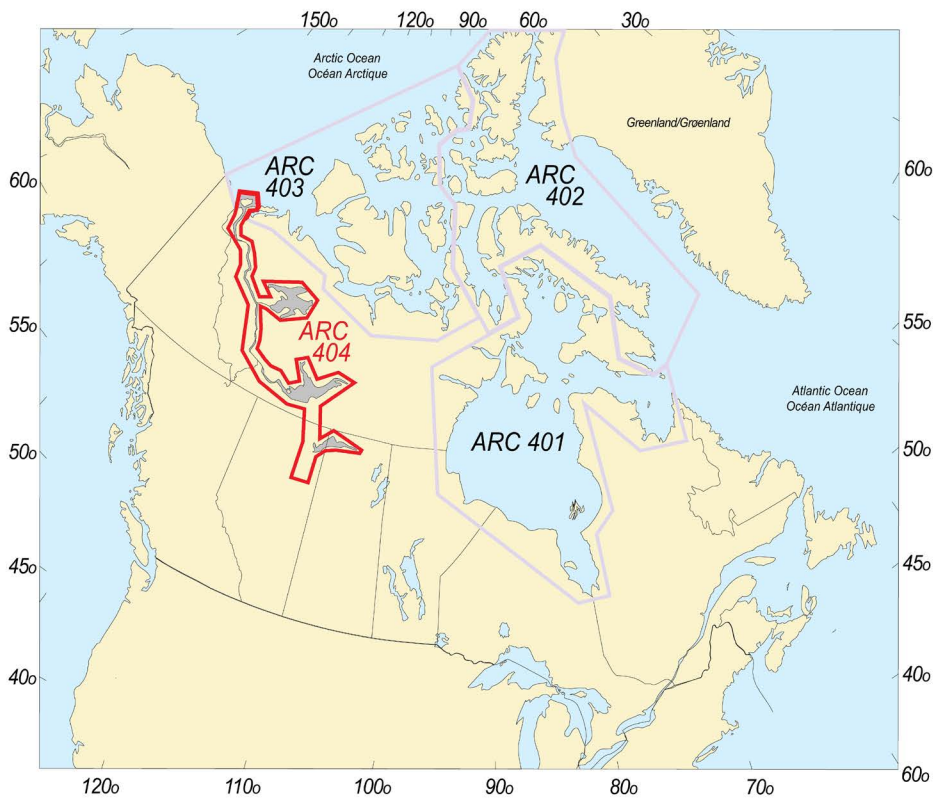
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### Sailing Directions

ARC 400  
General Information,  
Northern Canada

ARC 401  
Hudson Strait, Hudson Bay  
and Adjoining Waters

ARC 402  
Eastern Arctic

ARC 403  
Western Arctic

ARC 404  
Great Slave Lake  
and Mackenzie River

# Pictogram Legend



**Anchorage**



**Current**



**Radio calling-in point**



**Wharf**



**Caution**



**Lifesaving Station**



**Marina**



**Light**



**Pilotage**

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# Preface

The First Edition of *Sailing Directions, ARC 404 — Great Slave Lake and Mackenzie River*, 2012, has been compiled from Canadian Government and other information sources. In general, all hydrographic terms used in this booklet are in accordance with the meanings given in the *Hydrographic Dictionary* (Special Publication No. 32), published by the International Hydrographic Organization.

This edition introduces a new chapter layout and Print-on-Demand technology.

General information for Northern Canada is grouped in one booklet: *Sailing Directions, ARC 400 — General Information, Northern Canada*. It contains navigational information and a brief description of the main port facilities as well as geographic, oceanographic and atmospheric characteristics. Booklet *ARC 400* also includes a geographical index for Northern Canada.

The geographical areas are described in a series of booklets; their limits are shown on the back cover of each booklet. For more information, consult the *Catalogue of Nautical Charts and Publications 4, Arctic*.

Tidal, water level and current information has been revised by the Tides, Currents and Water Level Section of the *Canadian Hydrographic Service*.

The photographs, except where credits are given, are by the *Canadian Hydrographic Service* or the *Canadian Coast Guard, Fisheries and Oceans Canada*.

Users' comments concerning the format, content or any other matter relating to *Sailing Directions* would be appreciated and should be forwarded to the Director General, *Canadian Hydrographic Service, Fisheries and Oceans Canada*, Ottawa, Ontario, Canada K1A 0E6

# References to Other Publications

## Canadian Hydrographic Service

- [\*Catalogue of Nautical Charts and Publications\*](#)
- [\*Canadian Tide and Current Tables\*](#)

## Canadian Coast Guard

- [\*List of Lights, Buoys and Fog Signals\*](#)
- [\*Radio Aids to Marine Navigation \(Atlantic, St. Lawrence, Great Lakes, Lake Winnipeg, Arctic and Pacific\)\*](#)
- [\*Annual Edition of Notices to Mariners\*](#)

# Explanatory Notes

Canadian Sailing Directions expand charted details and provide important information of interest to navigation which may not necessarily be found on charts or in other marine publications. They are intended to be read in conjunction with the charts quoted in the text.

## Remarks

**Buoys** are described in detail only where they have special navigational significance, or where the scale of the chart is too small to clearly show all the details.

**Chart references**, in *italics*, refer to the largest scale Canadian chart. Occasionally a smaller scale chart may be quoted where its use is more appropriate.

**Tidal information** relating to the vertical movements of the water is not given and the *Canadian Tide and Current Tables* should be consulted. However, abnormal changes in water level are noted.

**Names** have been taken from the most authoritative source. Where an obsolete name still appears on the chart or is of local usage, it is given in brackets following the official name.

**Wreck information** is included where drying or submerged wrecks are relatively permanent features and are of navigation or anchoring significance.

## Units and terminology used in this booklet

**Latitude** and **longitudes** given in brackets are approximate, and are intended to facilitate reference to the chart quoted.

**Bearings** and **directions** refer to True North (geographic) and are given in degrees from 000° clockwise to 359°. The bearings of conspicuous objects, ranges and light sectors are given from seaward. **Courses** always refer to the course to be made good.

**Tidal streams** and **currents** are described by the direction towards which they flow. The **ebb** stream is caused by a falling tide and the **flood** stream is caused by a rising tide.

**Winds** are described by the direction from which they blow.

**Distances**, unless otherwise stated, are expressed in nautical miles. For practical purposes, a nautical mile is considered to be the length of one minute of arc, measured along the meridian, in the latitude of the position. The international nautical mile, which has now been adopted by most maritime nations, is equal to 1,852 m (6,076 ft).

**Speeds** are expressed in knots, which mean 1 nautical mile per hour.

**Depths**, unless otherwise stated, are referred to chart datum. As depths are liable to change, particularly those in dredged channels and alongside wharves, it is strongly recommended these be confirmed by the appropriate local authority.

**Elevations** and **vertical clearances** are given above Higher High Water, Large Tides. In non-tidal waters they are referred to chart datum.

**Heights** of objects, distinct from the elevations, refer to the heights of the structures above the ground. A statement, “a hill ... m (... ft) high”, is occasionally used when there could be no confusion and in this case the reference will signify an elevation.

The *List of Lights, Buoys and Fog Signals* number is shown **in brackets** after the navigational aid (light, leading lights, buoy). The expression “seasonal” indicates that it is operational for a certain period during the year; mariners should consult the *List of Lights, Buoys and Fog Signals* to determine the period of operation. The expression “private” means that the navigational aid is privately maintained; it will not necessarily be mentioned in the *List of Lights, Buoys and Fog Signals* and its characteristics may change without issuance of a *Notice to Shipping*.

**Time**, unless otherwise stated, is expressed in local standard or daylight time. For the waters described in this booklet, local time is Atlantic Standard Time (AST Z+4).

**Deadweight tonnage** and **masses** are expressed in metric tonnes. The kilogram is used to describe relatively small masses.

**Public wharf** is a wharf that is available for public use, though certain fees may be charged by local authorities. It may be shown as “Government wharf” or “Gov’t whf” on older charts.

**Conspicuous** objects, natural or artificial, are those which stand out clearly from the background and are easily identifiable from a few miles offshore in normal visibility.

The expression “**small craft**” refers to pleasure craft and small vessels with shallow draught.

**Diagrams** are large scale cartographic representations of harbours, wharves, anchorages, or marinas.

**Pictograms** are symbols shown at the beginning of the paragraphs to allow quick reference to information or to emphasize details. The Pictogram Legend is shown on the third page of this booklet.

# Abbreviations

## Units

°C	degree Celsius
cm	centimetre
fm	fathom
ft	foot
h	hour
ha	hectare
HP	horsepower
kHz	kilohertz
km	kilometre
kn	knot
kPa	kilopascal
m	metre
mb	millibar
MHz	megahertz
min	minute
mm	millimetre
NM	nautical mile
t	metric tonne
°	degree (plane angle)
′	minute (plane angle)

## Directions

N	north
NNE	north northeast
NE	northeast
ENE	east northeast
E	east
ESE	east southeast
SE	southeast
SSE	south southeast

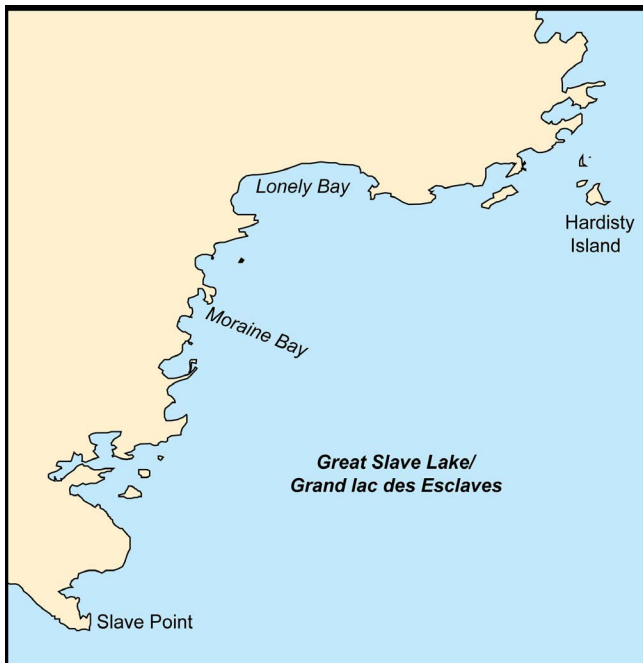
S	south
SSW	south southwest
SW	southwest
WSW	west southwest
W	west
WNW	west northwest
NW	northwest
NNW	north northwest

## Various

A.P.A.	Atlantic Pilotage Authority
CCG	Canadian Coast Guard
CHS	Canadian Hydrographic Service
DFO	Department of Fisheries and Oceans, Canada
DWT	deadweight tonnage
ETA	estimated time of arrival
ETD	estimated time of departure
HF	high frequency
HW	high water
LW	low water
M	million, mega
MCTS	Marine Communications and Traffic Services
NAD	North American Datum
No.	number
SAR	Search and Rescue
U.S.A.	United States of America
VHF	very high frequency
VTS	Vessel Traffic Services

# Chapter 1

## Great Slave Lake West shore



### General

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Charts 6355, 6356, 6357, 6358, 6359, 6360, 6370

1 On Great Slave Lake the main shipping routes are from Hay River to the Mackenzie River entrance, from Hay River to Yellowknife and from Yellowknife to the Mackenzie River entrance.


2 Mariners proceeding down Mackenzie River are advised that the *Mackenzie River Marine Safety Advisory Procedures* should be followed by all vessels on the river, before entering, while proceeding through, and on leaving Danger Zones 1 to 10. Danger Zones 1 to 10 and their reporting points are described at the appropriate geographic locations in the text of this publication. (*The description of Mackenzie River begins at Chapter 6.*)

3 (*For full details see Radio Aids to Marine Navigation (Pacific and Western Arctic), available at: <https://www.ccg-gcc.gc.ca/publications/mcts-sctm/ramn-arm/index-eng.html>.*)

4 **MCTS Iqaluit**, through its repeater stations on the Athabasca — Mackenzie watershed, maintains a watch on distress, urgency and calling frequency 5803 kHz. (*Consult Radio Aids to Marine Navigation (Pacific and Western Arctic) for full details.*)

5 The main part of Great Slave Lake (*Chart 6370*) has been partially surveyed by the *Canadian Hydrographic Service*; the few soundings in the East Arm (*Chart 6341*) have been done by other sources. The Mackenzie River and Tuktoyaktuk Harbour and its approaches have been surveyed by the *Canadian Hydrographic Service*. The soundings shown on the chart of Great Bear Lake were compiled by the *Canadian Hydrographic Service* from *Fisheries Research Board of Canada* surveys to 1966.

6 Based on the latest Geodetic levelling in this area, chart datum, which is low water level, on Great Slave Lake is 156.3 m (512.7 ft) above Mean Sea Level. During an average year the water level of the lake fluctuates between 0.3 and 0.6 m (1 and 2 ft) attaining its highest level in July or August, then generally decreasing through to the end of the navigation season. The lowest level can occur anytime between the beginning of November and end of January.

 7 **Caution.** — **Meteorological conditions** can produce **seiches** which cause the level of the lake to fluctuate by as much as 0.3 m (1 ft) during the course of a day.

8 (For general **weather conditions** in this area, see Chapter 4 of *Sailing Directions* booklet ARC 400 — *General Information, Northern Canada*. For present and forecast weather conditions, visit: <https://weather.gc.ca/>.)

9 (For **climate normals and averages** for selected locations in this area, visit: <https://climate.weather.gc.ca/>. For maps relating to general weather patterns, visit: <http://atlas.nrcan.gc.ca/site/index.html>.)

10 (For details of **ice conditions** for the area covered by these *Sailing Directions* refer to *Sailing Directions* booklet ARC 400 — *General Information, Northern Canada*.)

11 Two areas of magnetic disturbance on Great Slave Lake are of particular interest to mariners because of their proximity to the Hay River to Yellowknife route and the Yellowknife to Mackenzie River entrance route. (For details about magnetic disturbances, see *Sailing Directions* booklet ARC 400 — *General Information, Northern Canada*.)

## Great Slave Lake — West Shore


Chart 6370


### Slave Point to Gypsum Point


12 The west coast of **Great Slave Lake** extends from Slave Point ( $61^{\circ}11'N$ ,  $115^{\circ}56'W$ ) to Gypsum Point ( $61^{\circ}53'N$ ,  $114^{\circ}35'W$ ), a distance of 65 miles. The coast is generally low-lying, with few landmarks. Numerous bays indent the shoreline. Deep water, free of dangers, parallels the coast several miles off, however, dangers exist close inshore.

Chart 6360


13 **Slave Point** ( $61^{\circ}11'N$ ,  $115^{\circ}56'W$ ), low-lying and wooded, is 21 miles NE of the Mackenzie River entrance.

 14 **Slave Point light** (1691) is on the SE end of the point.

 15 **Caution.** — **Shoal water** and scattered dry rocks, **rocks awash** and **underwater rocks** extend 0.5 mile south and 1 mile east of Slave Point. **Slave Point Shoals** consists of two adjacent **rocks** with 2 and 4 feet (0.6 and 1.2 m) over them and a **shoal** with a least depth of 6 feet (1.8 m) lying respectively 0.7 and 1.4 miles SE of Slave Point.

 16 **Caution.** — **Slave Bay** ( $61^{\circ}14'N$ ,  $115^{\circ}57'W$ ) is exposed and has numerous **rocks awash**, **underwater rocks**, boulders and islets. **Web Island** is low-lying with two wooded hummocks on its south side.

A group of rocks, 2 feet (0.6 m) high, lie about 0.5 mile NNE of Web Island. The north shore of Slave Bay, in the vicinity of **Burnt Point**, is steep-to.


 17 **Caution.** — A **rocky shoal** extends south from the north shore of Slave Bay about 2 miles west of Burnt Point. Sudden **shifts** in **wind direction** render Slave Bay a dangerous place to be caught in; it cannot be recommended as an anchorage for an extended stay.

18 From Burnt Point the coast extends 2.5 miles north to **Windy Point** ( $61^{\circ}18'N$ ,  $115^{\circ}50'W$ ). This stretch is wooded and backed by white limestone cliffs, 30 feet (9.1 m) high. Tar springs are at the foot of the limestone cliffs. At one time small quantities of pitch were taken annually for boat building purposes.


Chart 6359


19 From Windy Point the coast trends 4 miles NW to **Horncastle Point**, the SE entrance point of Windy Bay.

 20 **Windy Bay light** (1693) is on the coast 0.7 mile SE of Horncastle Point.

 21 **Caution.** — **Shoal water**, with depths of 3 to 6 feet (0.9 to 1.8 m), rock bottom, extends 0.7 mile east from Horncastle Point.


22 **South Cranberry Island** and **Gooseberry Island** lie in the approach to Windy Bay.

 23 **Caution.** — A narrow ridge of **submerged boulders** lies between the islands.

 24 **Gooseberry Island (Windy Bay) light** (1694) is shown from the east shore of Gooseberry Island.


25 A starboard-hand **buoy** marked *B2* is 0.7 mile WSW of South Cranberry Island.

26 **Windy Bay light buoy** (1692) is 1.5 miles west of South Cranberry Island.

 27 **Caution.** — The two buoys mark a **shoal area** extending from South Cranberry Island.


28 **Windy Bay** ( $61^{\circ}21'N$ ,  $115^{\circ}55'W$ ), entered south of South Cranberry Island, affords shelter. The approach from north and east is impossible for all but small craft drawing less than 3 feet (0.9 m). **Goose Neck** is an isthmus separating Windy Bay from Sulphur Bay.

29 **Middle Cranberry Island** is 1.5 miles NE of South Cranberry Island.

 30 **Caution.** — A large area of **foul ground** extends west from Middle Cranberry Island to Goose Point and SW to South Cranberry Island. A **shoal area**, with numerous **drying rocks** and three islets on it, extends north and east from Middle Cranberry Island.

31 **North Cranberry Island** lies 1.3 miles NE of Middle Cranberry Island. Two unnamed islets lie 1 mile


NW of North Cranberry Island, about 0.3 mile from the mainland shore.


 32 **Caution.** — A ridge of **drying rocks** surrounded by **shallow water** extends 0.6 mile west from the west end of North Cranberry Island.

33 **Sulphur Bay**, entered between **Goose Point** and an unnamed island 0.7 mile north, is best approached between North Cranberry Island and the unnamed islet to the SE. The bay is shallow, with numerous patches of weeds, and bordered by marshy, low-lying terrain to the south. A range of dolomite hills and limestone ridges, about 200 feet (61 m) high, lie north of Sulphur Bay.


Chart 6358


34 **Jones Point** ( $61^{\circ}27'N$ ,  $115^{\circ}41'W$ ) is the south entrance point of Jones Bay.


 35 **Caution.** — A rocky **shoal spit**, with depths of 9 to 12 feet (2.7 to 3.7 m), extends 0.8 mile ENE from Jones Point. Three shoals, with 10 to 12 feet (3 to 3.7 m) over them, lie 0.5 mile beyond the spit.


 36 **Jones Bay**, entered between Jones Point and **René Point**, affords **anchorage**, in 10 to 20 feet (3 to 6.1 m), sheltered from south and west winds.

37 **Caribou Point** is the end of a long, low-lying, narrow peninsula. **Black Spruce Island**, at the end of a chain of islets and numerous dry rocks, lies north of Caribou Point.


 38 **Black Spruce Island light** (1695) is on the NE tip of the island.

 39 **Caution.** — **Drying shoals**, with numerous dangerous **underwater rocks** and **rocks awash**, extend between the islets and Black Spruce Island, and between Caribou Point and Black Spruce Island.


 40 **Caution.** — A starboard-hand **buoy** marked *C2*, 0.3 mile NNW of **Black Spruce Island** light, marks the south edge of a **shoal** with a depth of 5 feet (1.5 m).


 41 **Caribou Bay**, entered between Black Spruce Island and the foul ground extending south from John Point, offers secure **anchorage** in 18 feet (5.5 m).

42 **John Point**, 2 miles north of Caribou Point, forms the seaward end of a rounded peninsula, prominent against a wooded background. Between John Point and Moraine Point, 3 miles north, lie two small unnamed bays separated from one another by **Shoal Point**. Shoal Point is a low-lying gravel and shingle peninsula with scattered clumps of willow.

 43 **Caution.** — A **shoal spit** extends about 0.8 mile SE of Shoal Point; an isolated **shoal depth** of 12 feet (3.7 m) lies 0.2 mile farther out.

44 **Moraine Point**, at the south end of a wooded peninsula, is **conspicuous** and easily identified; its seaward face shows light brown in colour. **Moraine Point Lodge and Wilderness Retreat** is a year-round facility here. A wooded ridge, about 140 feet (43 m) high, lies 0.8 mile north of Moraine Point.

 45 **Moraine Point light** (1695.7) is shown from the SE tip of Moraine Point. The light is visible from  $216^{\circ}$  through west and north to  $029^{\circ}$ .

 46 **Caution.** — A **shoal depth** of 12 feet (3.7 m) lies 0.9 mile south of Moraine Point and a **shoal area**, with a least depth of 13 feet (4 m), is 1.4 miles SSE of the same point.

47 **Moraine Bay**, close west of Moraine Point, is a snug, well sheltered refuge. A channel leading into Moraine Bay was dredged in 1976.

48 **Moraine Bay light buoy** (1695.5), marked *M2*, is at the end of a shallow spit in the entrance to the bay and starboard-hand **buoys** marked *M4* and *M6* are 0.2 mile NNE.

49 A **daybeacon range**, in line bearing  $268^{\circ}$ , is 1.8 miles WNW of Moraine Point near the west entrance point of Moraine Bay.

50 A **wrecked barge**, partially submerged, is in Moraine Bay. A fish processing facility is nearby, on shore (2005).

51 From Moraine Point the irregular shoreline, backed by low-lying terrain, trends 3 miles north and 5 miles NE to Northwest Point.




 52 **Caution.** — **Found Island**, 4.5 miles NE of Moraine Point, is surrounded by **shallow water** and a **submerged** rocky **ridge** extends 0.7 mile NW from its west end.

Chart 6357

53 **Northwest Point** ( $61^{\circ}42'N$ ,  $115^{\circ}30'W$ ), 8 miles NNE of Moraine Point, is low-lying and wooded.


 54 **Caution.** — A **shallow spit** extends 1 mile east from a small peninsula 1.3 miles SW of Northwest Point. There are dangerous **submerged boulders** and above-water rocks on the spit; the highest is 6 feet (1.8 m).

55 **Lonely Bay**, entered between Northwest Point and Lonely Point, is backed by low-lying wooded terrain containing large areas of muskeg. West of the bay there are several isolated **wooded ridges**, the highest, 270 feet (82 m) high and **conspicuous** from seaward, lies 2.3 miles inland from the NW corner of the bay.

 56 **Caution.** — Three **shoal areas** and an **isolated underwater rock** lie north of Northwest

Point. A **shoal depth** of 12 feet (3.7 m), gravel, lies 3 miles east of Northwest Point.

57 **Lonely Point** ( $61^{\circ}44'N$ ,  $115^{\circ}13'W$ ), the east entrance point of Lonely Bay, is low-lying and wooded; the shoreline is boulders and gravel.

 58 **Caution.** — An area of **shoal water**, with numerous dangerous **underwater rocks** and boulders, extends west and north of Lonely Point. **Lonely Point Shoal**, 1.5 miles south of Lonely Point, is an extensive **shoal area**; the bottom here is made up of rocks and boulders. Another **shoal area** lies close north of the west end of Lonely Point Shoal.

59 From Lonely Point, the low-lying wooded coastline trends 5 miles east to North Head. Two wooded hills, 103 and 125 feet (31 and 38 m) high, are close to the shoreline on North Head.




 60 **Caution.** — A **shoal**, with a least depth of 15 feet (4.6 m), lies 1.8 miles south of North Head.


Chart 6356

61 **Cake Bay** ( $61^{\circ}45'N$ ,  $115^{\circ}02'W$ ), close NE of North Head, is shallow. Nearly all the shoreline in this area is swamp.


 62 **Caution.** — An anchorage, near the NE entrance point of the bay, is **not recommended** because of its exposed position.


63 **Long Island**, 4 miles east of North Head, is low-lying with large areas of muskeg.

 64 **Caution.** — Numerous dangerous **underwater rocks** lie close off the SE shore. **Long Island Shoals** and another **shoal area** close NE lie within 1.5 miles south of Long Island.


 65 **Long Island light** (1706) is on an islet close off the west end of the island.


66 **Swan Bay**, with **Swan Point** its east entrance point, is shallow with large areas of swamp at its head.

 67 **Caution.** — Swan Bay has **not been surveyed**.

 68 Small craft can find shelter from north and east gales at an **anchorage** in 5 feet (1.5 m) over sand and mud, 0.6 mile north of the west end of Long Island. **Anchorage**, exposed to the east, can be obtained between the north end of Long Island and Swan Point.


69 **Mace Bight**, a shallow swampy indentation, is separated from Swan Bay by a low-lying peninsula. Mace Bight is entered between May Point and an unnamed point 1.5 miles NE.


 70 **Caution.** — A **shoal depth** of 6 feet (1.8 m), boulders, is about 1.6 miles ESE of May Point.

 71 **Anchorage** at the entrance to Mace Bight provides limited shelter from north and west winds.


Charts 6355, 6356


72 **Hardisty Island** ( $61^{\circ}44'N$ ,  $114^{\circ}37'W$ ), 6 miles east of Long Island, is a prominent feature when approached from NE and SE directions; it is reported to be **radar conspicuous**.

 73 **Caution.** — Several **shoal areas** lie off the east side of the island.

 74 **Hardisty Island light** (1705) is on the SE extremity of the island. A **radar transponder beacon (Racon)** identification Morse "G" (— — •) operates from the light tower.

75 **Middle Island**, 0.7 mile NW of Hardisty Island, is thinly wooded.

 76 **Caution.** — Middle Island is surrounded by **shallow water**. **Local knowledge** is required to pass between Hardisty and Middle Islands. **Crescent Island, Danger Island**, a group of small islets and a sand bar lie on an extensive **shoal area** 1.5 miles north of Middle Island.


 77 **Anchorage** in 7 to 10 feet (2.1 to 3 m), mud bottom, can be obtained about 0.5 mile west of Crescent Island.

78 Danger Island open north of Crescent Island, bearing  $097^{\circ}$ , leads north of the shallow spit extending from the sand bar west of Crescent Island.


79 An area of strong **magnetic disturbance** exists 3 miles east of Crescent Island.


Chart 6355

80 **Bloomfield Point** ( $61^{\circ}50'N$ ,  $114^{\circ}38'W$ ) is the south entrance point to Bloomfield Bay. The bay is shallow and swampy.

 81 **Caution.** — A **shoal**, with a least depth of 8 feet (2.4 m), lies 3.8 miles east of Bloomfield Point. **Shoal water**, with depths of 4 to 6 feet (1.2 to 1.8 m), extends about 1 mile east of the same point.

82 **Edgar Bay**, NE of Bloomfield Bay, is entered between Edgar Point and Gypsum Point.

 83 **Caution.** — Several dangerous **underwater rocks** lie in Edgar Bay.

 84 **Anchorage**, in 7 to 9 feet (2.1 to 2.7 m) over a mud bottom, is obtainable about 0.6 mile NW of Edgar Point. This anchorage is sheltered from north winds.

85 (*Gypsum Point and its light are described in Chapter 2.*)

# Chapter 2

## Great Slave Lake North Arm



### General

Charts 6354, 6355, 6368, 6369, 6370

1 The **North Arm** of Great Slave Lake lies north of a line joining Gypsum Point ( $61^{\circ}53'N$ ,  $114^{\circ}35'W$ ) and Gros Cap, 35 miles ENE; the arm extends 85 miles in a NW direction to Frank Channel which leads to Marian Lake. Yellowknife Bay indents the NE coast of the North Arm for 15 miles in a north direction.

2 *MCTS Iqaluit*, through its repeater stations on the Athabasca — Mackenzie watershed, maintains a watch on distress, urgency and calling frequency 5803 kHz. (*Consult Radio Aids to Marine Navigation (Pacific and Western Arctic) for full details.*)

3 **Caution.** — The **north part** of North Arm NW of a line joining Foam Point and the West Mirage Islands, south of Yellowknife Bay, is **not surveyed** and no detailed description of the coast or dangers is attempted. **Local knowledge** is essential for navigating this portion of the North Arm.

4 The North Arm forms the dividing line between the Canadian Shield to the east and the Mackenzie Lowlands to the west. A sharp contrast in the geological features of the NE and SW coastlines is apparent.


5 The SW coast of the North Arm is flat and undulating and composed of sedimentary rocks seldom rising above 150 feet (46 m). Behind the shoreline there are numerous lakes and extensive areas of marshland separated by belts of spruce, pine and muskeg. The NE shoreline is composed of granite and has an average height of 125 feet (38 m), with rough and broken terrain, timbered with spruce, some poplar and birch.

6 (*For general **weather conditions** in this area, see Chapter 4 of Sailing Directions booklet ARC 400 — General Information, Northern Canada. For present and forecast weather conditions, visit: <https://weather.gc.ca/>.*)

Chart 6355


7 **Gypsum Point** ( $61^{\circ}53'N$ ,  $114^{\circ}35'W$ ) forms the end of the peninsula separating Edgar and Gypsum Bays. The **point**, 80 feet (24 m) high, is reported to be **conspicuous** from north and south.




 8 **Caution.** — A **shoal area**, with a least depth of 9 feet (2.7 m), lies 0.9 mile ENE of Gypsum Point.

9 *Gypsum Point light* (1704.6) is shown from the east end of the point. The light is visible from 150° through south and west to 350°.


10 **Gypsum Bay** is entered between Gypsum Point and an unnamed point 2.8 miles NW. **Gypsum Island** is near the middle of the entrance to Gypsum Bay.

 11 **Caution.** — Gypsum Island is surrounded by **shoal water** and the head of Gypsum Bay is **shallow** and swampy.


 12 **Anchorage**, in 9 to 11 feet (2.7 to 3.4 m), can be obtained 0.6 mile SW of Gypsum Island.

*Chart 6354*


13 **Mirage Point** (61°56'N, 114°37'W), 4 miles NW of Gypsum Point, is low-lying, swampy and backed by several wooded ridges and hills.


 14 **Caution.** — East and south of Mirage Point, several low islets and numerous dangerous **underwater rocks**, surrounded by **shoal water**, extend almost 0.5 mile offshore. Beyond this danger area depths increase rapidly.


15 From Mirage Point the coast trends 1.3 miles NW to **Burdick Point**.

 16 **Caution.** — An area of dangerous **underwater rocks** and islets extends 0.7 mile offshore.

17 **Burdick Cove** is entered between Burdick Point and **Ives Point**, a low-lying feature backed by a wooded summit, 80 feet (24 m) high. **Ives Bay**, exposed to the NE, is entered between Ives Point and **Anderson Point**, 1.7 miles NW.

 18 **Anchorage** can be obtained in Burdick Cove, sheltered from all but north winds, in 8 feet (2.4 m), mud bottom.


 19 **Anchorage**, with shelter from south winds, can be found in Ives Bay, in 10 feet (3 m), mud.

 20 **Caution.** — North and NE of Anderson Point a **shoal bank** and numerous **shoals** extend 1.25 miles offshore.

21 **Foam Point** (62°01'N, 114°47'W), backed by a wooded ridge running parallel to the coast, lies 3.8 miles NNW of Anderson Point. A group of islets, 2 feet (0.6 m) high, lie 0.3 mile east of Foam Point.

22 To clear the shoal area near Anderson Point, keep to seaward of a line joining Foam Point and Burdick Point.


23 A wooded ridge, prominent from seaward, lies 2 miles inland SW of Foam Point.

 24 **Caution.** — Two **shoals**, with depths of 9 and 12 feet (2.7 and 3.7 m), lie respectively 1.1 miles NE and 1 mile NNE of Foam Point.

25 The named coastal features NW of Foam Point are **Sabourin Bay, Baker Point, Baker Bay, Price Point, Price Cove, McIver Point** and **McIver Bay**.

*Chart 6370*

26 **Baker Island** (62°21'N, 114°40'W, *not named on the chart*) lies close off the mainland shore 24 miles north of Foam Point and 1.5 miles west of the NW entrance point of Yellowknife Bay. **Ptarmigan Point** (*not named on the chart*) is the west end of Baker Island.

 27 **Caution.** — A multitude of islands, islets, dangerous **underwater rocks, shoals** and **shoal banks** lie off the NE shore SE and NW of Baker Island. This coast should be given a wide berth unless thoroughly familiar with the area.

28 Named features along the SW coast of the North Arm from McIver Bay northwest toward Old Fort Rae are **Alexander Point, Alexander Bay, Redrock Point, Spruce Point, Wrigley Point, Old Fort Island, Louise Islands, Whitebeach Point, Pointe du Lac** and **Waite Island**.

29 **Old Fort Rae**, established in 1852 and named after the explorer Doctor John Rae, lies at the end of the peninsula extending from the NE shore nearly halfway across the North Arm. The settlement of Old Fort Rae was abandoned in 1904 in favour of the present Rae, 15 miles farther NW.

30 **Rae Point** is the west extremity of the above-mentioned peninsula. Cliffs, of a compact, yellowish limestone, rise to 67 m and furnish the only exposure of Paleozoic rocks to be found on the east shore of the North Arm.

31 A group of small islands lie in the passage SW of Old Fort Rae.

32 **Smith Island** lies 0.5 mile NE of Rae Point.

33 **Frank Channel**, entered 9 miles NNW of Rae Point, connects Marian and Great Slave Lakes. There are several channels, but the track normally followed leads between the east shore and the large unnamed island to the west and continues past the site of an abandoned village on the east bank. The west shore is then followed in a NW curve to Marian Lake. The main track avoids numerous small islands lying off both shores and swings north on entry into Marian Lake. **Local knowledge** is recommended.

34 A *Yellowknife Highway* bridge crosses Frank Channel 2.5 miles east of Edzo.

35 Three aircraft floats are moored to the east shore close north of the highway bridge.

36 **Marian Lake**, 20 miles long and 6 miles wide, has numerous small islands in it. The lake is reported to be very shallow, predominantly of sand and mud bottom. The shores are rocky and the lake is similar to the North Arm. Several limestone hills rise on the west shore.

37 **Duport River** empties into Marian Lake from the west, **Marian River** from the north, and **Snare River** and **Russell Lake** through **Russell Channel** from the NE.

38 The hamlet formerly known as **Edzo** ( $62^{\circ}47'N$ ,  $116^{\circ}01'W$ ), established in 1965, is at the south end of Marian Lake near the *Yellowknife Highway*. It was developed to alleviate the problems of population expansion and shortage of amenities and necessities in the former hamlet of Rae, 4 miles north. Since 1965 some of the facilities of the old settlement have been re-established in Edzo.

39 Edzo has a hospital, staffed with one doctor, a primary school, daily postal service and telephone service. There is no water transportation except for small craft.


40 The hamlet formerly known as **Rae** ( $62^{\circ}50'N$ ,  $116^{\circ}03'W$ ) is on the south shore of a large peninsula extending from the east into the SE portion of Marian Lake. The settlement has a small wharf, a *Northern Stores* outlet, a general store, a sawmill, bus and truck transport connections with points north and south, a medical clinic, a church, telephone service, a game management officer, and a *RCMP* detachment. Gasoline and diesel fuel are obtainable.

41 The two hamlets, formerly known as **Rae-Edzo**, were renamed **Behchokö** in 2005. The population of Behchokö is 1894 (2006). The Rae-Edzo airport, near the former hamlet of Edzo, has a 3372-foot (1028-m) gravel runway.

### Approach to Yellowknife Bay

42 The approaches to **Yellowknife Bay** lie between Gypsum Point ( $61^{\circ}53'N$ ,  $114^{\circ}35'W$ ) and Gros Cap, 35 miles east. The coastline is undulating with numerous outcrops of bare rock and large areas burnt over and sparsely wooded with a secondary growth of spruce. Along the coast the hills seldom exceed elevations of 20 m; inland, the Precambrian Plateau rises to a height of 38 m.

43 There is a yellow *Ocean Data Acquisition (ODAS) light buoy* 17 miles west of Gros Cap.

 44 **Caution.** — The 20-m contour line parallels the east shoreline at a distance of 4 to 5 miles; inside this line there are numerous **shoals**, islets and islands.


45 From a distance offshore, the inshore islands are not easily distinguished against the mainland background.

Even when close inshore the islands are almost useless as landmarks.

*Charts 6368, 6369*


46 **Pilot Islands** ( $62^{\circ}13'N$ ,  $114^{\circ}07'W$ ), a group of low-lying, wooded islands, form part of the offshore islands fringing the east shore of the North Arm.

47 A **magnetic anomaly** is reported to exist 3.5 miles SSE of Pilot Islands.


 48 **Caution.** — **Expeditor Reefs**, 2.5 miles SW of Pilot Islands, consist of numerous **shoals** with depths of 3 to 17 feet (0.9 to 5.2 m).

49 **East Mirage Islands**, 5 miles NW of Expeditor Reefs, are a large group of islets and rocks. The largest island in the group is known locally as **East Mirage Island**.

50 The main approach to Yellowknife Bay leads between Pilot Islands and Expeditor Reefs and East Mirage Islands.

 51 *Pilot Islands range lights* (1707, 1708), on two of the southern Pilot Islands, when in line bearing  $346^{\circ}$  lead into the channel between Expeditor Reefs and the rocks extending from the east shore.


52 The front light of *Pilot Islands range* is fitted with a **Racon**, identification *Morse "C"* (— • — •), that operates during the navigation season.


 53 *East Mirage Islands range lights* (1709, 1710), on the easternmost islands of the group, when in line bearing  $308\frac{1}{2}^{\circ}$  lead clear of Expeditor Reefs.


54 *Pilot Islands light buoy NP* (1706.7) is 3 miles SSE of the island at the junction of the two leading lines.

55 Passage between Expeditor Reefs and East Mirage Islands should not be attempted without **local knowledge**.


*Chart 6368*

 56 **Caution.** — **Cabin Islands** ( $62^{\circ}06'N$ ,  $113^{\circ}45'W$ ) are on an extensive **shoal area** extending from the mainland.

 57 **Caution.** — **Drybones Rocks** is an area of **shoals**, dangerous **underwater rocks** and low-lying islets beginning 2 miles WNW of Cabin Islands. This area should be given a wide berth.

 58 **Caution.** — **Beniah Rocks**, 2 miles NW of Drybones Rocks, consist of several above-water rocks and **shoals**. Beniah Rocks are **awash** most of the time.

59 The route between the west end of Hearne Channel, at  $61^{\circ}57'N$ ,  $113^{\circ}45'W$ , and *Pilot Islands light buoy NP* leads outside Beniah and Drybones Rocks; it is marked by unlighted **buoys**.

 60 **Caution.** — **Burnt Island**, 2.25 miles east of Drybones Rocks, is partially wooded and surrounded by **shoal water**. A chain of islets and **underwater rocks** extend NW from the island.

61 **Hump Island**, 2 miles NW of Burnt Island, and **Beniah Islands**, 1.25 miles further NW, lie off the entrance to Drybones Bay. The larger Beniah Islands are wooded.

62 Hump Island, highest at its NW end, slopes to only a few feet at its opposite end. It is a good landmark for the inshore route.

63 **Drybones Bay** ( $62^{\circ}09'N$ ,  $113^{\circ}49'W$ ) penetrates the coast for 3 miles. A group of islands extend off the north entrance point and several islets are off the north shore. A white square marker is reported (1985) to be on the south entrance point.



 64 A small pond, almost landlocked near the south entrance point of Drybones Bay, has depths of more than 100 feet (30 m) and is reported to afford sheltered **anchorage**, mud and clay bottom. The pond can be entered through a channel on its NNW side in a depth of 4 feet (1.2 m). The small bay, close east of the pond, is reported to afford good holding ground.


Chart 6370

65 Vessels of moderate draught can be navigated along the inside passage leading from Drybones Bay to Post Island ( $62^{\circ}17'N$ ,  $114^{\circ}15'W$ ), a distance of 17 miles. The passage is intricate and should not be attempted without **local knowledge**; there are no aids to navigation.

Chart 6368

 66 **Caution.** — **Middle Rocks** ( $62^{\circ}11'N$ ,  $113^{\circ}58'W$ ) consist of three islets surrounded by **shoal areas**. Care must be exercised when approaching this area because soundings give little indication of dangers.

67 **Moose Bay** lies 2 miles NE of Middle Rocks. From a distance the entrance appears to be blocked by partially wooded islands, but it is reported that it can be identified by white paint markings on a cliff. Several shallow entrance channels lead between the islands.

 68 It is reported that vessels drawing 5 feet (1.5 m) can find excellent **anchorage** in Moose Bay. The **wreck** of a barge is reported (1985) to lie near the head of the bay.

69 **Jackfish Cove** lies 1 mile NNW of Moose Bay.

70 **Jackfish Islands** ( $62^{\circ}13'N$ ,  $114^{\circ}02'W$ ) consist of numerous partially wooded islands, islets and rocks.

Chart 6369


 71 **Caution.** — Numerous islands, **shoals** and dangerous **underwater rocks** extend offshore between Jackfish Islands and Post Island, 7 miles WNW.

Chart 6370

### Yellowknife Bay

72 **Yellowknife Bay** ( $62^{\circ}18'N$ ,  $114^{\circ}20'W$ ) lies north of a line joining the south extremity of Post Island and an unnamed mainland point 13.5 miles WNW.

73 The west coast of Yellowknife Bay is low-lying and wooded, with outcrops of rock seldom exceeding 15 m in height.



 74 **Caution.** — Numerous islands, dangerous **underwater rocks** and **shoals**, extending 3 miles offshore, border the south portion of the west coast. A channel between the islands off the west entrance point to Yellowknife Bay and West Mirage Islands, 2.5 miles south, is **not surveyed**.


Chart 6369

75 The east shore of Yellowknife Bay, south of Akaitcho Bay ( $62^{\circ}24'N$ ,  $114^{\circ}17'W$ ), burnt over and thinly wooded with a secondary growth of spruce, willow and birch, is broken by numerous outcrops of rock rising to 70 feet (21 m) high in places.

 76 **Caution.** — This portion of the east coast is bordered by a belt of islands, **rocks awash**, dangerous **underwater rocks** and **shoals** extending 2 miles offshore. The **bays** along the SE part of Yellowknife Bay are **unsurveyed**. **Local knowledge** is essential to navigate the unsurveyed portions of Yellowknife Bay.


77 **Historical note.** — The first European to reach Great Slave Lake was Samuel Hearne, a *Hudson's Bay Company* officer. Hearne's sketch map of his travels in 1771 provided the first record of Great Slave Lake. As a result of Alexander Mackenzie's visit in 1789, on his journey to explore the great river which bears his name, a trading post known as Fort Providence was established near the mouth of Yellowknife Bay, on the east side. The post was still in existence 31 years later when Franklin made his journey to the Coppermine River in 1820, but was abandoned shortly afterwards. The present city of Yellowknife resulted from the rush that followed the gold discoveries of 1935.

78 **West Mirage Islands** ( $62^{\circ}16'N$ ,  $114^{\circ}28'W$ ) are a group of low-lying islands and rocks. The three largest islands, lightly wooded, lie in the middle of the group.

 79 **Caution.** — Between West Mirage Islands and East Mirage Islands (*previously described*),

3.5 miles ESE, there are numerous **rocks awash**, dangerous **underwater rocks**, **shoals** and low-lying islets. Passage between these two groups should not be attempted without **local knowledge**.


80 **Post Island** ( $62^{\circ}17'N$ ,  $114^{\circ}15'W$ ) is lightly wooded with rock outcrops.


 81 **Caution.** — Innumerable islands, islets, dangerous **underwater rocks** and **shoals** surround Post Island.

82 *Yellowknife Bay Reef light* (1711) is on a shoal 1 mile west of the west end of Post Island.


83 A fish packing plant is on a small island, 42 feet (12.8 m) high, 0.2 mile west of the NW end of Post Island. A small wharf is at the plant (2006).


84 Two channels lead to the fish plant, one is entered 0.3 mile east of *Yellowknife Bay Reef light* and the other 0.8 mile SE of the light.

 85 **Shelter** from gales can be found between the islands adjacent to the channels to the fish plant.


 86 **Ruth Island** is 0.5 mile north of Post Island. An **unsurveyed area**, with numerous islands, extends 1.8 miles west and 5.8 miles north of Ruth Island. **Wool Bay** and **John Bay**, east and NE, respectively, of Ruth Island, are **unsurveyed**. Wool Bay can only be entered by a very narrow opening 1 mile SE of the east extremity of Ruth Island.


87 **Inner Island** lies 1.7 miles west of Ruth Island.


 88 **Caution.** — **Shoals** extend north and south from Inner Island; **rocks awash** lie 0.4 mile north and dangerous **underwater rocks** lie 0.5 mile south of the island.

 89 *Inner Island light* (1712) is shown from the western portion of Inner Island.

90 A port hand **buoy**, marked *N23*, is 1.2 miles SW of Inner Island. The buoy marks the east extremity of **shoal areas** on the west side of the channel.


 91 **Caution.** — **Sub Islands** ( $62^{\circ}22'N$ ,  $114^{\circ}22'W$ ), a group of islands, **rocks awash**, dangerous **underwater rocks** and **shoals**, lie at the north end of the islands and **shoals** extending from the west shore of Yellowknife Bay.

 92 **Anchorage** for small craft is reported (1985) to be obtainable in the small bay at the north end of the north island of Sub Islands; it is reported to be suitable for vessels drawing no more than 4 feet (1.2 m), to have a mud bottom, and be sheltered from east and SE winds.


 93 **Caution.** — A **rock shoal**, with 8 feet (2.4 m) over it, lies 1 mile east of the north island of the Sub Islands.

94 **Kam Point**, 1.5 miles north of Sub Islands, is the SW entrance point to the inner part of Yellowknife Bay.


95 **Adoption Point** ( $62^{\circ}22'N$ ,  $114^{\circ}18'W$ ), at the west end of **H.M.C.S. Mackenzie Island**, has a stone cairn on it; the **wreck** of a barge (1985) lies on the north shore of the island. **Ace Island** and **Horseshoe Island** are on the east side of Yellowknife Bay, east and SE of Kam Point.

 96 **Caution.** — **Shoals**, with 11 and 8 feet (3.4 and 2.4 m) over them, and a dangerous **underwater rock** lie west of Horseshoe Island.

97 **Akaitcho Bay** is entered between Horseshoe Island and **Village Point**.

 98 **Caution.** — Numerous small islands, islets, **rocks awash** and dangerous **underwater rocks** encumber Akaitcho Bay and its approaches. The north portion of the bay is **unsurveyed**.


99 **Lobstick Island** and several islets extend 0.5 mile off Village Point.


 100 **Caution.** — **Shoals**, a **rock awash** and dangerous **underwater rocks** are around the islands off Village Point.

101 **Detah**, a First Nations settlement on Village Point, has a population of 247 (2006) and is connected to Yellowknife by road. The **church** is **conspicuous**.


102 **Negus Point**, 1.7 miles NW of Village Point on the west shore of Yellowknife Bay, is a thinly wooded rocky bluff, 112 feet (34 m) high, and a good mark from a southern approach.

103 **Mosher Island**, 0.7 mile north of Negus Point, is separated from the west shore by a channel 400 feet (122 m) wide with a limiting depth of 12 feet (3.7 m).


 104 **Caution.** — A **shoal spit** extends west and north from Mosher Island; an islet and two **rocks awash** lie at the north end of the spit.


 105 *Con Mine wharf*, on the mainland shore west of Mosher Island, is 200 feet (61 m) long with a depth of 10 feet (3 m) alongside the face. *Con Mine* closed in 2003. The wharf is in ruins (2004).

106 The **conspicuous Con Mine head frame structure** is 0.8 mile west of Mosher Island (2004).


 107 *Imperial Oil Company wharf* is 0.5 mile south of the *Con Mine wharf*. A pipeline is laid from the wharf to the tank farm. The oil tanks, close inland 0.4 mile SSW of Mosher Island, are not visible from seaward.

108 **Jolliffe Island**, 1.2 miles north of Mosher Island, is lightly wooded. The city of Yellowknife extends out on the peninsula adjacent to Jolliffe Island.

 109 **Caution.** — A **shallow spit**, on which there are several islets, **rocks awash** and dangerous **underwater rocks**, extends 0.4 mile south of Joliffe Island and a **shoal area** extends from the north end of the island.


 110 **Caution.** — **Speed** is restricted to 5 knots (9 km/h) in the narrows between Joliffe Island and the mainland. The speed zone is marked by control **buoys** at the north and south ends of the channel.

111 There are privately maintained mooring **buoys** in the bay on the SW side of Joliffe Island.

 112 **Caution.** — A **submarine power cable** is laid across the channel between Joliffe Island and the mainland.

113 The city of **Yellowknife**, with the old town on the peninsula and the new town to the SSW, has a population of 18 700 (2006). The city developed from a boom town in 1935 following gold discoveries; in 1967 it became the capital of the Northwest Territories. The city offers a full range of facilities and services.

114 Yellowknife is the seat of the Northwest Territories government. Offices of several Federal Government departments, including the North West Region, “G” Division Headquarters of the *RCMP*, are in the city.

 115 The public **wharf**, on the SW side of the peninsula at the old town, is 495 feet (151 m) long with depths of 3 to 9 feet (0.9 to 2.7 m) alongside. It was reported to be in good condition (2004). A fixed elevated **ramp** has been constructed on the wharf to facilitate the handling of cargo.

116 A freight shed, owned by *Northern Transportation Company Limited*, a building reported to be owned by a fishing company and a *Department of Fisheries and Oceans* building are adjacent to the public wharf.

117 South of the public wharf are several smaller wharves, launch **ramps** and two jetties for small craft.

118 **Latham Island** is separated from the peninsula at Yellowknife by **The Narrows**, a channel 150 feet (46 m) wide with a least depth of 4 feet (1.2 m).

119 The shoreline north of the public wharf, along The Narrows and on the west side of the peninsula facing **Back Bay**, is almost completely utilized for charter aircraft operations. Small wharves and **ramps** lie along this water front.


120 Adequate supplies of diesel fuel and gasoline are obtainable; delivery is by tank truck.


121 Supplies of all kinds are readily obtainable and arrangements can be made for water truck service to vessels.

122 There are no marine railways or slipways in Yellowknife. Emergency hull repairs are made by hauling vessels onshore over rollers. It is reported that engine repairs can be undertaken by several machine shops. Diving for salvage and repairs can be undertaken.

123 A causeway-bridge crosses The Narrows from Yellowknife to Laytham Island. A small-craft channel under the bridge at the north end of the causeway has a reported vertical clearance of 6 feet (1.8 m).

124 **Burwash Point**, 0.5 mile SE of Latham Island, is the SE entrance point to the basin at the head of Yellowknife Bay.

 125 **Yellowknife Back Bay range lights** (1713.6, 1713.7), on an island 1.25 miles north of Burwash Point, when in line bearing 013° lead through the reach between Latham Island and Burwash Point.


 126 **Yellowknife range lights** (1713.4, 1713.5), on the mainland shore 0.7 mile NNE of Burwash Point, when in line bearing 114° intersect the *Yellowknife Back Bay range* and lead to the *Giant Yellowknife Mine* wharf, on the west shore.


127 A port hand **buoy**, 0.25 mile east of the north end of Latham Island, marks a **rock** with 6 feet (1.8 m) over it.

128 A port hand **buoy** and a starboard hand **buoy** mark the channel leading to the *Giant Yellowknife Mine* wharf.

129 A **submerged pipeline** is laid from the mainland west of Mosher Island (*previously mentioned*) to the Yellowknife River at the head of Yellowknife Bay; it is a water intake. Another **submerged pipeline** is laid west from the *Giant Yellowknife Mine* wharf and connects to the first pipeline. Mariners are cautioned not to anchor in the pipeline areas.

130 A sailboat mooring area is south of the chain of islands on the west side of Latham Island.

 131 The *Giant Yellowknife Mine wharf*, at **Baker Creek** 1 mile NW of Latham Island, is 300 feet (91 m) long. The *Giant Yellowknife Mine* was abandoned in 2005.

 132 **Ptarmigan wharf**, 1 mile NE of Latham Island, is in ruins. The wharf was built by a gold mining company.

133 An aeronautical rotating **light** is at the Yellowknife airport, 2.5 miles west of the city.

134 An **aeromarine radiobeacon**, at the airport (62°24'38"N, 114°26'04"W), broadcasts on 356 kHz identification *Morse* “ZF” (— — •• •• — •).

135 Scheduled air services to Edmonton and other settlements north and south are available from the airport. Charter helicopters or fixed-wing aircraft are available.

136 Yellowknife has **seaplane areas** in the channel NW of Jolliffe Island and in Back Bay, on the west side of the peninsula. An aeronautical **light**, on the peninsula, is activated by the aircraft pilot to alert mariners when intending to land or take off.

137 *Yellowknife Highway*, which connects with *Mackenzie Highway* via the ferry at Fort Providence, is the main transportation artery. There is bus service to Edmonton, via Hay River, three times a week. During spring break-up and fall freeze-up there is no bus because the ferry cannot operate; once frozen over the river is an ice bridge. *Deh Cho Bridge*, currently under construction (2011), will connect *Yellowknife Highway* to the Northwest Territories (NWT) highway system year-round. (For ferry service information along the *Mackenzie River*, telephone NWT Road Information at 1-800-661-0750 or visit: <https://www.inf.gov.nt.ca/en/ferries/>.)

138 Prior to the opening of *Yellowknife Highway* in 1960, Yellowknife was almost entirely dependent on water-borne and ice-borne freight. Fuel oils, heating oil and gasoline account for most of the tug/barge tonnage today. Other marine activities in the area include *Department of Fisheries and Oceans* research and protection vessels, *Canadian Coast Guard* vessels, commercial fishing vessels and pleasure craft.


139 **Yellowknife River**, entered at the head of Yellowknife Bay, is 156 miles long with its headwaters in **Porphyry Lake**. The river provides a canoe route from Great Slave Lake to the upper waters of the **Coppermine River**. The canoe route is formed by a succession of lakes and connecting streams. Many rapids and falls in the connecting streams necessitate frequent portage from one lake to another. Once past the shallow water over the mud banks at the head of Yellowknife Bay, the river is navigable by small craft for 6 miles, as far as the rapids at the south end of **Prosperous Lake**. The water drops 2.5 feet (0.8 m) from the level of Prosperous Lake to the Yellowknife River over a distance of 500 feet (152 m).

Chart 6370

### Approach to Hearne Channel

140 **Outer Whaleback Rocks**, in the middle of the entrance to North Arm, consist of three small rocky islands; the highest attains a height of 5.2 m.

141 *Outer Whaleback Rocks light* (1702) is shown from the SW rock.

 142 **Caution.** — A **shoal** with 3.7 m over it, position approximate and reported in 1971, is 2.2 miles, 264° from *Outer Whaleback Rocks light*.


143 A **magnetic anomaly** is reported to exist 4 miles NE of Outer Whaleback Rocks.

144 **Inner Whaleback Rocks**, 8.5 miles ENE of Outer Whaleback Rocks, are four small islands; the largest is 15 m high. The three east islands are joined by dry spits.

145 *Inner Whaleback Rocks light* (1703) is shown from the largest of the Inner Whaleback Rocks.


146 **Gros Cap** (61°59'N, 113°32'W) is a bare, rocky cliff, 20.4 m high, formed on the SW side of two islands lying close offshore. It is the south entrance point to Devils Channel.


147 *Gros Cap light* (1704) is at the entrance to Devils Channel.

 148 **Caution.** — A **rock**, with 0.2 m over it, lies 0.75 mile, 225° from *Gros Cap light*.

149 *Gros Cap light buoy NG* (1704.5) is 3.8 miles NNW of *Gros Cap light*.

150 **Matonabee Point** (62°02'N, 113°37'W), 38 m high, is the south entrance point to an unnamed bay.

 151 **Caution.** — The unnamed bay is **shallow** and the entrance is **encumbered** with islands.


 152 **Caution.** — **Sand Island**, midway between Matonabee Point and Gros Cap, lies 2 miles offshore and is part of an area with many **shoals**.


153 A **daymark range**, in line bearing 087°, leads through the approaches to Devils Channel. The range towers are 0.6 mile SE of *Gros Cap light*.


Charts 6370, 6341

154 A **daymark range**, in line bearing 045½°, marks the west entrance to Devils Channel. This range intersects the 087° range leading through the approaches to Devils Channel.

155 **Devils Channel** is entered NW of *Gros Cap light* and leads into **Goulet Bay** and **Campbell Bay**. It is reported that vessels drawing 2.4 m can be taken through Devils Channel. The ruins of a fish plant, settlement and cemetery are on the south side, 1 mile from the east end.

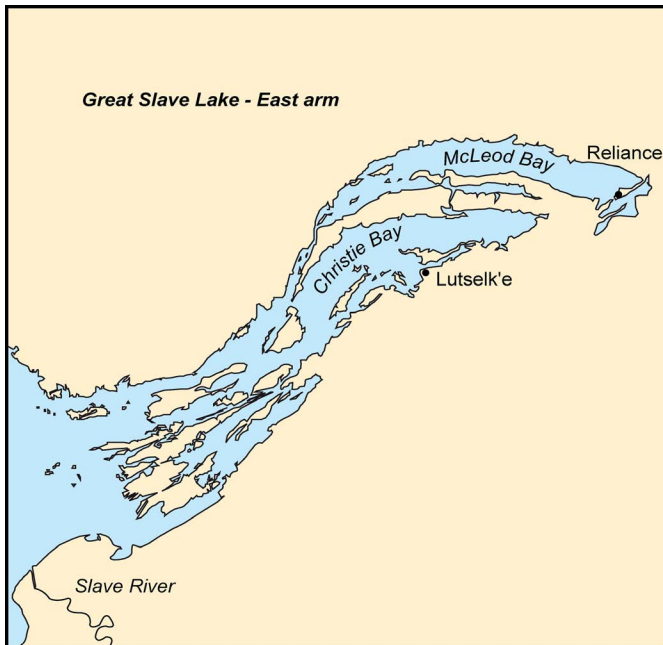
 156 **Caution.** — A **rock awash** and two islets lie on the north side of the channel close inside the entrance of Devils Channel.

 157 A small bay, on the north side of Devils Channel close inside the west entrance, is reported to offer sheltered **anchorage** for small craft.

 158 **Caution.** — The approaches to Hearne Channel, from Outer Whaleback Rocks (61°53'N, 113°58'W) to Gros Cap, 14 miles ENE, are **unsurveyed**. (*Hearne Channel is described in Chapter 3.*)

# Chapter 3

## Great Slave Lake East Arm



### General

#### Chart 6341

1 The **east arm** of Great Slave Lake lies east of a line joining Gros Cap (*described in Chapter 2*) and Stony Island, 38 miles to the south. For descriptive purposes, Îles Basses and Îles du Large are considered to be within the confines of the east arm.

2 The east arm trends east from Gros Cap then NE in a bight which curves SE to the site of Reliance, at the head of the arm.

3 *MCTS Iqaluit*, through its repeater stations on the Athabasca — Mackenzie watershed, maintains a watch on distress, urgency and calling frequency 5803 kHz. (*Consult Radio Aids to Marine Navigation (Pacific and Western Arctic) for full details.*)

4 **Caution.** — **Soundings** are of a **reconnaissance nature**, therefore, caution should be exercised when navigating in the east arm and its approaches. The **east arm is not surveyed** and only a brief description of the area is given.

5 (*For general **weather conditions** in this area, see Chapter 4 of Sailing Directions booklet ARC 400 — General Information, Northern Canada. For present and forecast weather conditions, visit: <https://weather.gc.ca/>. For **climate** normals and averages for selected locations in this area, visit: <https://climate.weather.gc.ca/>. For maps relating to general weather patterns, visit: <http://atlas.nrcan.gc.ca/site/english/index.html>.)*

6 The east arm, part of the Laurentian Plateau, is carved in hard sedimentary rock with rugged cliffs often rising sheer from the water to a height of 213 m.

7 The coast is essentially different from the Mackenzie Lowlands; the islands are high and rugged, and in general, maintain the NE/SW trend which characterizes the orientation of the east arm. The vistas of hills, islands, and headlands charm the eye, but are apt to confuse the mariner.

8 The north coast of the east arm is formed by the massive Precambrian escarpment which progressively increases in height east of Gros Cap. Behind McLeod Bay, at the east end of the arm, the coast rises steeply through


sparsely-timbered rocky slopes to a rolling plateau 183 m high, with the adjacent hills attaining heights of 305 m.

### Off-lying Islands


9 **Îles Basses** (*61°55'N, 113°33'W*), a compact group of islands, islets and rocks awash, lie 4 miles south of Gros Cap. A chain of rocks extends from the NW end of the group toward Inner Whaleback Rocks.

10 **Îles du Large**, 20 miles south of Gros Cap, are scattered groups of islands lying in the central part of the approach to the east arm; they consist of **Outpost Islands**, **Butte Island**, **Iron Islands** and several unnamed groups. **Harris Island** and **Jackson Islands** lie at the NE extremity of the group.

11 An abandoned mine is on one of the NE Outpost Islands.

 12 **Outpost Islands light** (1701) is on the NW end of the largest island.

13 **Îles du Goulet** are 4 miles south of the Iron Islands.


 14 **Îles du Goulet light** (1673) is on the southerly islet of the group.


### Entrance Channels


15 The usual channels leading into the east arm are Hearne Channel, Inconnu Channel and Hornby Channel; all three channels converge at Sachowia Point (*62°22'N, 111°44'W*).


#### Hearne Channel

16 **Hearne Channel**, the northernmost and least encumbered channel, is entered between Gros Cap (*61°59'N, 113°32'W*) and Îles Basses. The channel parallels the north shore of the arm and leads through Taltheilei Narrows into McLeod Bay. The south side of the channel is formed by **Caribou Islands**, **Westhead Islands** and **Blanchet Island**.

 17 **Caution.** — The few **soundings** along Hearne Channel indicate deep water; however, mariners are cautioned that **uncharted dangers** may exist.

 18 Small-craft **anchorages**, along the mainland shore of Hearne Channel, are in **Lady Jane Bay** (*a local name, 61°59'N, 113°13'W*) over a mud and clay bottom, with good holding 9.5 miles east of Gros Cap, in **Thirdday Bay** (*a local name, 62°10'N, 112°14'W*) 8.8 miles NE of McKinley Point and **Ho Hum Bay** (*a local name, 62°26'N, 111°41'W*) 5 miles NNE of Sachowia Point.

 19 **Caution.** — Lady Jane Bay has a **shoal** on the west side of its entrance and **fishing nets** are frequently set nearby.


 20 **François Bay**, 16 miles east of Gros Cap, is reported to afford sheltered **anchorage** on the NW and east sides of the large northern island.


21 **McKinley Point** lies 17 miles ENE from François Bay.


 22 **McKinley Point light** (1714) is shown at the eastern end of McKinley Point.


23 From McKinley Point the usual channel leads 17 miles NE to a position off **Narrow Island**, then 14 miles to **Sachowia Point**.


24 **Utsingi Point**, the south extremity of Pethei Peninsula, is on the east side of Hearne Channel, 2.5 miles SE of Sachowia Point. **Point Busse** lies 3.8 miles NNE of Utsingi Point.


 25 **Utsingi Point light** (1716) is on an islet close off the point.


 26 **Shelter Bay** (*a local name*), the large bay with islands in its entrance at the NW end of Blanchet Island, is reported to afford secure **anchorage** in the basin at its head.

 27 **Hole in the Wall** (*a local name*), 0.7 mile NNE of McKinley Point, is reported to afford sheltered **anchorage**, clay and sand, but the holding ground is indifferent. **Anchorage** north of McKinley Point is open to the east with reported rock and mud bottom.

 28 **Christophers Pocket** (*a local name*), near the north end of the NW side of Narrow Island, is reported to be approached from north and offers **anchorage** over a clay and mud bottom.

 29 **Caution.** — The south approach to Christophers Pocket, between Narrow Island and the mainland, is reported to be encumbered by numerous **rocks**.

 30 **Nipin Bay** (*a local name*), on the north side of the east end of Blanchet Island, is reported to afford sheltered **anchorage**, clay bottom, close south of the charted islet.

 31 **Scott's Arm** (*a local name*), the inlet east of Point Busse, is reported to afford sheltered **anchorage**, clay bottom, but depths are reported to shoal rapidly near the north end.


#### Inconnu Channel


32 **Inconnu Channel** (*61°46'N, 113°00'W*) is entered between **Wilson Island** and the NW islands of the **Simpson**





**Islands.** It is well-sheltered but much narrower and more intricate than Hearne Channel.

33 The abandoned *Aurous Mine*, one of the first mining developments in the Great Slave Lake area, is at the west end of Wilson Island.

 34 **Anchorage** for small craft can be obtained in the small bay on the south side of Wilson Island, 2 miles from its west end.

 35 *Simpson Islands light* (1700) is on a small island on the SW side of Simpson Islands.

 36 A fish packing plant is on a small island of the Simpson Islands group, 4 miles NE of *Simpson Islands light*. A small **wharf** and shore buildings are reported (1989) at the plant site.


 37 *Simpson Islands range lights* (1700.1, 1700.2), 3.7 miles NE of *Simpson Islands light*, in line bearing 045° lead to the fish packing plant.

38 At the east end of Wilson Island, Inconnu Channel divides into channels leading north or south of **Seton Island**. These channels converge west of Etthen Island and then join Hearne Channel in the vicinity of Sachowia Point.

### Hornby Channel

39 **Hornby Channel**, the southernmost of the three usual channels leading into the east arm, is approached between Stony Island (61°26'N, 113°25'W) and *Îles du Goulet light*, 9 miles north.


40 **Stony Island**, the south entrance point of the east arm, is a rocky islet less than 0.5 mile off the mainland shore.

 41 *Stony Island light* (1673.1) is shown from the island. The light is visible from 056° through east and south to 225°.


42 The mainland SW of Stony Island, part of the Slave River delta, is indented by a shallow bay bordered by swamp. Ruins of an Indian village are at the east end of the bay.


43 Between Stony Island and **Grant Point**, 12 miles ENE, the coastline is low and swampy with occasional clumps of willow. Farther inland there are numerous hillocks covered with jackpine, black spruce and alder.

44 **Gaudet Bay**, 5 miles SE of Grant Point, is entered between **Willow Point** and **William Point**.

 45 **Caution.** — A **shallow sand bar** extends across the entrance to Gaudet Bay.

46 **Taltson Bay**, 5.5 miles east of William Point, is entered between **Driftwood Island** and several islets close ENE.

 47 **Caution.** — East of the entrance to Taltson Bay, Hornby Channel is reported to be **shallow** and islets and **rocks** lie off the south shore.

 48 *Taltson River Entrance light* (1671.7) is on an islet in the entrance to Taltson Bay.

49 **Taltson River** empties into Taltson Bay; it is reported to be navigable for 23 miles to **Oracha Falls**. Several branches of Taltson River, including **Snuff Channel**, form the **Taltson River delta**, at the south end of the bay.


50 The abandoned settlement of **Rocher River** is on the east branch of Taltson River, close south of the head of the delta. An abandoned *Hudson's Bay Company* post is close SSW.


51 Close downstream of the abandoned *Hudson's Bay Company* post the Taltson River divides into a low-lying delta bounded by Taltson Bay on the east and Gaudet Bay on the west.

52 **Les Îles Terribles** (61°33'N, 112°55'W), **Petitot Islands** and **Preble Island** lie on the north side of the entrance to Hornby Channel.


53 **Grant Point Reef** (*a local name*), position approximate with 0.6 m over it, lies 2 miles south of Les Îles Terribles and 6.5 miles NE of Grant Point. Another **shoal**, position approximate with less than 2 m over it, is reported to lie 1.5 miles west.

54 *Grant Point Reef light buoy* EG3 (1672) is SE of Grant Point Reef.


 55 *Preble Island light* (1714.4) is on an island off the SE corner of Preble Island.

 56 **Starbird Cove** (*a local name*), a small cove at the SE end of Preble Island, is reported (1985) to afford **anchorage** and shelter, mud bottom, for small craft.

57 Hornby Channel leads north from Preble Island then NE along the NW side of **Union Island** (61°55'N, 112°00'W) and the SE side of **Keith Island**.


 58 *Union Island light* (1714.8) is on an islet north of Union Island.


59 The channel between *Union Island light* and *Pekanatui Point light* is marked by beacons, generally with port-hand daymarks. The condition of these beacons is unknown (2011).


 60 **Caution.** — A **shoal**, position approximate and depth unknown, is 5 miles NE of *Union Island light*.

61 **Basile Bay** lies east of the north end of Keith Island.


62 **Pekantui Point** is the NE end of Keith Island; **Point à Tuer**, 3 miles west, is the NW extremity of Keith Island.


 63 **Pekantui Point light** (1715) is on an islet close off Pekantui Point.


 64 The unnamed cove 1 mile SSE of *Pekantui Point* light is reported (1985) to afford sheltered **anchorage** to small craft, mud bottom.


 65 **Caution.** — **Underwater rocks** are reported to lie close off the north entrance point to the unnamed cove.

66 After passing *Pekantui Point* light the channel leads either east and north or south and west of **Etthen Island** and joins Hearne Channel at Sachowia Point.

 67 **Etthen Island light** (1714.6) is on an islet off the SW end of the island. The light is visible from 257° through west, north and east to 135°.


 68 **Loon Bay** (*a local name*), on the SE coast of Etthen Island 7 miles ENE of *Etthen Island* light, was reported (1985) to offer **anchorage** to small craft, mud bottom, with some exposure to NE weather.


 69 **Caution.** — **Shoals** are reported to lie close off the south entrance point to Loon Bay.


 70 **Bent Arm** (*a local name*), on the east side of the north end of Etthen Island, is 3 miles SE of *Utsingi Point* light (*previously mentioned*). Bent Arm was reported (1985) to offer well-protected **anchorage** to small craft, mud bottom, near its head. Cliffs form the south side of the arm.


## McLeod Bay

71 **McLeod Bay**, north of Pethei Peninsula and Kahochella Peninsula, is entered through **Taltheilei Narrows** (62°35'N, 111°31'W).

 72 A strong **current** flows through Taltheilei Narrows, the direction and rate being governed by the wind, the ultimate flow is generally to the south.

 73 **Anchorage** can be obtained in the small bay on the west side of Taltheilei Narrows.

 74 **Caution.** — **Shoals** are reported (1985) to lie in the centre of the entrance to the small bay.

 75 A private fishing lodge and **wharf** are on the west side of the narrows, at the south entrance point of the small bay; there are no public facilities.

76 The small bay is a **seaplane landing area** known as Taltheilei Narrows. A private **airstrip** 5478 feet (1670 m) long is close NW of the bay.


77 An **aeromarine radiobeacon** (62°35'42"N, 111°31'14"W) transmits on a frequency of 264 kHz, identification Morse "A1" (• — • — — — —) during the summer months.


78 **Pethei Peninsula** is composed of a variety of sedimentary rocks stratified with and overlaid by igneous material. Sheer cliffs, 60 to 150 m high, along its northern face are varicoloured, with mosses and shrubs clinging to the edges and fissures. Repetitions of this formation in successive ridges give a sawtooth appearance to the landscape when viewed from some directions.


79 **Kahochella Peninsula** is joined to the east end of Pethei Peninsula by a narrow neck of land. **Gibraltar Point**, the west end of Kahochella Peninsula, is the north entrance point to **Lost Channel** which is formed by the overlap of the two peninsulas.


80 The usual track in McLeod Bay follows parallel to the north shore from Taltheilei Narrows to **Bigstone Point** (62°56'N, 109°58'W) then leads SE to Reliance, at the head of the bay.

81 Several islands lie in the west part of McLeod Bay, the largest are **Sosan Island** and **Kluziai Island**. Numerous rivers discharge into the bay along its north shore.

 82 **Thompson Landing** is a former settlement on an unnamed bay 9 miles NE of Kluziai Island. The unnamed bay is reported (1985) to have ruined buildings of an old mine on its north shore, and to afford sheltered **anchorage** for small craft, clay bottom, in the NW corner of the bay. A private fishing lodge is at Thompson Landing.

 83 **Caution.** — Boulders and **shoals** lie off the west entrance point to Thompson Landing.


 84 **Sinking Bay** (*a local name*) is 10 miles east of Thompson Landing; a river draining **Sunken Lake** is in its NE corner. Sinking Bay offers sheltered **anchorage** for small craft near its NW end.


 85 **Caution.** — Sinking Bay is reported (1985) to have **shoals** off its west entrance point. A **submerged gravel bar** extends south from the river entrance in the NE corner of the bay.

86 **Mountain River beacon** is on a small island NE of Kluziai Island and east of **Mountain River**.

87 **Bigstone Point Islet beacon**, 25 miles east of *Mountain River* beacon, is on an islet 1.5 miles WSW of Bigstone Point.

88 **Charlton Bay** ( $62^{\circ}42'N$ ,  $109^{\circ}10'W$ ), at the head of the east arm, is separated from McLeod Bay by **Fairchild Point** and **Maufelly Point**. The entrance to Charlton Bay, 0.5 mile wide, lies between the ends of the above-mentioned points, which are better described as peninsulas.

 89 **Anchorage** for small craft is reported (1985) to be obtainable in the small bay on the north side of Maufelly Point, 4 miles SW of Reliance; the mouth of the bay offers good shelter, mud bottom.

 90 **Caution.** — A mostly **submerged bar** crosses the bay inside the mouth and the bay is **shallow** near its head.

91 The shores of Charlton Bay are bold and rocky, rising to over 183 m on the mainland side. Several rivers and streams empty into the bay. **Lockhart River** discharges into the east end of Charlton Bay. Lockhart River is unnavigable between Charlton Bay and Artillery Lake, 25 miles upstream; the river ascends 213 m over numerous falls and rapids.

92 **Reliance**, a settlement near the SW end of Fairchild Point, had a population of 10 (2006) and a fishing lodge open June to September. There is an *Environment Canada* automated weather station known as *Fort Reliance* here. A small bay at the end of the point provides shelter for small craft.


93 Charlton Bay is a **seaplane landing area** known as Fort Reliance.

94 The historic site of **Fort Reliance**, 9 miles NE of Reliance, stands near the mouth of Lockhart River. The fort, a short distance from shore and 6.1 m above water level, was originally built in 1833 as winter headquarters for the *Arctic Land Expedition*, led by Lieutenant (later Admiral) George Back, Royal Navy. This locality has been described as one of the most beautiful sites in Northern Canada. The ruins of two stone chimneys are all that remain of the old fort.


## Christie Bay


95 **Christie Bay** ( $62^{\circ}30'N$ ,  $111^{\circ}00'W$ ) is entered either north or south of Etthen Island. **Tochatwi Bay** is the head of Christie Bay. Both bays are bounded on the north by Pethei Peninsula and **Douglas Peninsula**.


96 **Fortress Island** ( $62^{\circ}40'N$ ,  $110^{\circ}25'W$ ) lies off the entrance to **The Gap**, which leads into **Wildbread Bay**.


 97 **Utsingi Reach** (*a local name*), 4 miles NNE of Utsingi Point, is the narrow channel separating Pethei Peninsula from the island to the east. Small craft can

find sheltered **anchorage** near the north end of the reach, mud and clay bottom. An abandoned fish camp is reported to exist near the north end.

 98 **Caution.** — Utsingi Reach is best approached from south as the north entrance is **shallow**.


 99 **The Moat** (*a local name*), a narrow inlet at the NW corner of Fortress Island, is reported to afford sheltered **anchorage** to small craft from most winds, mud bottom.

 100 **Magic Finger** (*a local name*), a narrow inlet on the south side of Wildbread Bay 5 miles east of The Gap, is reported to afford sheltered **anchorage** to small craft, clay bottom.


 101 **Caution.** — A **shoal** is reported to lie close east of the small islands inside Magic Finger.

102 The south shore of Christie and Tochatwi Bays is high and rugged. Shelter from north winds can be obtained behind the islands lying parallel to the south shore in Tochatwi Bay.

103 **Pearson Point** ( $62^{\circ}32'N$ ,  $110^{\circ}43'W$ ) is an irregular-shaped peninsula on the south shore of Christie Bay. **Portage Inlet** is on the south side of Pearson Point. Numerous lakes lie behind the SE shoreline of Christie Bay; the largest, **Stark Lake** is drained by **Stark River**, at the west end of the lake.

 104 **Anchorage** with shelter for small craft is reported (1985) to be afforded in the small bay on the south side of Pearson Point, 1.5 miles east of the west end of the point. The bay is reported to be difficult to discern because of a small island in its entrance; enter on either side of the island.

105 **Lutselk'e**, 9 miles south of Pearson Point, is a settlement with a population of 318 (2006). The economic base of the community consists of wage employment, handicrafts, trapping, fishing and caribou taken for domestic needs. Most supplies are brought in by water transport from Hay River. There is a Co-op store, a nurse-attended clinic, *RCMP* detachment, a school and a Roman Catholic mission. Several sport fishing lodges are open June to September.


 106 **Anchorage** off Lutselk'e is reported to be wide open to all but north winds. There are **wharves** along the shore on the south side of the community. A **breakwater** with an elevation of 4 m, SW of the wharves, extends 80 m offshore. The breakwater offers some protection from the prevailing SW winds.

107 A radio **tower** in the settlement is **conspicuous**.


108 The bay at Lutselk'e is a **seaplane landing area**.


109 An airstrip 3003 feet (915 m) long is used by scheduled *Air Tindi* service from Yellowknife 6 days a week. Satellite-based **telecommunications**, including the internet, connect Lutselk'e with other northern communities and to population centres to the south.

110 Several small unnamed islands lie west of Lutselk'e. **Redcliff Island** ( $62^{\circ}22'N$ ,  $111^{\circ}15'W$ ) lies parallel to the mainland; its west shore is steep-to and rises to form precipitous cliffs.

 111 **Caution.** — A **shoal**, depth unknown, position approximate and reported in 1967, lies

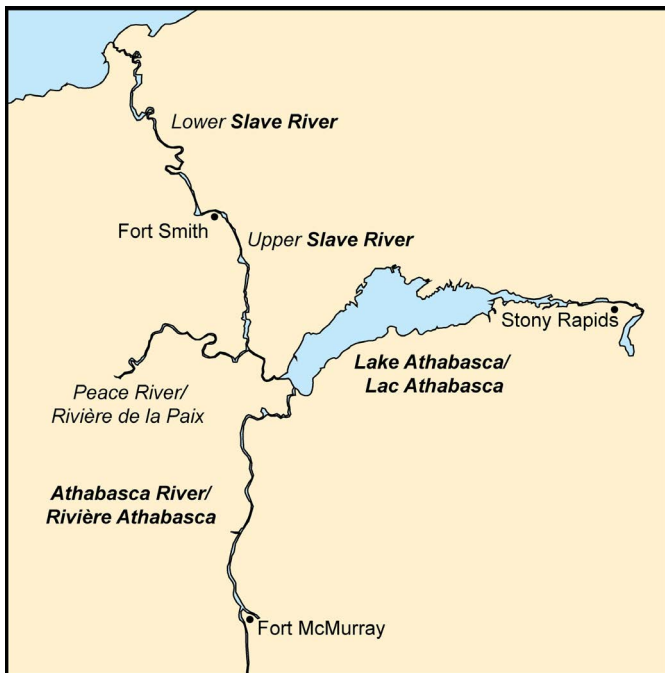
mid-channel between Redcliff Island and the mainland; 5 miles SW of the NE end of Redcliff Island.

 112 **Long Finger** (*a local name*), a long, narrow inlet on the SE side of Redcliff Island, is reported (*1985*) to afford sheltered **anchorage** to small craft, mud and clay.

 113 **Murky Channel**, entered 4 miles south of the SW end of Redcliff Island, leads to Fairbairn Lake and Murky Lake. It was reported (*1985*) that sheltered **anchorage** for small craft, mud, can be obtained 1.5 miles inside the entrance.

# Chapter 4

## Athabasca River Lake Athabasca — Slave River



### General


Charts 6310, 6311, 6370

1 The Athabasca River, Lake Athabasca and Slave River waterway is navigable, except for a series of four rapids in the vicinity of Fort Smith, for 520 miles to Great Slave Lake.


2 Until the completion in 1948 of the *Mackenzie Highway*, from Grimshaw, Alberta to Hay River, Northwest Territories, the Athabasca River, Lake Athabasca and Slave River route provided the main means of transporting supplies to settlements along this waterway, and it was the gateway to Great Slave Lake and Mackenzie River.

3 Tug and barge traffic still serves the various settlements, commercial establishments and camps on Athabasca River, Lake Athabasca, Lower Peace River and upper Slave River.

4 *MCTS Iqaluit*, through its repeater stations on the Athabasca — Mackenzie watershed, maintains a watch on distress, urgency and calling frequency 5803 kHz. (*Consult Radio Aids to Marine Navigation (Pacific and Western Arctic) for full details.*)

 5 **Caution.** — The *Canadian Coast Guard* has **discontinued all aids to navigation** on these waters. The *Canadian Hydrographic Service* has discontinued charts of the Athabasca River and Slave River.

6 The soundings shown on the charts of Lake Athabasca have been surveyed by sources other than the *Canadian Hydrographic Service*.

 7 **Caution.** — **Detailed routes** and tracks usually followed are **no longer described**. **Local knowledge** is required on the rivers.


8 The scanty soundings in Lake Athabasca only give an indication of the general depths in the lake. The main shipping routes on Lake Athabasca are indicated on the charts.


9 Soundings shown on *Canadian Hydrographic Service* charts of Lake Athabasca are to a chart datum which is 683 feet (208.2 m) above Mean Sea Level.

10 The length of the navigation season on Lake Athabasca and Athabasca and Slave Rivers is limited

by prevailing climatic conditions. The shipping season commences mid May and ends near the end of October with the advent of freeze-up. (*For ice conditions in the area covered by this chapter see Sailing Directions booklet ARC 400 — General Information, Northern Canada, Chapter 4.*)

11 Water levels in Lake Athabasca and Athabasca and Slave Rivers rise shortly after break-up, owing to the run-off from the drainage areas adjoining the rivers. Water levels usually reach a maximum in June or July, and then generally decrease through to the end of the navigation season.

 12 **Caution.** — A strong west wind can cause the water level to drop 2 feet (0.6 m) or more at the shallow west end of Lake Athabasca, while a strong east wind will raise the water the same amount. (*For general weather conditions in this area, see Chapter 4 of Sailing Directions booklet ARC 400 — General Information, Northern Canada. For present and forecast weather conditions, visit: <https://weather.gc.ca/>.*)

 13 The rate of the **current** on the Athabasca and Slave Rivers depends to some extent on the water levels and the width of the channels; with the exception of several rapids described later in this chapter, the current seldom exceeds 3 knots. In general, friction tends to retard the current in shoal water toward the edges of the channel. The swiftest currents occur in the comparatively deeper water of the main channels. At turns in the river where the bottom is soft, deeper water is normally found on the outside of the turn. Eddies along the inside of the curves allow silt to deposit, forming shoal banks or spits.

14 The Base Manager, *Canadian Coast Guard*, Hay River, assigns *Notices to Shipping*. The notices for Lake Athabasca and for Great Slave Lake, Mackenzie River, and Tuktoyaktuk Harbour area are broadcast by *Marine Communications and Traffic Services (MCTS)* centre *Iqaluit* immediately following the marine weather forecasts. The frequencies used by *Canadian Coast Guard MCTS* centres are listed in Part 2 of *Radio Aids to Marine Navigation*.

15 Mile numbers in this chapter are given in statute miles. Mile 0 is at Fort McMurray (*56°44'N, 111°22'W*) on the Athabasca River. Mile 510 is at the entrance to Slave River delta in Great Slave Lake. Mileage is given only as a possible aid to navigation.

16 Between Fort McMurray, at Mile 0, and the entrance of Athabasca River into Lake Athabasca at Mile 186, the maximum draught of vessels was reported to be limited to 3.5 feet (1 m). A highway **bridge** crosses the

river at Mile 23. Another highway **bridge**, with a reported clearance of 63 feet (19.2 m), crosses Athabasca River at Mile 34.8. Fort McKay is on the west bank at Mile 38. Southbound commercial tug and barge traffic terminates at Shell Landing, at Mile 40.2. Embarras River, at Mile 138, is the first of many distributaries forming the Athabasca Delta.

17 Between Miles 186 and 207 the route led across the west end of Lake Athabasca, then from Mile 207 to Mile 238 it followed Chenal des Quatre Fourches. Prior to 1975 the route followed Rivière des Rochers from Lake Athabasca but a dam now obstructs this route.

18 The route followed Peace River between Miles 238 and 249 then followed the Slave River to enter Great Slave Lake at Mile 510. Primrose Rapids lie between Miles 263 and 265 and Demicharge Rapids lie between Miles 276 and 278.

19 Navigation is obstructed on Slave River between Miles 318 and 340 by a series of rapids. A portage road following the west bank of Slave River between Miles 318 and 340 was built to by-pass these rapids. The water level difference in this short section of river is 110 feet (33.5 m). Fort Smith is at the downstream end of the rapids and the portage road passes through the community.

20 From Fort Smith, the Slave River follows a winding course to its delta which commences at Jean River, Mile 495. Resdelta Channel is the former shipping channel through Slave River delta; it enters Great Slave Lake at Mile 510.

## Athabasca River

21 **Athabasca River** forms the southernmost part of the Mackenzie River system. From its source in the **Columbia Icefield**, near the continental divide in the **Rocky Mountains**, the river flows NE across Alberta and its course is broken by rapids that limit navigation above Fort McMurray. From Fort McMurray the river flows 186 miles in a north direction and enters Lake Athabasca through a large delta. Between Fort McMurray and Lake Athabasca the difference in water level elevation is 102 feet (31.1 m); the river is bounded by cut banks from 5 to 30 feet (1.5 to 9.1 m) high except in the vicinity of tar sand deposits, 10 miles downstream from Fort McMurray, where the river banks attain a height of 100 feet (30.5 m).

22 The draught of vessels operating on Athabasca River was reported to be limited to 3.5 feet (1 m). Barges could be navigated at a deeper draught depending on water levels. Maximum draught, 5.5 feet (1.6 m), could only be effectively utilized during high water stages which occur

during spring run-off, or as a result of high precipitation in the watershed.

23 The sand bars of the Athabasca Delta are a major navigation bottleneck, especially during periods of low water levels and toward the end of the navigation season.

24 **Fort McMurray** ( $56^{\circ}44'N$ ,  $111^{\circ}22'W$ ), population 51 496 (2006), is at the junction of Athabasca and Clearwater Rivers. Fort McMurray is the resource centre for the **Athabasca Tar Sands** petroleum extraction developments. It is a railhead of the *Canadian National Railway* and is connected to Edmonton by highway. The airport has an asphalt runway, 7503 feet (2287 m) long, with scheduled flights.

25 **Clearwater River** joins Athabasca River at Mile 4.3, abreast **Rocke Island**. A narrow rock cut between Miles 3 and 3.5 formed a section of the navigation channel at the mouth of the river. **McDonald Island**, which forms part of the town, is bounded on its south side by **The Snye**.

26 The Athabasca and Clearwater Rivers in the vicinity of Fort McMurray are a **seaplane landing area**.

27 Several smaller seaplane wharves and seaplane moorings are in The Snye.


28 Only a few wharves remain of the tug and barge trade along the Clearwater River.

29 A twinned highway **bridge**, supported by eight piers, spans the Athabasca River at Fort McMurray. The vertical clearance is 50 feet (15 m).

30 From Rocke Island to **Mildred Lake Dock** (*a local name*), at Mile 26, the river is shallow with an irregular bottom. In four places a channel has been cut through rock over a width of 100 feet (30 m) to a least depth of 4.5 feet (1.3 m) at low water level.

31 **Poplar Island** lies in mid-stream at Mile 9. **Willow Island** and **Stony Island** are at Miles 13 and 14. **Inglis Island** lies in mid-stream at Mile 18.


32 **Tar Island**, which was joined to the mainland by dykes and landfill in 1973, is on the west side of the river at Mile 22.5. For many years the island had served as a landmark for mariners.

 33 **Caution.** — A highway **bridge, clearance unknown**, crosses the river at Mile 23.

34 The Athabasca Tar Sands **Suncor recovery plant** is **conspicuous** on the west side of the river in the vicinity of Mile 24. A pumphouse for pumping river water is near the bank.

35 **Steepbank River** enters Athabasca River on its east side at Mile 25.

36 **Mildred Lake** camp is on the west side of the river at Mile 26. The facilities here form part of the *Suncor* development project.

 37 A **wharf** 70 feet (21 m) long, with depths of 1 to 4 feet (0.3 to 1.2 m) alongside at low water level, is at Mildred Lake camp. The wharf, known as Mildred Lake Dock, is in disrepair (2006). A gravel airstrip NW of the wharf, known as *Fort McMurray/Mildred Lake*, is 5000 feet (1524 m) long.

38 **Morton Island** is close off the west bank of Athabasca River at Mile 31.


39 A highway **bridge**, with a reported vertical clearance of 63 feet (19.2 m), crosses the Athabasca River at Mile 34.8.

40 A **submerged gas pipeline** crosses the river close upstream of the highway bridge. **Alexander Island** is downstream of the bridge.

41 **MacKay River** enters the Athabasca River from the west at Mile 37; a **bridge** crosses MacKay River close inside its mouth.

42 **Fort MacKay**, population 521 (2006), is a First Nation settlement on the west bank of Athabasca River at Mile 38. The settlement is connected by road to Fort McMurray.

43 **Haight Island** is at Mile 40.

 44 On the NE bank abreast of Haight Island, at Mile 40.2, are several oil storage tanks and buildings and a **wharf**, the property of *Shell Oil Company*. The wharf is known as **Shell Landing**.


45 In 1984 the main southern trans-shipment port for freight on the Athabasca River was changed from Fort McMurray to Shell Landing. Only a few local transportation companies operate barges on the river, mostly to communities on Lake Athabasca.

46 On the east bank at **Ings Island**, there is a disused barge landing. **Daphne Island** lies close downstream of Ings Island.

47 **Ells River** enters Athabasca River from the west at Mile 48.

48 **Sutherland Island**, with an unnamed island close south of it, lies at Mile 50. **Tar River** enters the west side of Athabasca River abreast the unnamed island. **McDermott Island** lies in mid-channel at Mile 51.

49 **Bitumount**, on the east side of the river at Mile 54, is a former exploration site of an oil company. A group of derelict buildings are at the site.

 50 **Caution.** — Numerous **mud banks** were reported in this vicinity.

51 **Lafont Island** and **Wheeler Island**, on the east side of the river at Miles 55 and 58, respectively, are the only two named islands in this stretch.

52 **Sled Island** is at Mile 68.

53 **Bird Island** is close to the west bank at Mile 70.5. **Williscroft Island** and **Furlough Island** lie farther downstream at Miles 72 and 74.5, with **Dalkin Island** and **Lorna Island** between them.

54 **High Bluff** (*a local name*), on the west bank near the mouth of **Redclay Creek** at Mile 79, served as a landmark. **Shott Island** lies close off the east bank.

55 **Firebag River** enters the east side of Athabasca River at Mile 83.

56 The channel between Miles 83 and 110 meanders between numerous islands and mud banks.

57 **Grayling Creek** runs parallel to Athabasca River for 3 miles before entering the river on its east side at Mile 104.7.

58 **Point Brule** was a small settlement on the east side of the river at Mile 104.5.

59 **Embarras**, an abandoned settlement on the east side of the river at Mile 118, has a turf airstrip, 4400 feet (1341 m) long.

60 **Old Fort** is on the east bank at Mile 137. At one time it was the site of a small community.

61 **Embarras River**, the first of many interconnecting channels forming the **Athabasca River** delta, branches north from Athabasca River at Mile 138. It discharges into Lake Athabasca at the west section of the delta.

62 It was reported (1972) that bank erosion had eroded all but 100 feet (30 m) of land separating the Embarras and Athabasca Rivers at the horseshoe bend between Miles 139 and 140.

63 A cut-off channel, between Miles 139.2 and 139.7, was dredged across the neck of land formed by the horseshoe bend of the Athabasca River at Mile 139.

64 **Fletcher Channel** branches north from Athabasca River abreast **Big Eddy Bend** at Mile 160. Fletcher Channel is a short cut to Fort Chipewyan.

65 **Goose Island Channel** branches NW of the main river at Mile 171.

66 **Big Point Channel** was the continuation of the main navigation channel and leads from Mile 171 to Mile 186 where it enters Lake Athabasca.


67 **Jackfish Creek** enters the east side of Athabasca River at Mile 166.5, close east of **Frezie Lake**. **Jackfish**, a First Nations settlement, is on the west bank of Athabasca River opposite Jackfish Creek (2007).

68 From Mile 156 to its entry into Lake Athabasca at Mile 186, the main channel is devoid of islands and drying areas in mid-stream, but as the volume of water decreases owing to the drainage through the distributary channels, the main channel decreases in width. Between Mile 174 where **Tokyo Snye Channel** branches to the east, and Mile 181 where it rejoins the main stream, Big Point Channel is 300 feet (91 m) wide.

69 A First Nations village (1988) was on the east bank of Big Point Channel at a bend at Mile 183.5.


70 Big Point Channel enters Lake Athabasca between extensive mud flats at Mile 186.

71 From **Big Point** ( $58^{\circ}38'N$ ,  $110^{\circ}46'W$ ), close ESE of the east entrance point of Big Point Channel, **Willows Channel** (*a local name*) leads through shoal flats into the comparatively deeper water of the lake. Willows Channel is 3.5 miles long.


 72 **Caution.** — Much **debris** in the form of small trees and deadheads is discharged from the Athabasca River delta during spring runoff.

## Lake Athabasca

*Charts 6310, 6311*

 73 **Caution.** — The *Canadian Hydrographic Service* publishes two charts of Lake Athabasca.

**Depths** are based on limited **track soundings** and **reconnaissance surveys**. The scanty soundings shown on the charts only give an indication of the general depth in the lake. Numerous **unmarked dangers** to navigation are reported to exist; **local knowledge** is essential for navigating Lake Athabasca.

 74 **Caution.** — A strong west wind can cause the **water level** at the shallow west end of the lake to drop 2 feet (0.6 m) or more. Conversely, a strong east wind will raise the water level the same amount.

75 (*For a description of some **physiographical characteristics** of Lake Athabasca, see *Sailing Directions Booklet ARC 400 — General Information, Northern Canada, Chapter 3.**)

76 Usual routes for Lake Athabasca are shown on the charts. It is important to obtain the latest marine weather forecast before deciding which route to take. The usual route with west to NW winds, generally in the fall, is along the north shore; with NE to south winds, generally in summer, it is along the south shore.

77 Lake Athabasca supports a local fishing industry.



Chart 6310

78 Features in the west half of Lake Athabasca include **Bustard Island** ( $58^{\circ}48'N$ ,  $110^{\circ}44'W$ ), **Burntwood Island** ( $58^{\circ}56'N$ ,  $110^{\circ}38'W$ ), **Egg Island** ( $58^{\circ}59'N$ ,  $110^{\circ}26'W$ ), **Point Brule** ( $58^{\circ}55'N$ ,  $110^{\circ}13'W$ ), **Pointe Ennuyeuse** ( $59^{\circ}02'N$ ,  $109^{\circ}48'W$ ), **Cypress Point** ( $59^{\circ}12'N$ ,  $110^{\circ}11'W$ ), **Beartooth Island** ( $59^{\circ}13'N$ ,  $109^{\circ}42'W$ ), **Maurice Point** ( $59^{\circ}21'N$ ,  $109^{\circ}50'W$ ), **William River** ( $59^{\circ}08'N$ ,  $109^{\circ}19'W$ ), **Davie Island** ( $59^{\circ}28'N$ ,  $109^{\circ}02'W$ ), **Halifax Island** ( $59^{\circ}22'N$ ,  $109^{\circ}02'W$ ), **Crackingstone Point** ( $59^{\circ}24'N$ ,  $108^{\circ}58'W$ ) and **Black Bay** ( $59^{\circ}29'N$ ,  $108^{\circ}55'W$ ).

79 **Camsell Portage** ( $59^{\circ}37'N$ ,  $109^{\circ}15'W$ ) is a hamlet at the northernmost point of Lake Athabasca. There is an airstrip with a gravel runway 2870 feet (875 m) long.



 80 **Bushell** ( $59^{\circ}31'N$ ,  $108^{\circ}45'W$ ), abandoned, is at the head of Black Bay; there is a **wharf** (2003). **Uranium City** is 5 miles NE; a small First Nations settlement is here and there is an asphalt airstrip 3935 feet (1199 m) long. **Eldorado**, east of Uranium City, was the site of a radium and uranium mine. *Eldorado Nuclear* closed its mining operation in this area in 1982. **Gunnar** is an abandoned mine site on the SW end of Crackingstone Peninsula. An abandoned airstrip at Gunnar is overgrown and unusable.

Chart 6311

81 Features in the east half of Lake Athabasca include **Grouse Island** ( $59^{\circ}19'N$ ,  $108^{\circ}48'W$ ), **Elliot Bay** ( $59^{\circ}23'N$ ,  $108^{\circ}46'W$ ), **Freeston Island** ( $59^{\circ}23'N$ ,  $108^{\circ}36'W$ ) and **Curtis Island** (a local name,  $59^{\circ}22'N$ ,  $107^{\circ}41'W$ ).

82 **Pine Channel** ( $59^{\circ}15'N$ ,  $106^{\circ}35'W$ ) and **Fond du Lac** form the narrow east end of Lake Athabasca. **Fond du Lac River** flows into its east end.

 83 **Fond-du-Lac** hamlet ( $59^{\circ}19'N$ ,  $107^{\circ}12'W$ ), on the north shore of Lake Athabasca, has a population of about 650 (2005), a public **wharf** (2007), a post office and a gravel airstrip 3805 feet (1160 m) long.


 84 **Stony Rapids** hamlet ( $59^{\circ}16'N$ ,  $105^{\circ}50'W$ ), population 255 (2006), is on the south side of Fond du Lac River 6 miles inside the entrance. Stony Rapids has a public **wharf** (2007), a post office and a gravel airstrip 5050 feet (1539 m) long. The waters fronting the hamlet are a **seaplane landing area**.

Chart 6310

**Athabasca River to Fort Chipewyan**


85 The route between Athabasca River and Fort Chipewyan crosses the SW end of Lake Athabasca between Miles 189 and 202. From offshore in Lake Athabasca the

entrance to Willows Channel, which leads into Big Point Channel, has few distinguishing natural features. On a north approach it was reported that the entrance lies close west of a group of hills. If approaching from the west, the course from High Island was set to pass far enough offshore to clear the extensive mud flats extending off the Athabasca River delta.

86 **Goose Island** ( $58^{\circ}39'N$ ,  $110^{\circ}54'W$ ) is 0.5 mile long and spruce-covered. This island, together with the low-lying peninsula formed by Fletcher Channel (*previously mentioned*), can be used as a landmark.

87 The mission **buildings**, a white **church** and a red brick convent with a green roof, at **Mission Point** (*not named on Chart 6310*), are **conspicuous** from the lake.

88 **Potato Island**, 1 mile long and wooded, lies 0.5 mile south of Fort Chipewyan. The NW side of the island has steep cliffs 100 feet (30 m) high.


 89 **Caution.** — **Fish nets** may be encountered in Lake Athabasca and in the approaches to Fort Chipewyan.

90 **Lobstick Island**, **High Island** and **Pine Island**, all spruce covered and of moderate elevation, together with several scattered islets extend NE of Potato Island toward **Grouse Cape**, 1 mile NE of Fort Chipewyan at the north entrance to **Fraser Bay**. **Mouse Island** lies 0.3 mile east of Potato Island.

91 The route usually followed passed close north of High Island. The route then altered SW, leading toward Fort Chipewyan.

92 **Fort Chipewyan** ( $58^{\circ}43'N$ ,  $111^{\circ}09'W$ ), population approximately 1200 (2011), is on the mainland at the west end of Lake Athabasca. Travel to the community is by ice road in winter, by water in summer and by air year-round. Satellite-based **telecommunications**, including the internet, connect Fort Chipewyan with other northern communities and to population centres to the south. The community has a post office, several stores including a *Northern Store*, a nursing station, schools, churches, and a *RCMP* detachment. Offices of the *Alberta Sustainable Resource Development*, *Fish and Wildlife* division, and a *Wood Buffalo National Park of Canada* sub-office are located here.

93 Provisions can be obtained and gasoline and diesel fuel are reported to be obtainable at the *Northern Stores* outlet.

 94 The public harbour is in a basin enclosed by a breakwater to the east and a causeway-breakwater to the west and SW. The public **wharf**, in the NE portion of the basin, is 190 feet (58 m) long and about 25 feet (7.6 m) wide at the outer face. The depth alongside is 3 feet (0.9 m) at normal low water level. The wharf is in good

condition (2008), and is used by local transport companies to bring in goods by barge. Fort Chipewyan is largely supplied by water-borne freight. Government and privately owned vessels make occasional stops.

95 A **radio tower** displaying red **air obstruction lights** is 1 mile north of the Fort Chipewyan public wharf.



96 A small-craft basin has been constructed at the *Alberta Sustainable Resource Development (SRD)* **wharf**, 0.5 mile east of the public wharf. Rubble breakwaters, protecting the basin, extend from near the *SRD* wharf and from **Hudson's Bay Point** (*a local name*). The entrance is about 20 feet (6 m) wide and leads between the ends of the breakwaters.

97 A launching **ramp** is in the *SRD* boat basin.

98 The Mission landing at Mission Point is 0.5 mile west of the public wharf.



99 **Caution.** — Between the public harbour and the Mission landing, there are extensive **drying mud flats** just offshore.



100 **Caution.** — The **water levels** at Fort Chipewyan are reported to fluctuate from day to day and even from hour to hour, depending on the direction and velocity of the wind.

101 An airport, with an asphalt runway 5000 feet (1524 m) long, is 3.5 miles north of the settlement. Scheduled flights are available year-round.

102 An aeronautical **light** is at the airport.

103 An **aeromarine radiobeacon** ( $58^{\circ}45'42''N$ ,  $111^{\circ}06'29''W$ ) transmits on a frequency of 207 kHz, identification *Morse* "PY" (• — • — • — • —).

### Lake Athabasca to Slave River

104 **Peace River** forms in the Rocky Mountains, British Columbia, and flows 1195 miles NE across Alberta before joining with the Slave River. In 1968, the *W.A.C. Bennett Dam* was completed near Hudson Hope, B.C., to create a large reservoir. Peace River is navigable from its junction with the Slave River to **Vermilion Chutes**, 207 miles upstream. There is no information concerning depths along the river.

105 During most of the year water from Lake Athabasca flows out through two channels, Revillon Coupé and Chenal des Quatre Fourches. These channels join Peace River which in turn flows into Slave River.



106 **Caution.** — During the spring flood, the **current** in Peace River flows into Lake Athabasca, thus reversing the flow in the channels. Normal currents flow from Lake Athabasca toward the Slave River commencing in mid July.

107 **Rivière des Rochers**, 22 miles long, is no longer a through navigation route between Lake Athabasca and Slave River. In 1975, a dam was built across Rivière des Rochers at **Little Rapids**; except for a fish ladder there is no flow of water. It was reported that the dam was built in order to compensate for the general lowering of the water level in the Athabasca River delta attributed to the *W.A.C. Bennett Dam* on the Peace River.

108 From Mile 203, at Fort Chippewyan, the usual track led between Potato Island and English Island into Chenal des Quatre Fourches and followed this route to enter Peace River at Mile 238; it then followed Peace River and entered Slave River at Mile 249.

109 A small-craft route from Fort Chipewyan branches north at Mile 204.5 between **Dog Head** and **English Island** into Rivière des Rochers and follows this river for 12 miles where it branches NW into Revillon Coupé and enters Peace River at Mile 240.

110 **Chenal des Quatre Fourches**, locally known as **Channel of Four Forks** or **Catfish Channel**, is named after the intersection of the four channels 7 miles SW of Fort Chipewyan and 4 miles NE of **Mamawi Lake**. The locality of **Quatre Fourches** is near the intersection. The channel meanders 30 miles NW to join the Peace River at a point 2 miles upstream of the Peace River-Revillon Coupé junction and 10 miles upstream of the Peace River-Rivière des Rochers-Slave River junction. The current is slow and the channel is subject to silting.

111 **Revillon Coupé**, a smaller channel, connects the south portion of Rivière des Rochers with the Peace River, 9 miles upstream of the Peace River/Slave River junction.

### Slave River

112 **Slave River** flows north from its confluence with the Peace River and Rivière des Rochers ( $59^{\circ}00'N$ ,  $111^{\circ}26'W$ ); it is 271 miles long and discharges into Great Slave Lake through a broad delta.


113 The banks of Slave River are low and wooded in its upper reaches but as Fitzgerald is approached, 69 miles downstream from the junction with Peace River, rock outcrops become more numerous and the river banks tend to become higher. Primrose Rapids and Demicharge Rapids are in this section of the river.



114 Between Fitzgerald and Fort Smith, a distance of 16 miles, there are a series of four rapids where the water level difference between the two ends is 120 feet (36.6 m). A portage road leading from Fitzgerald to Bell Rock,


7 miles downstream of Fort Smith, is 22 miles long and was used to by-pass the rapids.



115 In the lower reaches of Slave River, downstream of Fort Smith, the river flows between sand and clay banks following a circuitous course to its entry into Great Slave Lake. There are no rapids in this section of the river, which is reported to be generally deep, although there are numerous sand banks and it is subject to heavy erosion.


### Upper Slave River

 116 **Caution.** — In the vicinity of the Peace River/Slave River junction between Miles 248 and 249 there are **mud** and **sand bars** and **submerged isolated rocks**. **Local knowledge** is recommended for navigating in this area of the river.

  117 **Caution.** — Between Miles 254 and 255, Slave River is encumbered by two islands and several exposed and **submerged rocks**. At this point the **current** is reported to attain 7 knots at low water.


 118 **Primrose Rapids** (*a local name, 59°12'N, 111°23'W*), with numerous rocks and **sand bars**, are in a bend of upper Slave River between Miles 263 and 265.



  119 **Demicharge Rapids**, with exposed and **submerged rocks**, is between Miles 276 and 278. With the exception of the series of rapids at Fort Smith, Demicharge Rapids are the swiftest rapids in Slave River. Over a short distance the **current** has been reported to flow at 9 knots.

 120 **Caution.** — Numerous exposed and **submerged rocks** lie between Demicharge Rapids and La Butte at Mile 283.

121 A *Wood Buffalo National Park of Canada* station is on the west side of the river at Mile 291. A road connects the park station with Fort Smith.



122 The three **Stony Islands** are at Mile 296.

 123 **Caution.** — Several islets and **submerged rocks** lie in mid-stream at Mile 297.8.

  124 **Caution.** — The **current** in this area has a north set toward the group of islets and rocks at Mile 297.8.

125 **Rocky Point** (*a local name*) is on the west side of the river at Mile 302. The peninsula-like feature may serve as a landmark.

126 **Lemon Island** and **Caribou Islands**, between Miles 305 and 307, lie close off the east bank. The narrow channel between these islands and the east bank has a minimum depth (1989) of 8 feet (2.4 m).

  127 **Caution.** — The river banks become higher and the **current** increases as

Fitzgerald is approached. Low-lying rocky islets and **submerged rocks** are reported.

128 **Ryan Island**, low-lying and swampy, is at Mile 314. The main channel runs west of Ryan Island.

129 The settlement of **Fitzgerald** is on the west side of Slave River at Mile 318, close upstream of Cassette Rapids. Formerly, Fitzgerald had all the facilities for trans-shipping cargo around the rapids to Bell Rock but the buildings have been removed. The public **wharf** was dredged and maintained in 1987. The settlement has a population of 15 (2006).

130 Navigation on upper Slave River is terminated at Fitzgerald, below which are a series of four rapids; these are **Cassette Rapids**, **Pelican Rapids**, **Mountain Rapids** and **Rapids of the Drowned**. The water level difference in the 16 mile stretch of rapids is 120 feet (36.6 m). A portage road extends 22 miles from Fitzgerald to Bell Rock, which is 8 miles downstream of Fort Smith.

### Lower Slave River

131 Lower Slave River runs west from Rapids of the Drowned to Sawmill Island, where the river resumes its northward journey.

132 The town of **Fort Smith** (*60°00'N, 111°53'W*), with a population of 2364 (2006), is on the west side of lower Slave River immediately downstream of Rapids of the Drowned. The town is connected by road to Fitzgerald and Bell Rock, and by an all-weather highway with the *Mackenzie Highway* near Hay River. There is a hospital, dental services, lodging and a *RCMP* detachment. Fort Smith is the headquarters for *Wood Buffalo National Park of Canada*.

133 The east-west demarcation line between Alberta and the Northwest Territories (*60°00'N*) passes on the south edge of Fort Smith.

134 An aeronautical **light** is displayed from Fort Smith airport, 2.7 miles WNW of the town.

135 An **aeromarine radiobeacon** (*59°58'17"N, 111°51'25"W*) transmits on a frequency of 254 kHz, identification *Morse* "SM" (••• — —).

136 A former barge landing is at Fort Smith, close downstream of Rapids of the Drowned.


137 Provisions, gasoline and diesel fuel are obtainable. Several oil companies have storage and retail facilities in the town.


138 The town, once dependant on barge traffic, is now supplied by transport truck. Fort Smith airport, with an asphalt runway 6001 feet (1829 m) long, provides landing facilities for frequent scheduled flights. Several


aircraft based at Fort Smith are available for charter. Communications media include satellite communications, telephone and radiotelephone. There is daily mail service.

139 **Bell Rock** is on the south bank of the river at Mile 340. It formerly was the trans-shipment point for cargo transported by road from Fitzgerald.

140 The *Northern Transportation Company Limited (NTCL)* relocated their cargo terminal from Bell Rock to Hay River in 1965; since then there has been little commercial traffic on Lower Slave River.

 141 The *NTCL wharf* at Bell Rock is 439 feet (134 m) long; the wharf has not been maintained. There were depths of 1 to 5 feet (0.3 to 1.5 m) alongside the west end, but the east 300 feet (91 m) dried at low water level. Abandoned houses are nearby.

 142 Downstream of Bell Rock, the lower Slave River flows in a general NNW direction, following a winding, irregular course for 180 miles to its delta and estuary at Great Slave Lake. The river has an average width of 0.5 mile and flows between cut sand banks or mud and clay banks 15 to 25 feet (4.6 to 7.6 m) high. The **current** is moderate, generally less than 3 knots. The river has a gradient of 6 inches (15 cm) to the mile. There are many low-lying islands in lower Slave River; most of them are wooded with spruce, willow and alder. The channel is relatively deep with few known dangers. There are many mud flats adjacent to the channel and considerable erosion occurs along the cut banks.


 143 **Caution.** — Floating logs of various sizes, debris caused by erosion and deadheads are prevalent in lower Slave River, especially during spring runoff or after summer freshets.

144 **Cunningham Landing**, the site of a small First Nations village, is on the north side of the river 1.5 miles downstream of Bell Rock.

145 **Sawmill Island** is at Mile 334 where the river abruptly changes direction from west to north. A deep channel leads close off the east side of the island.

146 The settlement of **Salt River** is at the junction of the Slave and Salt Rivers, 10 miles downstream of Bell Rock. The Salt River is bounded by low clay banks and has many sand bars.

147 At Mile 358 the Slave River curves sharply to form **Grand Detour**, an oxbow loop 16 miles long. Similar but shorter detours are encountered at **Brûlé Point**, Mile 386 and **Pointe Ennuyeuse**, Mile 421.

 148 **Caution.** — Downstream of Pointe Ennuyeuse the river banks continue to become lower as the delta is approached. The soft alluvial banks are

subject to erosion by the river current and the silt deposited forms **sand bars** and small islands that are constantly shifting positions.

149 **Long Island**, at Mile 433 and aptly named, is low and wooded. There are channels on each side of the island, but the one leading south and west of the island is the former usual track.


150 From Long Island the river trends 18 miles in a north direction to **McConnell Island**, a low-lying island in mid-stream. Shallow banks extend upstream and downstream from the ends of the island and from along the east shore.

151 Below McConnell Island the river continues in a north direction, making several changes in direction as the delta is approached. As a general rule the deeper water is found on the outside of the bends where the current is swifter and where there are fewer eddies.

152 The river enters an “S” turn at Mile 475. In general, the usual channel favours the outside of the turns in this section. Shallow water and sand banks formed by eddies tend to lie along the inner side of the turns.

### Slave River delta

153 The **Slave River delta** ( $61^{\circ}17'N$ ,  $113^{\circ}37'W$ ) extends 12 miles NNE/SSW from Jean River, its easternmost branch, to Sawmill Channel, the southernmost outlet into Great Slave Lake.


 154 **Caution.** — **Shoal water** extends into Great Slave Lake from the delta. Logs carried down by the river play an important part in building up the new land, they become waterlogged or stranded and provide stability to the rapidly accumulating silt. From time to time log jams form across the mouths of the smaller channels which are then rapidly blocked by silt.

155 **Jean River** branches from Slave River at Mile 494.7 and trends 7 miles in a NNE direction, then in a general west direction to a position where it empties into Great Slave Lake ( $61^{\circ}20'N$ ,  $113^{\circ}36'W$ ). Jean River is narrow, seldom exceeding 300 feet (91 m) in width, and flows between banks bordered by willow and alder. Five miles from its separation with the Slave River, Jean River divides around a spruce-covered island.

156 **Resdelta Channel**, the former shipping channel, flows into Great Slave Lake 3.5 miles SW of the Jean River entrance. From its junction with Slave River, at Mile 505, Resdelta Channel flows north and enters the lake at Mile 510.


157 A shed, the property of the *Canadian Coast Guard*, is on the east side of Resdelta Channel at Mile 505.5.

158 Although Resdelta Channel is bounded by low-lying terrain, it is deep; the channel widens to 0.8 mile and there is a consequent decrease in the current.

 159 **Caution.** — Silt carried downstream by the Slave River has formed an extensive **shoal bar** outside the channel entrance. A depth of 6 feet (1.8 m) is reported over this bar. The channel over the bar is known as **Fishery Channel**.

*Chart 6370*

160 *Res delta Channel Fairway light buoy (1680.1)* is at the seaward end of Fishery Channel. Fishery Channel to Resdelta Channel is buoyed. A 12.2 m beacon tower, with a red daymark, is at Mile 510.

 161 **Caution.** — **Local knowledge** is considered **essential** for navigating between the fairway buoy and

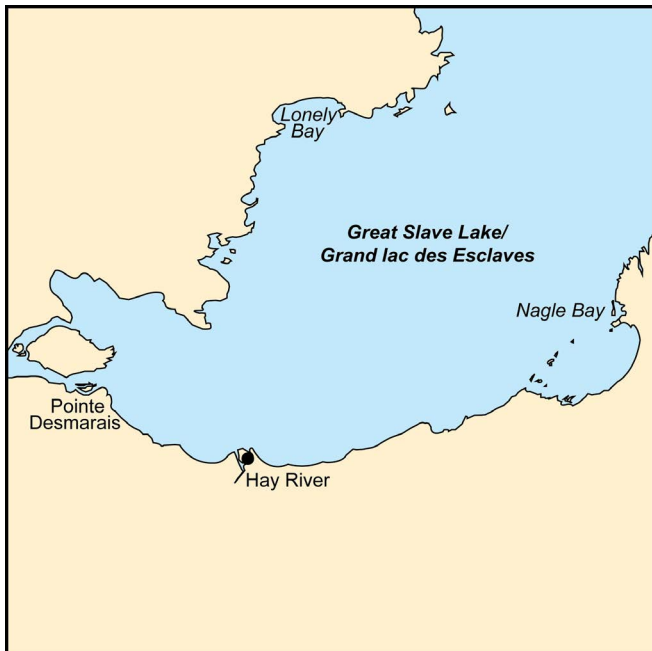
Resdelta Channel entrance. From offshore, the shoreline is low-lying, flat and featureless and only mariners experienced in this area can distinguish the few low-lying landmarks.

162 **East Channel, Middle Channel and Old Steamboat Channel** are not considered navigable except for small craft.

163 **Nagle Channel**, narrow and meandering, branches off Slave River 10 miles downstream from Jean River. **Connu Channel** branches south off Old Steamboat Channel 2 miles above Great Slave Lake and connects with Nagle Channel. From the junction of Connu Channel and Nagle Channel, **Sawmill Channel**, named for a former Roman Catholic Mission sawmill on the east bank, runs SW and empties over a gravel bar into Nagle Bay, about 2.5 miles north of Fort Resolution (*Nagle Bay and Fort Resolution are described in Chapter 5*).

# Chapter 5

## Great Slave Lake South shore



### General

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Charts 6370, 6371

1 For a distance of 106 miles from the Slave River delta to Pointe Desmarais, the south entrance point of Mackenzie River, the south shore of Great Slave Lake is generally low-lying and featureless. Except for the islands lying off the entrance to Resolution Bay, there are only a few offshore features. The south shore of Great Slave Lake is exposed to winds from the NW through NE. Several anchorages and wharves suitable for small craft exist, but Hay River is the only harbour of importance on this shore. In places, the 10 m contour line extends almost 4 miles off. North of the 10 m contour, the bottom is generally clear of obstructions.

2 Mariners proceeding down Mackenzie River are advised that the *Mackenzie River Marine Safety Advisory Procedures* should be followed by all vessels on the river, before entering, while proceeding through, and on leaving Danger Zones 1 to 10. Danger Zones 1 to 10 and their reporting points are described at the appropriate geographic locations in the text of this publication. (*The description of Mackenzie River begins at Chapter 6.*)

3 (*For full details see Radio Aids to Marine Navigation (Pacific and Western Arctic), available at: <https://www.ccg-gcc.gc.ca/publications/mcts-sctm/ramn-arnm/index-eng.html>.)*)

4 *MCTS Iqaluit*, through its repeater stations on the Athabasca — Mackenzie watershed, maintains a watch on distress, urgency and calling frequency 5803 kHz. (*Consult Radio Aids to Marine Navigation (Pacific and Western Arctic) for full details.*)


### Slave River delta to Hay River

5 **Nagle Bay** ( $61^{\circ}12'N$ ,  $113^{\circ}44'W$ ), at the SW limit of the Slave River delta, is entered from SW between Mission Island and **Moose Deer Island**. The bay is bounded on the west and north by a group of low-lying mud banks. Gravel bars form the east limit of the bay; several streams, including Sawmill Channel, flow over the bars from the Slave Delta.





6 Nagle Bay is reported to be a good **anchorage** for shallow-draught craft.

7 **Mission Island**, the NE entrance point of Resolution Bay, is of moderate elevation, wooded, and separated from the mainland by a narrow strip of water.


 8 **Caution.** — A **shoal**, with 3 m over it, lies 3 miles WNW of Mission Island.


9 **Round Island** ( $61^{\circ}09'N$ ,  $113^{\circ}47'W$ ) is 1 mile south of Mission Island.

 10 **Round Island light** (1680) is shown from the north side of Round Island.

 11 **Caution.** — **Moose Deer Rocks**, with 0.6 m over them, lie 1.3 miles NW of Moose Deer Island and should be given a wide berth.


12 **Egg Island** ( $61^{\circ}14'N$ ,  $114^{\circ}03'W$ ) is a rocky islet 10 miles NW of Mission Island.

 13 **Egg Island light** (1681) is shown from Egg Island.

 14 **Caution.** — **Gull Reef**, a rocky **shoal** with a least depth of 2.4 m, is 3 miles SW of Egg Island.

15 **Resolution Bay**, entered between Mission Island and Pine Point, 19 miles SW, is a shallow open bight exposed to north and west gales.


16 **Fort Resolution**, population 484 (2006), is on the NE side of Resolution Bay. The settlement has a general store, a nursing station, two churches, a *RCMP* detachment, post office, primary school, chartered air service and a sawmill operation. Gasoline, diesel fuel and heating oil are obtainable. Satellite-based **telecommunications** and telephone service, including the internet, connect Fort Resolution with other northern communities and to population centres to the south. A highway connects with *Mackenzie Highway* and there is bus service to Hay River.

 17 An L-shaped public **wharf**, 151 m long, with a breakwater extension 91 m long, projects south and east. It is in disrepair (1989). Alongside the breakwater extension there is a depth of 1.8 m at low water level. The seaward side of the wharf is protected by a sloping face.

18 Tugs and barges and other vessels visit Fort Resolution from early June until the end of October.

19 The airstrip has a gravel runway 4001 feet (1219 m) long. An **aeromarine radiobeacon** ( $61^{\circ}09'15''N$ ,  $113^{\circ}38'19''W$ ) transmits on 274 kHz, identification *Morse* "FR" (••—••—•).

20 From Fort Resolution the low-lying swampy coast of Resolution Bay trends toward the mouth of Little Buffalo River. This section of the coastline has few distinguishing features.


 21 **Caution.** — Mariners are cautioned that Resolution Bay is **not surveyed** close to shore from Fort Resolution to Little Buffalo River.

22 **Little Buffalo River** ( $61^{\circ}01'N$ ,  $113^{\circ}46'W$ ), 12 miles SW of Fort Resolution, is 213 miles long. The river can be used as a canoe route to Fort Smith by ascending the river to a point close west of Grand Detour on Lower Slave River at Mile 366, where a short portage connects the two rivers.

23 Ruins of an abandoned First Nations village are on the east side of the entrance to Little Buffalo River.

24 **Birch Island** ( $61^{\circ}02'N$ ,  $113^{\circ}54'W$ ), low-lying and wooded, lies 5 miles NW of the mouth of the Little Buffalo River.

25 From Little Buffalo River, the coastline, broken by shallow indentations, trends west toward **Pine Point**, the SW entrance point of Resolution Bay.


 26 **Caution.** — The SW shore of Resolution Bay is bordered by **shoal water** extending up to 1 mile offshore.


27 **Paulette Island**, 7.5 miles west of the entrance to Little Buffalo River, is connected to the mainland by a shallow sand and gravel bank.

28 **Conroy Islet** is 2 miles NW of Paulette Island.

*Charts 6370, 6371*


29 **Dawson Bay** ( $60^{\circ}59'N$ ,  $114^{\circ}10'W$ ) is on the SW side of Resolution Bay, 3 miles SE of Pine Point. A trail leads from Dawson Bay to the site of the former mining town of Pine Point.

 30 A **wharf**, 38 m long with 0.9 m alongside the outer end, extends from the south shore of Dawson Bay. A building, formerly used for processing fish, is near the wharf. The building and wharf may be in a state of disrepair (2008).

 31 Dawson Bay offers **anchorage** with limited shelter from south and west gales in 2 m, sand and clay bottom.


*Chart 6370*

32 A group of islands comprising **Beaulieu Island**, **McKay Island**, **Green Island**, **Burnt Island**, **Laity Island**, **Leroux Island** and **Loutit Island** extend 12 miles in a NE direction from Pine Point ( $61^{\circ}01'N$ ,  $114^{\circ}15'W$ ).

 33 **Burnt Island West End light** (1682) is on the west end of Burnt Island.

34 Between Leroux and Loutit Islands and between Burnt and Green Islands, there are channels which


mariners use when on passage from Fort Resolution to Hay River.

 35 **Caution.** — **Pilot Reef**, a dangerous **underwater rock**, lies 1.5 miles NE of Green Island and **Peter Bank**, an area of **drying rocks**, is 1 mile west of Beaulieu Island. A dangerous **underwater rock** lies close off the west tip of McKay Island.

Charts 6370, 6371


36 From Pine Point the coast trends 20 miles WSW to Sulphur Cove.

37 **Île du Mort** ( $61^{\circ}00'N$ ,  $114^{\circ}20'W$ ) is a small island joined to the mainland by marshy land, 3 miles SW of Pine Point.


 38 **Île du Mort light** (1683) is on the west end of the island.


39 **Presqu'île Point**, 12 miles SW of Pine Point, forms the west entrance point of Presqu'île Cove.

40 **Presqu'île Cove**, with a boulder and shingle beach at the head, has depths of 0.6 to 3.4 m.


 41 **Anchorage** at Presqu'île Cove offers little shelter from west winds and the holding ground is poor.

42 **Sulphur Cove**, 8 miles west of Presqu'île Cove, derives its name from several springs which emit a strong odor of rotten eggs, indicating the presence of the poisonous gas hydrogen sulphide. **Sulphur Islet**, almost connected to the mainland at its east end, lies 0.2 mile north of the cove.


 43 **Caution.** — Sulphur Cove is very **shallow** and only affords shelter for small craft.

 44 **Sulphur Cove light** (1684) is shown from the east entrance point of Sulphur Cove.

45 **Breynat Bight**, 5 miles SW of Sulphur Cove, has depths of 1.2 to 3.7 m. The SW portion of the bight is a sandy beach but the remainder of the shoreline here is gravel and boulders. **Breynat Islet** lies close off and is connected at low water levels by a sand and gravel spit to **Breynat Point**, the WNW entrance point of Breynat Bight.

 46 Breynat Bight affords **anchorage**, but with little protection, in 1.5 to 3 m, sandy bottom.

47 **Buffalo River** empties into Great Slave Lake 3 miles SW of Breynat Point. The river entrance is divided into two channels by an island; a gravel and boulder spit extends 90 m north from this island. A First Nations village once stood on the east side of the river close to the entrance. The Buffalo River has its source in the **Caribou Mountains** area, about 150 miles south of Great Slave Lake. The river water is brownish in colour and noticeable for some distance offshore.

 48 **Buffalo River light** (1685) is shown from the island in the river entrance.




 49 **Caution.** — **Buffalo Rocks** consist of three **shoals** with depths of 0.9 to 1.8 m, 1.3 miles NNW of the Buffalo River entrance. Two other **shoals**, with depths of 0.9 to 1.8 m, are 1.7 miles NW of the same river entrance.

Chart 6370

50 The coast trends in a SSW direction from Buffalo River ( $60^{\circ}52'N$ ,  $115^{\circ}03'W$ ) toward **Fish Point**, with **High Point** midway between them. The shoreline is low, with scattered patches of poplar and alder.

 51 **Caution.** — This section of coast is fronted by **shoal water** extending up to 2 miles offshore. Rocky **pinnacles** and **boulders** rise abruptly from the bottom in the inshore area. Mariners are cautioned to stay outside the 10-m line when navigating parallel to the coast.

 52 **Caution.** — **Mackenzie Rock** ( $60^{\circ}51'N$ ,  $115^{\circ}22'W$ ), 0.9 m high, is an islet almost 2 miles NNW of Fish Point. The islet marks the north extremity of a group of **underwater rocks** and **boulders** extending north from close NW of Fish Point.

53 **Mackenzie Rock light buoy** (1686) is 0.6 mile north of Mackenzie Rock.

54 From Fish Point, the low-lying swampy coastline trends 5.5 miles west to **False Point** and then 7 miles NW to **Hay River Point**. Hay River Point is wooded and forms the east entrance point of East Channel of Hay River.

### Hay River

55 **Hay River** is the largest stream flowing into the SW section of Great Slave Lake. Hay River flows over two falls 40 miles upstream of Great Slave Lake. At **Alexandra Falls**, there is a sheer drop of 33 m and 1.5 miles farther downstream **Louise Falls** drop a further 15 m in a series of steps. Downstream of Louise Falls there are 3 miles of rapids through a gorge, 52 m high, that extends 5 miles downstream.

56 Above the delta at Great Slave Lake, Hay River is 91 m wide and flows between low, grassy banks and thickly forested terrain beyond, on both sides. In the delta section the river leads around a group of low-lying alluvial islands and enters Great Slave Lake through two main channels on the east and west sides of **Vale Island**. **Vale Point** is the NE tip of Vale Island.

57 A **conspicuous** black parabolic **structure**, 23 m high with a diameter of 22 m, is near the shoreline 0.8 mile west of Vale Point. The tower, a former *DEW Line* radio antenna, has red **air obstruction lights**.



APPROACH TO EAST CHANNEL, HAY RIVER (1987)



58 **West Channel**, west of Vale Island, is used by small boats. Private wharves are on the east side of West Channel.

59 The approach to West Channel is marked by unlighted **buoys**.

60 A storage building on West Channel reflects the light and may serve as a distinguishing mark when approaching from the west.

61 A **submerged potable water intake pipeline** extends 4 miles north from Vale Point. Another **potable water intake**, 1 mile west of West Channel entrance, extends 5 miles north from the shore.


62 Spanning West Channel and joining the south end of Vale Island to the mainland is a bridge that carries the Hay River extension of *Mackenzie Highway* and a spur line of *Canadian National Railway*.

Chart 6371

63 Hay River Point is thickly wooded and shows up well from a west approach.

64 **East Channel** ( $60^{\circ}50'N$ ,  $115^{\circ}45'W$ ) of Hay River is approached through a dredged channel, 122 m wide and almost 0.7 mile long. The dredged channel is reported (1972) to be maintained to a depth of 2.4 m, sand and mud bottom. Inside the approach channel East Channel provides a natural harbour with numerous marine facilities along its west bank.

65 A **building** used by *Northern Transportation Company Limited (NTCL)* for maintaining tugs and barges, close inside the East Channel entrance, is **conspicuous** from offshore.

66  *Hay River Inner range lights* (1687, 1688), at the entrance to East Channel, when in line bearing  $183\frac{1}{2}^{\circ}$  lead through the dredged channel.


67 *Hay River East Channel light buoy HR* (1689), 1.4 miles north of the front light, is a fairway buoy. The dredged channel is marked by unlighted **buoys**.

68 The town of **Hay River** ( $60^{\circ}50'N$ ,  $115^{\circ}44'W$ ) has a population of 3648 (2006); it consists of the old town

on Vale Island, and the new townsite, laid out during 1963 following the flooding of the Hay River. The new townsite is along the west side of the river 2.5 miles south of the old town. A Kadlodeeche First Nations village is on the east side of East Channel near the river mouth. Hay River is a modern town with a diverse economy which includes transportation, communications, commercial fishing, and service industries. Practically all amenities and necessities are offered. The office of the Supervisor, Marine Aids (Arctic), *Canadian Coast Guard* is in Hay River and there is a *RCMP* detachment.

69 A **conspicuous apartment building** ( $60^{\circ}49'N$ ,  $115^{\circ}47'W$ ), in the new town of Hay River, is 58 m high and reported to be visible at a distance of 25 miles. It is also **radar conspicuous**.

70 All marine facilities and wharves in East Channel are along the Vale Island shore. Barge moorings are along both sides of the first island inside the river mouth.

71  A public **wharf**, on the west side of East Channel 1 mile from the river entrance, is 152 m long, with a 2.1 m depth alongside.

72 The bulk of water-borne cargo leaving Hay River is consigned for points on the Mackenzie River, Tuktoyaktuk and the western Arctic. *NTCL*, *Canadian Coast Guard*, *Public Works and Government Services Canada*, *Department of Fisheries and Oceans*, *Freshwater Fish Marketing Corporation*, *Kucher Brothers Fish Company* and other organizations make use of the marine facilities at Hay River. All these companies maintain shore installations for supporting their respective operations. *Canadian National Railways* provides a multi-commodity service to Hay River.

73 The *Canadian Coast Guard* and the *Department of Fisheries and Oceans* wharves are in a small arm at the head of the harbour. Depths of 1.8 to 2.1 m are reported alongside these wharves. Several small fixed and floating wharves and loading berths are located along the waterfront.

74 The *NTCL* synchrolift and marine maintenance building are near the East Channel entrance, on the west

**CANADIAN COAST GUARD, HAY RIVER (1987)**



**NTCL MARINE MAINTENANCE BUILDING, HAY RIVER (1987)**



side. The *NTCL* container terminal, equipped for handling 36 tonne containers, is close south. A *NTCL* heavy equipment terminal, capable of handling 131 tonne lifts, is at the inner end of the harbour. There are several berths for barges, with depths alongside of 1.8 to 2.1 m.

75 Gasoline, diesel fuel and heating oil are obtainable. Vessels can be serviced by tank truck or directly from shore pumping stations. Supplies of all kinds are plentiful and arrangements can be made for delivery of water to vessels by water truck.

VIEW SOUTH FROM MARINE MAINTENANCE BUILDING (1987)



NTCL TERMINAL 2 AND ISLAND B (1987)



76 There are no dedicated marine repair services but hull and engine repairs can be made by arrangement. Divers for salvage and hull inspection are available on a part time basis.

77 The airport has an asphalt runway 6000 feet (1829 m) long. A scheduled aircraft passenger service has connections at Hay River. Charter flights by fixed-wing aircraft or helicopter are available.

78 Hay River is also a **seaplane landing area**.

79 There is bus service to Edmonton.

Hay River to Mackenzie River

*Chart 6370*

80 Between Hay River and **Pointe de Roche** ( $60^{\circ}53'N$ ,  $116^{\circ}07'W$ ), a narrow gravel and boulder spit 11 miles west, the shore is moderately steep-to with no off-lying dangers. There are few landmarks along the coast.



81 *Pointe de Roche* **light** (1690) is shown from the tip of Pointe de Roche.

82 A prominent light-coloured building is on Pointe de Roche and a fishing shack is close east of it. The building can be seen from north and NW approaches for several miles.



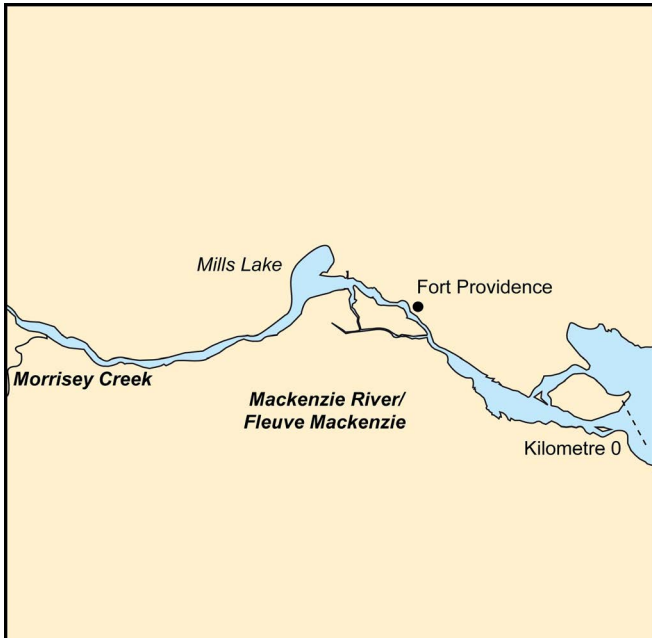
83 **Caution.** — It has been reported that **fog** may set in with little warning in this area.

84 From Pointe de Roche the coast trends NW toward **Pointe Desmarais**, the south entrance point of Mackenzie River. Along this part of the coast the water is shallow for a short distance offshore. Behind the shoreline the land is low and the terrain consists of swamp, muskeg and small lakes.

85 **Île Desmarais** ( $61^{\circ}01'N$ ,  $116^{\circ}28'W$ ), 1.5 m high, is a partly wooded islet close NE of Pointe Desmarais.

# Chapter 6

## Mackenzie River Great Slave Lake — Morrissey Creek



### General

Charts 6370, 6452 to 6455

1 **Mackenzie River** begins at the SW end of Great Slave Lake. The river extends 939 nautical miles from Pointe Desmarais ( $61^{\circ}01'N$ ,  $116^{\circ}29'W$ ) in a general NW direction to discharge into the Beaufort Sea, at Mackenzie and Kugmallit Bays, at  $69^{\circ}40'N$ . From its source to its mouth, Mackenzie River drops 156 m. Numerous rivers and streams drain the Mackenzie basin and flow into the Mackenzie River. Mackenzie River is navigable, by shallow-draught vessels, along its entire length.

2 Mariners are advised that the **Mackenzie River Marine Safety Advisory Procedures** should be followed by all vessels on the river, before entering, while proceeding through, and on leaving Danger Zones 1 to 10. Danger Zones 1 to 10 and their reporting points are described at the appropriate geographic locations in the text of this publication.

3 (For full details see *Radio Aids to Marine Navigation (Pacific and Western Arctic)*, available at: <https://www.ccg-gcc.gc.ca/publications/mcts-sctm/ramn-arm/index-eng.html>.)

4 *MCTS Iqaluit*, through its repeater stations on the Athabasca — Mackenzie watershed, maintains a watch on distress, urgency and calling frequency 5803 kHz. (Consult *Radio Aids to Marine Navigation (Pacific and Western Arctic)* for full details.)



5 Several sections with **strong currents** that can present navigational problems, especially at low water stages, are encountered on this river. The main sections of swift-flowing water are Providence Rapids, Green Island Rapids, Sans Sault Rapids and Ramparts Rapids (*a local name*). They are described in the following chapters. The usual shipping tracks on the Mackenzie River are charted.




6 **Caution.** — In certain sections of the Mackenzie River **depths** are continually changing due to silting and scouring. The charts only show conditions at the time of the survey and do not show the latest conditions.




7 **Caution.** — Due to bank erosion and changing depths in the navigation channels, **aids to**

**navigation** may be moved or rebuilt during the navigation season.


 8 **Caution.** — **Buoys** may be **out of position**. Because of the swiftness of the current in certain sections of the river, or floating debris which may drag buoys, implicit reliance cannot be placed on buoys being maintained in their correct positions at all times.

9 **Routes** on the Mackenzie River are subject to numerous changes because of silting from year to year and even from day to day. The resulting navigational aid and route changes are advertised by *Notices to Shipping* during the sailing season. Permanent changes are advertised in *Notices to Mariners* after shipping has ceased for the year or are incorporated in new editions of charts which will be available for the following navigation season. To reduce broadcast time, *Notices to Shipping* which will be in effect for an extended period of time are designated as *Written Notices to Shipping* and bear the same number as the corresponding broadcast notice. *Written Notices to Shipping* for the Mackenzie River are posted on the website <https://nis.ccg-gcc.gc.ca/public/rest/menu/en/topics> and are distributed free of charge to shipping companies, agents and other interested parties upon request.

10 The *Canadian Hydrographic Service* is in the process of converting Mackenzie River charts from an unknown horizontal datum to **NAD 83**. For converted charts, positions from electronic navigation systems may be plotted directly on the chart. On unconverted charts, positions plotted from electronic navigation systems may be in error up to 0.5 mile because the horizontal reference for that chart is unknown. Visual fixes or radar-positioning methods should therefore be used.

 11 **Caution.** — **Horizontal datum** is given in the title block of each chart. Mariners must check the datum for each chart in use.

12 **Buoys** specially designed for shallow and fast water conditions are used on Mackenzie River. Mississippi River-type can or conical buoys, *Canol* swift current river-type can or conical buoys and boat-type light buoys may be used on the river. Reflective material is displayed on the buoys to improve their identification at night with the aid of a searchlight. Most buoys display a radar reflector.

 13 **Caution.** — **Rock markers** are used on the Mackenzie River. The rock marker or “keep away” beacon warns the mariner of below-water dangers. It consists of a white wooden tripod.


14 A **transit system** is used by the *Canadian Coast Guard* for repositioning buoys. The transits consist of red posts, for positioning red buoys, or white posts for positioning green buoys. The system consists of two transits

oriented so their intersection is a reference to the position of a buoy.

15 **Buoy caches**, used by the *Canadian Coast Guard*, are strategically located on the banks of the river. **Red or green buoys** stored at these locations are usually **conspicuous** for considerable distances up and downstream from the cache site.


16 **Daymarks** for lighted and unlighted ranges on the Mackenzie River (*Chapters 6 to 12*) are, unless otherwise stated, the trapezoid shape shown for range daymarks in the full-colour pullout diagram in *The Canadian Aids to Navigation System* booklet, TP 968. They are fitted with reflective material to improve their identification at night with the aid of a searchlight. None of the lighted ranges are fitted with radar reflectors.

17 A **range approach marker (RAM)** is either a port or starboard hand daybeacon on the river bank in proximity to a lighted or unlighted range, and is used to identify the location of a range which is obscured by trees or other obstacles. They are fitted with reflective material and are charted with the symbol RAM.

 18 **Caution.** — Most ranges on Mackenzie River have a RAM. However, RAMs are sometimes swept away by **ice** or **floods** because of their exposed locations. *CCG* replaces missing RAMs as time permits. The existence of RAMs **may not be as charted**.

19 Single standard **daybeacons** are also used as **steering marks** on the Mackenzie River. They are fitted with reflective material and are the shape of standard port- or starboard-hand daybeacons (*see The Canadian Aids to Navigation System, TP 968*).

20 **Charted distances** on the Mackenzie River are approximate and were originally given in statute miles. Canada is converting to the metric system. On some Mackenzie River charts, distances are given in kilometres with the statute mile equivalent. All new Mackenzie River charts, from 2005 onwards, have distances given in kilometres only. Kilometre 0 (zero) is at the confluence of Mackenzie River and Great Slave Lake. Kilometre 1740 is at the entrance to East Channel in Kittigazuit Bay on the Beaufort Sea coast. Mile numbers used by mariners for reporting positions along the Mackenzie River are based on the obsolete statute mile distance.

 21 **Caution.** — **Distances** given in this publication between features on Mackenzie River are given in **nautical miles**.

22 **Danger Zone mileage markers** are signs consisting of 1.2 by 2.4 m (4 by 8 ft) sheets of plywood, painted white with a yellow border, and marked with a red check (√) and the statute mile number. They are erected

at the upstream and downstream ends of identified danger areas on the Mackenzie River to remind mariners to report their position in accordance with the *Mackenzie River Marine Safety Advisory Procedures*.

23 **Tie-up markers** are usually near the upstream and downstream ends of rapids or other areas of the river where conditions require the relaying of barges. A few are in areas where barges are moored to await trans-shipment along another river. The marker consists of a white circular piece of plywood or a white cross nailed to a tree and indicates the site where mooring wires are located for mooring barges alongside the river bank. These mooring sites have been installed by private companies for the use of their barges.

24 **Fresh water**, clear of sediment, is taken aboard by tug and barge traffic in Green Island Rapids, Kilometre 321.8, close downstream of Great Bear River, Kilometre 830.4, and close downstream of Hare Indian River, Kilometre 1105.6.

25 An **overhead cable** is reported to cross Mackenzie River near Naylor's Landing.

26 The **Mackenzie Highway** provides access from Alberta, and reaches the shore of Great Slave Lake near Hay River. It then branches north following the west bank of Great Slave Lake and Mackenzie River as far as Liard River. A ferry, MV *Lafferty* connects across Liard River to Fort Simpson. North of Fort Simpson the **Mackenzie Highway** extends north along the west bank to Kilometre 409.6, where a ferry, MV *Johnny Berens*, crosses the Mackenzie River. From Kilometre 409.6 the highway continues along the east bank as far north as Wrigley, Kilometre 571.3. The **Mackenzie Valley Highway**, currently in the early phase of planning and construction (2011), will connect Wrigley to the **Dempster Highway** and connect Inuvik to Tuktoyaktuk, completing an all-weather highway route to the arctic coast.


27 A ferry, MV *Merv Hardie*, crosses the Mackenzie River at the south end of Providence Rapids, Kilometre 66, and connects the **Mackenzie Highway** to the **Yellowknife Highway**. The **Yellowknife Highway** extends along the NW shore of Great Slave Lake between Fort Providence and Yellowknife.

28 **Deh Cho Bridge**, currently under construction (2011), will replace the ferry crossing with a year-round connection between **Mackenzie Highway** and **Yellowknife Highway**.

29 The **Liard Highway**, coming north from Fort Nelson, B.C., follows along the south bank of Liard River and connects with the **Mackenzie Highway** close south of Fort Simpson.

30 The **Dempster Highway** extends from Dawson City, Yukon, and crosses the Peel River by ferry, CF *Abraham Francis*, upstream from Fort McPherson; it crosses the Mackenzie River by ferry, MV *Louis Cardinal*, at Tsiigehtchic, Kilometre 1453.2. From Tsiigehtchic the **Dempster Highway** continues north along the east bank of Mackenzie River to Inuvik.

31 An above-ground **pipeline** for transporting crude oil extends south from Norman Wells, following the east bank of Mackenzie River. The pipeline crosses Great Bear River as a **submarine pipeline**. At Kilometre 326.7, between Green Island Rapids and Fort Simpson, it crosses Mackenzie River as a **submarine pipeline**. Between Norman Wells and Kilometre 326.7 several barge landing **ramps**, with gravel roads leading inland to the pipeline, have been constructed on the east bank to transport equipment to the pipeline.

 32 Where given in the text the rate of the **current** is approximate only, varying with the outflow from Great Slave Lake and the tributaries of Mackenzie River; the current is also affected by local weather. As a general rule friction tends to retard the current toward the edge of the channel where it is shoaler and the swiftest currents are found in the comparatively deeper water of the main channel. At bends in the river, where the bottom is composed of soft mud or clay, the main channel usually follows the outside of the curve; eddies are formed along the inside of the curve, often allowing silt to deposit, forming sand or mud banks.


33 (*For general ice conditions on Mackenzie River, see Chapter 4 of Sailing Directions booklet ARC 400 — General Information, Northern Canada.*)

34 The starboard hand bank of the Mackenzie River is referred to as the east bank when proceeding downstream toward the Beaufort Sea; the port hand bank is referred to as the west bank.

## Great Slave Lake to Morrisey Creek

*Charts 6452 to 6455*

35 Mackenzie River is entered from Great Slave Lake by way of South Channel, with Kilometre 0 (zero) of Mackenzie River on a line joining Pointe Desmarais and Beacon Point.

 36 The following table of currents for the route from Great Slave Lake to Morrisey Creek gives approximate rates only. The rate varies with the outflow from Great Slave Lake and the tributaries of the Mackenzie River.

**Table 6.1: Current table for the route from Great Slave Lake to Morrisey Creek**

Kilometre no.	knots	mph	kph
0 - 19	2 - 4	2.3 - 4.6	3.7 - 7.4
19 - 60	1.5 - 2	1.7 - 2.3	2.7 - 3.7
60 - 72	3 - 5	3.5 - 5.8	5.6 - 9.3
72 - 77	5 - 9.5	5.8 - 10.9	9.3 - 17.5
77 - 90	3 - 5	3.5 - 5.8	5.6 - 9.3
90 - 140	1.5	1.7	2.7
140 - 229	1.5 - 2	1.7 - 2.3	2.7 - 3.7

37 **Danger Zone 1** of the *Mackenzie River Marine Safety Advisory Procedures* lies between Wrigley Harbour and Horn River.

38 South Channel, Kilometre 0 to Kilometre 19.3, is well marked by aids to navigation and the shallower stretches at its west end are maintained by dredging. The route across Beaver Lake, Kilometres 19.3 to 59.5, is narrow, well marked and maintained by dredging.


39 Providence Rapids, Kilometres 59.5 to 74.2, is narrow and winding with some relatively shoal spots in the channel. Providence Narrows, Kilometres 72.4 to 77.2, forms the NW end of the rapids and the current reaches its maximum strength here. Fort Providence settlement lies on the east bank close north of the narrows.


40 The river between Kilometres 77.2 and 106.2 has several large islands in it, then between Kilometres 106.2 and 140 it crosses Mills Lake. The navigation channel is well marked by buoys and several ranges. Between Mills Lake and Head-of-the-line (*a local name*), Kilometres 140 to 228.5, the navigation channel is quite wide and requires few aids to navigation.


Charts 6370, 6452

### Approaches to Mackenzie River

41 **Big Island** ( $61^{\circ}08'N$ ,  $116^{\circ}40'W$ ), in the entrance of Mackenzie River, is low-lying, swampy and thinly timbered with willow, spruce and tamarack.

 42 **Caution.** — **Shoal water**, containing drift timber, extends from the east and NE sides of Big Island.

 43 **Deep Bay**, north of Big Island, is exposed to SE winds but has a clay and mud bottom and may be used as a fair weather **anchorage**.

 44 **North Channel**, along the NW side of Big Island, connects Big Bay to the Mackenzie River but

is only suitable for small craft at high water stages. The **current** is reported to be 3 knots. **Birch Islands** lie along the north side of North Channel.




  45 **Caution.** — In the west end of Great Slave Lake, a **west set** is caused by the inflow of lake waters into Mackenzie River. Mariners on passage from Hay River to the Mackenzie River entrance are advised to make adequate allowance.

Chart 6452

### South Channel


46 **South Channel** is entered between **Beacon Point** ( $61^{\circ}08'N$ ,  $116^{\circ}27'W$ ) and Pointe Desmarais. Mackenzie River has a minimum width of 2 miles at South Channel.

47 Named islands north of the navigable channel are **Lobstick Island**, **Naylor Island**, **Sinclair Island** and **Matheson Island**. On the south side are **Brabant Island**, **Grassy Islands** and **Range Island**.


 48 **Caution.** — Due to numerous islands and **shoal areas** of gravel and boulders, the **navigation channel is narrow and winding**. Several narrow dredged cuts are at the west end of the navigation channel.

49 Kilometre 0, for distances along Mackenzie River, is a point in the entrance channel on a line joining Beacon Point to Pointe Desmarais; it lies 2.8 miles ENE of the east end of Lobstick Island.


50 **Downbound traffic** should **report in** and **upbound traffic** should **report out** at Kilometre 6.4 . The **Danger Zone 1 upstream mileage marker**, marked “Mile 4”, is on a small islet close west of Lobstick Island. The reporting radio facility is *MCTS Iqaluit*.

 51 **Currents** through South Channel attain 2 to 4 knots with the maximum rate between Lobstick and Brabant Islands.


52 **Tie-up markers**, along the south coast of Lobstick Island, indicate sites of barge-securing cables.


 53 **Caution.** — It is reported that with **strong winds** from Great Slave Lake it is **unsafe for small craft** to moor at Lobstick Island, even when the seas are generally not sufficient to trouble the large barges.

54 **Lobstick Island light buoy** ( $1716.96$ ), 3.8 miles ENE of Lobstick Island, is a fairway buoy marked “AM”. The channel between the fairway buoy and Lobstick Island at Kilometre 4.8 is marked by unlighted **buoys**.


 55 **Mile 2.9 Lobstick Island range lights** ( $1716.97$ ,  $1716.98$ ), on the east end of Lobstick Island, lead through the buoyed approach channel into South Channel.



 56 *Mile 3.9 Brabant Island range lights (1718.1, 1718.2)*, on the east end of Brabant Island, lead through the channel south of Lobstick Island.

 57 *Mile 4.4 Naylor Island range lights (1717, 1718)*, at the NW end of Naylor Island, and unlighted **buoys** mark the track between Kilometres 7.6 and 11.7.

58 **Wrigley Harbour**, on the NW side of Brabant Island, provides shelter from the swift river current. The boulder and clay point of land forming the north end of Brabant Island provides a natural breakwater. Wrigley Harbour also includes the tie-ups on Lobstick Island. The NW side of Brabant Island is used as a *Canadian Coast Guard buoy cache*. Small craft can be secured to the NW side of Brabant Island where moorings are provided, or to an anchor set on the gravel bar. Depths of 1.2 to 1.8 m over gravel, sand and small boulders are reported.


 59 **Caution.** — **Gales** from the NW render Wrigley Harbour **unsafe for small craft**.

60 *Brabant Lodge*, a sport fishing lodge with a floating wharf, is on the SW side of Brabant Island.

61 A **beacon range** with a RAM at Kilometre 16.6 and unlighted **buoys** mark the track between Kilometres 14.3 and 15.8.


62 A **beacon range** with a RAM at Kilometre 14.8, on the west end of Matheson Island, and unlighted **buoys** mark the channel between Kilometres 15.8 and 17.9.

63 A **beacon range** with a RAM at Kilometre 16.7 and unlighted **buoys** mark the channel between Kilometres 17.9 and 18.7.

 64 *Mile 13.4 Beaver Lake South Channel range lights (1720.4, 1720.5)* at Kilometre 21.6, a reciprocal **beacon range** at Kilometre 17.7, on the west main island of Grassy Islands, and unlighted **buoys** mark the channel between Kilometres 18.7 and 20.4.


### Beaver Lake

65 **Beaver Lake** ( $61^{\circ}07'N$ ,  $117^{\circ}08'W$ ) is 5 miles wide; the navigable channel, from Kilometres 20.9 to 59.5, is narrow with several dredged cuts. The coast is low and featureless, generally marshes and muskeg separated by reaches of forest; it gives a poor and misleading radar response.


 66 **Caution.** — Beaver Lake is **shallow** with extensive weed-covered **mud flats** on each side of the navigation channel.


67 **Willow Point**, the NW entrance point to North Channel, and **Point Sarristo**, 6.5 miles west, are both low swampy points on the north shore of Beaver Lake. **Burnt**

**Point**, on the south shore 5 miles west of Point Sarristo, is broad and low.


 68 **Caution.** — **Shoal water** and weeds extend 0.5 mile offshore from Burnt Point.


69 **Kakisa River** enters the south side of Beaver Lake through a shallow delta. It is shallow, swift and its headwaters drain the NW slopes of **Cameron Hills**. **Lady Evelyn Falls**, 8 miles upriver, consist of a limestone escarpment 15 m high.

 70 **Currents** through Beaver Lake attain 1.5 to 2 knots.

 71 **Caution.** — **Spoil ground**, with **unknown depths** over it, lies close north of the navigation channel at Kilometre 29.8.

72 The channel through Beaver Lake is well marked by unlighted **buoys**.

 73 *Mile 13.8 Beaver Lake range lights (1719, 1720)* mark a short section of the route at the east end of the lake.

 74 **Caution.** — A skeleton tower with a **racon** at Kilometre 30.6, and skeleton **towers** fitted with **radar reflectors** on the north shore 3.5 miles WNW of Willow Point and 0.7 mile WNW of Point Sarristo, are used by CCG for positioning buoys; they are **not to be used** for navigation.

75 *Beaver Lake light buoy (1721)*, at Kilometre 31.9, is a port hand buoy.


76 *Point Sarristo light buoy (1722)*, at Kilometre 49.8, is a port hand buoy.

Chart 6453

### Providence Rapids

77 **Dory Point** ( $61^{\circ}14'N$ ,  $117^{\circ}28'W$ ), at the upstream end of Providence Rapids, has a prominent abandoned **oil storage tank** 0.9 mile NW of it (1984). A slipway, near the oil storage tank, has a steep rubble face and is no longer usable (1984). The ruins of a wharf lie 0.5 mile south of Dory Point.


78 **Mooring buoys**, 1 mile ESE of Dory Point, are privately maintained and for mooring barges while relaying through Providence Rapids.

 79 **Caution.** — **Providence Rapids**, between Kilometres 59.5 and 74, has numerous **submerged gravel ledges, rocks and boulders** rendering the navigable channel narrow, 100 m wide in places, and winding. The two shoalest areas, where **deep-draught vessels reduce speed**, are near the bends at Kilometre 64.9 and Kilometre 72.9. **Providence Narrows**, between



PROVIDENCE RAPIDS, VIEW DOWNSTREAM (1987)



Kilometres 72.4 and 77.2, form the north end of the rapids and have steep clay cliffs. The aircraft landing strip on the north side of the narrows is hidden by the clay cliffs.

 80 **Caution.** — The **current** attains its **maximum strength** in Providence Narrows.

81 Tugs pushing large arrays of barges upstream or downstream generally relay their barges two or three at a time through Providence Rapids. They use the mooring buoys ESE of Dory Point at the upstream end and the tie-ups on Green or Mission Islands near the downstream end to moor their barges while relaying.


  82 **Caution.** — **Currents** in Providence Rapids, between Kilometres 59.5 and 72.4, attain 3 to 5 knots. In Providence Narrows, Kilometres 72.4 to 77.2, they attain 5 to 9.5 knots with lesser rates in the shallow water on either side of the navigation channel.

83 MV *Merv Hardie*, a ferry, crosses Mackenzie River 3 miles NW of Dory Point connecting *Mackenzie Highway* on the west side to *Yellowknife Highway* on the east side. Gravel landing **ramps** are on each side of the river and the ferry is equipped with bow and stern ramps to carry automobiles and trucks. From June to October the ferry operates between 0500 and 0100 hours; in May and early June, also the latter part of October and November, service depends on ice conditions. A **ramp** for hauling the ferry out of the water is close west of the south landing.

84 **Deh Cho Bridge**, a high-level traffic bridge with a suspension span over the shipping channel, will replace the ferry crossing with a year-round connection between

*Mackenzie Highway* and *Yellowknife Highway*. The bridge is currently under construction (2011).

85 Providence Rapids is marked by unlighted **buoys** and several beacon ranges marked with RAMs.

 86 **Caution.** — The holding ground throughout Providence Rapids is poor, therefore, **buoys** can easily be dragged **out of position**.

87 A **beacon range** with a RAM, on the east bank at Kilometre 63.6, marks a short section of channel between Kilometres 60.5 and 60.8.

88 A **beacon range** with a RAM, on the west bank at Kilometre 62.4, marks the channel between Kilometres 60.8 and 61.5.

89 A **beacon range** with a RAM on the west bank at Kilometre 64.7 marks the channel between Kilometres 62.6 and 63.7.

90 Between Kilometres 63.7 and 65.2 the channel is marked by reciprocal **beacon ranges** with RAMs at Kilometres 63.2 and 66.3.

91 Between Kilometres 65.5 and 68.7 the channel is marked by reciprocal **beacon ranges** with RAMs at Kilometres 62.8 and 70.3.

92 A **beacon range** with a RAM, on the west bank at Kilometre 68.7, marks the channel between Kilometres 69.2 and 69.7.

93 A **beacon range** with a RAM, on Meridian Island at Kilometre 72.9, marks the channel between Kilometres 70 and 70.8.

PROVIDENCE ISLAND, FORT PROVIDENCE FROM PROVIDENCE NARROWS (1987)




94 A **beacon range** with a RAM, on the west bank at Kilometre 69.2, marks the channel between Kilometres 70.8 and 72.1.


95 A **beacon range** with a RAM, on the east bank at Kilometre 74.2, marks the channel between Kilometres 72.7 and 73.5.

96 A **beacon range**, on the east bank at Kilometre 76.9, marks the channel between Kilometres 73.5 and 75.3.

97 A **beacon range** with a RAM, on Meridian Island at Kilometre 78.1, marks the channel between Kilometres 76.6 and 77.4.


 98 A **slipway and wharf**, on the west bank of the river 1.2 miles downstream from the ferry crossing, are used by the *Canadian Coast Guard*. A boat launching **ramp** is on the east bank, south of the range at the south end of Providence Narrows. *Big River Service*, near the ramp, offers gasoline, diesel fuel and a licensed restaurant.

99 A large storage shed, on the west shore near the slipway 1.2 miles downstream from the ferry crossing, is prominent. A cluster of houses on the east bank at the south end of Providence Narrows, close south of the range at Kilometre 74, are prominent from upstream; from downstream they are obscured by the steep mud banks. Several **conspicuous buildings** are on the east bank at the north end of Providence Narrows, in Fort Providence. A **microwave tower** in Fort Providence is **conspicuous** from both directions of approach; two radio masts 0.4 mile west are not very prominent. A **church**, between the two radio masts and the public wharf in Fort Providence, is white with a dark blue roof and spire; it is **conspicuous**.

 100 **Caution.** — **The Big Snye, shallow and unnavigable**, leads around the south and west sides of **Meridian Island** from Providence Rapids, at its south end, to Mills Lake at its north end.

Providence Island to Mills Lake

101 **Fort Providence** ( $61^{\circ}21'N, 117^{\circ}39'W$ ), on the east bank of Mackenzie River opposite Providence Island, is a settlement with a population of 727 (2006). Satellite-based **telecommunications**, including the internet, connect Fort Providence with other northern communities and to population centres to the south. The settlement overlooks the river from a high bluff. It has a *Northern* store, a general store, nursing station, school, motel, hotel, restaurant, post office with mail service three times a week, telephone service, two churches and a *RCMP* detachment. Gasoline, diesel oil and heating fuel are obtainable. Minor repairs can be undertaken.

 102 A public **wharf**, west of the church spire at the NW end of the settlement, is 21 m long with a depth of 1.5 m alongside. A fork-lift truck for freight handling is available.

103 (For **climate data** for Fort Providence, visit: <https://climate.weather.gc.ca/>. For present and forecast **weather conditions**, visit: [https://weather.gc.ca/city/pages/nt-27\\_metric\\_e.html](https://weather.gc.ca/city/pages/nt-27_metric_e.html).)

104 **Bus service**, operating between Yellowknife and Hay River, passes through Fort Providence three times a week. A gravel **airstrip**, 3 miles SE of the settlement, is 2999 feet (914 m) long and accommodates scheduled and chartered flights.


FORT PROVIDENCE (1987)




PROVIDENCE ISLAND AND PROVIDENCE NARROWS, VIEW DOWNSTREAM (1987)





105 **Providence Island** has steep clay shores. Three red and white striped **masts**, on Meridian Island opposite the west end of Providence Island, are aligned close together.

 106 **Caution.** — **Joma Rock** (*not named on the chart*), 0.5 mile NW of the NW end of Providence Island, has 0.3 m over it and forms part of a **shoal area** extending NW from the island.

107 **Green Island** has steep clay banks and a **tie-up marker** with barge-securing cables on its east shore. **Mission Island** has steep clay banks and a **tie-up marker** with barge-securing cables along its SW shore. **Whitlock Island** is at a turn in the river 1.5 miles downstream of Green Island.

 108 **Caution.** — A **shoal gravel bank** extends 0.5 mile SE of Green Island. A **rock**, with 0.3 m over it, lies 0.1 mile off Mission Island on the east side of the channel.

  109 **Caution.** — **Currents** between the north end of Providence Narrows, Kilometre 77.2, to a position NW of Whitlock Island,

Kilometre 90.1, vary between 3 to 5 knots. Between Kilometre 90.1 and the entrance to Mills Lake, Kilometre 105.4, they attain 1.5 knots.

110 A **beacon range** with a RAM on Meridian Island, at Kilometre 76.9, marks the channel between Kilometres 77.4 and 79.3.

111 A **beacon range** with a RAM at Kilometre 82.6 and unlighted **buoys** mark the channel between Kilometres 80.5 and 81.8.



 112 A **beacon range** with a RAM at Kilometre 82.1 and **Mile 54 Whitlock Island range lights** (1728, 1729) with a RAM and unlighted **buoys** mark the channel between Kilometres 82.6 and 85.1.


Chart 6454


 113 **Caution.** — Between the NW end of Whitlock Island, Kilometre 89, and the entrance to Mills Lake, Kilometre 105.4, there are several unnamed islands and **shoal areas**.

KILOMETRE 98.2, VIEW DOWNSTREAM TO MILLS LAKE (1987)



114 A **microwave tower**, in Fort Providence, is **conspicuous** from the channel.

 115 *Mile 55.3 range lights (1730, 1731)* with a RAM, on an island close NW of Whitlock Island, a reciprocal **beacon range** on the west bank at Kilometre 92.9 and unlighted **buoys** mark the channel between Kilometres 89.5 and 90.8.

 116 *Mile 60 range lights (1731.1, 1731.2)* with a RAM, on an island at Kilometre 96.6, and an unlighted **buoy** mark the channel between Kilometres 90.8 and 95.9.

117 A starboard hand **daybeacon** is on the north end of an island at Kilometre 96.7.


118 Starboard hand **daybeacons** are on the north and south sides of an island at Kilometre 99.8; an unlighted **buoy** is close SE of the island.


119 A **beacon range** with a RAM, on an island at Kilometre 103 on the west side of the navigation channel, marks the channel between Kilometres 100.1 and 101.9.


120 A **tie-up marker** is close south of the beacon range on the island at Kilometre 103 and marks the site of barge-securing cables.

### Mills Lake

121 **Mills Lake**, between Kilometres 105.4 and 140, is 10 miles wide. Its shores are flat, sandy, well wooded and marshy with no conspicuous features. Cabins, 2.2 miles north of **Big Point** (*61°24'N, 118°24'W*), are in a small clearing. The navigation channel across Mills Lake is narrow in places and some sections are maintained by dredging.

 122 **Caution.** — Mills Lake has extensive **shoal areas**, filled with weeds and **drying flats**.


 123 The **current** in Mills Lake is reported to average 1.5 knots.


 124 *Mile 65.6 Mills Lake range lights (1732, 1733)* are on the east bank 1 mile SE of Horn River.

125 **Downbound traffic** should **report out** and **upbound traffic** should **report in** at Kilometre 104 in Mills Lake. The **Danger Zone 1 downstream mileage marker**, 0.5 mile south of *Mile 65.6 Mills Lake range lights*, is marked “Mile 65”. The reporting radio facility is *MCTS Iqaluit*.


126 *Mills Lake North light buoy (1733.5)*, at Kilometre 119.1, is a starboard hand buoy.

127 *Mills Lake light buoy (1736)*, at Kilometre 124.4, is a starboard hand buoy.

 128 *Mile 78.6 Mills Lake range lights (1734, 1735)* are on the east bank 1 mile north of Big Point.

 129 *Mile 83.3 Mills Lake range lights (1735.5, 1735.6)* are on the west bank.

130 *Mills Lake West light buoy (1737.5)*, at Kilometre 136.3, is a port hand buoy.

 131 *Mile 87.1 Mills Lake range lights (1738, 1739)* with a RAM are on the west bank at the west end of the lake.


132 The channel across Mills Lake is also marked by unlighted **buoys**.

133 **Horn River** enters the north side at the east end of Mills Lake and is 0.2 mile wide with little current. *Northern Transportation Company Limited* tugs and barges are sometimes wintered in the river. Some 15 miles upstream the channel narrows considerably with a consequent increase in the current, thereafter rapids extend several miles upriver. The river is navigable by canoe for some distance upstream and its source is north of **Horn Plateau**, elevation 610 m.

Chart 6455

Mills Lake to Morrisey Creek

134 Between the west end of Mills Lake, Kilometre 140, to 3 miles west of Morrisey Creek, Kilometre 210, Mackenzie River is wide, mostly deep and almost straight.

 135 **Currents** between Mills Lake, Kilometre 140, and Head-of-the-line (*a local name*), Kilometre 228.5, attain 1.5 to 2 knots.

136 **Axe Point** ( $61^{\circ}18'N$ ,  $118^{\circ}40'W$ ), on the west bank, is a raised rounded feature with a few cabins on it.

137 **Historical Note.** — The locality of **Mills Landing** is close downstream of Axe Point, near the site of an abandoned military staging area. An abandoned airstrip, overgrown with brush, is near Mills Landing. The old winter tractor trail from Hay River to Canol (*near Norman Wells*) crossed the river at this point.

138 A **beach** suitable for wintering small craft is 1 mile west of Axe Point. Deep water close to shore is reported.


139 A **beacon range** on the east bank at Kilometre 150.5 marks the channel between Kilometres 143.6 and 149.7.

140 **Axe Creek**, 3 miles downstream of Axe Point, flows into Mackenzie River from the south and its entrance is protected by **Grassy Island**.

141 A port hand **daybeacon** is on the east bank at Kilometre 165.3.

142 **Bouvier River** enters Mackenzie River from the south at Kilometre 170.6. For 3 miles above its mouth the

river is between 31 and 61 m wide. Above this point the river contracts and becomes a rushing, turbulent stream, flowing over gravel and shingle bars between low banks of boulder-clay.

 143 **Caution.** — A **low island**, with small bushes on it, close off the mouth of Bouvier River, may be **submerged** at high water stages.

144 From Bouvier River to the mouth of Redknife River, a distance of 10 miles, Mackenzie River flows almost directly west between low banks backed by large areas of swamp which are drained by several small streams.

145 **White Man's Point** is on the east bank at Kilometre 180.2. **Wallace Creek** empties into Mackenzie River on the west bank abreast White Man's Point.

146 There is a **tie-up marker** on the east bank 0.25 mile west of White Man's Point.

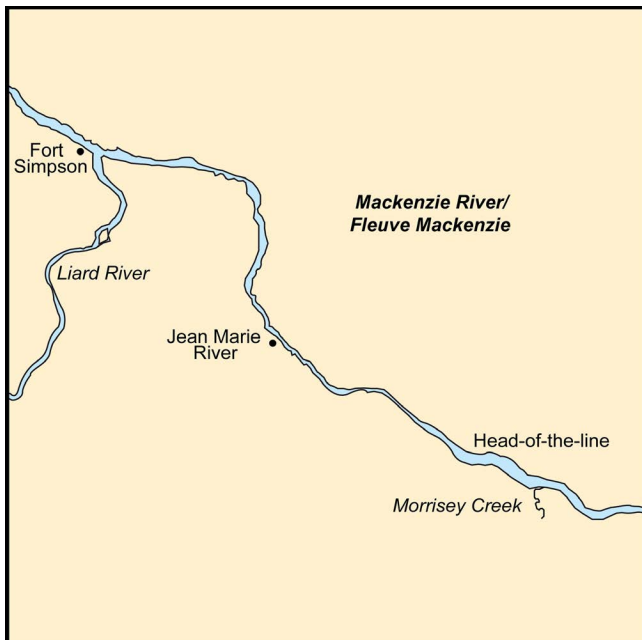
147 **Redknife River**, with its headwaters in the **Redknife Lakes**, enters the west bank at Kilometre 188.3. The river, 55 miles long, is swift, narrow and has numerous rapids in its upper reaches. Redknife River expands to 183 m wide 1 mile upstream from its junction with Mackenzie River.

148 Downstream of Redknife River the Mackenzie River curves NW then west for 23 miles past the mouth of Trout River and toward the Head-of-the-line (*a local name*) approaches (*described in Chapter 7*). **Morrisey Creek** enters Mackenzie River on the west bank at Kilometre 204.4.

# Chapter 7

## Mackenzie River

### Morrisey Creek — Fort Simpson Liard River and Fort Nelson River



#### General

Charts 6408, 6409, 6410, 6455

1 Mackenzie River becomes narrow and swift 15 miles below Morrisey Creek.

2 Mariners are advised that the *Mackenzie River Marine Safety Advisory Procedures* should be followed by all vessels on the river, before entering, while proceeding through, and on leaving Danger Zones 1 to 10. Danger Zones 1 to 10 and their reporting points are described at the appropriate geographic locations in the text of this publication.

3 (For full details see *Radio Aids to Marine Navigation (Pacific and Western Arctic)*, available at: <https://www.ccg-gcc.gc.ca/publications/mcts-sctm/ramn-armn/index-eng.html>.)

4 *MCTS Iqaluit*, through its repeater stations on the Athabasca — Mackenzie watershed, maintains a watch on distress, urgency and calling frequency 5803 kHz. (Consult *Radio Aids to Marine Navigation (Pacific and Western Arctic)* for full details.)

5 **Danger Zone 2** of the *Mackenzie River Marine Safety Advisory Procedure* lies between Head-of-the-line and Fort Simpson.



6 **Caution.** — The **current** in the stretch between Head-of-the-line and the downstream end of Green Island Rapids, near Fort Simpson, flows between 4.5 and 6.3 knots. Throughout the length of this section the river varies from 0.2 mile to just over 1 mile wide and flows between gravel banks up to 18 m high.

7 Between Head-of-the-line and the mouth of Rabbitskin River, Kilometres 228.5 to 300.8, the river is quite narrow, 0.2 mile wide in places, and has several bends in it. The community of Jean Marie River is on the west bank at Kilometre 270.4.



8 **Caution.** — Many **underwater rocks** and **rocks awash** lie between Head-of-the-line and the mouth of Rabbitskin River and, due to **boulders** along the shoreline, there are few places to haul alongside the shore.


9 The channel between Rabbitskin River and Berens Landing, Kilometres 300.9 to 313.8, has a few shoal bars across it but is well marked by ranges and buoys. Green

**APPROACH TO HEAD-OF-THE-LINE, VIEW DOWNSTREAM** (1987)



Island Rapids, between Berens Landing and Naylor's Landing, Kilometres 313.8 to 323.5, is constricted by two narrow dredged rock cuts.

10 Between Naylor's Landing and Fort Simpson, Kilometres 323.5 and 338, the channel is well marked by ranges and buoys. Liard River enters the west side of Mackenzie River just upstream from Fort Simpson.

 11 The following table of currents for the route from Morrisey Creek to Fort Simpson gives approximate rates only. The rate varies with the outflow from Great Slave Lake and the tributaries of the Mackenzie River.

**Table 7.1: Current table for the route from Morrisey Creek to Fort Simpson**

Kilometre no.	knots	mph	kph
140 - 229	1.5 - 2	1.7 - 2.3	2.7 - 3.7
229 - 301	4.5 - 6.3	5.2 - 7.2	8.4 - 11.6
301 - 314	2.5 - 4.5	2.9 - 5.2	4.7 - 8.4
314 - 323	5.5	6.3	10.1
323 - 338	2	2.3	3.7

Chart 6455

**Approach to Head-of-the-line**



12 **Downbound traffic** should report in and **upbound traffic** should report out at Kilometre 209. The **Danger Zone 2 upstream mileage marker**, marked "Mile 130", is on the east bank 2.6 miles

downstream of Morrisey Creek. The reporting radio facility is *MCTS Iqaluit*.


13 **Browning Point** ( $61^{\circ}18'N$ ,  $119^{\circ}50'W$ ), at Kilometre 218.9, forms the east entrance point of Trout River. **Brownings Landing**, the site of an abandoned sawmill with several buildings, is on the west bank 1 mile east of the Trout River entrance.


14 **Trout River**, with its headwaters in **Trout Lake**, 60 miles SW of Mackenzie River, is narrow, swift and broken by several falls and numerous rapids. For practical purposes the river is unnavigable, however, it is reported that small craft can enter it at high water levels.

15 Between Trout River and Head-of-the-line, 6 miles downstream, Mackenzie River decreases in width from 1.5 miles to less than 0.5 mile.

  16 **Caution.** — Downstream of Trout River, the **current** increases as Head-of-the-line is approached.

17 Between Kilometre 210 and Head-of-the-line, the channel is marked by two lighted ranges. The approach to Head-of-the-line is marked by unlighted **buoys**.

 18 **Mile 136.2 Trout River range lights** (1739.4, 1739.41) are north of Trout River and lead from Kilometres 210 to 215.7.

 19 **Mile 132.9 Browning Point Crossing range lights** (1739.3, 1739.31) with a RAM, 2.2 miles east of Browning Point, lead toward Head-of-the-line.

20 A **beacon range** at Kilometre 227.3, 0.9 mile south of Head-of-the-line, leads into the approach to Head-of-the-line.



CACHE ISLAND FROM KILOMETRE 230.1, VIEW DOWNSTREAM (1987)



21 **Historical Note.** — **Head-of-the-line** (*a local name, 61°21'N, 120°01'W*), a reference point at Kilometre 228.5, derives its name from the days before powered craft were used on the river, when scows, York boats and canoes were hauled upstream with track-lines.

22 An elongated island lies north of mid-stream at the downbound approach of Head-of-the-line.

23 It has been reported that a channel for river traffic exists on each side of the unnamed elongated island, however, the usual track leads south of the island.

Charts 6455, 6408

**Head-of-the-line to Rabbitskin River**




 24 **Caution.** — Between Head-of-the-line (*61°21'N, 120°01'W*), Kilometre 228.5, and Kilometre 251 there are no known steep-to shores, free of boulders, suitable for hauling alongside the river bank. At Kilometre 251 on the west bank (*where the charted break in the 2 m contour line occurs*), the bank is steep-to and free of boulders; it is reported to be suitable for hauling alongside.

Chart 6408

25 **Cache Island** is downstream of Head-of-the-line near Kilometre 233.4.

 26 **Caution.** — A **rock awash** is close south of Cache Island. **Underwater boulders** are downstream of the same island at Kilometre 240.6. **Underwater rocks** are downstream of Cache Island at Kilometres 241.9, 245.1 and 246.9.

27 The route around Cache Island, between Kilometres 230 and 240, is marked by a reciprocal pair of **beacon ranges** at Kilometres 230.9 and 234, a **beacon range** at Kilometre 232.7 and a second pair of reciprocal **beacon ranges** at Kilometres 234.3 and 236.6. A river crossing between Kilometres 236.6 and 237.8 is marked by two **beacon ranges**, at Kilometres 235.1, on the east bank, and 239.3 on the west bank. Each of the seven ranges is marked with a RAM. Buoys mark the turns between these ranges.

 28 **Caution.** — Off-lying **underwater rocks** between Kilometres 241.4 and 247.8 are marked by unlighted **buoys** and **rock markers**.

29 Two starboard hand **daybeacons** are on the west bank at Kilometre 262.3.

30 **Jean Marie River** enters Mackenzie River from the south at Kilometre 270.4. The river is 110 miles long and its headwaters are near those of the Trout River. Canoe travel on Jean Marie River is comparatively easier than on Redknife or Bouvier Rivers (*mentioned in Chapter 6*), because there are long stretches of calm water between rapids.

31 The First Nations settlement of **Jean Marie River** (*61°32'N, 120°38'W*) is at the south side of the junction of Jean Marie River and the Mackenzie River.


32 The settlement, with a population of 81 (*2006*), has a primary school and a co-operatively owned sawmill. Gasoline and other fuels may be obtainable in small quantities. The settlement is connected by all-weather road to the *Mackenzie Highway*. There is weekly mail service but no post office. Jean Marie River has satellite

JEAN MARIE RIVER (1987)



phone, television, radio and newspaper. Internet service is available in the community office and school. The economy of the community is based on hunting, trapping, and traditional artwork.


33 A gravel airstrip, 2512 feet (766 m) long, is close south of the settlement. Charter air service from Fort Simpson can be arranged. There are deadmen anchors for mooring barges and equipment for hauling out small craft is reported to be available.


 34 **Caution.** — Between Jean Marie River, Kilometre 270.4, and Kilometre 281.6 several dangers lie off the west bank. A **rock awash** is at Kilometre 272, **underwater boulders** are at Kilometre 273.6, an **underwater rock** is at Kilometre 274.7 and a **rock awash** is at Kilometre 277.3. **Isolated underwater rocks** lie off the east bank at Kilometres 278.4 and 280. **Buoys** and **rock markers** mark these dangers.

35 There is a sharp bend between Kilometres 272 and 277.6. The route around the bend is marked with reciprocal **beacon ranges** at Kilometres 271.3 on the east bank and 273.7 on the west bank, a **beacon range** at Kilometre 275.2 on the east bank and a **beacon range** at Kilometre 274.1 on the east bank. All the ranges have RAMs. The channel is also marked by unlighted **buoys**.

36 **Spence River** enters Mackenzie River from the east at Kilometre 276; its headwaters are in a long shallow lake 3 miles north of Head-of-the-line and flow through flat, sparsely timbered terrain.


37 The site of the abandoned Brownings sawmill, where there are buildings in disrepair, is at the south entrance point of Spence River.

 38 **Mile 174.9 range lights** (1739.6, 1739.7), with a RAM at Kilometre 281.5, lead from Kilometres 279.2 to 280.8.

 39 **Caution.** — A **rock awash**, indicated by a **rock marker**, and **underwater rocks**, indicated by **buoys**, lie on either side of the track.

40 **River banks** between Kilometre 279.2 and Rabbitskin River, Kilometre 300.9, are composed of clay and boulders with an elevation of 30 m.

41 A **beacon range** with a RAM on the west shore at Kilometre 281.5, adjacent to *Mile 174.9 range* lights, marks the channel between Kilometres 281.9 and 288.1.

 42 **Caution.** — At Kilometre 285.7 an **underwater rock** lies off the west bank and a **shoal area** lies off the east bank. An **underwater rock** is reported to lie close off the west bank at the bend at Kilometre 297.2 and a **shoal spit** extends from the east bank at this same bend.

43 Unlighted **buoys** mark off-lying dangers between Kilometres 282.4 and 298.6.

44 A **beacon range** with a RAM on the east shore at Kilometre 286.5 marks the channel between Kilometres 288.1 and 289.7. A starboard hand **daybeacon** is on the west bank at Kilometre 290.8.

45 **Downbound traffic** should make a **second report** at Kilometre 291 (Mile 181). There is no mileage marker here, but mariners should call to ensure there is no traffic in Green Island Rapids. The reporting radio facility is *MCTS Iqaluit*.

46 Two **tie-up markers**, on the west bank at Kilometre 294.5, mark the locations of barge-securing cables.

47 A bend between Kilometres 295.3 and 298.5 is marked by a **beacon range** at Kilometre 297.2 and a **beacon range** at Kilometre 297.1. Both ranges have a RAM.

Chart 6409

### Rabbitskin River to Green Island Rapids

48 (*Chart 6409 is published at a larger scale than the adjoining upstream and downstream charts.*)

49 **Rabbitskin River** ( $61^{\circ}47'N$ ,  $120^{\circ}42'W$ ) enters the east bank of Mackenzie River over a gravel and boulder bar at Kilometre 300.9. A cabin is on the south entrance point. The headwaters of Rabbitskin River are in a series of lakes lying north of Mills Lake and the river follows parallel to and drains the south slopes of Horn Plateau. For 16 miles above its mouth the Rabbitskin River varies from 15 to 23 m wide. Although there are rapids and boulders in the river it can be navigated by canoe, but with difficulty.



50 **Caution.** — The **current** in Mackenzie River, from Rabbitskin River to Green Island Rapids, ranges from 2.5 to 5 knots.



51 **Caution.** — Mackenzie River is 1 mile wide at its confluence with Rabbitskin River but **boulder-strewn banks** extending from each shore constrict the navigable channel in places. A **shoal bar** crosses the channel between Kilometres 300.1 and 302.6.

52 Three **beacon ranges**, all on the east side of the river at Kilometres 301.8, 302.1 and 302.4, lead around the bend in Mackenzie River at Rabbitskin River between Kilometres 299.3 and 302.6. Each range is marked with a RAM and the track is marked by unlighted **buoys**.



53 **Caution.** — Between Kilometre 302.6 and Berens Landing at the upstream end of Green Island Rapids, Kilometre 313.8, the **navigation channel** is narrow and intricate in places with **shallow water** and **boulders** adjacent to both sides.

54 Between Kilometres 302.6 and 307.9 the channel is marked by unlighted **buoys**. From Kilometres 307.9 to 308.5 the channel is marked by a **beacon range** with a RAM on the east bank at Kilometre 306.9 and unlighted **buoys**.

55 Between Kilometres 308.5 and 311.9, the channel is marked by unlighted **buoys** and a **beacon range** with a RAM on the west bank at Kilometre 309.3.

56 Between Kilometre 311.9 and Berens Landing, Kilometre 313.8, the channel is marked by a **beacon range** with a RAM on the east bank at Kilometre 310.9 and another **beacon range** on the east end of Hanson Island at Kilometre 314.6 and by unlighted **buoys**.

57 A **tie-up marker** on the west bank of Mackenzie River at Kilometre 305 marks the location of barge-securing cables.



58 **Caution.** — **Strong Point** is on the east bank at Kilometre 306.6. Abreast this point the channel is deep and the **current** flows at a considerable rate.

59 The locality of **Berens Landing** is on the west bank of the river at Kilometre 313.8.

60 A **tie-up marker**, close east of Berens Landing, marks the location of barge-securing cables.

### Green Island Rapids

61 **Green Island** ( $61^{\circ}50'N$ ,  $120^{\circ}58'W$ ) is 56 m high, thickly wooded and surrounded by shallow water with numerous boulders. **Clark Island** lies 0.5 mile upstream of Green Island. **Hanson Island**, across the shipping channel from Green Island, is thickly wooded with spruce and separated from the west bank of the river by a narrow, shallow channel. **Ghost Island** is close west of the west end of Hanson Island.

62 **Green Island Rapids** extend from Kilometre 313.8 to Kilometre 321.9. The rapids are entered in fairly wide, deep water, however, the channel becomes constricted in the dredged rock cut

### GREEN ISLAND FROM KILOMETRE 312.2, VIEW DOWNSTREAM (1987)



GREEN ISLAND RAPIDS FROM KILOMETRE 315.4, VIEW DOWNSTREAM (1987)



GREEN ISLAND RAPIDS FROM KILOMETRE 321.9, VIEW UPSTREAM (1987)



at Kilometre 318.7. Another dredged rock cut is at Kilometre 319.5.

63 Tugs pushing large arrays of barges upstream or downstream generally relay barges two or three at a time through Green Island Rapids. At the upstream end the tugs use tie-ups at Berens Landing, Kilometre 313.8, or the tie-ups at Kilometres 305 or 294.5; at the downstream end they use tie-ups at Naylor's Landing, Kilometre 323.5.



64 **Caution.** — The **current** through the rapids is 5.5 knots. Vessels can be set across the rapids, particularly near the west end of Hanson Island and again near the downstream rock-cut. Once clear of the downstream rock cut the current gradually diminishes to 2 knots.

65 The water of Green Island Rapids, generally free of sediment, is used by tugs to replenish their **fresh water** supply.


66 The **route** through Green Island Rapids between Kilometres 313.8 and 321.9 is marked by unlighted **buoys**. A **beacon range** at Kilometre 313.8, at Berens Landing, marks the route between Kilometres 313.8 and 315.6.

67 Between Kilometres 315.6 and 317.5 the route is marked by a **beacon range** with a RAM at Kilometre 318.3. Between Kilometres 317.5 and 317.8, the route is marked by a **beacon range** with a RAM on the west tip of Hanson Island at Kilometre 317.2. Between Kilometres 317.8 and 318.3, the route is marked by a **beacon range** with a RAM on the north side of Hanson Island at Kilometre 315.6.

68 Between Kilometres 318.3 and 319.5 the route is marked by a **beacon range** with a RAM at Kilometre 320.3.

69 Between Kilometres 319.5 and 321.2 the route is marked by a **beacon range** with a RAM at Kilometre 318.5.

#### Green Island Rapids to Fort Simpson

 70 Downstream of Green Island Rapids the **current** eases from 4.5 knots to less than 2 knots at the junction of Mackenzie and Liard Rivers. Mackenzie River increases from 0.5 mile to more than 1 mile wide upstream of Fort Simpson. Along this stretch the river flows between grassy banks of mud and gravel rising to a


height of 37 m. There are thick growths of spruce and poplar on each side of the river.


71 A **beacon range** with a RAM at Kilometre 327.7 marks the route between Kilometres 322.7 and 325.9. Unlighted **buoys** also mark the entire route between Kilometres 322.7 and 331.7.


*Charts 6409, 6410*

72 **Naylors Landing** is on the west bank of the river at Kilometre 323.5.

73 A **tie-up marker** marks the location of the barge-securing cables at Naylors Landing.

 74 **Caution.** — **Whitney Rock**, close off the west bank 1 mile downstream of Naylors Landing, is a large **boulder** which dries 1 m at low water levels. Whitney Rock is reported to be used as a water level reference. **Kellett Shoal**, a **gravel bar** with 0.3 to 1.8 m over it, is 0.5 mile downstream of Whitney Rock close north of the track.


 75 The usual track between Kilometres 325.9 and 328.8 is marked by *Mile 205.6 Martin Island range lights* (1745.3, 1745.4) with a RAM.


 76 **Caution.** — A **submarine pipeline** crosses the river at Kilometre 327.2. A sign on the west bank at Kilometre 325.1, facing upstream, reads “Warning

#### CONFLUENCE OF MACKENZIE RIVER AND LIARD RIVER, VIEW UPSTREAM (1987)



Pipeline Crossing Ahead”. A sign on the west bank at the pipeline crossing reads “Warning Do Not Anchor or Dredge”. (*The condition of these signs is unknown.*)

 77 **Caution.** — A **shoal** lies north of the navigation channel at the pipeline crossing site. Several **shoal areas** lie close north of the usual channel between Kellett Shoal and Martin Island. Some of the dangers have been reported to **dry** at low water levels.

 78 **Mile 206.7 range lights** (1745.45, 1745.46) with a RAM at Kilometre 332.7, on Gros Cap, mark the usual track between Kilometres 328.8 and 331.7.

79 **Martin Island**, at Kilometre 331.5, is 32 m high and wooded. **Nadia Creek** enters Mackenzie River from the north 1 mile upstream of Martin Island. A deep trench bordered by shoal water parallels the bank for 0.7 mile downstream of Nadia Creek.

80 Reciprocal **beacon ranges** at Kilometres 332.5 and 334.6 mark the usual track at a river crossing between Kilometres 332.8 and 333.8. Both ranges have RAMs.

81 A sign on the west bank at Kilometre 332.3, near the beacon range, reads “Warning pipeline crossing and dredge ahead”. (*The condition of this sign is unknown.*)

82 **Gros Cap** ( $61^{\circ}51'N$ ,  $121^{\circ}17'W$ ) forms the east entrance point of Liard River. Gros Cap has steep cliffs, 65 m high, which make a good landmark from a downstream approach.

83 **Truesdell Island**, in the entrance to the Liard River, is a large area of sand and stone, 3.4 m high. There are three wooded areas on the island.

84 (*Liard River and Fort Nelson River are described later in this chapter.*)

85 **Downbound traffic** should **report out** and **upbound traffic** should **report in** at Kilometre 335. The **Danger Zone 2 downstream mileage marker**, marked “Mile 208”, is on the east bank of Mackenzie River opposite the north end of Truesdell Island. The reporting radio facility is *MCTS Iqaluit*.


86 At the confluence of Liard and Mackenzie Rivers there is a marked distinction between the muddy water of Liard River and the clear water of Mackenzie River. The separation line between the silted water and the clean water can be observed for a considerable distance downstream.

## FORT SIMPSON (1987)




87 Spring break-up of ice on Mackenzie River is usually a most impressive sight. Liard River ice breaks up first, and the freed ice carried by the sudden rush of the Liard River water frequently piles to heights of 4.5 to 6 m before the firm ice of the main stream gives way and allows the Liard River outflow to force a channel across Mackenzie River. The break-up at Fort Simpson may continue downriver as far as Tulita before Mackenzie River above Fort Simpson breaks up.

88 (For general **ice conditions** on Mackenzie River, see Chapter 4 of *Sailing Directions* booklet ARC 400 — *General Information, Northern Canada.*)

 89 **Caution.** — During the navigation season, **flash floods** or **freshets** from Mackenzie River tributaries, such as the Liard and Nahanni Rivers, have been reported to raise the level of Mackenzie River 1.5 m or more over a period of 3 or 4 days. Freshets from the Liard River carrying large amounts of trees and roots can sweep **floating aids out of position** between Fort Simpson and Sans Sault Rapids.

90 The village of **Fort Simpson** ( $61^{\circ}52'N$ ,  $121^{\circ}22'W$ ), population 1216 (2006), is on an island 2 miles long at the west entrance point of the Liard River. The island, 15 m high, is separated from the west bank of Mackenzie River by a narrow, shallow channel and is joined to the mainland at the east end by a causeway.

91 Fort Simpson has a hospital with a doctor and a dentist, a post office, several general stores, a school, churches, a bank, public accommodations, repair facilities for automobiles and a *RCMP* detachment. The bulk fuel distributor is *Imperial Oil Ltd.*

 92 A public floating **wharf**, with 1.8 m alongside, is close downstream of the mid point of the island. Cargo handling equipment is available.

93 The Mackenzie River on the north side of Fort Simpson is a **seaplane landing area**.

94 (For general **weather conditions** in this area, see Chapter 4 of *Sailing Directions* booklet ARC 400 — *General Information, Northern Canada. For present and forecast weather conditions, visit: <https://weather.gc.ca/>.)*

95 Freight is brought to Fort Simpson by *Northern Transportation Company Limited* barges or transport truck on the all-weather *Mackenzie Highway*. *Cooper Barging* operates from a facility on the north bank of Liard River opposite Truesdell Island.


96 An **overhead cable**, with a vertical clearance of 19 m, crosses Liard River 7 miles from the river entrance.

97 Fort Simpson airport, 13 km SSE of the village, has an asphalt runway 6000 feet (1829 m) long. A small-plane landing strip, 3000 feet (914 m) long, is within the

village boundary. Scheduled flights and charter services are available.

98 An **aeromarine radiobeacon** ( $61^{\circ}47'09''N$ ,  $121^{\circ}15'38''W$ ) transmits on a frequency of 375 kHz, identification *Morse* “FS” (•• — • •••).

99 *MV Lafferty*, a ferry, crosses Liard River connecting the *Mackenzie Highway* with Fort Simpson. The ferry crossing is 9 miles from the river entrance, adjacent to the Fort Simpson airport. Depending on ice conditions and current the ferry operates from early June through October.

 100 *Liard River East range lights* ( $1745.53$ ,  $1745.54$ ), *Liard River West range lights* ( $1745.56$ ,  $1745.57$ ) and a starboard hand unlighted **buoy** mark the ferry crossing on the Liard River.

101 (The usual tracks leading from the main channel to Fort Simpson wharf and to the Liard River are charted.)

102 Satellite-based **telecommunications**, including the internet, connect Fort Simpson with other northern communities and to population centres to the south. Telephone service is available and the *RCMP* maintain radiotelephone facilities.

103 **Harris River** enters Mackenzie River from the NE across the river from Fort Simpson.


104 **Conspicuous** oil storage **tanks** are on the west part of the island at Fort Simpson.

105 **Historical Note.** — The settlement at Fort Simpson was built about 1804 by the *North-West Company* and was then known as **Fort of the Forks**. The settlement was renamed after Sir George Simpson in 1821, when the *North-West Company* amalgamated with the *Hudson's Bay Company*.

## Liard River and Fort Nelson River

### General

106 One of the main tributaries of Mackenzie River, **Liard River** joins Mackenzie River at Fort Simpson ( $61^{\circ}52'N$ ,  $121^{\circ}22'W$ ). In its course through the Rocky Mountains and the eastern foothills Liard River is navigable, with difficulty and considerable danger, only by canoe. A short distance east of **Hell Gate Rapids** ( $59^{\circ}17'N$ ,  $125^{\circ}14'W$ ) the Liard River breaks through the foothills, enters the central plain of the Mackenzie River basin and flows in a general north direction toward Mackenzie River. The principal tributaries of Liard River are **Beaver River** and South Nahanni River joining from the north, and **Toad River**, Fort Nelson River and Petitot River entering from the south.

 107 **Caution.** — There are **no hydrographic charts** of the Liard River or Fort Nelson River. Except for small craft, the Liard and Fort Nelson Rivers should not be navigated without **local knowledge**. During the navigation season the channel is reported to shift in places. Natural obstacles such as **shallows with boulders, sand bars**, narrow channels and **rapids** are reported to be common, especially at low water levels.

### Fort Simpson to Fort Nelson

108 **Beaverdam Rapids**, an obstacle to navigation at low water levels, is a series of ledges that stretches across the Liard River 38 miles upstream of Fort Simpson. In September 1974, a miniature waterfall 0.6 m high was reported at this point. There is fast water in **Liard Rapids** for 9 miles upstream of Beaverdam Rapids.

109 The settlement of **Nahanni Butte**, Northwest Territories ( $61^{\circ}02'N$ ,  $123^{\circ}23'W$ ), population 120 (2010), is 120 miles from Fort Simpson on Liard River, near the junction of **South Nahanni River**. Satellite-based **telecommunications**, including the internet, connect Nahanni Butte with other northern communities and to population centres to the south. Transportation to Nahanni Butte is by ice road in winter, by boat in summer or by aircraft year-round. The economy of the community is based on hunting, fishing, trapping and some tourism. There is a nursing station, school, convenience store and a four-room hotel. A landing strip is near the settlement. There are no scheduled flights and mail is flown in by charter.

110 The South Nahanni River fronting the settlement is a **seaplane landing area**.

111 From Nahanni Butte the Liard River follows a general south direction for 80 miles to Fort Liard.

112 The hamlet of **Fort Liard**, Northwest Territories ( $60^{\circ}14'N$ ,  $123^{\circ}28'W$ ), population 583 (2006), is on the south bank of the Liard River at its junction with **Petitot River**, 200 miles from Fort Simpson. Satellite-based **telecommunications**, including the internet, connect Fort Liard with other northern communities and to population centres to the south. Hunting and trapping, summer wage employment and tourism are the main activities. There is a school, nursing station, churches, a **RCMP** detachment, a motel and two general merchandise stores. A landing strip is near the settlement and there are flights from Fort Simpson and Fort Nelson. It is connected by **Liard Highway** to Fort Nelson.

113 The Liard River fronting the settlement is a **seaplane landing area**.



114 An **aeromarine radiobeacon** ( $60^{\circ}14'18''N$ ,  $123^{\circ}27'56''W$ ) transmits on a frequency of 368 kHz, identification Morse “YJF” (— • — — • — — — • • — •).

115 (For general **weather conditions** in this area, see Chapter 4 of *Sailing Directions* booklet ARC 400 — *General Information, Northern Canada*. For **climate normals and averages** for Fort Simpson, visit: <https://climate.weather.gc.ca/>. For present and forecast **weather conditions**, visit: [https://weather.gc.ca/city/pages/nt-4/metric\\_e.html](https://weather.gc.ca/city/pages/nt-4/metric_e.html).)

116 Upstream from Fort Liard the Liard River follows a general south direction for 70 miles to **Nelson Forks**, 270 miles from Fort Simpson. Here, the **Fort Nelson River** joins with the Liard River. The Fort Nelson River extends 105 miles SE to Fort Nelson.

117 The town of **Fort Nelson**, British Columbia ( $58^{\circ}48'N$ ,  $122^{\circ}42'W$ ), population 4514 (2006), is near the confluence of the Fort Nelson and Muskwa Rivers, 375 miles from Fort Simpson, at Mile 300 on **Alaska Highway**. The community is connected to other centres by road and rail and regular air service. Fuels, potable water and provisions are obtainable.

118 The source of Fort Nelson River lies 95 miles SE of Fort Nelson near the British Columbia – Alberta border.

  119 **Caution.** — During a reconnaissance survey in June 1975 the **Radium Express**, with a draught of 1.3 m, navigated from Fort Simpson to Fort Nelson. The average **current** was estimated at 5 to 6 knots. Liard River is reported to be generally deeper than Fort Nelson River.

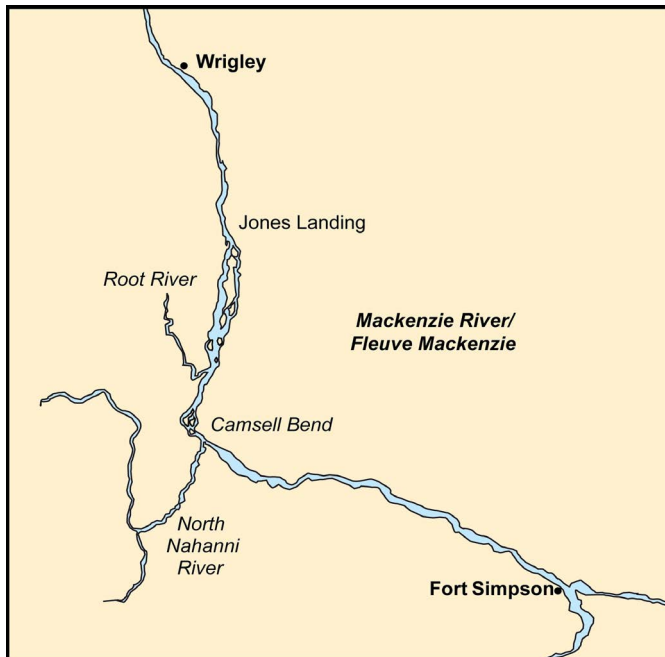
120 The normal navigation season on the Liard River route is May 15 to October 15, depending on water levels. Generally there is good water after spring break-up; the water level starts to drop early in August. Floating trees and debris are reported to cause a hindrance to navigation in early summer.

121 **Liard Highway** leads south from **Mackenzie Highway** along the banks of Liard River, passing through Fort Liard to Fort Nelson in British Columbia. Since **Liard Highway** was completed in 1984, there has been little commercial traffic on Fort Nelson River. Fort Liard is now the hub of tug and barge traffic on Liard River and surrounding waterways.



# Chapter 8

## Mackenzie River Fort Simpson — Wrigley



### General

Charts 6410 to 6413

1 Mackenzie River continues its westerly course from Fort Simpson to Camsell Bend, where the river turns north.

2 Mariners are advised that the *Mackenzie River Marine Safety Advisory Procedures* should be followed by all vessels on the river, before entering, while proceeding through, and on leaving Danger Zones 1 to 10. Danger Zones 1 to 10 and their reporting points are described at the appropriate geographic locations in the text of this publication.

3 (For full details see *Radio Aids to Marine Navigation (Pacific and Western Arctic)*, available at: <https://www.ccg-gcc.gc.ca/publications/mcts-sctm/ramn-arnm/index-eng.html>.)

4 *MCTS Iqaluit*, through its repeater stations on the Athabasca — Mackenzie watershed, maintains a watch on distress, urgency and calling frequency 5803 kHz. (Consult *Radio Aids to Marine Navigation (Pacific and Western Arctic)* for full details.)

5 **Danger Zone 3** of the *Mackenzie River Marine Safety Advisory Procedures* lies between Camsell Bend and Jones Landing.

6 Between Fort Simpson ( $61^{\circ}52'N$ ,  $121^{\circ}22'W$ ), Kilometre 338, and the entrance to North Nahanni River, Kilometre 457.1, the channel is well marked by lighted ranges, beacon ranges and unlighted buoys.

7 **Caution.** — The river is wide but has several **shoal bars** and **river crossings** where deep-draught vessels are required to **reduce speed**. The **navigation channel**, particularly at river crossings, frequently changes due to **silting** and **scouring** and the navigation aids are moved to mark the best route.

8 Camsell Bend, between Kilometres 460.3 and 465.1, is marked by beacon ranges and unlighted buoys. Between Kilometre 465.1 and the south end of McGern Island, Kilometre 492.5, the channel is marked by lighted ranges, beacon ranges and unlighted buoys. Between Kilometres 492.5 and 519.8 the navigation channel lies along the west side of McGern Island and is marked by beacon ranges and unlighted buoys.

9 **Caution.** — Several **shoal bars** across the channel west of McGern Island require deep draught vessels to **reduce speed**.

10 Between Kilometres 534.3 and 566.5 the current is swift and seething but the navigation channel is well marked by beacon ranges. The settlement of Wrigley lies on the east bank at Kilometre 572.9.

11 The following table of currents for the route from Fort Simpson to Wrigley are approximate rates only. The rate varies with the outflow from Great Slave Lake and the tributaries of the Mackenzie River.

**Table 8.1: Current table for the route from Fort Simpson to Wrigley**

Kilometre No	knots	mph	kph
338 - 409	3.5	4	6.4
409 - 534	3.5	2.9	4.7
534 - 566	5 - 6	5.8 - 6.9	9.3 - 11.1
566 - 663	3.5	4	6.4

Charts 6410, 6411

12 From Fort Simpson (61°52'N, 121°22'W), Kilometre 338, to the mouth of North Nahanni River, Kilometre 457.1, the Mackenzie River trends in a WNW direction through a rolling, wooded plain, with occasional areas of muskeg. About 9 miles downstream of Fort Simpson, in the vicinity of Martin River, the west bank is 46 to 61 m high.

13 **Caution.** — Between Kilometres 338 and 408.7, the **current** averages 3.5 knots; in narrow sections the current increases to about 5 knots.

Chart 6410

**Fort Simpson to Trail River**

14 **Mile 210.2 Harris River range lights** (1745.6, 1745.7) with a RAM, 0.9 mile NW of Harris River (described in Chapter 7), mark the channel between Kilometres 340.4 and 342.8.

15 **Gifford Island** is 1 mile downstream of Fort Simpson.

16 **Caution.** — The channel has comparatively deep water from Fort Simpson to the turn abreast Martin River; however, a long tongue of **shoal water** projects from the west bank NW of Gifford Island. An unlighted **buoy** marks the danger.

17 A **beacon range** with a RAM at Kilometre 353.3, on the summit of a landslide area, marks the channel between Kilometres 345 and 350.5.

18 **Martin River** enters Mackenzie River from the SW at Kilometre 350.8. A pink cabin is on the west entrance point of Martin River.

19 Two prominent gravel landslides are on the west bank 1 and 1.4 miles downstream of Martin River. Cabins on the east bank of Mackenzie River, NE of the slide area, are in ruins.

20 **Mile 222.0 range lights** (1745.8, 1745.9), with a RAM at Kilometre 357.3, mark the channel between Kilometres 352.9 and 356.5.


21 **Mile 223.4 range lights** (1746, 1747), with a RAM at Kilometre 359.5, mark the channel between Kilometres 356.5 and 358.9.

22 **Mile 230.7 range lights** (1747.1, 1747.2), at Kilometre 371.3, mark the channel between Kilometres 358.9 and 368.2.

**KILOMETRE 375, VIEW DOWNSTREAM** (1987)



23 **Two Islands** (*misnamed on Chart 6410*) are the two elongated islands close to the east bank at Kilometre 363.7.

 24 **Caution.** — A **shallow area** containing **boulders** that are covered at high water stages is NE of the channel, abreast Two Islands.


25 **Spruce Creek** enters the west bank of Mackenzie River from the south abreast Two Islands.

26 A **beacon range** with a RAM, on the east bank at Kilometre 376.9, marks the channel between Kilometres 373.4 and 376.6.

27 A **beacon range** with a RAM, on the east bank at Kilometre 377.9, marks the channel between Kilometres 379.3 and 381.3.

28 A **beacon range** with a RAM, on the west bank at Kilometre 379.3, marks the channel between Kilometres 381.3 and 382.5.

29 A **beacon range** with a RAM, on the east bank at Kilometre 386.9, marks the channel between Kilometres 383 and 385.4.

 30 **Caution.** — A **shoal bar** extends across the Mackenzie River from the east bank close upstream of Trail River. Deep draught vessels **reduce speed** when crossing this bar.

31 A **beacon range** with a RAM at Kilometre 390.3 marks the channel across the shoal bar between Kilometres 389 and 390.1.

32 **Trail River** enters the east bank of Mackenzie River from the north at Kilometre 390.



33 Shallow-draught boats can be **anchored** or beached close inside the entrance of the Trail River.

34 The charted cabins on the east bank, 1 mile SE of Trail River, and the cabins on the west bank, 1 mile SSW of Trail River, are inhabited (*1984*). The grave site on the east bank, between Trail River and the cabins, is made visible by a white picket fence surrounding the site.

35 The channel between Kilometres 385.4 and 390.1 is marked with unlighted **buoys**.


*Chart 6411*

### Trail River to North Nahanni River

36 A **beacon range** with a RAM at Kilometre 389.3 marks the channel between Kilometres 390.1 and 393.3.

37 A **beacon range** with a RAM at Kilometre 399.3 marks the channel between Kilometres 394 and 398.4.

38 Two small, wooded islands are in mid-stream at Kilometre 397.5. The upstream island is **Toothbrush Island** (*62°08'N, 122°20'W*).

 39 **Caution.** — **Shoal water**, under 1 m, extends 0.3 mile upstream of Toothbrush Island, and a **drying flat** and **shallow water** extend downstream about 1 mile from the other island.

40 A **beacon range** with a RAM at Kilometre 407.3 marks the track between Kilometres 400.2 and 404.8.



41 The **current**, from Kilometres 409 to 521, averages 2.5 knots.

### **KILOMETRE 400.7, VIEW DOWNSTREAM** (1987)





### **CAMELL RANGE (BACKGROUND) FROM KILOMETRE 412, VIEW DOWNSTREAM** (1987)





42 *Mackenzie Highway* reaches the west bank of Mackenzie River at Kilometre 409.6 then continues northward from the same position on the east bank. A ferry, *MV Johnny Berens*, provides transport across the river (*the ferry crossing is not charted*).

43 From Kilometre 409.6 to Cameron Point, Kilometre 424.9, the Mackenzie River expands to a width of 2.5 miles. In the north half of this expansion are **Burnt Island**, several unnamed islands and sand banks. The usual channel south of the islands is narrow and less than 0.3 mile wide in places.


 44 *Mile 256.7 range lights* (1748, 1748.5), with a RAM, are on Burnt Island. This range marks the channel between Kilometres 407.5 and 411.8.


 45 *Mile 254.7 range lights* (1747.5, 1747.6), with a RAM, are on the east bank upstream of Burnt Island. This range marks the track between Kilometres 411.8 and 412.8.

 46 **Caution.** — A **shoal bank** extends south of Burnt Island. An unlighted port-hand **buoy** marks the limit of the shallow water.

 47 *Mile 259.6 range lights* (1749.5, 1749.6), with a RAM, are on the west bank near the downstream end of Burnt Island. This range marks the track between Kilometres 414.1 and 416.2.

48 The usual track, marked by unlighted **buoys**, crosses the river downstream of Burnt Island, between Kilometres 420 and 424.1. A **beacon range** on the west bank at Kilometre 418.2 marks the entrance to the buoyed channel.

 49 **Caution.** — The river crossing downstream of Burnt Island is **shallow** and subject to **silting**. From year to year or even during the navigation season the channel may change. When silting occurs, the *Canadian Coast Guard* will reposition the aids to navigation to indicate the best channel. For this reason, the **aids to navigation may not be as shown on the chart**.


 50 **Caution.** — An **alternative channel** which is **not marked** by navigation aids leads along the north side of the river. This channel should not be attempted without **local knowledge**.

51 A First Nations settlement is on the east bank of the river abreast the downstream end of Burnt Island. The cabins are occupied (1984).

52 **Cameron Point**, on the east bank at Kilometre 424.9, marks a turn in the river. The stream at this point is about 0.7 mile wide.

53 The channel crosses the river between Kilometres 433.7 and 437.7 and again between Kilometres 447.4 and 450.6. The first crossing is marked

by two **beacon ranges**, with RAMs; the second crossing is marked by unlighted **buoys**.

 54 **Caution.** — Due to changing conditions of the river, aids to navigation may be moved to indicate the best channel. For this reason, the **aids to navigation may not be as shown on the chart**.


55 **Soto Creek** enters Mackenzie River from the north at Kilometre 435.3.

56 The airstrip on the west bank near Kilometre 436 is overgrown and unusable (2006).

57 The airstrip on the east bank near Kilometre 448 is overgrown and unusable (2006).

58 A **beacon range** with a RAM at Kilometre 458.2 marks the channel between Kilometres 451.3 and 454.3.

59 **Downbound traffic** should **report in** and **upbound traffic** should **report out** at North Nahanni River, Kilometre 453.8. The **Danger Zone 3 upstream mileage marker** is on the east bank of Mackenzie River 1 mile east of North Nahanni River. The reporting radio facility is *MCTS Iqaluit*.

 60 *Mile 286.9 range lights* (1753.5, 1753.6), with a RAM, are on an unnamed island at Kilometre 463.8. The range marks the approach from upstream to Camsell Bend between Kilometres 456.4 and 461.2. This portion of the route is also marked by unlighted **buoys**.

61 **North Nahanni River**, 120 miles long, enters Mackenzie River from the SW at Kilometre 455.4. From its headwaters about 70 miles west of Mackenzie River, North Nahanni River flows between mountains rising to an elevation of 1219 m. The discharge varies with the seasons and during spring runoff the daily fluctuation is considerable; its water appears milky. Over a distance of 60 miles the average descent of the river is about 2.1 m per mile. North Nahanni River enters the Mackenzie River over a delta composed of several small islands.

*Chart 6412*

### Camsell Bend to Jones Landing

62 At **Camsell Bend** (62°17'N, 123°22'W), between Kilometres 460.3 and 465.1, the Mackenzie River turns sharply north. Several islands in the vicinity of Camsell Bend divide the river into several channels; the usual route leads close to the east bank.

63 A port-hand **daybeacon** is on the east bank of Camsell Bend at Kilometre 461.4.

64 **Camsell Range**, 5 miles west of Mackenzie River at Camsell Bend, has a bare rock escarpment rising to an elevation of about 1000 m and is a good landmark. This

CAMSELL BEND FROM KILOMETRE 460.3, VIEW DOWNSTREAM (1987)



CAMSELL BEND FROM KILOMETRE 463.5, VIEW UPSTREAM (1987)



range forms part of Franklin Mountains, which parallels Mackenzie River for several hundred miles downstream.

65 A **beacon range** with a RAM at Kilometre 463.5 marks the track between Kilometres 461.9 and 462.8 and a **beacon range** with a RAM at Kilometre 462.7 marks the track between Kilometres 463.3 and 465.4. Two unlighted **buoys** also mark this section.

66 The track between Kilometres 467 and 469.9 is marked by a **beacon range** with a RAM at Kilometre 470.3.

67 **Round Island** is an elongated, wooded island in mid-stream at Kilometre 470.7.


68 **Caution.** — A **drying gravel spit** extends about 0.5 mile upstream of Round Island and **shoal water** extends from its downstream end.

69 Downstream of Round Island, Mackenzie River is less than 1 mile wide and flows between low, sloping banks, about 6 m high. The main channel passes between Round Island and the mainland to the west and leads gradually


ROUND ISLAND FROM KILOMETRE 466.7, VIEW DOWNSTREAM (1987)



across the river, passing east of an elongated, wooded island close downstream of Root River.


 70 *Mile 300.6 range lights (1754, 1755)* with a RAM, on the east bank, with a reciprocal **beacon range** with a RAM on the west bank at Kilometre 471.5 and unlighted **buoys** mark the route between Kilometres 473.5 and 482.8.


71 **Root River**, with its headwaters in the Mackenzie Mountains, enters Mackenzie River from the west at Kilometre 479.6 over shoal banks. Root River, not more than 0.2 mile wide, flows fast and there are sections of rapids strewn with boulders. For about 60 miles above the entrance the rate of descent averages over 1.5 m per mile.

 72 *Mile 300.3 range lights (1755.4, 1755.5)*, on the east side of a small island, mark the track between Kilometres 486.8 and 490. The route is also marked by an unlighted **buoy**.


73 **Berry Island**, at Kilometre 489.2, is the only named island of several islands in this area.


74 **McGern Island** extends from Kilometres 492.5 to 515 and divides Mackenzie River into two channels.

 75 **Caution.** — McGern Island is separated from Berry Island by a **shoal bar**.


 76 **Caution.** — The **channel** along the east sides of Berry and McGern Islands is **narrow** in places, reported to have numerous **boulders** in it, and considered **difficult to navigate**. Prior to 1973 all traffic used this channel but it is no longer marked by aids to navigation.

77 **Willowlake River** enters Mackenzie River from the east abreast the downstream end of McGern Island. A First Nations village at its entrance is occupied (1984). The river entrance has depths of 0.6 to 1.4 m; its upper reaches are swift and broken by numerous rapids. The river is more than 150 miles long with its headwaters in Willow Lake on **Horn Plateau**.

 78 **Caution.** — Between Kilometres 489.2 and 519.8 the navigation channel lies along the west sides of Berry and McGern Islands and two unnamed islands at the north end of McGern Island. Several **shoal bars** across this channel require deep draught vessels to **reduce speed**. The channel is well marked.

 79 *Mile 307.2 McGern Island range lights (1757.4, 1757.5)*, on the SW end of McGern Island, and two unlighted **buoys** mark the track between Kilometres 491.2 and 493.6. From Kilometres 494.1 to 500.5 the channel is marked by unlighted **buoys**.

80 A **beacon range** with a RAM at Kilometre 500.7 and an unlighted **buoy** mark the track between Kilometres 501.3 and 505.3.

 81 **Caution.** — Between Kilometres 505.3 and 508.6 a bar was building up across the river (1984); the channel is marked by unlighted **buoys**.

*Chart 6413*

82 A starboard-hand **daybeacon** at Kilometre 509.7, a **beacon range** with a RAM at Kilometre 514 and unlighted **buoys** mark the channel between Kilometres 511 and 513.4.

83 A **beacon range** with a RAM at Kilometre 513.9 marks the channel, very close to shore, between Kilometres 514 and 515.8.

84 The channel between Kilometres 515.8 and 518.4 is marked by unlighted **buoys** and a **beacon range** with a RAM at Kilometre 519.3. Unlighted **buoys** mark the route between Kilometres 518.4 and 520.6.

85 A **beacon range** with a RAM at Kilometre 523.7 marks the route between Kilometres 520.6 and 522.2.

86 **Jones Landing** (62°50'N, 123°13'W), on the east bank at Kilometre 524.6, is the site of a former trading post. The buildings have all but disappeared and the site is overgrown (2004).

87 **Upbound traffic should report in** and **downbound traffic should report out** at Kilometre 524.6. The **Danger Zone 3 downstream mileage marker** is on the east bank at Jones Landing and marked "Mile 326". The reporting radio facility is *MCTS Iqaluit*.

Jones Landing to Wrigley

88 The settlement of Wrigley, also on the east bank of Mackenzie River, is 26.1 miles downstream of Jones Landing.

89 **Franklin Mountains**, north of Willowlake River, lie on both the east and west sides of Mackenzie River.



McCONNELL RANGE (BACKGROUND) FROM KILOMETRE 532.7, VIEW DOWNSTREAM (1987)




MOUNT GAUDET (BACKGROUND) FROM KILOMETRE 560.1, VIEW DOWNSTREAM (1987)



McConnell Range is on the east side; Camsell Range and Wrigley Plateau (*not shown on the chart*) are on the west side.

  90 **Caution.** — Between Kilometre 534.3, below Jones Landing, and Kilometre 566.5, just above Wrigley, the **current**, swift and seething, attains 5 to 6 knots.

91 Reciprocal **beacon ranges** with RAMs, at Kilometres 527.2 and 537.4, mark the track between Kilometres 529.8 and 533.8.

 92 **Mile 336.6 range lights** (1757.8, 1757.9), with a RAM at Kilometre 541.7, and a **beacon range** with a RAM at Kilometre 529.8 mark the track between Kilometres 533.8 and 540.9.

93 **River Between Two Mountains** enters Mackenzie River from the east at Kilometre 537.5 through a narrow, shallow mouth; its headwaters are in **Highland Lake** at an elevation of 450 m.

94 A barge **ramp** on the east bank, 0.5 mile south of River Between Two Mountains, has a gravel road leading inland to an oil pipeline which runs south from Norman Wells.


95 The cabins on the north entrance point of River Between Two Mountains are occupied (1984). A section

of the *Mackenzie Highway* is visible from the river close north of the cabins.

96 **Tie-up markers**, on the west bank opposite River Between Two Mountains, mark the location of barge-securing cables.

97 Two **beacon ranges** with RAMs, at Kilometres 540.3 and 543.2, mark the track between Kilometres 541.4 and 542.7.

98 **Historical note.** — **Old Fort Island**, at Kilometre 542.3, is the site of the original settlement of **Fort Wrigley**, established in 1877. In 1904 the settlement was abandoned in favour of a new location on the west bank at Kilometre 582.6, then in 1967 the second site was abandoned and the present location on the east bank was established at Kilometre 572.9.

 99 **Caution.** — Downstream of River Between Two Mountains, Mackenzie River becomes narrow for about 18 miles with **shoal water** and **drying banks** bordering the channel. Downstream of Old Fort Island the east bank is steep, 60 to 120 m high, and wooded.

100 Two **beacon ranges** with RAMs, at Kilometres 544.8 and 549.8, mark the track between Kilometres 545.6 and 548.8.

WRIGLEY (1987)



101 A **beacon range** with a RAM at Kilometre 556 marks the track between Kilometres 551.4 and 555.7.

102 **Caution.** — Sand and gravel **drying banks** and **shoal water** border the west bank between Kilometres 550.4 and 553.6. A group of five wooded islands, with **shoal water** and **drying banks**, border the east bank between Kilometres 553.6 and 558.4. The usual track runs from the east side of Mackenzie River to the west side and back over a distance of 6 miles.

103 A **beacon range** with a RAM at Kilometre 560.7 on the east bank marks the track between Kilometres 555.7 and 559.7.

104 The river crossings between Kilometres 551.4 and 559.7 are also marked with unlighted **buoys**.

105 **Fish Trap Creek**, at Kilometre 556.8, enters Mackenzie River from the west over a drying bank. The cabins on the west bank at Kilometre 560.1 are not visible from the river.

106 **Caution.** — **Shoal water** and **drying banks** extend from the west bank between Kilometres 560.1 and 572.9. **Underwater rocks** lie close off the east bank at Wrigley, near Kilometre 571.8.

107 A **beacon range** with a RAM at Kilometre 563.6 marks the track between Kilometres 560.1 and 562.8.

108 A **beacon range** with a RAM at Kilometre 562.6 marks the channel between Kilometres 563.3 and 565.5.

109 A **beacon range** with a RAM at Kilometre 570.5 marks the channel between Kilometres 565.5 and 569.1.

110 Reciprocal **beacon ranges**, with RAMs at Kilometres 568.3 and 573.7, mark the track between Kilometres 570.2 and 572.9.

111 Between Kilometres 550 and 570, the series of ranges is augmented by unlighted **buoys**.

112 A **rock marker** is on the east bank at Kilometre 571.8.

113 The settlement of **Wrigley** ( $63^{\circ}14'N$ ,  $123^{\circ}28'W$ ), population 122 (2006), is on the east side of Mackenzie River at Kilometre 573. The present site of Wrigley was occupied in 1967 when the settlement Fort Wrigley was relocated from 5 miles downstream on the west side of the river.

114 Hunting, fishing and trapping are the basis of the economy of the community. The settlement has a school, a church, a nursing station and a general store where provisions and gasoline are obtainable. Satellite-based **telecommunications**, including the internet, connect Wrigley with other northern communities and to population centres to the south. Transportation to Wrigley is by *Mackenzie Highway* with a seasonal ferry or ice road crossing at Kilometre 409.6 or by aircraft year-round. There is weekly mail service, telephone service and accommodations.

115 A radio **mast**, with fixed red **air obstruction lights**, is in the settlement.

116 The barge landing area has deadmen anchors. A front-end loader is available for off-loading barges. The shipping season is mid June to mid October.



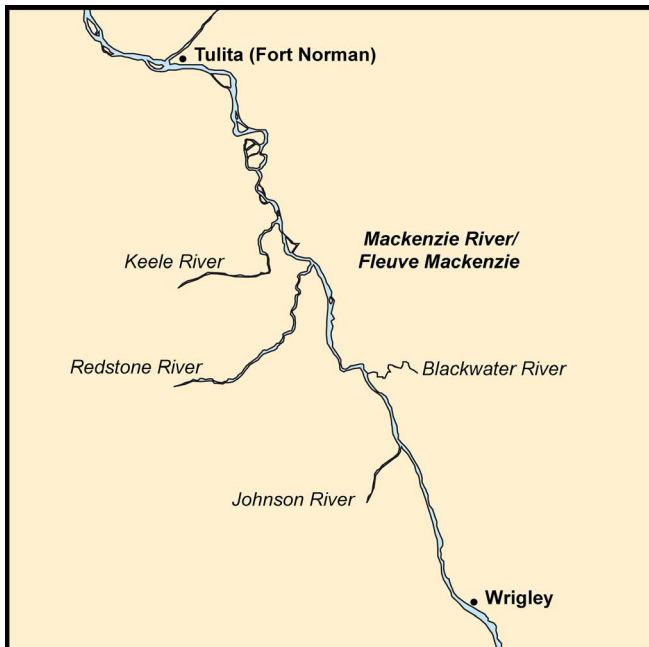
117 A gravel airstrip, 3500 feet (1067 m) long, is on an elevated plateau about 3 km SE of the settlement. Scheduled flights connect with Fort Simpson. The airport is not visible from the river.

118 An **aeromarine radiobeacon** ( $63^{\circ}12'46''N$ ,  $123^{\circ}25'26''W$ ) transmits on a frequency of 222 kHz, identification Morse "WY" (• — — — • — —).

119 (For general **weather conditions** in this area, see Chapter 4 of *Sailing Directions booklet ARC 400 — General Information, Northern Canada*. For present and forecast weather conditions, visit: <https://weather.gc.ca/>.)

# Chapter 9

## Mackenzie River Wrigley — Tulita (Fort Norman)



### General

Charts 6413 to 6417


1 Mackenzie River flows NNW from Wrigley to Tulita (Fort Norman), a distance of 108 nautical miles.



2 Mariners are advised that the *Mackenzie River Marine Safety Advisory Procedures* should be followed by all vessels on the river, before entering, while proceeding through, and on leaving Danger Zones 1 to 10. Danger Zones 1 to 10 and their reporting points are described at the appropriate geographic locations in the text of this publication.


3 (For full details see *Radio Aids to Marine Navigation (Pacific and Western Arctic)*, available at: <https://www.ccg-gcc.gc.ca/publications/mcts-sctm/ramn-arnm/index-eng.html>.)

4 *MCTS Iqaluit*, through its repeater stations on the Athabasca — Mackenzie watershed, maintains a watch on distress, urgency and calling frequency 5803 kHz. (Consult *Radio Aids to Marine Navigation (Pacific and Western Arctic)* for full details.)

5 **Danger Zone 4** of the *Mackenzie River Marine Safety Advisory Procedures* lies between Blackwater River and Old Fort Point.

 6 **Caution.** — From Wrigley, Kilometre 572.9, to the Blackwater River, Kilometre 663, there are several **underwater rocks** and some **shoal bars** across the river. Some of these shoal bars are marked by beacon ranges and unlighted buoys and rock markers indicate several of the rocks.

  7 **Caution.** — Between Blackwater River, Kilometre 663, and Old Fort Point, Kilometre 772.5, the **current** is generally swift and seething and there are several sharp bends and river crossings. Some of the river crossings are marked by lighted ranges, the remainder of the route is marked by beacon ranges and unlighted buoys. **Currents** reach **maximum rates** at the bend near Saline Island, Kilometres 722.6 to 730.6 and again near Kilometre 740.3. Tugs frequently relay barges between Blackwater River and Old Fort Point.

 8 **Caution.** — Between Old Fort Point, Kilometre 772.5, and Tulita (Fort Norman),

ROCHE-QUI-TREMPE- À-L'EAU FROM KILOMETRE 579.4, VIEW DOWNSTREAM (1987)



Kilometre 827.2, there are **two sharp bends** and the route at the bends and river crossings is marked by lighted ranges and beacon ranges; unlighted buoys mark a few **shoal areas**. Smoking coal seams are on the west bank near Kilometre 791.8, and on the east bank near Kilometre 819.2.

9 The settlement of Tulita (Fort Norman), at Kilometre 827.2, is on the east bank of Mackenzie River on the east entrance point to Great Bear River. A winter road leads from Tulita (Fort Norman) to Déljine (Fort Franklin), a First Nations community on Great Bear Lake.

10 The following table of currents for the route from Wrigley to Tulita (Fort Norman) are approximate rates only. The rate varies with the outflow from Great Slave Lake and the tributaries of the Mackenzie River.

**Table 9.1: Current table for the route from Wrigley to Tulita (Fort Norman)**

Kilometre No	knots	mph	kph
566 - 663	3.5	4.0	6.4
663 - 772	5 - 7	5.8 - 8	9.3 - 12.9
772 - 827	1.5 - 3.5	1.7 - 4	2.7 - 6.4

Charts 6413, 6414

**Wrigley to Blackwater River**

11 **Caution.** — Between Wrigley (63°14'N, 123°28'W) and Blackwater River the **current** is about 3.5 knots.

12 **Hodgson Creek** discharges into Mackenzie River close WNW of Wrigley through a gravel beach.

13 A **beacon range** with a RAM on Rocky Island at Kilometre 579.8 marks the channel between Kilometres 576.6 and 579.4.

Chart 6414

14 **Wrigley River** enters Mackenzie River from the west at Kilometre 579.4.

15 **Caution.** — An extensive **drying area** is off the entrance to Wrigley River.

16 **Rocky Island** is in mid-stream close downstream of the Wrigley River entrance.

17 **Historical Note.** — The site of the former settlement of **Fort Wrigley** is on the west side of the river, 1 mile downstream of Rocky Island. The buildings are in ruins (2004).

**ROCHE-QUI-TREMPE- À-L'EAU FROM KILOMETRE 589, VIEW UPSTREAM** (1987)



**MOUNT GAUDET FROM KILOMETRE 605.1, VIEW UPSTREAM** (1987)



18 Downstream of Rocky Island the main channel favours the east side of the river for about 12 miles and then follows in mid-stream for about 19 miles.

19 **Roche-qui-trempe-à-l'eau** rises sheer from the water to a height of 366 m on the east bank of Mackenzie River, 3.5 miles downstream of Rocky Island. Part of a roughly triangular ridge of Devonian limestone, this dome-shaped rock forms the south arm of a 1-mile long, wooded amphitheatre facing the river, with a similar dome at the downstream end. **Mount Gaudet**, 2.5 miles NNE of Roche-qui-trempe-à-l'eau and the third point of the ridge, rises to over 488 m.

20 **Mountain People Creek** at Kilometre 586.3, **Philips Creek** at Kilometre 590.6 and **Gashoday Creek** at Kilometre 592.2 enter the west bank of the river.

21 A **beacon range** with a RAM at Kilometre 600.4 marks the channel between Kilometres 595.9 and 599.6.

22 **Caution.** — A **shoal**, with a depth of 1.4 m, is close west of the usual track at Kilometre 596.6.

Another **shoal** is in mid-river at Kilometre 631.2. These shoals are marked by unlighted **buoys**.

23 **Ochre River** enters Mackenzie River from the east at Kilometre 605.1.

24 **Caution.** — **Drying sand flats**, separated by a narrow, shallow entrance channel, lie off Ochre River.

25 **Caution.** — Mackenzie River is about 0.3 mile wide at **low water levels** close downstream of Ochre River.

26 **Eetseemoday River** enters Mackenzie River from the west 1.1 miles downstream of Ochre River.

27 **White Sand Creek** flows into Mackenzie River from the east at Kilometre 612.5.

28 **Caution.** — A **drying area** extends off the entrance to White Sand Creek.

29 **Caution.** — An **underwater rock** is reported to lie close off the east bank, south of White

KILOMETRE 611.6, VIEW DOWNSTREAM (1987)



Sand Creek, at Kilometre 612; another **underwater rock** is reported to lie near mid-stream, on the west side of the channel, near this location. A dangerous **underwater rock**, where eddies form at low water levels, lies close off the east bank at Kilometre 617.2; a **rock marker** is on the east bank here.

30 A **beacon range** with a RAM at Kilometre 637.3 marks the channel between Kilometres 631.2 and 635.9.

31 **Caution.** — A **drying area** of clay and stones is in mid-stream between Kilometres 631.2 and 633.3. This danger, marked with an unlighted **buoy**, is left to port by downbound traffic.

32 **Johnson River**, at Kilometre 634.9 on the west bank, is 45 miles long.

33 **Caution.** — A **shallow bank** at Johnson River mouth dries at low water levels.

34 **Caution.** — Abreast Johnson River the Mackenzie River is reduced to less than 0.3 mile wide at **low water levels**. Between the entrance of Johnson River and Kilometre 643.7, **underwater ridges** are reported to extend across the river; these ridges are reported to be troublesome to deep draught vessels at low water levels.

35 A **beacon range** with a RAM at Kilometre 635 marks the channel between Kilometres 636.7 and 638.3.

36 **Caution.** — An area of **drying boulders** extends from the east bank at Kilometre 637.8.

37 A **beacon range** with a RAM at Kilometre 643.9 marks the channel between Kilometres 638.9 and 641.8.

38 **Caution.** — A **drying bank**, marked with unlighted **buoys**, lies along the west side of the channel between Kilometres 640.5 and 642.1. An **underwater rock** is reported to lie close off the east bank at Kilometre 640.5.

39 **Downbound traffic** should **report in** and **upbound traffic** should **report out** of **Danger Zone 4** at Kilometre 643.7 (Mile 400). The call should be made when abeam of the mouth of Dam Creek. The reporting radio facility is *MCTS Iqaluit*.

*Charts 6414, 6415*

40 From Kilometre 643.7 the track follows a mid-stream course in deep water until Kilometre 658.2.

*Chart 6415*

41 A **beacon range** with a RAM at Kilometre 663.7 marks the route between Kilometres 658.2 and 661.4.

42 **Caution.** — A **shoal bank**, with a least depth of 0.6 m, lies in the west half of the river at Kilometre 660.6.


43 Three **tie-up markers**, on the east bank between Kilometres 660 and 661, mark the locations of barge-securing cables, 2.2 miles upstream of Blackwater River. A single tie-up marker is on the east side, further upriver, at Kilometre 655.

44 A barge loading **ramp** (*not shown on the chart*), on the east bank of the river 1.3 miles upstream from

**BLACKWATER RIVER (FOREGROUND) AND MACKENZIE RIVER, VIEW DOWNSTREAM** (1987)

Blackwater River, has a gravel road leading inland to an oil pipeline which runs south from Norman Wells.



45 **Blackwater River** ( $63^{\circ}57'N$ ,  $124^{\circ}10'W$ ) enters Mackenzie River from the east at Kilometre 664.7 and has its headwaters west of Keller Lake; it is unnavigable for 20 miles from the entrance. The outflow from the river is quite black looking.

 46 **Caution.** — Mackenzie River is reduced to less than 400 m wide by a **drying gravel area** extending from the Blackwater River entrance.

Charts 6415, 6416

**Blackwater River to Old Fort Point**

47 Between Blackwater River, Kilometre 664.7, and Old Fort Point, Kilometre 772.5, the river is winding with frequent expansions containing islands, drying banks and river crossings. The river banks are composed of clay and gravel varying in height from 20 to 60 m. Tugs frequently relay barges through this section of the river; it is known locally as **The Blackwater**. At times the tugs only relay barges through the most difficult section, between Kilometres 721.8 and 742.7; tie-ups are located near both of these locations.


  48 **Caution.** — The **current** is turbulent and attains 5 to 7 knots between Blackwater River and Old Fort Point; it reaches its


**maximum rate** at the bend near Saline Island, Kilometres 722.6 and 730.6, and again near Kilometre 740.3.


Chart 6415

49 Reciprocal **beacon ranges** with RAMs at Kilometres 664.3 and 667.4 mark the route between Kilometres 665.1 and 666.9.

50 The grave on the west bank at Kilometre 666.3 is only visible when nearly abeam; a white picket fence surrounds the site.

 51 **Caution.** — Between Kilometres 666.3 and 675.1 the Mackenzie River makes a **sharp turn** to the west and continues this direction for about 3 miles when it again makes a **sharp turn** to resume its north-flowing course.

 52 **Caution.** — A **drying gravel shoal** and two **drying rocks** are in midstream at the first sharp turn. Narrow passages are on either side of the shoal.

 53 The outside route around the first turn, between Kilometres 666.3 and 670.8, is marked by reciprocal beacon ranges (*previously mentioned*), unlighted **buoys** and **Mile 414.9 range lights** (1578, 1579), with a RAM at Kilometre 667.7. The inside route, between the west bank and the shoal, is marked by two **beacon ranges** with RAMs on the east bank at Kilometres 666.6 and 671.3.

THE BLACKWATER FROM KILOMETRE 674.3, VIEW UPSTREAM (1987)



THE BLACKWATER FROM KILOMETRE 674.3, VIEW DOWNSTREAM (1987)



54 A **beacon range** with a RAM at Kilometre 679.1 marks the channel between Kilometres 675.9 and 678.8.

55 **Dahadinni River** enters Mackenzie River from the west at Kilometre 677.5; it is unsuitable for navigation. The river is divided over long stretches into a number of small, shallow braided channels. At its mouth Dahadinni River flows over a sand and gravel drying bar.

56 **Caution.** — **Underwater rocks**, positions indicated by **rock markers**, are near the east bank less than 1 mile downstream of Dahadinni River.

57 *(The above-mentioned underwater rocks were not located by a 1975 hydrographic survey. However, a prominent large boulder was reported onshore at the high water mark in the same area.)*

58 A **beacon range** with a RAM at Kilometre 678.7 marks the channel between Kilometres 679.3 and 681.7.

59 A **beacon range** with a RAM at Kilometre 680.8 and unlighted **buoys** mark the channel between Kilometres 681.7 and 684.8.

60 Between Kilometre 681.7 and Birch Island at Kilometre 698.5 there are two unnamed islands surrounded

by drying banks and drying banks lie on both sides of the river. In this section the navigation channel has three river crossings.

61 A port-hand **daymark** on the east bank at Kilometre 684 is at the start of this stretch.

62 A river crossing between Kilometres 684.8 and 686.5 is marked by a **beacon range** with a RAM on the west bank at Kilometre 687.5 and unlighted **buoys**.

63 A river crossing between Kilometres 688.2 and 690.1 is marked by *Mile 427.2 Steep Bank range lights (1760, 1761)*, on the west bank, a **beacon range** with a RAM on the east bank at Kilometre 690.9 and an unlighted **buoy**.


64 A river crossing between Kilometres 691.1 and 695.2 is marked by a **beacon range** with a RAM at Kilometre 691.4, unlighted **buoys** and *Mile 432.4 range lights (1762, 1763)*, with a RAM, on the west bank at Kilometre 695.9.

65 The Route between 696 and 696.7 is marked by a beacon range with a RAM on Birch Island at Kilometre 698.3, and by unlit buoys.

THE BLACKWATER FROM KILOMETRE 712.9, VIEW DOWNSTREAM (1987)



66 Birch Island, at Kilometre 698.5, divides the river into two channels; the west channel is the usual route.


 67 Caution. — An extensive shoal area, which uncovers at low water levels, is close off the upstream side of Birch Island.

68 A beacon range with a RAM at Kilometre 700.5 marks the channel between Kilometres 698.5 and 700.1.

69 A beacon range with a RAM at Kilometre 699.7 and unlighted buoys mark the channel between Kilometres 700.1 and 701.7.

70 Steep-to banks on the west bank of the river near the beacon range at Kilometre 700.5 have been used by tugs and barges to haul alongside.

71 From close downstream of Birch Island to close upstream of Saline Island at Kilometre 722.6, the usual route follows close along the east bank of the river. Islands and drying banks line the west bank.

 72 Mile 436.5 Birch Island range lights (1763.5, 1763.6), on the north end of Birch Island, and an unlighted buoy mark a river crossing between Kilometres 703.8 and 705.5.

73 A beacon range with a RAM at Kilometre 704.9 and unlighted buoys mark the channel between Kilometres 706.8 and 709.2.

74 A beacon range with a RAM at Kilometre 711.2 and unlighted buoys mark the channel between Kilometres 709.2 and 710.4.

75 A beacon range with a RAM at Kilometre 710.4 and unlighted buoys mark the channel between Kilometres 711 and 713.3.

76 Saline River enters Mackenzie River from the east at Kilometre 713.2. This river derives its name from the salt beds about 1.5 miles from the entrance. Gypsum beds also occur in this vicinity at the foot of Mount Kindle.

77 A beacon range with a RAM at Kilometre 717.8 marks the channel between Kilometres 714.1 and 716.6.


78 Redstone River, with its headwaters in the Mackenzie Mountains, enters Mackenzie River abreast the Saline River. The river is unsuitable for navigation. It is divided over long stretches into a number of small, shallow channels. At its entrance into Mackenzie River the Redstone River is about 0.5 mile wide and flanked on each side by extensive gravel flats.

79 A beacon range with a RAM at Kilometre 724.2, on Saline Island, marks the track between Kilometres 718.5 and 723.8.

80 Barge-securing cables are indicated by tie-up markers on the east bank at Kilometre 721.8.

81 An abandoned silver-coloured oil storage tank (1987) is conspicuous on the east bank of the river at Kilometre 721.8.


Chart 6416



 82 Caution. — The channel crosses Mackenzie River twice between Kilometres 721 and 730.6. The channel is well marked with a lighted range, beacon ranges and buoys, but due to changing conditions of the river, **aids to navigation may be moved** to indicate the best channel. For this reason, the **aids may not be as shown on the chart**. Mariners are reminded to check written and broadcast *NOTSHIPS* frequently.




## THE BLACKWATER FROM KILOMETRE 717.8, VIEW DOWNSTREAM TO SALINE ISLAND (1987)



 83 **Caution.** — **Saline Island** ( $64^{\circ}19'N$ ,  $124^{\circ}42'W$ ), at Kilometre 724.2, lies at a bend in the river where there are several islands and extensive sand and gravel **drying flats**. In this section of the river, between Kilometres 721 and 729, dangers border both sides of the channel. Tugs frequently relay barges through this section of the river.


  84 **Caution.** — The **current** is strong in the vicinity of Saline Island, and, combined with the bend in the river and dangers on both sides of the channel, make the area difficult to navigate. The **current** is also very strong in the short narrow section of the river at Kilometre 740.3.

 85 *Mile 450.3 Saline Island range lights* (1766, 1767), a **beacon range** with a RAM at Kilometre 728.6 and unlighted **buoys** mark the channel from Kilometres 725.3 to 727.4.

86 A starboard-hand **daybeacon** is on the west bank at Kilometre 727.9.

87 Barge-securing cables, indicated by **tie-up markers** (*not shown on the chart*), are on the west bank at Kilometre 729.

88 A **beacon range** with a RAM at Kilometre 731 marks the track at a river crossing between Kilometres 728.4 and 730.6.

 89 **Caution.** — From Kilometre 730 to Kilometre 741, the route follows the east shore past an extensive area of **drying alluvial flats and bars** extending from the west shore.

90 At Kilometre 735, a port-hand **daybeacon** marks a steep-to shore.


91 **Keele River** enters the west bank at Kilometre 736.3. Aboriginal people at one time used this river as a downstream canoe route from the mountains; its swift current prevents its use by canoe in an upstream

direction. The headwaters of Keele River are in the Pacific/Arctic watershed on the Yukon border. In 2004, there was no sign of the abandoned First Nations village near its entrance.

92 A barge loading **ramp** with a **tie-up marker**, on the east bank of the river at Kilometre 737.6, has a gravel road leading inland to an oil pipeline which runs south from Norman Wells. A cabin is on the south entrance point of Little Smith Creek, close north of the barge loading ramp. Another barge **tie-up marker** is just north of the north entrance point of the creek.


93 A grave site on the east bank at Kilometre 741.1 is marked by a white cross erected half way up a cliff face; it is only visible when abeam. (*This grave is not marked on the chart.*)

94 A **tie-up marker** is on the east bank at Kilometre 742.7.

 95 **Caution.** — A **drying bank** lies in mid-stream between Kilometres 743.5 and 747.5 with channels lying close to the east and west banks on either side of it.


96 The channel close to the east bank is marked by a port-hand **daybeacon** used as a **steering mark** for downbound traffic, with a RAM at Kilometre 744.5, a **beacon range** with a RAM at Kilometre 749.1 and unlighted **buoys**.

97 The channel close to the west bank is marked by a **beacon range** with a RAM at Kilometre 741.7 and unlighted **buoys**, a **beacon range** with a RAM at Kilometre 745.1, and unlighted **buoys**.

 98 The bend in the river between Kilometres 748.7 and 750.8 is marked by *Mile 464.4 range lights* (1771.4, 1771.5) with a RAM at Kilometre 747.4, a **beacon range** with a RAM at Kilometre 751.4 and unlighted **buoys**.

## ABEAM KEELE RIVER AT KILOMETRE 735.5, VIEW DOWNSTREAM (1987)




 99 A river crossing between Kilometres 753.2 and 754.8 is marked by *Mile 469.2 Dry Island range lights* (1772, 1773) with a RAM at Kilometre 755.1 on the east bank of the river, a starboard-hand **daybeacon** used as a **steering mark** for upbound traffic at Kilometre 752.4, and an unlighted **buoy**.

100 **Dry Island**, between Kilometres 751.6 and 756.4, is a large area of low-lying terrain bordering the bank of the river. A channel once separated Dry Island from the west bank. Downstream of Dry Island the Mackenzie River widens and divides into two channels around three large wooded islands. The navigation channel follows the east bank.

101 **Big Smith Creek** enters the east bank at Kilometre 758.3.

102 An unlighted **buoy** at Kilometre 756.6, a starboard-hand **daybeacon** at Kilometre 760.7 and unlighted **buoys** mark the channel between Kilometres 759.6 and 760.4.


103 A **beacon range** with a RAM at Kilometre 763.2 marks the channel between Kilometres 760.6 and 762.8.

 104 **Caution.** — A **landslide** from the east bank at Kilometre 764.4 partially **obstructs** the channel (1984).

105 A **beacon range** with a RAM at Kilometre 765.9 and an unlighted **buoy** mark the route past the landslide area at Kilometre 764.4.

106 A **beacon range** with a RAM at Kilometre 768.5 marks the channel between Kilometres 766.4 and 767.8.

107 A **beacon range** with a RAM at Kilometre 771.4 marks the channel between Kilometres 767.7 and 770.9.

 108 **Caution.** — An unlighted **buoy** at Kilometre 771.8 marks the edge of a **drying flat** off Old Fort Point.



109 **Old Fort Point**, at Kilometre 772.5, lies on the west bank of the river at the extremity of a large peninsula. The former site of Fort Norman was on this peninsula.

110 **Downbound traffic** should **report out** and **upbound traffic** should **report in** at Kilometre 772.5. **Danger Zone 4 downstream mileage marker**, marked “Mile 480”, is on the east bank, abreast Old Fort Point. The reporting radio facility is *MCTS Iqaluit*.


111 **Tie-up markers** indicating the locations of barge-securing cables are on the east bank at Kilometres 770.9 and 775.7.

### Old Fort Point to Tulita (Fort Norman)

112 Between Old Fort Point ( $64^{\circ}41'N$ ,  $124^{\circ}53'W$ ), Kilometre 772.5, and Tulita (Fort Norman), Kilometre 827.2, there are two sharp bends, several large drying flats and some river crossings. Smoking coal seams are on the west bank near Kilometre 791.8 and on the east bank near Kilometre 819.2.

  113 **Caution.** — The **current** attains 1.5 to 3.5 knots between Old Fort Point and Tulita (Fort Norman).

114 About 2 miles downstream of Old Fort Point the river divides around several wooded islands. The channel to the north of the wooded islands is encumbered by several smaller islands and sand bars. **Seagull Island** is the only named island in the group. The navigation channel follows the west bank of the river.

 115 *Mile 482.8 range lights* (1773.1, 1773.2), at Kilometre 777, mark the channel between Kilometres 777.8 and 782.1.

116 Burning coals, which sometimes glow at night, are found along the west bank at Kilometre 791.8, opposite Seagull Island.

**TULITA (FORT NORMAN) AND NORMAN RANGE** (1987)



**TULITA** (1987)





 117 The river crossing between Kilometres 795.7 and 797.1 is marked by a **beacon range** with a RAM at Kilometre 795 and by the reciprocal *Mile 495.9 range lights* (1774, 1775) with a RAM at Kilometre 798.1.


Chart 6417

118 **Police Island** (*64°51'N, 125°11'W*), between Kilometres 799.9 and 811.1, is separated from the west bank by a narrow, shallow channel.

119 At Police Island the course of Mackenzie River changes from a north to a west direction.

120 A **beacon range** with a RAM at Kilometre 805.2 marks the channel between Kilometres 806.4 and 809.5. The bend at Kilometre 809.5 is marked by unlighted **buoys**.

 121 **Caution.** — A **drying rock** is abreast the downstream end of Police Island, near the north shore of the river.

 122 Between Kilometres 811.6 and 814 the channel is marked by a **beacon range** with a RAM on Police Island at Kilometre 810 and by the reciprocal *Mile 506.4 range lights* (1776, 1777) with a RAM on the north shore at Kilometre 815. An unlighted **buoy** at Kilometre 815.1 marks the south edge of the channel.

123 From Police Island to Tulita (Fort Norman), the navigation track favours the north side of the river, passing south of a shallow area abreast the downstream end of Police Island and north of a series of scattered sand bars and shoal banks extending between Kilometres 814.3 and 820.8.


124 A **beacon range** with a RAM at Kilometre 818.2 marks the channel between Kilometres 820.3 and 825.9.

125 **Historical Note.** — About 5 miles upstream of Tulita (Fort Norman) the north bank of the Mackenzie River is reddish in colour. **Smoke** from a burning coal seam can sometimes be seen rising from the bank in this vicinity.

Alexander Mackenzie on his journey along this river in 1789 made note of this phenomenon.

126 **Tulita (Fort Norman)** ( $64^{\circ}54'N$ ,  $125^{\circ}34'W$ ), at Kilometre 827.2, occupies a commanding position on the terraced north side of Mackenzie River on the east entrance point to Great Bear River. Hunting, fishing, trapping, oil exploration and tourism form the economic base of this settlement. The population is 505 (2006).

127 A barge landing **ramp**, with deadmen anchors, is about 1 mile upstream of the settlement at Kilometre 825.6.

 128 **Caution.** — A **rock** that dries 0.4 m, at low water levels, is about 300 m off the bank at Tulita.

129 The settlement has a *Northern Stores* outlet, a post office, a nursing station, 8-room hotel, school, two churches, and a *RCMP* detachment. Satellite-based **telecommunications**, including the internet, connect Tulita with other northern communities and to population

centres to the south. Transportation to Tulita is by ice road in winter, by boat in summer or by aircraft year-round. A gravel airstrip, 3935 feet (1199 m) long, is close north of the settlement; there is a scheduled air service from Norman Wells. A winter road leads north from Tulita to Déljine (Fort Franklin), a First Nations community on Great Bear Lake (*described in Chapter 10*).

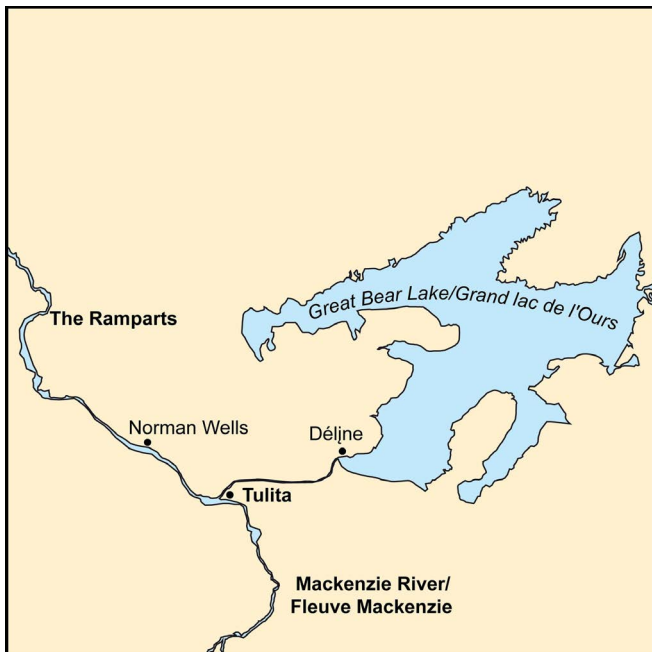
130 An **aeromarine radiobeacon** ( $64^{\circ}54'24''N$ ,  $125^{\circ}33'54''W$ ) transmits on a frequency of 392 kHz, identification Morse “ZFN” (— — •• •• — • — •).

131 Provisions can be purchased at *Northern Stores*. Gasoline and diesel fuel are obtainable in limited quantities.

132 (*For general **weather conditions** in this area, see Chapter 4 of *Sailing Directions* booklet ARC 400 — *General Information, Northern Canada*. For present and forecast weather conditions for Tulita, visit: [https://weather.gc.ca/city/pages/nt-11\\_metric\\_e.html](https://weather.gc.ca/city/pages/nt-11_metric_e.html).)*

# Chapter 10

## Mackenzie River Great Bear River and Great Bear Lake (Tulita — The Ramparts)



### General

Charts 6417, 6390

1 **Great Bear River**, 73 miles long, joins Great Bear Lake and Mackenzie River. Great Bear River is split into two sections by St. Charles Rapids. **Great Bear Lake** ( $66^{\circ}00'N$ ,  $121^{\circ}00'W$ ), with an area of 31 088 km<sup>2</sup>, is the largest body of fresh water lying entirely in Canada and the fourth largest lake in North America.

2 **Caution.** — There are **no Canadian Coast Guard aids to navigation** on Great Bear River or Great Bear Lake.

3 *MCTS Iqaluit*, through its repeater stations on the Athabasca — Mackenzie watershed, maintains a watch on distress, urgency and calling frequency 5803 kHz. (*Consult Radio Aids to Marine Navigation (Pacific and Western Arctic) for full details.*)

4 **Caution.** — **Sand bars and shoal water** lie in the vicinity of the junction of the Great Bear River entrance channel and the Mackenzie River channel. Floating aids mark the channel on Mackenzie River in this vicinity, however, **local knowledge** is considered essential for entering Great Bear River.

5 Great Bear River is shallow, fast-flowing and remarkably clear and cold. The river is reported to maintain a constant level during the navigation season.

6 A **submerged pipeline** crosses Great Bear River 1 mile from its junction with Mackenzie River.

7 **Caution.** — From Tulita to downstream of St. Charles Rapids, the distance along the Great Bear River is 28 miles. Vessels used for navigating the downstream section of the Great Bear River are limited to a draught of 0.9 m. The **current** in this stretch varies from 2.7 to 6.3 knots.

8 **Caution.** — The winding shipping track leads between **gravel bars** and **underwater boulders**.

9 **St. Charles Rapids** is 8 miles long; Great Bear River descends 7.6 m in this distance. There is a winding channel, with a depth of 0.3 m, through the rapids.

10 A **portage road** and **pipeline** 9 miles long, for moving freight and fuel, by-pass St. Charles Rapids.



11 The upstream section of the river, from the portage road above the rapids to Great Bear Lake, is 37 miles long. The navigation channel along this stretch is reported to cross the river seventy-nine times. Vessels used on the upstream section of Great Bear River are limited to a draught of 0.9 m. The current in this stretch varies from 4.5 to 9 knots. During spring break-up erosion occurs along the sand and clay river banks. The width of the river varies between 0.1 and 0.3 mile.



12 **Caution.** — Mariners must have **local knowledge** to navigate Great Bear River.

13 Great Bear Lake, with an elevation above mean sea level of 156 m, is in the Mackenzie River lowlands and bordered on the east by the Canadian Shield.

14 Chart datum used is the approximate mean level of the lake. During an average year the water level of the lake fluctuates approximately 0.3 m.

15 The horizontal water planes of Great Bear Lake and Great Slave Lake are approximately at the same elevation.

16 Although Great Bear Lake has yet to be surveyed throughout, it is known to contain depths of 446 m. Its shoreline is 2190 km long.



17 **Caution.** — Mariners without **local knowledge** should navigate with caution because **uncharted dangers** may exist.

18 Five major arms or inlets extend from the main body of the lake; from the NW they are **Smith Arm, Dease Arm, McTavish Arm, McVicar Arm** and **Keith Arm**.

19 The shores of Great Bear Lake are generally low except for high terrain bounding part of McTavish Arm and the land south of Smith Arm. The south and west shores are well wooded, the north and east shorelines less so.

20 **Déljine (Fort Franklin)** ( $65^{\circ}11'N$ ,  $123^{\circ}26'W$ ), population 525 (2006), is on the SW side of Great Bear Lake near the west end of Keith Arm. Déljine is the only settlement on Great Bear Lake. Satellite-based telecommunications, including the internet, connect Déljine with other northern communities and to population centres to the south. Transportation to Déljine is by ice road in winter, by boat (*a long portage may be necessary*) in summer or by aircraft year-round. The economic base of the community is fishing, hunting, trapping and wage employment. A co-operative produces and sells handicrafts. Accommodation is available at *Grey Goose Lodge*.

21 The hamlet has a *Northern Stores* outlet with postal service, a *Great Bear Cooperative Association Ltd.*

store, a *RCMP* detachment, a nursing station with two nurses, a school and a church. Gasoline, diesel fuel and provisions are obtainable.



22 A rock-filled T-shaped Public **wharf**, 30 m long and 12 m wide at the outer face, is at Déljine. The depth alongside the outer face is 1.5 m. Loading equipment is available. The shipping season is June to October.



23 **Caution.** — The approach to the wharf is reported to be **shallow**, with scattered **underwater boulders**.

24 A gravel airstrip, 3934 feet (1199 m) long, is near Déljine and there is scheduled air service from Norman Wells, Inuvik and Yellowknife.

25 An **aeromarine radiobeacon** at Déljine ( $65^{\circ}11'14''N$ ,  $123^{\circ}25'15''W$ ) transmits on a frequency of 287 kHz, identification *Morse* “WJ” (•— — •— — —).

26 Several sports fishing lodges are on the lake. Private airstrips are at Dease Arm ( $66^{\circ}43'N$ ,  $119^{\circ}43'W$ ), gravel, 5197 feet (1584 m) long, and Ford Bay ( $66^{\circ}02'N$ ,  $124^{\circ}43'W$ ), sand, 4200 feet (1280 m) long.

27 The Dease Arm private runway has an **aeromarine radiobeacon** ( $66^{\circ}42'32''N$ ,  $119^{\circ}40'20''W$ ) that transmits on 367 kHz, identification *Morse* “D1” (—••• — — — —).

28 **Seaplane landing areas** are at Déljine ( $65^{\circ}11'N$ ,  $123^{\circ}25'W$ ), Dease Arm ( $66^{\circ}43'N$ ,  $119^{\circ}41'W$ ) and Ford Bay ( $66^{\circ}02'N$ ,  $124^{\circ}41'W$ ).

29 **Historical Note.** — **Echo Bay** ( $66^{\circ}05'N$ ,  $118^{\circ}02'W$ ), originally built and later abandoned by *Eldorado Mining and Refining (1944) Ltd.*, is on the east side of McTavish Arm at the previous location of **Port Radium**. The buildings then became a base of operations for *Echo Bay Mines Ltd.*, in support of the silver-copper mining activities in the vicinity. Echo Bay is now abandoned (2011). Port Radium was established after Gilbert LaBine discovered pitchblende here in 1930.

## Tulita to The Ramparts

*Charts 6417 to 6421*

### General

30 Mariners are advised that the *Mackenzie River Marine Safety Advisory Procedures* should be followed by all vessels on the river, before entering, while proceeding through, and on leaving Danger Zones 1 to 10. Danger Zones 1 to 10 and their reporting points are described at the appropriate geographic locations in the text of this publication.

CONFLUENCE OF MACKENZIE RIVER AND GREAT BEAR RIVER (1987)



31 (For full details see *Radio Aids to Marine Navigation (Pacific and Western Arctic)*, available at: <https://www.ccg-gcc.gc.ca/publications/mcts-sctm/ramn-armm/index-eng.html>.)

32 *MCTS Iqaluit*, through its repeater stations on the Athabasca — Mackenzie watershed, maintains a watch on distress, urgency and calling frequency 5803 kHz. (Consult *Radio Aids to Marine Navigation (Pacific and Western Arctic)* for full details.)

33 Great Bear River enters the east bank of Mackenzie River immediately downstream from Tulita (64°54'N, 125°34'W), Kilometre 827.2, and its clear waters remain along the east bank for several miles downstream. The dividing line between the sediment-laden Mackenzie River water and the clear water from Great Bear River is distinct. Tugs frequently replenish their water supply from close downstream of the entrance to Great Bear River.

34 **Caution.** — The shoals and drying areas in this section of the river are subject to constant erosion and silting, therefore the aids to navigation may be moved to indicate the best channel. For this reason, the aids may not be as shown on the chart. Mariners are reminded to check written and broadcast *NOTSHIPS* frequently.

35 **Danger Zone 5** of the *Mackenzie River Marine Safety Advisory Procedures* is Sans Sault Rapids. The rapids

immediately upstream of The Ramparts, known locally as Ramparts Rapids, is **Danger Zone 6**.

36 The following table of currents for the route from Tulita to Point Separation are approximate rates only. The rate varies with the outflow from Great Slave Lake and the tributaries of Mackenzie River.

**Table 10.1: Current table for the route from Tulita to The Ramparts**

Kilometre No	knots	mph	kph
827 - 853	3.5 - 7	4 - 8	6.4 - 12.9
853 - 906	1.5 - 3.5	1.7 - 4	2.7 - 6.4
906 - 1014	3 - 4	3.5 - 4.6	5.6 - 7.4
1014 - 1030	3 - 6	3.5 - 6.9	5.6 - 11.1
1030 - 1080	3 - 3.5	3.5 - 4	5.6 - 6.4
1080 - 1086	5.5 - 6	6.3 - 6.9	10.1 - 11.1

*Charts 6417, 6418*

**Tulita to Norman Wells**

37 Downstream of Great Bear River (64°54'N, 124°35'W), Mackenzie River follows a general WNW course between sloping clay banks from 6 to 12 m high.

NORMAN RANGE FROM KILOMETRE 846.5, VIEW UPSTREAM (1987)



The south end of **Norman Range** forms the east bank of Mackenzie River 2 miles downstream from Great Bear River. Two routes lead around the bend between Kilometres 833.6 and 848.1. Between Kilometres 848.1 and 862.6, the route follows along the east side of Halfway Islands. Between Kilometre 862.6 and Norman Wells, Kilometre 906.1, the route leads between several islands. At Norman Wells the route leads between several artificial islands.





  38 **Caution.** — Between Tulita, Kilometre 827.2, and Kilometre 853 the **current** varies from 3.5 to 7 knots; between Kilometre 853 and Norman Wells, Kilometre 906.1, it varies from 1.5 to 3.5 knots.

Chart 6417

 39 **Caution.** — **Sand bars** and **shoal water** lie at the junction of the Great Bear River and the Mackenzie River. A **shallow bank**, part of which dries at low water levels, is close north of the Mackenzie River channel abreast the Great Bear River entrance. Unlighted **buoys** mark the track in this vicinity.

 40 **Caution.** — An expansion of Mackenzie River opposite Great Bear River entrance contains a group of islands, **underwater rocks**, **shoal banks** and


**drying areas.** The largest feature of this group is **Windy Island** ( $64^{\circ}53'N$ ,  $125^{\circ}41'W$ ).

41 A barge **ramp**, at Kilometre 830.4 (*not shown on the chart*), is connected by a gravel road leading inland to an oil pipeline.


42 The route splits at Kilometre 833.6, downstream of Great Bear River, with one track crossing the river toward the west bank and continuing past the mouth of Little Bear River.

43 The river crossing is marked between Kilometres 833.6 and 835.4 by a **beacon range** with a RAM at Kilometre 832.4.

44 Between Kilometres 835.4 and 843.3, the route along the west bank is marked by unlighted **buoys**.

 45 Between Kilometres 843.3 and 847.2 the route is marked by a **beacon range** with a RAM at Kilometre 841.7 and by **Mile 526.8 range lights** ( $1777.5$ ,  $1777.6$ ) with a RAM at Kilometre 847.8.


46 A shallower track follows the east bank of Mackenzie River from Kilometre 833.6.



 47 The route along the east bank is marked by **Mile 522.8 range lights** ( $1777.3$ ,  $1777.4$ ) with a RAM at Kilometre 841.4.



HALFWAY ISLANDS FROM KILOMETRE 853, VIEW DOWNSTREAM (1987)



 48 **Caution.** — A **drying rock** close to the east bank at Kilometre 837 is marked with an unlighted **buoy**.

  49 **Caution.** — The **current** is stronger in the route along the west bank mentioned above. Off the mouth of Little Bear River, the **current** is reported to attain 5 to 7 knots. Because of the currents, upbound vessels generally follow the route close to the east bank and downbound vessels follow the route close to the west bank.

50 **Little Bear River** enters Mackenzie River from the south at Kilometre 842.5. The water is deep close off the gravel flats forming the river mouth; during the rainy season the outflow is quite muddy.

51 **Gaudet Island**, wooded and joined to the mainland at low water levels, lies close to the west bank 1 mile downstream of Little Bear River.


52 The two channels converge north of Gaudet Island. The track then leads NW.

53 Between Kilometres 847.2 and 851.3 the route is marked by a **beacon range** on Gaudet Island with a RAM at Kilometre 846.

*Charts 6417, 6418*


54 **Slater River** ( $64^{\circ}58'N$ ,  $126^{\circ}05'W$ ) enters the west bank of Mackenzie River at Kilometre 853. Downstream of Slater River the Mackenzie River widens and divides around **Halfway Islands**, a group of three wooded islands.


55 A **beacon range** with a RAM on the east bank at Kilometre 857.3 and two unlighted **buoys** mark the channel between Kilometres 853 and 857.

 56 **Mile 532.7 Halfway Islands Channel range lights** ( $1778$ ,  $1779$ ) with a RAM at Kilometre 857.3, also on the east bank, and an unlighted **buoy** mark the channel between Kilometres 858.3 and 861.8.

*Chart 6418*

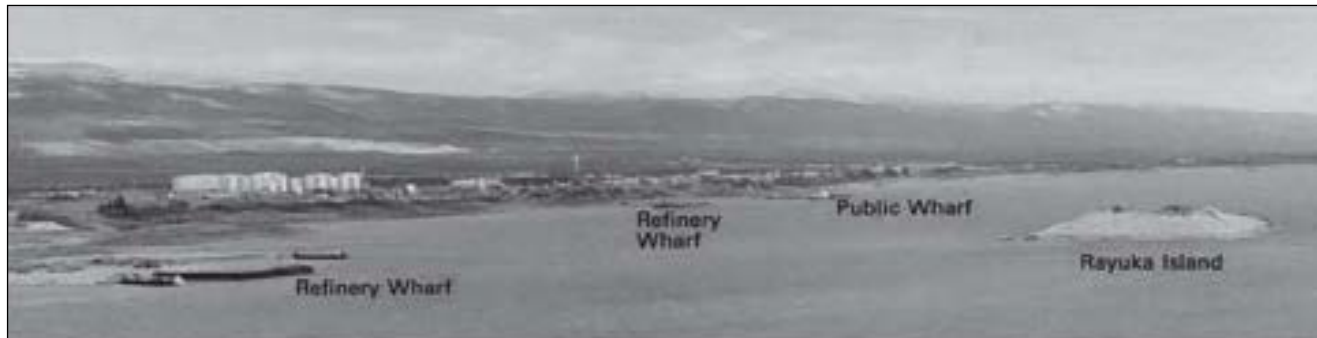
57 The navigation channel follows the east side of Halfway Islands.

 58 **Mile 537.1 Jungle Ridge Creek range lights** ( $1780$ ,  $1781$ ), with a RAM at Kilometre 864.4, and an unlighted **buoy** mark the channel between Kilometres 862.1 and 863.4.

 59 **Caution.** — A **shoal area** extends from the east bank NE of the Halfway Islands.

60 **Jungle Ridge Creek** enters Mackenzie River from the east at Kilometre 864.2.

NORMAN WELLS (1987)



61 **Caution.** — A large elongated **drying area** lies in mid-stream abreast Jungle Ridge Creek.

62 *Mile 537.4 Vermilion Creek range lights (1782, 1783)*, with a RAM at Kilometre 864.9, mark the route between Kilometres 865.8 and 873.2.

63 **Vermilion Creek** discharges into Mackenzie River from the east at Kilometre 867.4.

64 **Vermilion Creek Narrows** is the local name for the section of the river marked by *Vermilion Creek range lights*.

65 **Prohibition Creek** enters Mackenzie River from the east at Kilometre 875.5. *Mile 544.4 Prohibition Creek range lights (1784, 1785)*, with a RAM at Kilometre 876.1, mark the route between Kilometres 873.2 and 873.9.

66 **Caution.** — A **drying shoal** lies on the east side of the usual track 1 mile upstream of Prohibition Creek. The usual track leads clear of a **shallow ledge** extending from the bank at Prohibition Creek entrance.

67 **Caution.** — From Prohibition Creek to Norman Wells, Mackenzie River flows in a general NW direction. In this stretch there are several islands, drying areas and shoal banks with two river crossings. The navigation channel is reported to shift in places during the navigation season. The *Canadian Coast Guard*, as soon as it is practicable, will reposition the aids to indicate the course of the shifted channel. For this reason, the **aids may not be as shown on the chart**. Mariners are reminded to check written and broadcast *NOTSHIPS* frequently.

68 *Mile 552.0 Ten Mile Island range lights (1785.1, 1785.2)* with a RAM at Kilometre 888.4, on the east bank close south of **Canyon Creek**, and unlighted **buoys** mark the channel between Kilometres 875.8 and 885.1.

69 Survey markers are on the east and west banks of Mackenzie River at Kilometre 878.7.

70 **Caution.** — **Ten Mile Island**, between Kilometres 883.5 and 890, is almost completely surrounded by shallow flats that dry at low water levels.

71 *Mile 552.5 Canyon Creek range lights (1786, 1787)*, at Canyon Creek, and a starboard-hand **daybeacon** at Kilometre 897, on the west bank, mark the river crossing between Kilometres 891.3 and 895.6.

72 **Six Mile Island**, wooded, lies in mid-stream midway between Ten Mile Island and Bear Island.

73 **Caution.** — Six Mile Island is surrounded by an extensive **shoal bank**.

74 Two **tie-up markers** indicating the location of barge-securing cables are on the west bank of Mackenzie River opposite Six Mile Island.

75 *Mile 557.4 range lights (1789.4, 1789.5)*, with a RAM at Kilometre 897, and an unlighted **buoy** mark the river crossing between Kilometres 898 and 900.6.

76 *Mile 560 light buoy (1789.6)*, WNW of Six Mile Island, is a starboard hand buoy.

77 *Mile 556.9 Six Mile Island range lights (1788, 1789)* and unlighted **buoys** mark the channel between Kilometres 901.6 and 905.3.

78 **Norman Wells** ( $65^{\circ}17'N$ ,  $126^{\circ}50'W$ ), population 761 (2006), is on the east bank of Mackenzie River at Kilometre 906.1. The settlement is on the flat plain at the base of the Norman Range.

79 The oil **tank farm** and small **oil refinery** at Norman Wells, also the **artificial islands** in the river, are the most **conspicuous features** when approaching Norman Wells from either direction. Small oil storage **tanks** and **oil well** sites on raised gravel platforms, similar in appearance

**PUBLIC WHARF AT NORMAN WELLS** (1987)



to the artificial islands, are on **Bear Island** and **Goose Island**.


80 The settlement has a post office, a nursing station, a school, a bank, craft shops and a *RCMP* detachment. Satellite-based **telecommunications**, including the internet, connect Norman Wells with other northern communities and to population centres to the south. Transportation to Norman Wells is by ice road in winter, by boat in summer or by aircraft year-round.


81 Norman Wells airfield, close east of the settlement, has an asphalt runway 5997 feet (1827 m) long. Norman Wells airfield is the regional hub for air transport. Scheduled flights to points north and south and charter aircraft are available.

82 An **aeromarine radiobeacon** ( $65^{\circ}15'10''N$ ,  $126^{\circ}40'11''W$ ) transmits on 326 kHz with identification Morse "VQ" (••• — — — •—).


83 A **seaplane landing area** is on **D.O.T. Lake**, east of the airfield.


84 (For general **weather conditions** in this area, see Chapter 4 of *Sailing Directions* booklet ARC 400 — *General Information, Northern Canada. For present and forecast weather conditions, visit: <https://weather.gc.ca/>*.)

 85 A barge **wharf**, for dry cargo, is on the east bank close ESE of the airfield. The channel leading to this wharf is marked with private **buoys**. A marshalling yard (*not shown on the chart*) is nearby.

 86 The Public **wharf** is 1.6 miles downstream of the barge wharf. The Public wharf, square-shaped,

is at the end of a gravel causeway extending 160 m from shore to the upstream face. The outer face is 59 m long, with depths of 1.2 to 1.4 m alongside. The downstream face is 62 m long, with depths of 1.2 to 0.2 m alongside the outer section. The wharf surface is gravel.

 87 **Caution.** — **Silting** has occurred on the downstream side of the Public wharf. At low water levels, only the seaward half of the downstream face is useable.

 88 An **ESSO fueling wharf**, 51 m long at the outer face, is 0.2 mile downstream from the Public wharf. The depth alongside is 2.7 m. *Northern Transportation Company Limited (NTCL)* loads various types of fuels on its barges here for transport north. *NTCL* has an office near the Public wharf. Another **wharf**, serving the *Imperial Oil Company* refinery, is 0.7 mile west of the fueling wharf.

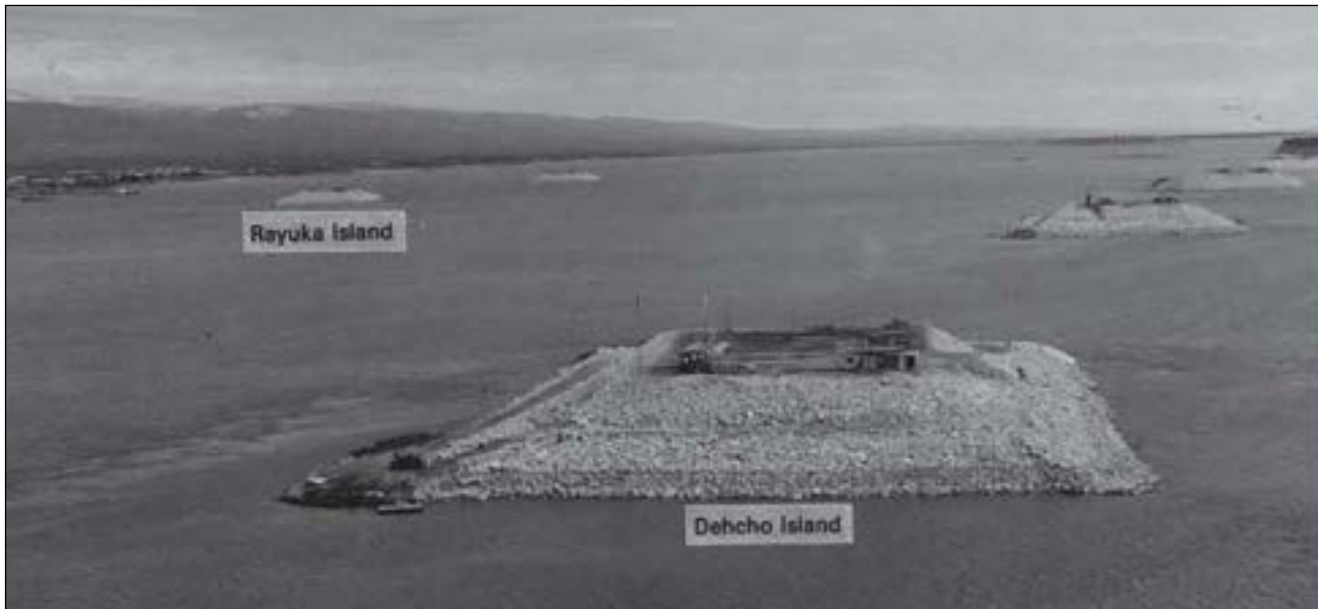
89 Provisions are obtainable from a shopping centre, close east of the public wharf. Diesel fuel, gasoline and other petroleum products are available. Accommodation is offered by a number of hotels.

90 Repairs are not normally carried out at Norman Wells but in case of emergency, the oil company officials can arrange for minor repairs to be effected.

91 During the navigation season dry cargo is discharged at Norman Wells and bulk petroleum products from the refinery are transported by barge to settlements farther north. An oil pipeline leads south to Alberta.

92 Two artificial islands are on the north side of the channel, south of the Norman Wells Public wharf; upstream

ARTIFICIAL ISLANDS AT NORMAN WELLS, VIEW UPSTREAM (1987)



is **Rampart Island** and downstream is **Rayuka Island**. The four artificial islands on the south side of the channel, close north of Bear and Goose Islands, from upstream, are **Little Bear Island**, **Itch K'ee Island**, **Ekwe Island** and **Dehcho Island**.

93 **Caution.** — The approach to the refinery and public wharves is east of Rampart Island; although there is ample water at the wharves the **approach route** is **shallow** and groundings may occur at low water levels.

94 **Caution.** — **Submarine pipelines** run from Rampart and Rayuka Islands to Norman Wells and from Goose Island to Norman Wells. **Submarine pipelines** connect the four islands on the south side of the channel to Bear and Goose Islands.

95 **Frenchy Island** is close NE of Bear Island. Privately maintained **mooring buoys** are close south of the channel, north of Frenchy Island.

96 The area between rock groynes, along the NW side of Bear Island, has filled with silt.

97 **Historical note.** — Norman Wells owes its importance to the discovery of oil at the mouth of **Bosworth Creek** in 1919, and to the subsequent construction of the *Imperial Oil Company* refinery, which has been operating almost continuously since 1920.

Chart 6419

Norman Wells to Carcajou Ridge

98 **Caution.** — Between Norman Wells ( $65^{\circ}17'N$ ,  $126^{\circ}50'W$ ), Kilometre 906.1, and Carcajou Ridge, Kilometre 976.9, the route leads between several large islands and drying flats. The **shoals** and **drying areas** in this section of the river are subject to constant erosion and silting, therefore the **aids to navigation may be moved** to indicate the best channel. For this reason, the **aids may not be as shown on the chart**. Mariners are reminded to check written and broadcast **NOTSHIPS** frequently.

99 **Caution.** — Throughout this distance the **current** is estimated at 3 to 4 knots.

100 From abreast Norman Wells, the usual track closes gradually with the east bank for 3.5 miles, then the track alters toward mid-stream, passing between Rader Island and drying areas lying SW of it. The channel, marked with unlighted **buoys**, follows parallel to the south side of Rader Island at a distance of 0.5 mile to clear scattered sand bars lying off the west bank of the river. From the NW extremity of Rader Island the channel closes the east bank with extensive drying areas to the west.


101 **Mac Island**, 2 miles downstream of Goose Island, lies close to the west bank of Mackenzie River.

KILOMETRE 952.7, VIEW DOWNSTREAM (1987)



102 **Rader Island** lies in the east half of Mackenzie River between Kilometres 917.3 and 922.8.

103 A **beacon range** with a RAM at Kilometre 916.8 on Rader Island and unlighted **buoys** mark the channel between Kilometres 912.5 and 915.4.


 104 *Mile 568 Rader Island range lights (1790, 1791)*, on the east bank of the river, and unlighted **buoys** mark the channel between Kilometres 915.7 and 917.8.

105 A **beacon range** with a RAM at Kilometre 926 and unlighted **buoys** mark the channel between Kilometres 919.9 and 923.3. Between Kilometres 923.3 and 931, the route is marked by unlighted **buoys**.

106 **Historical note.** — The abandoned site of **Canol** is 1.5 miles west of Mackenzie River, abreast the upstream end of Rader Island. During the 1939-1945 World War this was the United States authorities headquarters for the construction of the *Canol Road*. An abandoned airstrip lies near the site. The *Canol Road*, now known as *Canol Heritage Trail*, led from Canol to Johnsons Crossing, Yukon, a junction of the *Alaska Highway*. An oil pipeline was built along the road, leading from Norman Wells to Whitehorse by way of Johnsons Crossing, a distance of 660 miles. The pipeline was considered uneconomical in peacetime and was dismantled in 1947.

107 A port-hand **daybeacon** is on the east bank at Kilometre 933.7.


108 The shipping route, between Kilometres 938.2 and 949.5, leads west of **Ogilvie Island** and **Judith Island**, both wooded with spruce.

 109 *Mile 581.3 range lights (1792, 1793)* with a RAM on the east bank at Kilometre 935.5, *Mile 591.4 Stanley Island range lights (1794, 1795)*, with a RAM on the SE tip of Stanley Island, and an unlighted **buoy** mark the channel west of Ogilvie Island and Judith Island.

110 **Hoosier Ridge**, with a **conspicuous** north face, lies west of the river abreast Judith Island.

111 Between Kilometres 949.5 and 965.6, the route leads east of **Perry Island**, **Stanley Island**, **Willard Island**, and **Patricia Island**; the islands are wooded with spruce.

112 Unlighted **buoys** mark the channel between Kilometres 951.9 and 956.1.

 113 **Caution.** — **Drying flats** lie west of the channel at Judith Island and adjacent to each side of the channel abreast Stanley and Willard Islands.

114 A **beacon range** with a RAM at Kilometre 962.9 and an unlighted **buoy** mark the route between Kilometres 956 and 960.8.

115 A **beacon range** with a RAM at Kilometre 960.9 and unlighted **buoys** mark the channel between Kilometres 962.1 and 964.5.


116 A **beacon range** with a RAM at Kilometre 964 on Patricia Island and an unlighted **buoy** mark the channel between Kilometres 965.6 and 970.4.

117 Unlighted **buoys**, and a port-hand **daybeacon** at Kilometre 974.9, mark the channel between Kilometres 970.4 and 974.5.

*Chart 6420*


### Approach to Sans Sault Rapids

118 Between Kilometres 976.9 and 999.4 the river leads between steep sloping banks of clay and gravel, interspersed with limestone cliffs.


 119 *Mile 607.4 Carcajou Ridge range lights (1795.5, 1795.6)*, with a RAM at Kilometre 977.5, and unlighted **buoys** mark the channel between Kilometres 979.1 and 990.4.

CARCAJOU RIDGE FROM KILOMETRE 972, VIEW DOWNSTREAM (1987)



 120 **Caution.** — **Svenson Shoal** ( $65^{\circ}37'N$ ,  $128^{\circ}06'W$ ), between Kilometres 978.5 and 980.9, is a **drying shoal** off the west bank of the river. Some **shoal areas** and isolated **underwater rocks** lie in this section of the river.

121 **Carcajou Ridge**, between Kilometres 980.1 and 989.7, rises steeply from the east bank to 270 m.

 122 **Caution.** — A **drying rock** is at Kilometre 983.6; another **drying rock** is at Kilometre 984.9. Both dangers, near the east bank of the river downstream of Svenson Shoal, are marked with **rock markers**.



123 A **beacon range** with a RAM on the west bank at Kilometre 998.3 marks the channel between Kilometres 991.4 and 996.8. A port-hand **daybeacon** is on the east bank at Kilometre 992.6.

124 **Downbound traffic** should **report in** and **upbound traffic** should **report out** at Kilometre 998.3. The **Danger Zone 5 upstream mileage marker**, marked “Mile 620.3”, is on the east bank of Mackenzie River. The reporting radio facility is *MCTS Iqaluit*.

125 A **beacon range** with a RAM at Kilometre 1005 and unlighted **buoys** mark the channel between Kilometres 999.4 and 1004.7.

126 **Axel Island** is the largest and only named island in an expansion of the river between Kilometres 999.4 and 1010.7.

127 The usual track follows close off the east bank of the river past the east and north sides of Axel Island.

  128 **Caution.** — The **current** attains 3 to 4 knots in the channel that runs east and north of Axel Island.

129 **East Mountain**, rising to 450 m, is 1 mile north of and parallel to the east bank of Mackenzie River in the vicinity of Axel Island.


130 **Carcajou River** enters Mackenzie River on its west bank abreast Axel Island. An island formed from alluvial deposits lies in the mouth of the Carcajou River. The river has its headwaters in Mackenzie Mountains. Carcajou River follows a meandering course in its lower 20 miles and is joined by several tributaries. Sand banks are at the confluence of the Carcajou and Mackenzie Rivers.



131 **West Mountain** (*not shown on the chart*), with an elevation of 300 m, is 5 miles west of the mouth of Carcajou River.

*Charts 6451, 6420*

### Sans Sault Rapids and North Rapids

132 (*Chart 6451 is published at a larger scale and shows Sans Sault Rapids in greater detail than Chart 6420.*)

 133 **Caution.** — **Sans Sault Rapids** ( $65^{\circ}42'N$ ,  $128^{\circ}48'W$ ) is considered to be the most difficult and dangerous section of the Mackenzie River. The rapids, between Kilometres 1017.1 and 1020.3, are formed by an underwater **rocky ledge** extending into mid-stream from the east bank. At high water levels the rapids are submerged by the turbulent, swift-flowing stream. During low water levels the rapids are shallow and less turbulent, but numerous eddies are formed.

  134 **Caution.** — The **current** in Sans Sault Rapids attains 3 to 6 knots. In places the current **does not follow** the channel.

135 A narrow navigation channel through the rapids and along the east side of Dummit Islands has been created by blasting and dredging.

SANS SAULT RAPIDS FROM KILOMETRE 1017.1, VIEW DOWNSTREAM (1987)



SANS SAULT RAPIDS, VIEW UPSTREAM (1987)



136 **Caution.** — **Local knowledge** is considered essential for navigating Sans Sault Rapids.

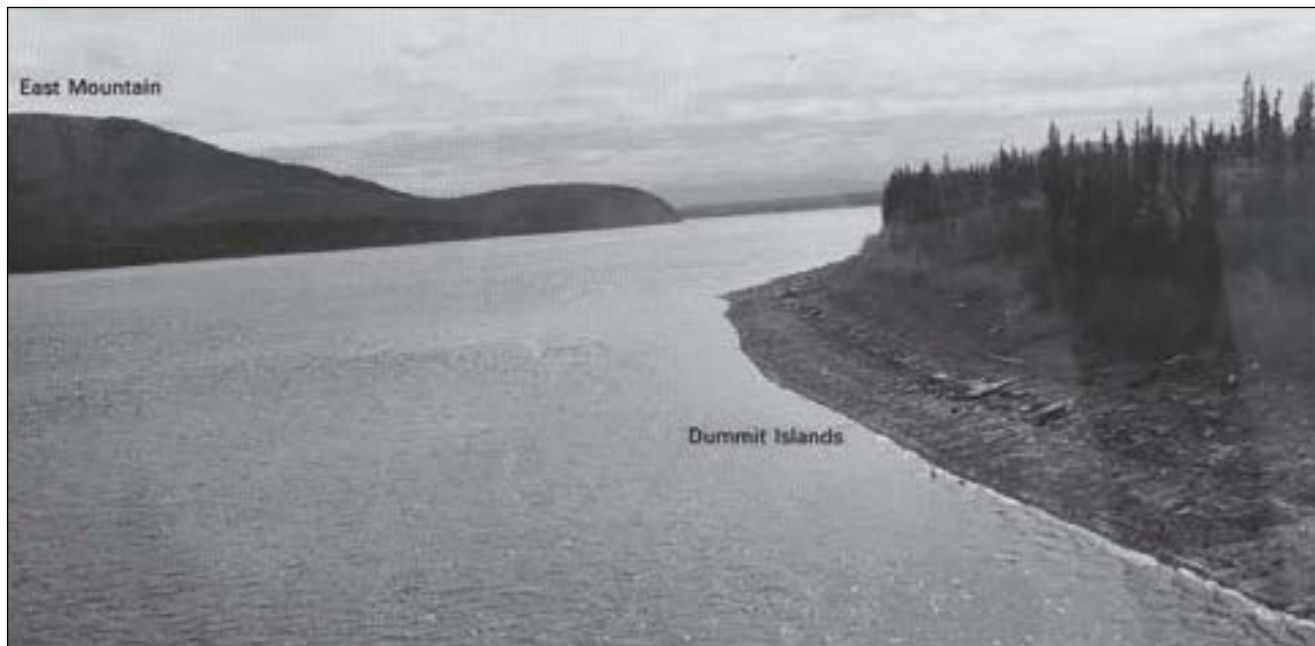
137 Tugs generally relay barges one or two at a time through Sans Sault and North Rapids.

138 **Tie-up markers**, showing the locations of barge-securing cables, are upstream of Sans Sault Rapids on the east bank at Kilometres 1012.3 and 1013.9 and on the east


bank at the upstream and downstream ends of North Rapids at Kilometres 1026.8 and 1030.8.

139 A sign on the east bank near the tie-up marker at Kilometre 1013.9 reads “Warning, Sans Sault Rapids One Mile, small craft keep to the left side of channel”. (*The condition of this sign is unknown.*)

SANS SAULT RAPIDS FROM KILOMETRE 1023.5, VIEW UPSTREAM (1987)




140 A **water level** staff near the warning sign at Kilometre 1013.9 is prominent and with red and white markings.


 141 **Caution.** — **Floating aids** may drift out of position but are repositioned as soon as possible. *Canadian Coast Guard* in Hay River should be informed when buoys are observed out of position.

142 **Mountain River**, on the west bank at Kilometre 1016.3, is shallow with numerous sand bars and islands.

143 **Dummit Islands**, a group of three wooded islands, lie on the west side of an expansion of Mackenzie River.

144 **Hanna Island** and **North Hanna Island** lie close off the east bank of Mackenzie River. **Hanna River** enters Mackenzie River from the east, abeam of Hanna Island.

 145 **Caution.** — **Boulder-strewn shallows**, especially dangerous at low water levels, lie along the east side of the Dummit Islands group; the main shipping channel lies along the east side of the shallows.

 146 **Caution.** — The channel west of Dummit Islands, even at high water levels, is only suitable for **shallow-draught** vessels.

147 At the upstream end of Sans Sault Rapids, the usual track between Kilometres 1016.6 and 1018.6 is marked by a **beacon range** on the west bank 0.7 mile


south of Mountain River, a **beacon range** on the south end of Dummit Islands and unlighted **buoys**.

148 Between Kilometres 1018.6 and 1020.2 the channel is marked by a **beacon range** on the west bank, north of Mountain River, by a reciprocal **beacon range** on the east bank, NE of Hanna Island, and by unlighted **buoys**.

 149 **Caution.** — **Black Rock**, close east of the navigation channel at Kilometre 1020.2, dries 0.5 m.

150 Between Kilometres 1020.2 and 1024 the channel is marked by unlighted **buoys** and a **beacon range** on the east bank, north of North Hanna Island.

151 A **beacon range** on the east bank at Kilometre 1026.6 marks the channel between Kilometres 1024 and 1025.5.

 152 **Caution.** — **North Rapids**, between Kilometres 1027.6 and 1029.2, is caused by an uneven bottom close downstream of a channel constriction between a **drying sand spit** extending north from Dummit Islands and a **shoal rocky ledge** extending from the east bank; the current is turbulent and swift-flowing.

153 The channel through North Rapids is marked by unlighted **buoys** and a **beacon range** on the NE end of Dummit Islands.



**NORTH RAPIDS FROM KILOMETRE 1033.2, VIEW UPSTREAM** (1987)



Charts 6420, 6421

**North Rapids to The Ramparts**

154 **Caution.** — Between North Rapids ( $65^{\circ}47'N$ ,  $128^{\circ}48'W$ ), Kilometre 1030, and Ramparts Rapids (*a local name*), Kilometre 1079.9, the river contains numerous islands and **drying sand banks**. The channel is subject to change due to **silting** and **scouring**. Between Hardie Island, Kilometre 1039.6, and Hume Island, Kilometre 1070.2, the channel may shift and navigation aids relocated at short notice.

155 **Caution.** — The **current** between North Rapids and Ramparts Rapids attains 3 to 3.5 knots.

Chart 6420

156 **Caution.** — A **drying area** composed of sand extends from the west bank of the river between Kilometres 1030 and 1032.4.

157 The usual track leads in mid-stream past the above-mentioned drying area. Once clear, the track closes to within 0.1 mile of the west bank and follows parallel to that side about the same distance off.

158 At a river crossing between Kilometres 1031.6 and 1034.8 the channel is marked by a port-hand **daymark** on the east bank, a **beacon range** with a RAM on the west bank, and by unlighted **buoys**.

159 **Caution.** — A low-lying partly wooded island at Kilometre 1033.2 is almost surrounded by a **drying area**.

160 **Donnelly River** ( $65^{\circ}50'N$ ,  $128^{\circ}51'W$ ) enters Mackenzie River from the east 1 mile upstream of Hardie Island. **Beavertail Point** is on the NE side of the main stream 1.5 miles downstream of Donnelly River.

Chart 6421

161 **Hardie Island** ( $65^{\circ}50'N$ ,  $128^{\circ}58'W$ ) lies between Kilometres 1036.4 and 1042.9; the navigation channel lies between Hardie Island and the west bank.

162 **Downbound traffic** should **report out** and **upbound traffic** should **report in** at Kilometre 1038. The **Danger Zone 5 downstream reporting point** is abeam Hardie Island. The reporting radio facility is *MCTS Iqaluit*.

163 The channel between Hardie Island and **Hume Island** is marked by unlighted **buoys**.

164 **Caution.** — Between Hardie Island and Hume Island, the channel is subject to change due to **silting** and **scouring** and aids to navigation may be relocated at short notice.

165 **Hume River** enters Mackenzie River from the west at Kilometre 1063.8. The ruins of a cabin are on the south entrance point of Hume River.


166 A river crossing upstream of Hume Island is marked by **daybeacons** with RAMs on each shore and by unlighted **buoys**.


167 **Downbound traffic** should **report in** and **upbound traffic** should **report out** at Kilometre 1073.4. The **Danger Zone 6 upstream mileage marker**, marked "Mile 667", is on the east bank at the downstream end of Hume Island. The reporting radio facility is *MCTS Iqaluit*.



168 **Caution.** — Hume Island and **Spruce Island**, connected by a large area of **shoal water** with **drying spots**, reduce the navigable width of Mackenzie River to less than 0.5 mile between Kilometres 1070.2 and 1079.9.


169 **Tsintu River** enters Mackenzie River from the east abeam Spruce Island. From this area Mackenzie River changes its course to a NE trend for 15 miles to Fort Good Hope. **Ramparts River** discharges into Mackenzie River from the west abreast the downstream end of Spruce Island.

## Ramparts Rapids

 170 **Caution.** — **Ramparts Rapids**, between Kilometres 1079.9 and 1086.3, is the local name for a set of rapids just upstream of The Ramparts. The rapids are formed by a series of **underwater limestone ledges** extending from the east and west banks. During high water levels the rapids are submerged and the major problem is a **strong cross current**. At low water levels there is a distinct drop over a short distance; **local knowledge** and **adequate power** are advised.

 171 The narrow channel through Ramparts Rapids, on the east side of the river, is marked by *Mile 672.4 The Ramparts range lights (1796, 1797)* with a RAM on the east bank at Kilometre 1082.1, unlighted **buoys** and a reciprocal **beacon range** with a RAM on the west bank of The Ramparts (*described in Chapter 11*) at Kilometre 1087.4.

  172 **Caution.** — The **current** through Ramparts Rapids attains 5.5 to 6 knots. For 1 mile downstream of Ramparts Rapids the current maintains 5.5 knots.

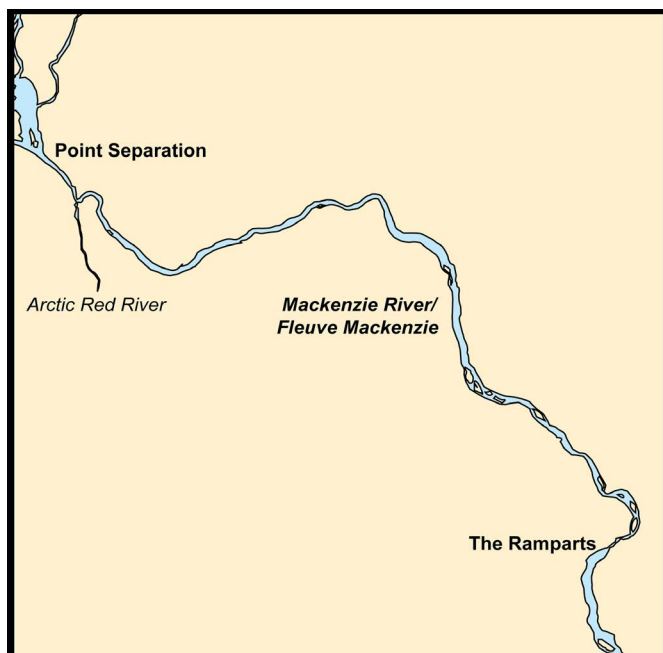
 173 **Caution.** — An area of **bedrock which dries** 2.9 m (10 ft) at low water level is close west of mid-channel near a chute leading through the rapids. Other **drying shoals** lie close west and east of the track in this vicinity.

174 Tugs generally relay barges one or two at a time through Ramparts Rapids.

175 **Tie-up markers** indicating the sites of barge-securing cables are on the east side of the river abreast the upstream and downstream ends of Spruce Island at Kilometres 1076.7 and 1079.9. **Tie-up markers** with barge-securing cables are on the west bank at the downstream end of Ramparts Rapids near Kilometre 1086.3.

# Chapter 11

## Mackenzie River The Ramparts — Point Separation



### General

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*Charts 6421 to 6426*

1 Mackenzie River continues its NNW trend for 100 miles, turns WSW for 50 miles and then turns northwest towards Point Separation. Point Separation marks the beginning of Mackenzie Delta.

2 Mariners are advised that the *Mackenzie River Marine Safety Advisory Procedures* should be followed by all vessels on the river, before entering, while proceeding through, and on leaving Danger Zones 1 to 10. Danger Zones 1 to 10 and their reporting points are described at the appropriate geographic locations in the text of this publication.

3 (For full details see *Radio Aids to Marine Navigation (Pacific and Western Arctic)*, available at: <https://www.ccg-gcc.gc.ca/publications/mcts-sctm/ramn-arnm/index-eng.html>.)

4 *MCTS Iqaluit*, through its repeater stations on the Athabasca — Mackenzie watershed, maintains a watch on distress, urgency and calling frequency 5803 kHz. (Consult *Radio Aids to Marine Navigation (Pacific and Western Arctic)* for full details.)

5 **Caution.** — Between Hare Indian River, Kilometre 1105.6, and the downstream end of Lower Ramparts, Kilometre 1451.6, there are numerous islands, **drying flats** and **sand bars** and the navigation channel meanders from one side of the river to the other. The shipping channel is subject to rapid change due to **erosion** and **silting**, consequently the fixed and floating aids to navigation may be moved during the navigation season to reflect the channel changes. For this reason, **aids to navigation may not be as shown on the charts**. Mariners are reminded to check broadcast and written *Notices to Shipping* frequently to stay abreast of changes.

6 Between Arctic Red River, Kilometre 1453.2, and Point Separation, Kilometre 1475.8, the river flows between shale cliffs and is comparatively deep.

7 *Dempster Highway* connects Dawson, Yukon, with Inuvik. The settlement of Tsiigehtchic, on the west bank at Kilometre 1453.2, is on *Dempster Highway*. A ferry crosses Mackenzie River at this location.

**THE RAMPARTS FROM KILOMETRE 1085, VIEW DOWNSTREAM** (1987)



**THE RAMPARTS FROM KILOMETRE 1088, VIEW DOWNSTREAM** (1987)



8 The following table of currents for the route from The Ramparts to Point Separation are approximate rates only. The rate varies with the outflow from Great Slave Lake and the tributaries of Mackenzie River.

**Table 11.1: Current table for the route from The Ramparts to Point Separation**

Kilometre No	knots	mph	kph
1086 - 1439	3 - 3.5	3.5 - 4	5.6 - 6.4
1439 - 1448	4	4.6	7.4
1448 - 1476	3 - 3.5	3.5 - 4	5.6 - 6.4

**The Ramparts to Fort Good Hope**

9 **The Ramparts**, at the north end of Ramparts Rapids (*a local name*), form a grand, 7 mile long, vertically-walled canyon carved through a limestone plateau. The Ramparts are entered between perpendicular limestone cliffs, 30 to 60 m high. The entrance is 0.3 mile wide and deep.

10 The **current** averages 3 knots throughout the length of The Ramparts.

11 Inside the upstream narrow section of The Ramparts the river gradient appears steep. This illusion is caused by the slope of the cliffy river banks dipping contrary to the direction of the flow.

12 Mackenzie River widens slowly to 0.6 mile as it nears the downstream end of the gorge. At the downstream end of The Ramparts, the river widens rapidly to almost 2 miles across. **Manitou Island** is wooded and close off the west bank at Kilometre 1100, opposite Fort Good Hope.

13 **Upbound traffic should report in and downbound traffic should report out** at Kilometre 1094.4. The **Danger Zone 6 downstream mileage marker**, marked “Mile 680”, is on the east side of Mackenzie River near the downstream end of The Ramparts. The reporting radio facility is *MCTS Iqaluit*.

*Chart 6422*

14 **Fort Good Hope** (*66°15'N, 128°38'W*), population 557 (*2006*), is on the elevated east side of Mackenzie River at Kilometre 1100.8. **Jackfish Creek** bounds the settlement on the south and east. The creek empties into Mackenzie River at the south end of the settlement, creating a small peninsula. Jackfish Creek is navigable, by small boats, for 0.5 mile from its mouth.

15 Satellite-based **telecommunications**, including the internet, connect Fort Good Hope with other northern communities and to population centres to the south. Transportation to Fort Good Hope is by ice road in winter, by boat in summer or by aircraft year-round. Part of the economy is based on hunting and fishing. The settlement


THE RAMPARTS FROM KILOMETRE 1091, VIEW DOWNSTREAM (1987)



FORT GOOD HOPE FROM KILOMETRE 1096, VIEW DOWNSTREAM (1987)



has a *Northern Stores* outlet with postal service, an *Arctic Cooperatives Ltd.* outlet, a school, a nursing station, two churches, and a *RCMP* detachment. Gasoline is obtainable, but not in large quantities.

 16 A floating Public **wharf** with a reported depth of 1.2 m alongside, at the settlement, is not stable enough to handle forklifts. There is a landing area on the peninsula with tie-ups for barges. A marshalling yard is nearby. Small craft can enter Jackfish Creek and shelter behind the settlement. Heavy cargo such as containers and trucks are landed at a beach in the mouth of Hare Indian River.

17 (For present and forecast weather conditions, visit: <https://weather.gc.ca/>.)

18 The settlement is supplied by water transport from Hay River. A gravel airstrip, 4434 feet (1351 m) long, is 1 mile south of the community. There are scheduled flights to Norman Wells.


19 An **aeromarine radiobeacon** ( $66^{\circ}15'05''N$ ,  $128^{\circ}36'38''W$ ) transmits on a frequency of 266 kHz, identification Morse “GH” (— • • • •).

20 A white **church** with a green roof stands out prominently when approaching from upstream.

21 Two red and white skeleton **masts** are at the north end of the settlement (1989). The masts, fitted with **air obstruction lights**, are prominent from downstream.

22 **Historical Note.** — Fort Good Hope is the oldest settlement in the lower Mackenzie Valley, established by the *Northwest Company* in 1805 as a fur trading post. The post was moved to several localities before being rebuilt at its present site by the *Hudson’s Bay Company*, in the period 1836-1839.

Fort Good Hope to Askew Islands

 23 **Caution.** — The **shipping channel** in Mackenzie River is continuously changing due to **silting** and **erosion**. Navigation aids along this section of the river may be changed at very short notice during the navigation season in order to mark the best route. For this reason, **aids to navigation may not be as charted**.

24 **Fossil Creek** ( $66^{\circ}17'N$ ,  $128^{\circ}42'W$ ), with its headwaters in **Fossil Lake** 9 miles west, enters Mackenzie River from the west at Manitou Island.


KILOMETRE 1120, VIEW DOWNSTREAM (1987)



25 **Hare Indian River** empties into Mackenzie River from the east at Kilometre 1105.6. In its lower reaches Hare Indian River is reported to be easily navigable by small boats. Trout are reported plentiful a short distance above its mouth.

26 A **landing beach**, on the south side in the mouth of Hare Indian River, has two deadmen anchors for mooring and is used to unload heavy equipment and containers destined for Fort Good Hope. The beach is reported to get very soft during wet weather.


27 The outflow from Hare Indian River is used by tugs to replenish their **fresh water** supply.

 28 **Caution.** — Between Hare Indian River, Kilometre 1105.6, and Kilometre 1120.1, there are three islands and several **drying flats** in the river. The navigation channel meanders between these obstacles.

29 The route between Fort Good Hope and Kilometre 1120.1 is marked by unlighted **buoys** and by port-hand **daybeacons** on the east bank at Kilometre 1106.6, Kilometre 1111.7 and Kilometre 1117.7.

30 A **microwave tower** displaying **air obstruction lights** is on a ridge 0.3 mile from the east bank of Mackenzie River at Kilometre 1116.9. The tower is reported to be a good landmark.

31 A **beacon range** on the west bank, with a RAM at Kilometre 1127, marks the track between Kilometres 1120.1 and 1125.9.

 32 **Caution.** — Between Kilometres 1126.5 and 1133, the channel lies close to the west bank with sandy **drying flats** and islands extending from the east bank.


33 A river crossing between Kilometres 1133 and 1136.2 is marked by a **beacon range** with a RAM


at Kilometre 1132, a **beacon range** with a RAM at Kilometre 1136.4 and unlighted **buoys**.


34 The usual route then follows close to the east shore between Kilometres 1136.2 and 1145.

35 **Loon River** enters Mackenzie River from the east through a shallow mouth at Kilometre 1136.2.


36 A **sign** marking the Arctic Circle is slightly out of position, at Kilometre 1139.5.

 37 **Caution.** — A large island, surrounded by a **drying flat**, lies in mid-stream close downstream of Loon River. A large **drying area** extends from the west bank 3.5 miles downstream of Loon River, constricting Mackenzie River to less than 0.3 mile wide at low water levels.

 38 A port-hand **daybeacon** on the east bank at Kilometre 1144.9, *Mile 715.6 range lights* (1797.8, 1797.9) with a RAM at Kilometre 1151.6 and an unlighted **buoy** mark a river crossing between Kilometres 1145 and 1151.4; unlighted **buoys** mark the channel along the west bank between Kilometres 1151.4 and 1153.9.

 39 **Caution.** — **Drying flats** and islands extend from the east bank between Kilometres 1152.2 and 1158.7.


40 The **Arctic Circle**, 66°33'N, is at Kilometre 1153, 28.3 miles downstream of Fort Good Hope.

 41 The channel crosses the river between Kilometres 1153.9 and 1161.9; *Mile 722.3 Tieda River range lights* (1798, 1799), with a RAM at Kilometre 1162.4, mark this crossing between Kilometres 1154.4 and 1161.6.

42 The channel follows the east bank between Kilometres 1161.6 and 1166.8.

43 **Tieda River** enters Mackenzie River from the east at Kilometre 1161.9.


44 Between Kilometres 1166.8 and 1170 there is a river crossing. A port hand **daybeacon** at Kilometre 1165.5 marks the channel between Kilometres 1166.3 and 1168.7. The channel then follows the west bank as far as the north end of Askew Islands, Kilometre 1176.4.

 45 **Caution.** — **Askew Islands**, a group of four islands almost surrounded by **drying flats**, lie in mid-stream between Kilometres 1170 and 1176.4.


46 Starboard-hand **daybeacons** are on the west bank at Kilometres 1169.5 and 1171.1.

*Charts 6422, 6423*

### Askew Islands to Bryan Island

 47 **Caution.** — The **shipping channel** in Mackenzie River is continuously changing due to **silting** and **erosion**. Navigation aids along this section of the river may be changed at very short notice during the navigation season in order to mark the best route. For this reason, **aids to navigation may not be as charted**.


48 A **beacon range** with a RAM at Kilometre 1180.6 marks the channel between Kilometres 1174.8 and 1179.6.

 49 **Caution.** — Between Kilometres 1179.6 and 1182.9, Mackenzie River is constricted to less than 0.4 mile by an extensive sandy **drying flat** extending from the west bank.

*Chart 6423*


50 Mackenzie River widens slightly to 0.6 mile for 2 miles below the drying sand flat, then widens again. A river crossing between Kilometres 1185.3 and 1188.5 is marked by a **beacon range** with a RAM at Kilometre 1183.8 and a **beacon range** with a RAM at Kilometre 1189. The route then follows the west bank to Kilometre 1191.5.

51 **Gillis River** ( $66^{\circ}44'N$ ,  $129^{\circ}48'W$ ) enters Mackenzie River from the west at Kilometre 1187.7.

 52 **Caution.** — Between Kilometres 1187.7 and 1203.8, islands and **drying flats** lie in the middle of Mackenzie River.

53 A **beacon range** with a RAM at Kilometre 1190.4 and unlighted **buoys** mark the route between Kilometres 1191.5 and 1198.5.

54 **Ontaratue River** enters Mackenzie River at Kilometre 1199. **Payne Creek** discharges into Mackenzie River from the NE, opposite Ontaratue River.


 55 **Caution.** — Close upstream of Ontaratue River, sandy **drying flats** extend from the west bank.

56 **Andersons Landing**, on the west bank at Kilometre 1191.7, is the site of two abandoned cabins.

57 An abandoned sawmill and abandoned airstrip are at Kilometre 1200.6 on the west bank, just NW of Ontaratue River.

58 A **microwave tower**, on the summit of a hill on the east bank east of Payne Creek, is prominent. The **cliffs** inland, SE of Payne Creek, have several bare white patches and are prominent.

59 For 20 miles downstream of the Ontaratue River, through **The Grand View**, Mackenzie River flows north between low-lying, wooded banks. Along The Grand View spectacular ridges, topping hills 244 m high, can be seen a few miles to the west. The bordering plains, supporting a scattered growth of willow, spruce and tamarack, slope gently toward the river. The river maintains a width of 2 miles throughout the above reach, which has a succession of elongated, sparsely wooded islands.

 60 **Caution.** — All of the islands in the Grand View have attached sandy **drying flats** and shallow water; the navigation channel is narrow and serpentine.

61 At Kilometre 1198.5, the track crosses the river and follows close-off the east bank to Kilometre 1214; unlighted **buoys** mark the route.

62 A port-hand **daybeacon** is at Kilometre 1214.3. The route crosses the river again here, marked by unlighted **buoys** between Kilometres 1214 to 1216.3.

63 A **beacon range** on the west bank, with a RAM at Kilometre 1220.5, and unlighted **buoys** mark the channel between Kilometres 1216.3 and 1219.6. The route follows the west bank between Kilometres 1219.6 and 1224.

64 A building known as **Carque's Cabin**, on the west bank at Kilometre 1219.9, is in ruins.

65 A starboard-hand **daybeacon** at Kilometre 1223.7, unlighted **buoys** and a port-hand **daybeacon** at Kilometre 1228.7 mark a crossing to the east bank between Kilometres 1224 and 1228.6.

66 *Barney Fisher's Trading Post* was on the east bank near Kilometre 1224.7; nothing remains of the buildings.

67 Between Kilometres 1228.6 and 1232.4, the channel follows the east bank.

68 **Gossage River** enters the Mackenzie River from the west at Kilometre 1229.5.

69 A river crossing between Kilometres 1232.4 and 1235.5 is marked by a port-hand **daybeacon** on the east

LITTLE CHICAGO FROM KILOMETRE 1244, VIEW DOWNSTREAM (1987)





bank at Kilometre 1232.3 and unlighted **buoys** along the track. Two starboard-hand **daybeacons** are on the west bank at Kilometre 1235.8. The route continues to follow the west shore to Kilometre 1239.5.

Chart 6424

**Bryan Island to Travaillant River**

70 **Bryan Island** ( $67^{\circ}05'N$ ,  $130^{\circ}13'W$ ), at Kilometre 1240.8, is 0.35 mile from the east bank of Mackenzie River. The sloping river banks in this area rise to more than 60 m.

 71 **Caution.** — From Kilometre 1240 to Kilometre 1279, Mackenzie River is encumbered with **shallow water**, **drying flats** and low wooded islands.

 72 **Caution.** — The **shipping channel** in Mackenzie River is continuously changing due to **silting** and **erosion**. Navigation aids along this section of the river may be changed at very short notice during the navigation season in order to mark the best route. For this reason, **aids to navigation may not be as charted**.

73 Unlighted **buoys** mark a river crossing to the east bank between Kilometres 1239.5 and 1245, and the channel between Kilometres 1245 and 1248.8; there is a cabin on the east bank at Kilometre 1247.5.

74 **Little Chicago** is on the east side of Mackenzie River, at Kilometre 1250.5. A *Canadian Coast Guard buoy cache* is located here.

75 **Historical Note.** — Little Chicago, once the site of a trading post, got its name during the rough and tumble days of the Yukon gold rush. It was a welcome layover on the long raft trip to Fort McPherson and the goldfields.

76 Abreast Little Chicago and for 5 miles downstream two large wooded islands extend along the west side of the river.


77 The route, from Kilometre 1248.8, crosses to the west side of the river, abeam the two large islands, and meanders to midstream and back twice before reaching Kilometre 1270. This section is well marked with unlighted **buoys**.

78 From Kilometre 1270 the route, marked with unlighted **buoys**, follows the west bank to Kilometre 1271.8.

79 A starboard-hand **daybeacon** at Kilometre 1271.8, unlighted **buoys** and a port-hand **daybeacon** at Kilometre 1279.8 mark a river crossing to the east bank.

80 On the east side of the river, 0.8 mile farther downstream, there is a river crossing to the west bank between Kilometres 1280.6 and 1281.8. A starboard daybeacon with a RAM is located near Kilometre on the west side of the river..


81 Between Kilometre 1280 and Kilometre 1300, near Thunder River, Mackenzie River varies from less than 1 mile to 2 miles wide. The stream follows several courses but the general direction is NNW. The shipping channel, marked with unlighted **buoys**, follows the west bank.

 82 **Caution.** — In this stretch there are several islands, numerous **shoal banks** and sandy **drying flats**.

83 **Thunder River** enters Mackenzie River from the east at Kilometre 1299.6.

84 Close downstream from Thunder River the Mackenzie River turns to flow in a WSW direction.

85 A river crossing between Kilometre 1300 and 1303 is marked by unlighted **buoys** and a port-hand **daybeacon** with a RAM on the east bank at Kilometre 1303.2. A **tie-up marker** is close south of the daybeacon and marks the site of barge-securing cables.

 86 **Caution.** — An extensive **drying area** extends from the west bank below Thunder River. The



**KILOMETRE 1297, VIEW DOWNSTREAM** (1987)



route follows the east bank from Kilometre 1303 to Kilometre 1309.1.

87 A river crossing between Kilometres 1309.1 and 1312.6 is marked by reciprocal **beacon ranges** with RAMs at Kilometres 1308.1 and 1312.9.




 88 The route follows the west bank to Kilometre 1320 where it crosses again to follow the east bank. The crossing is marked by a **beacon range** with a RAM at Kilometre 1319 and by *Mile 821 range lights* (1801.5, 1801.6) with a RAM at Kilometre 1322.6.

Chart 6425

**Travaillant River to Adam Cabin Creek**

89 From Travaillant River to Adam Cabin Creek, 44 miles downstream, the Mackenzie River follows a general WSW course.

 90 **Caution.** — In this section of the river there are several islands, numerous sandy **drying flats** and **shoal areas**. The average width of the river is 1.5 miles, however, the navigable channel is narrow in places and crosses the river at several locations.

 91 **Caution.** — The **shipping channel** in Mackenzie River is continuously changing due to **silting** and **erosion**. Navigation aids along this section of the river may be changed at very short notice during the navigation season in order to mark the best route. For this reason, **aids to navigation may not be as charted**.

92 **Travaillant River** (67°28'N, 131°30'W) enters Mackenzie River from the east, abreast the larger of two islands at Kilometre 1326.6. Two ruined cabins, on the west entrance point of the Travaillant River, are the site of a former trading post.

93 The route follows the east bank past Travaillant River to Kilometre 1337.3.

94 A river crossing between Kilometres 1337.3 and 1341.6 is marked by a port-hand **daybeacon** with a RAM at Kilometre 1336.7, unlighted **buoys** and a starboard-hand **daybeacon** with a RAM at Kilometre 1341.9.

95 The route follows the west bank to Kilometre 1346.2, at **Seven Islands Crossing**. This crossing, almost a right angle across the river, is marked by a starboard-hand **daybeacon** with a RAM at Kilometre 1346.7, unlighted **buoys** and a port-hand **daybeacon** with a RAM at Kilometre 1349.

96 **Historical Note.** — Seven Islands Crossing was formerly known as **Barrel Crossing** (*a local name*). The crossing was named because of a large white-coloured barrel on the east shore of the river. The barrel marked the river crossing point for many years until silting resulted in the present channel.

97 From Seven Islands Crossing, the route parallels the east shore to Kilometre 1365. Unlighted **buoys** near Kilometre 1360 mark the channel. A river crossing between Kilometres 1365 and 1367.5 is marked by a port-hand **daybeacon** with a RAM at Kilometre 1364.4, unlighted **buoys** and a starboard-hand **daybeacon** with a RAM on the west bank at Kilometre 1367.8.

98 **Benoit Creek** enters Mackenzie River from the west at Kilometre 1364.7.

99 The track follows the west bank from Kilometre 1367.5 to 1370.6.

LOWER RAMPARTS FROM KILOMETRE 1440.4, VIEW DOWNSTREAM (1987)



LOWER RAMPARTS FROM KILOMETRE 1443.6, VIEW DOWNSTREAM (1987)



100 A former Shell Canada unloading and storage site is on the west side of Mackenzie River at Kilometre 1369.6. The river bank is steep-to.

101 A starboard-hand **daybeacon**, at Kilometre 1369, unlighted **buoys** and a port-hand **daybeacon** at Kilometre 1374.5 mark another river crossing, and three more crossings are marked by port-hand **daybeacons** at Kilometre 1378.2 and Kilometre 1386.8, unlighted **buoys**, and a starboard-hand **daybeacon** at Kilometre 1391.8. From Kilometre 1390, the route follows close to the west bank.

102 **Tree River** discharges on the west side of Mackenzie River at Kilometre 1380. **Fat Rabbit Creek** enters the main river from the west at Kilometre 1389. **Rabbit Hay River** enters Mackenzie River from the east at Kilometre 1390.5.

103 **Adam Cabin Creek** enters Mackenzie River from the west at Kilometre 1397.2.

Chart 6426

### Adam Cabin Creek to Lower Ramparts

104 At Adam Cabin Creek (*67°11'N, 132°53'W*) Mackenzie River swings gradually to the NW and flows between banks 61 m high.

105 **Caution.** — Between Adam Cabin Creek and Cony Bay (*67°25'N, 133°34'W*) there are numerous sandy **drying flats** and **shoals**.

106 **Caution.** — The **shipping channel** in Mackenzie River is continuously changing due to **silting** and **erosion**. Navigation aids along this section of the river may be changed at very short notice during the navigation season in order to mark the best route. For this reason, **aids to navigation may not be as charted**.

107 A river crossing, between Kilometres 1401.3 and 1402.7, from west to east, is marked by a starboard-hand **daybeacon** at Kilometre 1400.8, unlighted **buoys** and a port-hand **daybeacon** at Kilometre 1405.4.

TSIIGEHTCHIC AND MOUTH OF ARCTIC RED RIVER (1987)



108 Between Kilometres 1402.7 and 1417.4 the channel follows the east bank and is marked by unlighted **buoys**.

109 A river crossing between Kilometres 1417.4 and 1422.5 is marked by a **beacon range** with a RAM at Kilometre 1416.2.

110 From Kilometre 1422.5 to Kilometre 1440, the route is marked with unlighted **buoys**.


111 **Pierre Creek** enters Mackenzie River from the east at Kilometre 1424.3; a cabin stands on its north entrance point. **Nagle Creek** enters from the west at Kilometre 1433.9. The terrain on both sides of Mackenzie River is interlaced with numerous small lakes and ponds in this region.

112 **Cony Bay** is the name given to a small indentation on the west side of Mackenzie River at Kilometre 1438.8. At Cony Bay there is a break in the river bank; a small low-lying meadow extends 0.2 mile inland.

113 Two **conspicuous parabolic radio antennas** with **air obstruction lights**, 1 mile west of Cony Bay, are visible intermittently from upstream for 20 miles.


### Lower Ramparts

114 **Lower Ramparts**, between Kilometres 1438 and 1451.6, is a horseshoe bend in the river with steep shale banks 90 m high.

 115 **Caution.** — Sandy **drying flats** lie close off the east bank between Kilometres 1438 and 1440.4.

116 A red and white square **survey marker** is on the east bank at Kilometre 1440.8.

117 A port-hand **daybeacon** is on the east bank at Kilometre 1442.8.

 118 **Caution.** — A **shoal** extends from near the west bank to mid-stream between Kilometres 1442.2 and 1443.7. The west shore, from Kilometre 1443.7 to Arctic Red River, is encumbered by sandy **drying flats** up to 0.3 mile wide.


119 A **survey marker** is reported on the west bank at Kilometre 1450.4.

120 A **tie-up marker**, on the east bank of the river at Kilometre 1451.6, indicates the location of a barge-securing cable.

  121 **Caution.** — **Currents** through Lower Ramparts attain 4 knots.

### Arctic Red River

122 **Arctic Red River** ( $67^{\circ}27'N$ ,  $133^{\circ}45'W$ ), 250 miles long, flows in a NW direction from its source close to the Yukon Territory border. It enters Mackenzie River at Kilometre 1453.2 through a shallow mouth, 183 m wide, and is reported navigable by canoe or shallow-draught boat for a considerable distance upstream. The Arctic Red River area is reported to be forested with white spruce.

 123 **Caution.** — Arctic Red River has **not** been **surveyed** for depths.

124 The entrance to Arctic Red River is included in **Danger Zone 10**. Mariners should make a report in accordance with *Mackenzie River Marine Safety Advisory Procedures* before entering and upon leaving Arctic Red River. The reporting radio facility is *MCTS Iqaluit*.

125 The settlement of **Tsiigehtchic** ( $67^{\circ}27'N$ ,  $133^{\circ}44'W$ ), population 175 (2006), is on the west bank of Mackenzie River at the upstream, or eastern, entrance point of Arctic Red River. Although physically more isolated than some communities, satellite-based **telecommunications**, including the internet, connect Tsiigehtchic with other northern communities and to population centres to the south. There is land-line only telephone service. The economy of the community is based on fishing, hunting, trapping and seasonal employment.

126 *Dempster Highway*, from Dawson, Yukon, passes Tsiigehtchic on the west side of Arctic Red River. A vehicle and passenger ferry, part of the *Dempster Highway* system, crosses Mackenzie River; the highway continues north along the east bank of Mackenzie River to Inuvik.

127 The ferry operates between June and October. A **ramp** for hauling the ferry out during winter months is near the ferry landing on the east bank of Mackenzie River.

128 Transportation to Tsiigehtchic is by *Dempster Highway*, with the short crossing of Arctic Red River provided by the *Dempster Highway* ferry in summer or an ice road in winter.

129 The settlement has a *Northern Store* outlet with postal service, a nursing station, a school and a Roman Catholic mission. Fuel oil, gasoline and a limited variety of provisions may be obtainable in small quantities.

130 An earthen **ramp** for the ferry and for barges is on Mackenzie River at the settlement.

131 There is no aircraft landing strip.

132 The white **church** at Tsiigehtchic is **conspicuous** from both upstream and downstream approaches on the Mackenzie River. The church has an elevation of 24 m.

### Arctic Red River to Point Separation

133 Between Arctic Red River ( $67^{\circ}27'N$ ,  $133^{\circ}45'W$ ) and Point Separation, at Kilometre 1475.8, Mackenzie River has an average width of 0.7 mile and flows in a general NW direction between shale cliffs. This section of the river is comparatively deep and contains no islands; there are no aids to navigation.



134 **Caution.** — Along this reach the average **current** is 3 to 3.5 knots.

135 **Tie-up markers** indicate the locations of barge-securing cables on the east bank at Kilometres 1470.1 and 1471.7.

136 Abreast Arctic Red River the usual track follows around the inside of the curve and then favours the east side of the river until Point Separation is reached.



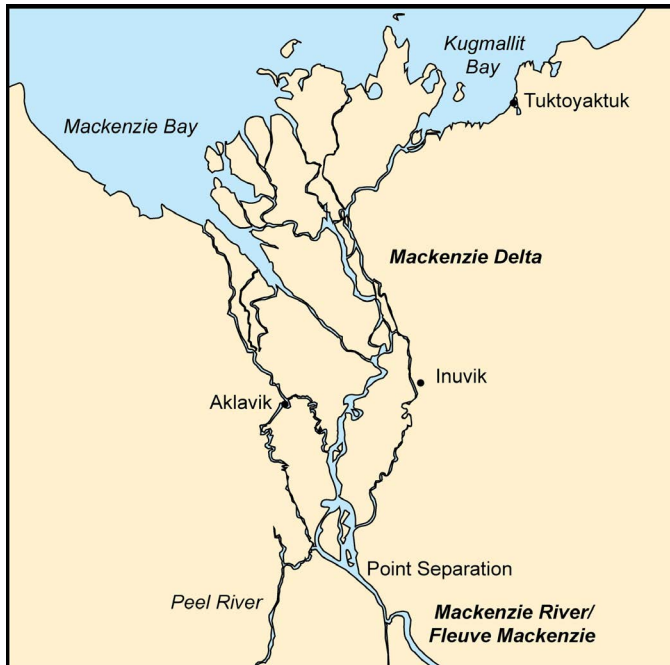
137 **Caution.** — A sandy **drying flat** extends from the west bank close upstream of Point Separation.

138 **Point Separation** ( $67^{\circ}36'N$ ,  $134^{\circ}05'W$ ), on the east side of Mackenzie River, at Kilometre 1475.8, marks the south limit of the Mackenzie Delta. It is a rounded clay feature 3 m high with willow trees on the bank and spruce trees in the background.

139 Two **parabolic radio towers** displaying **air obstruction lights**, on the summit of a hill 1 mile west of Cony Bay (*previously mentioned*), are **conspicuous** from the vicinity of Point Separation.

# Chapter 12

## Mackenzie River Mackenzie Delta



### General

Charts 6427 to 6438 and 6441

1 (Charts 7662 and 7663, published in standard format, cover the Mackenzie Delta north from 68°50'N. Chart 7685, also in the standard format, shows Tuktoyaktuk Harbour and approaches.)

2 **Mackenzie Delta** starts at Point Separation (67°36'N, 134°05'W) and combines with that of the Peel River at 67°42'N to form a vast area comprising the south part of the delta. The islands on the west side of the delta are predominantly mud, the central islands are mostly sand and those on the east side are generally composed of gravel with some boulders. The Mackenzie Delta is dotted with lakes and ponds and contains a maze of channels and streams. The north/south length of the delta is about 210 km and the width spans about 80 km. Including land and water, the delta area is about 12 200 km<sup>2</sup>. It is bounded on the north by the Beaufort Sea, on the east by the Caribou Hills, and on the west by the Richardson Mountains.

3 Mariners are advised that the *Mackenzie River Marine Safety Advisory Procedures* should be followed by all vessels on the river, before entering, while proceeding through, and on leaving Danger Zones 1 to 10. Danger Zones 1 to 10 and their reporting points are described at the appropriate geographic locations in the text of this publication.

4 (For full details see *Radio Aids to Marine Navigation (Pacific and Western Arctic)*, available at: <https://www.ccg-gcc.gc.ca/publications/mcts-sctm/ramn-arm/index-eng.html>.)

5 *MCTS Iqaluit*, through its repeater stations on the Athabasca — Mackenzie watershed, maintains a watch on distress, urgency and calling frequency 5803 kHz. (Consult *Radio Aids to Marine Navigation (Pacific and Western Arctic)* for full details.)

6 Within Mackenzie Delta there is a network of meandering channels, some of which are suitable for tug-barge operations. A number of navigation aids are maintained to mark shoals and passages.




7 **Caution.** — Some **channel shifting** does occur. During the high water of spring breakup the

channel banks retreat rapidly in places, and islands and points of land may change shape drastically due to **silting** and **erosion**. **Sand bars** form or shift and the silt-laden waters of the delta make visual detection of underwater obstructions difficult. Extensive **local knowledge** is considered essential for navigating in the Mackenzie Delta.

8 The main **shipping route** through Mackenzie Delta between Point Separation and Tuktoyaktuk follows Middle Channel from Point Separation, Kilometre 1475.8, to Kilometre 1668.9. The route then follows Neklek Channel to Kilometre 1673.7 and East Channel to Kilometre 1739.7. Between Kilometre 1739.7 and the entrance to Tuktoyaktuk Harbour, Kilometre 1767.1, the route crosses Kugmallit Bay.

9 Inuvik, on East Channel, is approached from Middle Channel by way of Oniak Channel, between Kilometres 1598.1 and 1611.8. The route then leads south along East Channel.



 10 **Caution.** — South of Inuvik, East Channel is very **shallow**; it only becomes suitable for shallow-draught vessels at high water levels.


11 Aklavik Channel leads west from Kilometre 1532.9 in Middle Channel to Kilometre 1596.5 near Aklavik, at the junction of Peel Channel and West Channel. Peel Channel and Husky Channel connect Peel River to Aklavik.



12 *Mackenzie River Marine Safety Advisory Procedures* **Danger Zone 7** is Oniak Channel. **Danger Zone 8** is Inuvik to Tununuk Point in East Channel. **Danger Zone 9** is Kitty Channel (*a local name*) in Kittigazuit Bay.


13 The following restricted channels are listed in **Danger Zone 10**; mariners should make a report before entering and upon leaving Aklavik Channel, Tiktalik Channel, Husky Channel, Peel Channel, Phillips Channel, Peel River, Napoiak Channel, Neklek Channel, Schooner Channel and Tuktoyaktuk Entrance Channel. The reporting radio facility is *MCTS Iqaluit*.


14 Mariners should, at their discretion, report in and out of any other waterway in Mackenzie Delta.

  15 **Caution.** — Information on **currents** in the channels of the Mackenzie Delta is not complete and the flow fluctuates with the prevailing meteorological conditions, tides in the lower delta and the outflow of the parent river. The following figures should therefore be used as a guide only.

 16 The **current** in Peel Channel is reported to average about 2 knots as far north as Aklavik and less than 2 knots in West Channel.

  17 **Caution.** — In Middle Channel the **current** varies from 3 to 3.5 knots.

 18 The flow of East Channel downstream from Tununuk Point is reported much greater than that at Inuvik. Downstream of Reindeer Depot the **current** is reported to average 2 knots.

 19 **Caution.** — Small trees, **deadheads** and pieces of turf drift in the delta channels.

20 **Tidal fluctuations** are seen in Middle Channel and East Channel as far upstream as Tununuk Point ( $69^{\circ}00'N$ ). Persistent **onshore winds** will also raise the water level in these areas.

21 The delta channel waters are brownish in colour and heavy with sediment. Clear water can be obtained in the ponds or lakes formed on the islands in the delta. In the lower delta the transition from fresh to brackish water may be gradual or sudden, depending on winds, tides and the gradient of the channels leading to the sea.

## Mackenzie Delta — SW part

*Charts 6427, 6438*


### Peel River Approaches

22 From Middle Channel of Mackenzie River there is one approach route to Peel River ( $67^{\circ}42'N, 134^{\circ}32'W$ ). After passing Point Separation, Kilometre 1475.8, downbound vessels approaching Peel River follow the **beacon range** on the west bank at Kilometre 1480.3, then follow close to the west bank in the channel leading WNW to the Peel River entrance. Upbound vessels proceeding to Peel River must make a sharp starboard turn near Kilometre 1483.

*Chart 6438*

### Peel River


23 **Peel River** ( $67^{\circ}42'N, 134^{\circ}32'W$ ), originating in the Mackenzie Mountains more than 260 miles south of its entrance into Mackenzie River, lies partly in Northwest Territories and partly in Yukon.

 24 **Caution.** — There are **no Canadian Coast Guard aids to navigation** on Peel River. **Local knowledge** is necessary for navigating any part of the river because the channel shifts due to **erosion** and **silting**.

25 From its entrance to 13 miles upstream, the river averages less than 0.2 mile in width then, for the next 10.4 miles to Fort McPherson, it is about 0.5 mile wide.

26 **Road Island**, 43.5 miles upstream from Fort McPherson, marks the limit of *Canadian Hydrographic*

Service charts. The border between the Northwest and Yukon Territories is 31.3 miles upstream from Fort McPherson.

 27 The **current** is reported to attain about 2 knots from the Mackenzie River to Fort McPherson.

28 The entrance to Peel River is included in **Danger Zone 10**. Mariners should make a report in accordance with *Mackenzie River Marine Safety Advisory Procedures* before entering and upon leaving Peel River. The reporting radio facility is *MCTS Iqaluit*.


29 Navigation season along Peel River is June to September.

30 A vehicle and passenger **cable ferry** crosses Peel River about 6 miles upstream from Fort McPherson. The ferry operates from June to October and is part of the *Dempster Highway* system.

31 The following are extracts from the *Ferry Cable Regulations*.

- 32 5. (1) The owner of a ferry cable shall
- (a) install a red light and a green light at each of the on-shore terminal ends of the ferry cable in such a manner that the lights are clearly visible from a vessel approaching the ferry cable from any direction;
  - (b) where the ferry cable is in the raised position, ensure that the red lights referred to in paragraph (a) are illuminated;
  - (c) where the ferry cable is in the down position, ensure that the green lights referred to in paragraph (a) are illuminated; and
  - (d) ensure that the red lights or the green lights referred to in paragraph (a) are illuminated 24 hours a day to indicate the position of the ferry cable.

33 8. No person in charge of a vessel shall navigate the vessel across a ferry cable when the red lights are illuminated at the on-shore terminal ends of the ferry cable.

 34 **Caution.** — Do not attempt to pass the ferry until the cable is in the down position and green lights are showing.

35 **Fort McPherson** ( $67^{\circ}27'N$ ,  $134^{\circ}53'W$ ), population 776 (2006), is on the east bank of Peel River about 23 miles above the junction of Peel and Mackenzie Rivers. Formerly an important trapping centre, the hamlet retains subsistence trapping and hunting and the economic base of the community is supplemented by handicrafts and wage employment. Satellite-based **telecommunications**, including the internet, connect Fort McPherson with other northern communities and to population centres to the south. Transportation to Fort McPherson is by road, except during freeze-up and break-up, or by aircraft year-round. The settlement is connected to the highway system by the

Dempster Highway and has an *Inns North* hotel, post office with mail delivery five times weekly, a *Telit Co-operative* store, a *Northern Store* outlet, a nursing station, churches and a *RCMP* detachment. Gasoline and provisions are obtainable in limited quantities.

36 Generally, fuel oil is the only commodity shipped to the settlement by water transportation. A shifting sand bar along the riverfront at Fort McPherson prevents the construction of a permanent wharf and there are no deadmen anchors for securing barges. Unloading of barges is difficult.

37 A gravel airstrip, 3500 feet (1067 m) long, is 1.5 miles SSE of the settlement. There are scheduled flights from Inuvik.


38 An **aeromarine radiobeacon** ( $67^{\circ}24'37''N$ ,  $134^{\circ}52'25''W$ ) at the airstrip broadcasts on 373 kHz, identification Morse “ZFM” (—••••—•—•—•—).

39 (For general **weather conditions** in this area, see Chapter 4 of *Sailing Directions* booklet ARC 400 — *General Information, Northern Canada*. For present and forecast weather conditions, visit: <https://weather.gc.ca/>.)

40 The following features lie upstream of Fort McPherson and distances are measured from Fort McPherson. **Stony Creek** enters the west bank at Kilometre 4.8. **Shiltee Rock** is a high promontory on the west bank at Kilometre 16.1. **Vittrekwa River** enters the west bank at Kilometre 32.2. **Satah River** enters the east bank at Kilometre 48.3. **Road River** enters the west bank at Kilometre 83.7. **Trail River** enters the west bank at Kilometre 107.8. **Brown Bear Creek** enters the east bank at Kilometre 119.1. **Caribou River** enters the west bank at Kilometre 140. **George Creek** enters the east bank at Kilometre 170.6. **Snake River** enters the east bank at Kilometre 215.7.

Chart 6437

### Peel Channel and Husky Channel

 41 **Caution.** — There are **no Canadian Coast Guard aids to navigation** on Peel Channel or Husky Channel. **Local knowledge** is necessary for navigating any part of the channels because the channel shifts due to **erosion** and **silting**.

42 **Peel Channel** leads from 1.7 miles inside Peel River entrance to the junction of Aklavik Channel and West Channel. It is about 0.2 mile wide, 60 miles long, and meanders between low cut banks, 2 to 5 m high.

43 Peel Channel is included in **Danger Zone 10**. Mariners should make a report in accordance with *Mackenzie River Marine Safety Advisory Procedures* before entering and upon leaving Peel Channel. The reporting radio facility is *MCTS Iqaluit*.

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44 **Husky Channel** ( $67^{\circ}37'N$ ,  $134^{\circ}51'W$ ) branches WNW from Peel River 13.5 miles from its entrance. The channel varies from 0.1 to 0.2 mile wide and follows an irregular course north along the edge of the Richardson Mountains, between clay banks about 7.6 m high. Husky Channel enters Peel Channel 10.4 miles upstream of Aklavik.

45 Husky Channel is included in **Danger Zone 10**. Mariners should make a report in accordance with *Mackenzie River Marine Safety Advisory Procedures* before entering and upon leaving Husky Channel. The reporting radio facility is *MCTS Iqaluit*.

46 A branch of **Rat River** enters Husky Channel from the west, close north of its junction with Peel River.

47 **Phillips Channel** branches north from Husky Channel 13.9 miles from Peel River and enters Peel Channel 25.2 miles from Aklavik. It is 38.2 miles long, very narrow and crooked.

48 Phillips Channel is included in **Danger Zone 10**. Mariners should make a report in accordance with *Mackenzie River Marine Safety Advisory Procedures* before entering and upon leaving Phillips Channel. The reporting radio facility is *MCTS Iqaluit*.

49 **Esau Channel** branches from Peel Channel at  $67^{\circ}54'N$ ,  $134^{\circ}54'W$  and leads NNE, joining Aklavik Channel at  $68^{\circ}09'N$ ,  $134^{\circ}42'W$ .

50 **Pokiak Channel** leads NW from Esau Channel and **Enoch Channel** leaves Peel Channel at  $68^{\circ}01'N$ ,  $135^{\circ}00'W$ . Enoch Channel and Pokiak Channel enter Peel Channel from the south abreast the settlement of Aklavik.

*Chart 6428*

**Aklavik Channel**

51 **Aklavik Channel** is the most direct approach to the settlement of Aklavik from Middle Channel of Mackenzie River. Aklavik Channel branches west from Middle Channel at Kilometre 1532.9 ( $68^{\circ}05'N$ ,  $134^{\circ}30'W$ ) and follows a winding course between low banks to its junction with Peel Channel at Kilometre 1596.5 ( $68^{\circ}15'N$ ,  $135^{\circ}02'W$ ). The combined streams of Peel Channel and Aklavik Channel, flowing NW, become West Channel.

52 Aklavik Channel is included in **Danger Zone 10**. Mariners should make a report in accordance with *Mackenzie River Marine Safety Advisory Procedures* before entering and upon leaving Aklavik Channel. The reporting radio facility is *MCTS Iqaluit*.



53 The upstream direction for **aids to navigation** in Aklavik Channel is from West Channel toward Middle Channel.

54 The entrance to Aklavik Channel from Middle Channel is marked by a starboard-hand **buoy**.

55 The entrance to Aklavik Channel from Peel Channel is marked by unlighted **buoys**.


*Charts 6433, 6437*

### Aklavik

56 **Aklavik** ( $68^{\circ}13'N$ ,  $135^{\circ}00'W$ ), population 594 (2006), is on the west bank of Peel Channel, close upstream of the junction of West Channel, Peel Channel and Aklavik Channel. The Aklavik Channel route is about 9.6 miles shorter than the Peel Channel route. Underlain by delta silt and permafrost, the community is located on the tree line.

57 Aklavik has a post office, a *Northern Store* outlet, a school, Anglican and Roman Catholic missions, a nursing station, a bed and breakfast and a *RCMP* detachment. Hunting and trapping are the basis of the local economy. Fur garments and handicrafts are manufactured. Gasoline and fuel oil are obtainable in small quantities and provisions can be obtained by arrangement.

58 Satellite-based **telecommunications**, including the internet, connect Aklavik with other northern communities and to population centres to the south. Transportation to Aklavik is by ice road in winter, by boat in summer or by aircraft year-round. The settlement is supplied by barge from Hay River and Inuvik. The navigation season is June to September.

 59 A floating **Public wharf** with a reported depth of 4.6 m alongside the face is maintained. There is also a landing for small craft and a float-airplane wharf. There are deadmen anchors for mooring barges with a **ramp** for handling cargo.

60 A gravel airstrip, 3000 feet (914 m) long, is near the hamlet. There is scheduled air service from Inuvik.

61 An **aeromarine radiobeacon** ( $68^{\circ}13'34''N$ ,  $135^{\circ}00'53''W$ ) at Aklavik broadcasts on 208 kHz, identification *Morse* "YKD" (— • — — — • — • •).

62 Peel Channel at Aklavik is a **seaplane landing area**.

63 (*For general weather conditions in this area, see Chapter 4 of Sailing Directions booklet ARC 400 — General Information, Northern Canada. For present and forecast weather conditions, visit: <https://weather.gc.ca/>.)*)


64 A **conspicuous** communications **tower**, about 57 m high, is 0.7 mile west of the settlement buildings, near Peel Channel.

65 **Historical Note.** — Aklavik grew around a *Hudson's Bay Company* trading post, opened in 1912. Located on Peel Channel, in a good trapping area, the community became a transportation hub in the Mackenzie Delta. By the 1950s the community had developed and grown to over 1600 people. However, Peel Channel was subject to flooding, and the river banks were being washed away. Due to the flooding, the Federal Government built a new community at what is now Inuvik, with the intention of closing Aklavik. In the 1960s, the principal of Aklavik's school, A. J. (Moose) Kerr, started a committee to help save the community. The efforts were successful and the community, although much smaller, survived. The local school is named for him.

*Charts 6433, 6441*

### West Channel

66 **West Channel** ( $68^{\circ}15'N$ ,  $135^{\circ}02'W$ ) leads from the junction of Aklavik Channel and Peel Channel at Kilometre 1596.5 to the south end of Mackenzie Bay at Kilometre 1694.6. It is about 0.5 mile wide, bounded by mud banks about 5 m high, and runs parallel to the foothills of the Richardson Mountains.

 67 **Caution.** — There are **no Canadian Coast Guard aids to navigation** on West Channel or any of the other channels mentioned below. **Local knowledge** is necessary for navigating in this part of Mackenzie Delta because channels may shift due to **erosion** and **silting**.

68 Mariners may make a report to *MCTS Iqaluit* before entering and upon leaving West Channel.

69 Distances on West Channel are continued from the Aklavik Channel route.

70 **Jamieson Channel** branches north from Aklavik Channel 0.3 mile east of Peel Channel and meanders north toward Shallow Bay.

71 **Nikoluk Channel**, at Kilometre 1602.9, and **Leland Channel**, at Kilometre 1623, branch from the east bank of West Channel and meander north toward Shallow Bay.

72 **Hvatum Channel** branches from the east bank of West Channel at Kilometre 1624.6 and leads into Shallow Bay. **Archie Channel**, at Kilometre 1656, connects West Channel to Hvatum Channel.

73 **Little Moose Channel** branches west from West Channel at Kilometre 1649.6. Very narrow and winding for most of its length, Little Moose Channel widens considerably with the outflow of **Big Fish River** and connects with Moose Channel.

74 **Moose Channel** branches west from West Channel at Kilometre 1660.8 and enters Shoalwater Bay about

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3.2 miles SW of **Tent Island** ( $68^{\circ}55'N$ ,  $136^{\circ}35'W$ ). Moose Channel is reported to be suitable throughout the navigation season for vessels with a limiting draught of 1.2 m.

**Ministicog Channel** branches from Moose Channel and enters Shoalwater Bay close south of Tent Island.

75 **Anderton Channel** branches west from West Channel at Kilometre 1665.7 and rejoins West Channel at Kilometre 1681.8.

76 **Tiktalik Channel** branches east from West Channel at Kilometre 1676.9 and enters the west side of Shallow Bay.

77 Tiktalik Channel is included in **Danger Zone 10**. Mariners should make a report in accordance with *Mackenzie River Marine Safety Advisory Procedures* before entering and upon leaving Tiktalik Channel. The reporting radio facility is *MCTS Iqaluit*.

78 (*Mackenzie Bay, Shoalwater Bay and Shallow Bay are described in Sailing Directions booklet ARC 403 — Western Arctic.*)

**Mackenzie Delta — Middle Channel**

*Charts 6427 to 6430, 6434, 6435*

79 **Middle Channel** is the main outlet of Mackenzie River. Middle Channel begins near Point Separation ( $67^{\circ}36'N$ ,  $134^{\circ}05'W$ ) at Kilometre 1475.8 and enters Mackenzie Bay south of Richards Island at Kilometre 1746.1 ( $69^{\circ}20'N$ ).

80 The main shipping route through Mackenzie Delta leading to Tuktoyaktuk follows Middle Channel from Point Separation to Kilometre 1668.9, then branches east through Neklek Channel.

81 Several navigable channels branch east and west from Middle Channel. Channels leading to the entrance of Peel River branch west from Middle Channel at Kilometre 1480.6. The south entrance to East Channel branches east at Kilometre 1496.7. Aklavik Channel branches west at Kilometre 1532.9. Napoiak Channel branches west at Kilometre 1590.8. Oniak Channel,

leading to East Channel and Inuvik, branches east at Kilometre 1598.1. Luker Channel, leading to East Channel and Inuvik, branches east at Kilometre 1619. Neklek Channel branches east at Kilometre 1668.9. Reindeer Channel branches west at Kilometre 1672.1. Harry Channel branches east at Kilometre 1707.5. A channel branches north at Kilometre 1730 and enters Mackenzie Bay east of Garry Island.



 82 **Caution.** — The **shipping channel** in Middle Channel is continuously changing due to **silting** and **erosion**. Navigation aids along the channel may be changed at very short notice during the navigation season in order to mark the best route. For this reason, **aids to navigation may not be as charted**.

Chart 6427

### Point Separation to Aklavik Channel

83 Between Point Separation ( $67^{\circ}36'N$ ,  $134^{\circ}05'W$ ), Kilometre 1475.8, and Aklavik Channel, Kilometre 1532.9, the navigation channel meanders between several large islands.

 84 **Caution.** — Numerous **drying banks** lie around and between the islands. Several **shoal sand bars** cross the channel.

85 Unlighted **buoys** mark the channel from Kilometre 1483, where the route to Peel River separates from the main route, to Kilometre 1507, downstream of East Channel south entrance.

86 The south entrance to East Channel, at Kilometre 1496.7, is seldom used by deep draught vessels except during periods of very high water levels. East Channel is described later in this chapter.

87 The east bank of Middle Channel in the vicinity of Kilometre 1509.6 is prominent from SE.

88 A **beacon range** with a RAM at Kilometre 1515.4 marks a channel crossing between Kilometres 1511.5 and 1515.2. A starboard-hand **daybeacon** is at Kilometre 1516.5.

89 The route, from Kilometre 1517.5, crosses Middle Channel twice before reaching Aklavik Channel, at Kilometre 1533.3.




  90 **Caution.** — A **strong set** toward the west shore is reported in the vicinity of Aklavik Channel entrance. (*Aklavik Channel has been previously described.*)

Chart 6428

### Aklavik Channel to Napoiak Channel

91 Between Aklavik Channel at Kilometre 1533.3 ( $68^{\circ}05'N$ ,  $134^{\circ}30'W$ ) and Napoiak Channel, the navigation channel meanders between the east and west banks of the river. The deepest water in the delta occurs close downstream of Horseshoe Bend. Soundings of more than 40 m have been recorded.

 92 **Caution.** — **Drying flats**, some with low islands on them, and **shoal water** line both shores in places, notably at the inner radius of river bends.

93 From Kilometre 1534.6 to Kilometre 1538.8, the track is marked by a **beacon range** with a RAM on the south entrance point of Aklavik Channel.

94 From Kilometre 1538.8 to Kilometre 1540.6, the track is marked by a **beacon range** with a RAM at Kilometre 1537.2.

95 Between Kilometres 1540.6 and 1542.8, along the east shore, the channel is marked by unlighted **buoys**.


96 From Kilometre 1542.8 to Kilometre 1548.6, the track is marked by a **beacon range** with a RAM at Kilometre 1549.8.

97 A starboard-hand **daybeacon** is at Kilometre 1550, adjacent to the range towers. The daybeacon serves as the upstream **steering mark** for a river crossing between Kilometres 1550.6 and 1556; the downstream **steering mark** is a port-hand **daybeacon** at Kilometre 1556.7.

98 **Horseshoe Bend** is a backwater around an island in the east bank of Middle Channel at Kilometre 1554.4.

99 Between Kilometres 1556 and 1561.3, the channel is marked by an unlighted **buoy**.

100 **Raymond Channel**, at Kilometre 1560.3, leads west from Middle Channel and connects with Napoiak Channel (*see Chart 6436*). A former *RCMP* camp stands on the north entrance point to Raymond Channel; in 1977 it was reported to be used as a fishing camp.


 101 From Kilometre 1561.3 to Kilometre 1565.8, the Middle Channel track is marked by a **beacon range** with a RAM at Kilometre 1560.1 and the reciprocal *Mile 973.5 Kalinek Channel range lights* ( $1809.4$ ,  $1809.5$ ), with a RAM, at Kilometre 1556.7.

102 The channel follows the east bank between Kilometres 1565.8 and 1568.9.

103 **Kalinek Channel**, at Kilometre 1567.5, leads east from Middle Channel and connects with East Channel (*see Chart 6432*).

104 A river crossing between Kilometres 1568.9 and 1571.1 is marked by a port-hand **daybeacon** at Kilometre 1568.6, an unlighted **buoy** and a starboard-hand **daybeacon** at Kilometre 1571.8.

105 **Kasook Channel**, at Kilometre 1574.7, leads west from Middle Channel and connects with Moore Channel (see Chart 6436).

 106 The channel follows the west bank to Kilometre 1575.5. A river crossing, from Kilometre 1575.5 to Kilometre 1581, is marked by *Mile 978.2 Dillon Channel range lights* (1809.6, 1809.7), with a RAM at Kilometre 1574.3, and a port-hand **daybeacon** at Kilometre 1581.7. The route follows the east bank to Kilometre 1584.2.

107 **Dillon Channel**, at Kilometre 1581.2, leads east then meanders north to Oniak Channel (see Chart 6429).

108 A river crossing between Kilometres 1584.2 and 1588.3 is marked by reciprocal **beacon ranges** with RAMs at Kilometres 1583.9 and 1589.1.

109 **Moore Channel**, at Kilometre 1588.4, leads west from Middle Channel and connects with Napoiak Channel (see Chart 6436).




 110 **Caution.** — There are **no Canadian Coast Guard aids to navigation** on Middle Channel between Kilometres 1588.3 and 1594.3.

Chart 6436

### Napoiak Channel

111 **Napoiak Channel** branches west from Middle Channel at Kilometre 1590.8 (68°26'N, 134°12'W) and enters Shallow Bay at Kilometre 1654.4. The general depths in the area were reported to be 0.3 m.

 112 **Caution.** — There are **no Canadian Coast Guard aids to navigation** on Napoiak Channel or any of the other channels mentioned below. **Local knowledge** is necessary for navigating in this part of Mackenzie Delta because channels may shift due to **erosion** and **silting**.

 113 **Caution.** — In 1978 a hydrographic survey attempted to reach Shallow Bay via Napoiak Channel. The survey was navigated to the mouth of Napoiak Channel where progress was stopped because of **shallow water**. Depths in the area were 0.3 m.

114 Napoiak Channel is included in **Danger Zone 10**. Mariners should make a report in accordance with *Mackenzie River Marine Safety Advisory Procedures* before entering and upon leaving Napoiak Channel. The reporting radio facility is *MCTS Iqaluit*.

115 **Schooner Channel** branches south from Napoiak Channel at Kilometre 1606.9 and joins Aklavik Channel

about 5 miles from Aklavik. It is considered an important small-craft channel.

116 Schooner Channel is included in **Danger Zone 10**. Mariners should make a report in accordance with *Mackenzie River Marine Safety Advisory Procedures* before entering and upon leaving Schooner Channel. The reporting radio facility is *MCTS Iqaluit*.


117 **Taylor Channel** branches south from Napoiak Channel at Kilometre 1611 and connects with Aklavik Channel.

118 **Big Jim Channel** branches south from Napoiak Channel at Kilometre 1623.8 and connects with Taylor Channel.

Charts 6429, 6430

### Napoiak Channel to Neklek Channel

119 On Middle Channel, between Napoiak Channel (68°26'N, 134°12'W), Kilometre 1590.8, and Neklek Channel, Kilometre 1668.9, the navigation channel meanders between the east and west banks of the river.

 120 **Caution.** — **Drying flats**, some with low islands on them, and **shoal water** extend from both shores in places, notably at the inner radius of river bends.


 121 **Caution.** — The **shipping channel** in Middle Channel is continuously changing due to **silting** and **erosion**. Navigation aids along the channel may be changed at very short notice during the navigation season in order to mark the best route. For this reason, **aids to navigation may not be as charted**.


Chart 6429

122 **Thrasher Channel**, at Kilometre 1594.1, has a cabin near its entrance and connects with Pederson Channel.

123 **Oniak Channel**, a main shipping route, branches east off Middle Channel at Kilometre 1598.1 and enters East Channel at Kilometre 1611.8, about 14.8 miles downstream of Inuvik.

124 **Danger Zone 7** is Oniak Channel. Traffic should **report in when entering** and **report out when leaving** Oniak Channel from Middle Channel, Luker Channel or East Channel. The reporting radio facility is *MCTS Iqaluit*.

125 In Oniak Channel, the upstream direction for buoyage is from East Channel toward Middle Channel.

 126 *Mile 993.2 Oniak Channel range lights* (1810, 1811), with a RAM at Kilometre 1598.1, and unlighted **buoys** mark the track in Middle Channel between Kilometres 1594.3 and 1596.5. The useable portion of the range line leads into Oniak Channel.

127 The south entrance to Oniak Channel is marked by unlighted **buoys**.

128 A **beacon range** with a RAM at Kilometre 1609.8 in Oniak Channel, and unlighted **buoys**, mark a short narrow section of Oniak Channel leading to East Channel.

129 **Luker Channel**, a main shipping route, branches east off Middle Channel at Kilometre 1619 and connects with Oniak Channel at Kilometre 1609.3.


130 **Tie-up markers**, indicating the sites of barge-securing cables, are on the east and west banks of Luker Channel near Kilometre 1614.2.


131 In Luker Channel, the upstream direction is from Middle Channel toward Oniak Channel. Unlighted **buoys** are moored in strategic locations.


132 A **beacon range** with a RAM at Kilometre 1615.3, in Luker Channel, and unlighted **buoys** mark the approach to Luker Channel from Middle Channel.

133 Middle Channel, between Kilometres 1596.5 and 1629.4, is marked by two unlighted **buoys**.

134 **Pederson Channel**, at Kilometre 1607.7, has a cabin near its north entrance, and meanders toward Shallow Bay. **Tumma Channel**, at Kilometre 1617.9, connects with Amagokvik Channel. **Amagokvik Channel**, at Kilometre 1620.1, meanders to **Crooked Channel** (see *Chart 6436*) and then into Shallow Bay.

 135 *Mile 1015 Middle Channel range lights* (1811.2, 1811.3), with a RAM at Kilometre 1633.5, mark the track from Kilometre 1629.4 to Kilometre 1631.9. The channel then curves slightly to the north to intersect *Axel Creek range* at Kilometre 1633.6.

 136 *Mile 1018 Axel Creek range lights* (1811.91, 1811.92), with a RAM on the north side of the entrance to Axel Creek, mark the track from Kilometre 1633.6 to Kilometre 1637.6. A starboard-hand **daybeacon** on the west bank at Kilometre 1632.2 serves as a **steering mark** at the SE end of this range line.

 137 *Mile 1017.8 range lights* (1811.5, 1811.6), with a RAM on the south entrance point of Axel Creek, mark the track from Kilometre 1638.7 to Kilometre 1644.5. A port-hand **daybeacon** on the east bank at Kilometre 1645.6 serves as a **steering mark** at the north end of this range.


138 **Axel Creek**, at Kilometre 1638.3, meanders to Shallow Bay.

*Chart 6430*

139 The channel between Kilometre 1645.7 and Kilometre 1651.7 is marked by reciprocal **beacon ranges** with RAMs at Kilometres 1644.7 and 1652.5.

140 Unlighted **buoys** mark the route between Kilometres 1652.5 and 1670.5, approaching Neklek Channel.

141 **Marcus Channel**, at Kilometre 1652, and **Lewis Channel**, at Kilometre 1659.2, connect with Reindeer Channel. (*For extensions of these channels see Chart 6436.*)


 142 **Caution.** — Small-craft operators should note that north or NW **winds** on Middle Channel are reported to cause **high waves** in the vicinity of Marcus Channel and Lewis Channel.

*Chart 6434*

Neklek Channel


143 **Neklek Channel** (68°57'N, 134°45'W) branches NE from Middle Channel at Kilometre 1668.9 and joins East Channel at Tununuk Point; the entrance points to Neklek Channel from Middle Channel are low-lying and featureless. Neklek Channel is part of the main shipping route for vessels bound for Tuktoyaktuk.

144 Neklek Channel is included in **Danger Zone 10**. Mariners should make a report in accordance with *Mackenzie River Marine Safety Advisory Procedures* before entering and upon leaving Neklek Channel. The reporting radio facility is *MCTS Iqaluit*.

 145 *Mile 1039.2 Neklek Channel range lights* (1811.95, 1811.96), with a RAM, and unlighted **buoys** mark the entrance into Neklek Channel from Middle Channel. The entrance from East Channel to Neklek Channel is marked by unlighted **buoys**. The upstream direction for buoyage purposes is from East Channel toward Middle Channel.

Reindeer Channel

146 **Reindeer Channel** branches west from Middle Channel at Kilometre 1672.1 and enters Shallow Bay at Kilometre 1720.4. A channel branches north from Reindeer Channel at Kilometre 1709.1 and enters Mackenzie Bay close south of Olivier Islands (see *Chart 7662*).

 147 **Caution.** — Abreast the entrance to Neklek Channel, part of the flow of Middle Channel **reverses direction** and flows south around a large **drying flat** into Reindeer Channel.

148 The upstream direction for buoyage purposes in Reindeer Channel is from Shallow Bay toward Middle Channel.

149 **Langley Island** is north of Reindeer Channel.

150 A **beacon range** with a RAM at Kilometre 1709.8 marks the channel between Kilometres 1704.3 and 1709.1. This is the only aid to navigation in Reindeer Channel.




 151 **Caution.** — The **entrance** to Reindeer Channel leading from Shallow Bay is **not marked**; **local knowledge** is required when attempting this passage.


Chart 6435

### Neklek Channel to Mackenzie Bay


152 Middle Channel leads NNW, from the junction of Neklek Channel and Reindeer Channel ( $68^{\circ}57'N$ ,  $134^{\circ}47'W$ ), for about 31 miles to discharge into Mackenzie Bay at  $69^{\circ}20'N$ ,  $135^{\circ}27'W$ .

 153 **Caution.** — Middle Channel has a wide but **shallow** mouth.

 154 **Caution.** — There are **no Canadian Coast Guard aids to navigation** on any of the channels NW of Neklek Channel. **Local knowledge** is necessary for navigating in this part of Mackenzie Delta because channels may shift due to **erosion** and **silting**.

 155 A **wharf** is on the east side of Middle Channel at Kilometre 1715.6. This is the site of a *Shell Oil Company* oil storage depot. A **mooring buoy** is close upstream of the wharf.

Charts 6435, 7662

 156 **Caution.** — The **depths** in the seaward section of the lower delta, north of Shallow Bay, are subject to **tidal fluctuations** and **storm surges**.

157 **Harry Channel** branches east from Middle Channel at Kilometre 1707.5 and leads east and north toward Mackenzie Bay. It is suitable for shallow-draught craft.

158 *Kendall Island Migratory Bird Sanctuary* lies between Middle Channel, Harry Channel and Kendall Island ( $69^{\circ}29'N$ ,  $135^{\circ}17'W$ ). Except in cases of emergency, a permit from the *Canadian Wildlife Service of Environment Canada* is required to enter this sanctuary. (See *Sailing Directions booklet ARC 400 — General Information, Northern Canada, Chapter 1, for more information.*)

159 **Yaya River** on Richards Island empties into Harry Channel.

160 An unnamed **channel**, suitable for navigation, branches north from Middle Channel at Kilometre 1730. The unnamed channel proceeds through *Kendall Island Migratory Bird Sanctuary*, past the east and north sides of **Niglintgak Island** ( $68^{\circ}21'N$ ,  $135^{\circ}20'W$ ), and enters Mackenzie Bay east of **Garry Island** ( $69^{\circ}29'N$ ,  $135^{\circ}43'W$ ). Garry Island has a radio **tower** with **air obstruction lights** and its west end forms a **conspicuous bluff**.

## Mackenzie Delta — East Channel

Charts 6432, 6429, 6430, 6431


161 **East Channel** branches east from Middle Channel at Kilometre 1496.7 ( $67^{\circ}47'N$ ,  $134^{\circ}11'W$ ), downstream of Point Separation, and leads 49.5 miles in a general north direction to Inuvik. Low clay banks border the channel.


162 North of Inuvik, East Channel maintains a NNW trend for about 49 miles to Tununuk Point. In this stretch the stream is bounded by the Caribou Hills to the east and by Middle Channel to the west.

163 Downstream of Tununuk Point, East Channel swings to the NE and maintains this direction for about 33 miles until it enters Kittigazuit Bay.

Chart 6432


### East Channel — South Section

 164 **Caution.** — Between its junction with Middle Channel and Inuvik, East Channel is **narrow**, **shallow** and winding. At high water levels mariners are able to navigate along this stretch with shallow-draught vessels and short tows. Small craft can be navigated at low water levels, however, **local knowledge** is considered to be essential at any time. There are **no Canadian Coast Guard aids to navigation** in this stretch. The track usually followed is charted.

 165 **Caution.** — East Channel is constricted by **drying sand banks** 4.8 miles upstream from Inuvik. **Drying rocks** constrict the channel 16.5 miles upstream from Inuvik. (*Insets on Chart 6432 show the channel in more detail at the danger areas.*)

166 **Rengleng River** enters East Channel from the south about 1.4 miles from Middle Channel junction.

167 There is an elongated island on the north side of East Channel, 2.9 miles from Middle Channel junction, across from the mouth of an unnamed river.

 168 **Caution.** — The track leads between the elongated island and a 0.5-mile long **drying sand flat**, extending from the south shore, downstream of the unnamed river.

169 Kalinek Channel (*previously mentioned*) branches north from East Channel at  $67^{\circ}58'N$ , and joins Middle Channel near Horseshoe Bend. **Campbell River**, draining **Campbell Lake**, joins East Channel from the east at  $68^{\circ}08'N$ . **Gull Creek**, a branch of Campbell River, joins East Channel at  $68^{\circ}11'N$ .

170 At  $68^{\circ}12.5'N$ , a secondary channel, with an island in its entrance at East Channel, trends NW and north to

INUVIK, VIEW UPSTREAM (1987)



connect with Dillon Channel and Oniak Channel. **Dolomite Creek** (*a local name*), which flows from **Dolomite Lake**, enters East Channel from the east about 2.7 miles upstream from Inuvik.

Chart 6429


### Inuvik


171 The town of **Inuvik** ( $68^{\circ}22'N$ ,  $133^{\circ}43'W$ ) is on the east side of East Channel about 49.5 miles north of its junction with Middle Channel and 14.8 miles SSE of its junction with Oniak Channel. On a flat, wooded plateau, Inuvik overlooks the Mackenzie Delta toward the west and the Caribou Hills toward the east.

172 Inuvik, which means “Place of Man”, is a modern town established in 1955. The economy is based on transportation, communications, service industries and petroleum exploration activities on the Canadian Arctic mainland and in Mackenzie Delta. Inuvik is the administrative centre for the Western Arctic and the lower Mackenzie River area. The town has a population of 3484 (2006) and offers practically all necessities and amenities one may expect to find in a modern town of comparable size in Canada.

173 Customs service is available at Inuvik. (*For details see Sailing Directions booklet ARC 400 — General Information, Northern Canada and Canada Border Services Agency, at: <http://www.cbsa.gc.ca>.)*

174 General facilities and services include a *RCMP* detachment, water and land transport services, 26-bed hospital, post office with daily mail service, satellite-based **telecommunications**, including the internet, hotels, restaurants, a *Canadian Imperial Bank of Commerce*, and a *Northern Store* outlet. Inuvik is the northern terminus of *Dempster Highway*.

 175 A **Public wharf**, about 82 m long, is on East Channel near the centre of the town. The depth alongside the face is reported to be less than 3 m.

 176 Freight handling equipment is available. The *Imperial Oil Company* fuel discharge facilities and the *Northern Transportation Company Limited wharf* and freight handling facilities are on the east side of East Channel about 1.1 and 1.3 miles, respectively, NNW of the Inuvik public wharf. A **wharf** and freight yard, 2.2 miles downstream of the Inuvik public wharf, are not in use (2004). The navigation season is June to September.

177 It was reported (1987) that minor marine repairs can be undertaken, although there are no marine repair shops in Inuvik. Diving services are available.

178 Fuels and water are delivered to vessels by truck. Provisions are readily obtainable.

179 Inuvik has an airport with a 6001 feet (1829 m) asphalt runway. The airport offers frequent scheduled flights, connecting with Edmonton, and charter aircraft services.

INUVIK, VIEW DOWNSTREAM (1987)



180 An **aeromarine radiobeacon** operates from Inuvik airport ( $68^{\circ}19'34''N$ ,  $133^{\circ}35'34''W$ ) on a frequency of 254 kHz, identification Morse “EV” (• •••—).

181 (For general **weather conditions** in this area, see Chapter 4 of *Sailing Directions* booklet ARC 400 — *General Information, Northern Canada*. For present and forecast weather conditions, visit: <https://weather.gc.ca/>.)

### Inuvik to Net Point

182 Downstream of Inuvik, East Channel trends WNW between low clay banks that are wooded with willow and alder.

183 **Danger Zone 8** is East Channel between Inuvik and Tununuk Point. **Downbound traffic report in** when leaving Inuvik and **report out** when either entering Oniak Channel or at Kilometre 1673.7. **Upbound traffic** for Inuvik **report in** at Kilometre 1673.7 or when entering East Channel from Oniak Channel and **report arrival** Inuvik. The reporting radio facility is *MCTS Iqaluit*.

184 **Gully Channel** branches west from East Channel about 4.8 miles downstream of Inuvik and leads to Oniak Channel. Gully Channel is reported to be used by small craft operators traveling between Inuvik and Aklavik.

185 About 0.5 mile downstream of Gully Channel, East Channel branches around an elongated low-lying island, about 8.7 miles long. East Channel leads east of the island to the junction of Oniak Channel, 14.8 miles downstream of Inuvik at Kilometre 1611.8.

186 From its junction with Oniak Channel, East Channel provides a shipping route leading SSE to Inuvik or NNW toward the sea.

187 Barge **mooring facilities** are reported in the vicinity of Kilometre 1611.8.

188 A **beacon range** with a RAM at Kilometre 1614.5 and unlighted **buoys** mark a short section of the channel near Kilometre 1614.2, downstream of **Douglas Creek**.

189 Adjacent to **Harrison Island** the track follows a mid-channel course and is marked with unlighted **buoys**.

190 In 1977, the wreck of an overturned automobile was reported on the west bank of East Channel about 5.2 miles downstream of the Oniak Channel junction. This object may serve as a landmark.

191 **Reindeer Station**, abandoned in 1970, is on the east bank of East Channel at Kilometre 1627.9. The buildings and facilities of the former trading post and




federal experimental reindeer project are reported to be in ruins.

192 **Net Point**, on the north side of **Williams Island**, forms part of the S-bend downstream from Reindeer Station.

Chart 6430

### Net Point to Neklek Channel

193 Downstream of Williams Island, at 68°45'N, 134°19'W, East Channel widens and curves gently north. The east side of the channel abreast low-lying **Spruce Island** has a narrow sand and gravel beach backed by high rolling terrain dotted with numerous lakes and ponds.

 194 **Caution.** — A **drying sand flat** lies along the west side of the channel from 5.8 miles downstream of Williams Island to the south end of Spruce Island.

195 East Channel is marked by unlighted **buoys** between Kilometres 1642.5 and 1650.1.

196 A **beacon range** with a RAM at Kilometre 1655.9 and unlighted **buoys** mark the channel between Kilometres 1650.1 and 1654.6.


197 The north limit of the tree line crosses the delta in a NE/SW direction near Spruce Island. North of this latitude only stunted willows and alders survive in protected places.

198 **Fresh water** is reported to be obtainable from a small lake near the east bank of East Channel 2.3 miles upstream of Spruce Island.


199 A **beacon range** with a RAM at Kilometre 1658.9 marks the channel between Kilometres 1660.2 and 1664.1. Between Kilometres 1664.1 and the entrance to Neklek Channel, at Kilometre 1673, the channel is marked by unlighted **buoys**.

200 **Lower Island**, low and marshy, lies close NNW of Spruce Island.


 201 **Caution.** — A **drying sand flat** joins Spruce Island to Lower Island. A **drying spit** extends almost 1 mile from the downstream end of Lower Island.

 202 **Caution.** — The **channel** leading between Lower Island and the mainland to the east is **narrow** and should be navigated with care.


203 **Tununuk Point** (69°00'N, 134°40'W), about 30 m high, is 1.5 miles downstream of Lower Island at the junction of Middle Channel and Neklek Channel. The point forms the south end of Richards Island.

 204 A **wharf** of sheet pile construction, 61 m long, is on Tununuk Point.

205 Four white **oil storage tanks** and some red and grey **huts** are on top of a hill close north of Tununuk Point; they are **conspicuous** from all angles of approach (2009).

 206 **Caution.** — **Burial Island**, a rounded, oval-shaped island 0.2 mile east of the south entrance point of Neklek Channel, is at the edge of a **drying sand flat**.


### Neklek Channel to Lousy Point

 207 **Caution.** — **Tidal fluctuations** are seen in Middle Channel and East Channel as far upstream as Tununuk Point (69°00'N). Persistent **offshore winds** will lower the water level in these areas.

208 From Tununuk Point, East Channel continues about 29 miles NE along the east shore of Richards Island to the entrance of Kittigazuit Bay, at 69°20'N, 133°55'W.

209 Unlighted **buoys** and a **beacon range** with a RAM at Kilometre 1680.3, on Lucas Point, mark the channel between Kilometres 1673 and 1679.2.


210 **Lucas Point**, at Kilometre 1680.2, is a low-lying feature that forms the north boundary of a small bay on the east side of East Channel. A fenced-off area on Lucas Point is the site of a former drill site and well head.


 211 *Mile 1050.2 Swimming Point range* **lights** (1812, 1813), with a RAM at Kilometre 1690.1, mark the channel between Kilometres 1685.8 and 1689.2.

212 **Swimming Point**, at Kilometre 1689.8, the site of a former oil exploration camp, is now a natural gas exploration and exploitation staging area. Several buildings, an airstrip and a soil-filled off-loading **ramp** are in use (2011).


213 The bend around Swimming Point is marked by unlighted **buoys**.

214 **Holmes Creek** enters East Channel from the east between high banks at Kilometre 1693. Two ruined cabins are near the mouth of the creek.

 215 **Caution.** — A **drying sand bank** and **shoal water** extends from the west side of East Channel from Swimming Point to abreast Holmes Creek.

 216 The track between Kilometres 1700.3 and 1706.2 is marked by a **beacon range** with a RAM at Kilometre 1698.7, the reciprocal *Mile 1060.6 Lousy Point range lights* (1814, 1815), with a RAM at Kilometre 1706.9, and unlighted **buoys**.

217 A low-lying, unnamed marshy island is close off the east bank between Kilometres 1701.1 and 1708.3. **Pete's Creek** enters East Channel from the east, behind the island.

 218 **Caution.** — A **drying sand flat** extends from the west side of the unnamed island.

219 **Lousy Point** ( $69^{\circ}14'N$ ,  $134^{\circ}14'W$ ) is on the west side of East Channel at Kilometre 1706.9. The sheer **clay bank** forming Lousy Point rises to about 10 m; it is **conspicuous** from either an upstream or a downstream approach.

Chart 6431

### Lousy Point to Kittigazuit Bay

220 East Channel, about 2 miles downstream of Lousy Point, swings east and then north, expanding to over 3 miles wide in the approaches to Kittigazuit Bay.

221 A **beacon range** with a RAM at Kilometre 1714.4 and an unlighted **buoy** mark the channel between Kilometres 1711 and 1712.8.

222 A **beacon range** with a RAM at Kilometre 1718.9 and unlighted **buoys** mark the channel between Kilometres 1712.8 and 1718.2.

223 A group of willow-covered alluvial islands, 1 to 2 m high, lie in the estuary of East Channel.

224 Between Kilometres 1718.2 and 1724.2, the channel is marked with unlighted **buoys**.

225 A **tie-up marker** indicating the location of barge-securing cables is on the SE side of the channel at Kilometre 1721.8.

226 A *Canadian Coast Guard buoy cache* is on the east bank of East Channel, north of a group of cabins.

227 **Danger Zone 9** is from the entrance to East Channel to *Kittigazuit Bay fairway light buoy*. **Downbound traffic report in** at Kilometre 1722 and out at the lighted fairway buoy at Kilometre 1739.7. **Upbound traffic report in** at the lighted fairway buoy, Kilometre 1739.7, and out at Kilometre 1722. The reporting radio facility is *MCTS Iqaluit*.


228 The channel between Kilometres 1724.2 and 1726.2 is marked by **beacon ranges** with RAMs at Kilometre 1723.1 and Kilometre 1726.7, and unlighted **buoys**.

229 The east mainland at the north end of East Channel, at  $69^{\circ}19'N$ ,  $133^{\circ}54'W$ , rises to about 45 m. The broken bank is composed of clay with small willow and alder in the gullies.


### Kittigazuit Bay


230 **Kittigazuit Bay** ( $69^{\circ}25'N$ ,  $133^{\circ}46'W$ ) is the broad portion of the estuary to East Channel which opens into Kugmallit Bay. A group of islands, close off the SE shore

of Kittigazuit Bay, are about 1 m high and covered with willow.

 231 **Caution.** — Kittigazuit Bay is very shallow and filled with drying sand flats.

232 **Kitty Channel** is the local name for the narrow navigation channel leading through Kittigazuit Bay.

 233 **Caution.** — Kitty Channel is reported to **change periodically** due mainly to **ice** action.

 234 **Caution.** — Kitty Channel is **shallow** and **narrow**, among the low alluvial islands. Mariners are reminded about **bank suction effect** in this area.

235 The route through Kitty Channel is marked by unlighted **buoys**; the outer end of the channel is marked by *Kittigazuit Bay light buoy (1816)*, a fairway buoy, at Kilometre 1739.7. The buoys are moved to suit shifting channel conditions.

236 Unlighted **buoys** and a **beacon range** with a RAM at Kilometre 1728.1 mark the channel between Kilometres 1726.2 and 1730.


237 Unlighted **buoys** and a **beacon range** with a RAM at Kilometre 1731.5 mark the channel between Kilometres 1730 and 1731.2.

238 A **beacon range** with a RAM at Kilometre 1730.5 marks a short section of channel at Kilometre 1731.3.


239 A **beacon range** with a RAM at Kilometre 1730.7 marks the channel between Kilometres 1731.5 and 1732.5.

240 A **beacon range** with a RAM at Kilometre 1735.4, on the south shore, marks the channel between Kilometres 1732.5 and 1734.4.

241 A **beacon range** with a RAM at Kilometre 1736.8, on the south shore, marks the channel between Kilometres 1734.4 and 1735.1.

 242 *Mile 1075.5 Kittigazuit Bay range lights (1815.1, 1815.2)*, at Kilometre 1730.8, mark the channel between Kilometre 1735.1 and *Kittigazuit Bay light buoy*.


243 **Kittigazuit**, on the SE side of Kittigazuit Bay, is the site of an abandoned trading post at the entrance to a small harbour.

 244 **Anchorage** for shallow draught craft, with good shelter, can be found in the harbour at Kittigazuit.

245 **Whitefish Station** was used as a summer fishing camp by Inuit hunting beluga whale, known locally as whitefish. The narrow entrance channel to the station leads between two sand and gravel bars and had a depth of 0.6 m.

Charts 6431, 7663


### Kugmallit Bay

 246 **Caution.** — **Transfer of position** between Chart 6431 and Chart 7663 should be done by using ranges and bearings to features common to both charts.


247 **Kugmallit Bay** ( $69^{\circ}33'N$ ,  $133^{\circ}35'W$ ) is triangular in shape, very shallow and open to the Beaufort Sea. **Tuktoyaktuk Peninsula** forms its east side. (For a complete description of Kugmallit Bay, and its approach from Beaufort Sea, see *Sailing Directions booklet ARC 403 — Western Arctic.*)

248 The route from *Kittigazuit Bay light buoy* to *Tuktoyaktuk* crosses the south part of Kugmallit Bay.

249 **Kittigaryuit**, part of *Tarium Niriyutait Marine Protected Area (MPA)*, covers the west half of Kugmallit Bay from Summer Island south, including Hendrickson Island, Kittigazuit Bay and the islands at the entrance to the East Channel, Mackenzie River. (For more details on *Tarium Niriyutait MPA*, visit <http://laws.justice.gc.ca>. For more information on *Marine Protected Areas in Canada*, visit <http://www.dfo-mpo.gc.ca/oceans/marineareas-zonesmarines/mpa-zpm/index-eng.htm>.)

 250 **Caution.** — In Kugmallit Bay, **tidal irregularities** in both time and range can be caused by local wind conditions; the effects of distant gales are also noticeable. Strong **offshore winds** can produce water depths up to **0.8 m less** than those charted.

251 Kugmallit Bay normally clears of **ice** during the first week of July. Freeze-up usually begins during the second week of October. Wide variations in break-up and freeze-up can occur. In an abnormal season, navigation may not begin until early August.


 252 **Caution.** — The **wind** plays an important role in the **ice concentration** which can change within a few hours from the reported conditions.


253 **Pingos** are prominent natural features common to this area. They are large dome-like mounds of ice covered by a mantle of soil or vegetation that rise from the surrounding plain. Several of them make good landmarks.

### Kugmallit Bay — South Side

254 **Whitefish Pingo**, 2 miles ENE of Whitefish Station, is **conspicuous** from the east and prominent from other directions.


255 **Canyanek Inlet** lies 3.1 miles east from Whitefish Pingo.

 256 **Caution.** — **Drying sand flats** line the shore from 1.5 miles west of Canyanek Inlet to the entrance to Tuktoyaktuk Harbour.

 257 **Caution.** — Canyanek Inlet entrance channel is reported to be crooked with a depth of about 0.9 m and **impassable in any swell**.

258 **Naparotalik Spit**, close east of the entrance, is a narrow arm of land with twin points; from the eastern point a sand bank extends 0.5 mile to the north.

Charts 6431, 7663, 7685

 259 **Caution.** — **Transfer of position** between Chart 6431 and Chart 7663, or between Chart 6431 and Chart 7685, should be done by using ranges and bearings to features common to both charts.

260 **Peninsula Point** ( $69^{\circ}24'N$ ,  $133^{\circ}09'W$ ) is a spit at the west end of a narrow island. A prominent headland with a high, dark, seaward face is close to the spit.

261 The east shore of Kugmallit Bay between Peninsula Point and Flagpole Point, 3.5 miles NE, is low, boggy and bare of vegetation except for moss and grass.

262 **Ibyuk Pingo** ( $69^{\circ}24'N$ ,  $133^{\circ}05'W$ ) has a serrated summit split by gullies into three distinct **peaks** which are **conspicuous** from seaward. This pingo is a useful leading mark for the outer approaches to Tuktoyaktuk Harbour.

263 **Split Pingo**, 0.6 mile NNW of Ibyuk Pingo, can be distinguished by its twin rounded peaks.

264 (*Tuktoyaktuk Harbour and approaches are described in Sailing Directions booklet ARC 403 — Western Arctic.*)

# Sail Plan

Adapted from Transport Canada Publication TP 511E.

Fill out a sail plan for every boating trip you take and file it with a responsible person. Upon arrival at your destination, be sure to close (or deactivate) the sail plan. Forgetting to do so can result in an unwarranted search for you.

## Sail Plan

### Owner Information

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Telephone Number: \_\_\_\_\_ Emergency Contact Number: \_\_\_\_\_

### Boat Information

Boat Name: \_\_\_\_\_ Licence or Registration Number: \_\_\_\_\_

Sail: \_\_\_\_\_ Power: \_\_\_\_\_ Length: \_\_\_\_\_ Type: \_\_\_\_\_

Colour \_\_\_\_\_ Hull: \_\_\_\_\_ Deck: \_\_\_\_\_ Cabin: \_\_\_\_\_

Engine Type: \_\_\_\_\_ Distinguishing Features: \_\_\_\_\_

### Communications

Radio Channels Monitored: \_\_\_\_\_ HF: \_\_\_\_\_ VHF: \_\_\_\_\_ MF: \_\_\_\_\_

MMSI (Maritime Mobile Service Identity) Number: \_\_\_\_\_

Satellite or Cellular Telephone Number: \_\_\_\_\_

### Safety Equipment on Board

Lifejackets (*include number*): \_\_\_\_\_

Liferafts: \_\_\_\_\_ Dinghy or Small Boat (*include colour*): \_\_\_\_\_

Flares (*include number and type*): \_\_\_\_\_

Other Safety Equipment: \_\_\_\_\_

### Trip Details — Update These Details Every Trip

Date of Departure: \_\_\_\_\_ Time of Departure: \_\_\_\_\_

Leaving From: \_\_\_\_\_ Heading To: \_\_\_\_\_

Proposed Route: \_\_\_\_\_ Estimated Date and Time of Arrival: \_\_\_\_\_

Stopover Point: \_\_\_\_\_ Number of People on Board: \_\_\_\_\_

Search and Rescue Telephone Number: \_\_\_\_\_

## APPENDICES

### ARC 404: Great Slave Lake and Mackenzie River

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A-2

The responsible person should contact the nearest Joint Rescue Coordination Centre (JRCC) or Maritime Rescue Sub-Centre (MRSC) if the vessel becomes overdue.

Act smart and call early in case of emergency. The sooner you call, the sooner help will arrive.

#### **JRCC Victoria (British Columbia and Yukon) 1-800-567-5111**

+1-250-413-8933 (Satellite, Local or out of area)

# 727 (Cellular)

+1-250-413-8932 (fax)

[jrcvictoria@sarnet.dnd.ca](mailto:jrcvictoria@sarnet.dnd.ca) (Email)

#### **JRCC Trenton (In Canada) 1-800-267-7270**

+1-613-965-3870 (Satellite, Local or Out of Area)

+1-613-965-7279 (fax)

[jrcctrenton@sarnet.dnd.ca](mailto:jrcctrenton@sarnet.dnd.ca) (Email)

#### **MRSC Québec (Quebec Region) 1-800-463-4393**

+1-418-648-3599 (Satellite, Local or out of area)

+1-418-648-3614 (fax)

[mrscqbc@dfo-mpo.gc.ca](mailto:mrscqbc@dfo-mpo.gc.ca) (Email)

#### **JRCC Halifax (Maritimes Region) 1-800-565-1582**

+1-902-427-8200 (Satellite, Local or out of area)

+1-902-427-2114 (fax)

[jrcchalifax@sarnet.dnd.ca](mailto:jrcchalifax@sarnet.dnd.ca) (Email)

#### **MRSC St. John's (Région de Terre-Neuve-et-Labrador) 1-800-563-2444**

+1-709-772-5151 (Satellite, Local or out of area)

+1-709-772-2224 (fax)

[mrscsj@sarnet.dnd.ca](mailto:mrscsj@sarnet.dnd.ca) (Email)

#### **MCTS Sail Plan Service**

Marine Communications and Traffic Services Centres provide a sail plan processing and alerting service. Mariners are encouraged to file Sail Plans with a responsible person. In circumstances where this is not possible, Sail Plans may be filed with any MCTS Centre by telephone or marine radio only. Should a vessel on a Sail Plan fail to arrive at its destination as expected, procedures will be initiated which may escalate to a full search and rescue effort. Participation in this program is voluntary.

*See Canadian Radio Aids to Marine Navigation.*

## Other References

Information for the Protection of Right Whales:

<https://www.dfo-mpo.gc.ca/fisheries-peches/commercial-commerciale/atl-arc/narw-bnan/index-eng.html>

Atlantic Pilotage Authority Regulations:

<https://www.atlanticpilotage.com/acts-regulations/>

Meteorological data:

<https://www.canada.ca/en/services/environment/weather.html>

Marine Forecasts and Warnings for Canada:

[https://weather.gc.ca/marine/index\\_e.html](https://weather.gc.ca/marine/index_e.html)

Current Predictions (Data Viewer by DFO - MSDI Dynamic Current Layer):

<https://gisp.dfo-mpo.gc.ca/apps/dataviewer/?locale=en>

Customs:

<https://www.cbsa-asfc.gc.ca/travel-voyage/pb-pp-eng.html>

SAR:

[Search and rescue \(ccg-gcc.gc.ca\)](https://www.ccg-gcc.gc.ca)

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