



Fisheries and Oceans
Canada

Pêches et Océans
Canada

Corrected to
12/2021

CEN 303



Welland Canal and Lake Erie

Sailing Directions



Canada

Pictograph legend

	Anchorage		Current		Radio calling-in point
	Wharf		Caution		Lifesaving station
	Marina		Light		Pilotage

Report discrepancies between real-world observations and descriptions in the publication

Users of this publication are requested to forward information regarding newly discovered dangers, changes in aids to navigation, the existence of new shoals or channels, or other information that would be useful for the correction of nautical charts and publications affecting Canadian waters to: chsinfo@dfo-mpo.gc.ca.

IMPORTANT NOTICE

The Canadian Hydrographic Service no longer produces hard copies of its publications.

Updates are published in Notices to Mariners at notmar.gc.ca
and on the Canadian Hydrographic Service website at charts.gc.ca

REPRODUCTION FOR PERSONAL USE

This digital publication - as published in charts.gc.ca - may be printed or reproduced in any format, without charge or further permission, provided that it is for non-commercial purposes, i.e. not for sale or any profit whatsoever.

To be used for navigation, the reproduction must be an unaltered, true copy of the publication found in charts.gc.ca, and kept up-to-date at all times.

REPRODUCTION FOR COMMERCIAL PURPOSES

This publication shall not be printed or otherwise reproduced in whole or in part for commercial purposes (i.e. in the purpose of sale or any profit whatsoever, as opposed to personal use), without prior written permission from the Canadian Hydrographic Service.

For full terms and conditions, visit
charts.gc.ca or email chsinfo@dfo-mpo.gc.ca.

Published under the authority of the
Canadian Hydrographic Service
Fisheries and Oceans Canada
200 Kent Street, Ottawa, Ontario, Canada, K1A 0E6

© Her Majesty the Queen in Right of Canada, 2022
Catalogue No. Fs72-3/3-2022E-PDF
ISBN 978-0-660-41429-4
Ottawa

Record of Changes

As the CHS acquires new information, relevant changes are applied to Sailing Directions volumes in order to maintain safety of navigation. It is the responsibility of the mariner to maintain their digital Sailing Directions file by ensuring that the latest version is always downloaded. Visit charts.gc.ca to download the most recent version of this volume, with all current changes already incorporated.

The table below lists the changes that have been applied to this volume of Sailing Directions. This record of changes will be maintained for the current calendar year only

[illegible]

TABLE OF CONTENTS

	Preface _____	IV
	Explanatory notes _____	V
	Abbreviations _____	VII
CHAPTER 1	Welland Canal	
	General _____	1-1
	Port Weller Harbour _____	1-2
	Welland Canal _____	1-3
	Port Colborne _____	1-8
CHAPTER 2	Upper Niagara River and Buffalo Harbor	
	General _____	2-1
	Upper Niagara River _____	2-1
	Niagara River — Old channel	
	U.S. shores — Upper Niagara River and Buffalo Harbor _____	2-4
CHAPTER 3	Lake Erie — Niagara River to Long Point	
	General _____	3-1
	Niagara River to Port Colborne _____	3-2
	Port Colborne to Port Maitland _____	3-3
	Port Maitland _____	3-4
	Port Maitland to Long Point Bay _____	3-6
	Long Point Bay _____	3-7
	Nanticoke Harbour • Nanticoke Creek • Port Dover • Port Dover to Deep Hole Point • Inner Bay	
CHAPTER 4	Lake Erie — Long Point to Point Pelee	
	General _____	4-1
	Long Point to Port Burwell _____	4-2
	NE and south sides of Long Point • Port Burwell	
	Port Burwell to Port Stanley _____	4-4
	Port Stanley	
	Port Stanley to Rondeau Bay _____	4-7
	Rondeau Bay	
	Rondeau Bay to Point Pelee _____	4-10
	Wheatley	
CHAPTER 5	Lake Erie — Point Pelee to Detroit River	
	General _____	5-1
	Pelee Passage _____	5-1
	Pelee Island _____	5-2
	Islands and dangers WNW of Pelee Island	
	Point Pelee to Detroit River _____	5-7
	Leamington • Kingsville	
APPENDICES	Sail Plan _____	A-1
	Distance Table _____	A-3
	Index _____	I-1

The First Edition of *Sailing Directions, CEN 303 — Welland Canal and Lake Erie*, 1996, 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 Bureau.

This edition introduces a new presentation and layout of the geographical areas.

General information for the Great Lakes is grouped in one booklet: *Sailing Directions, CEN 300 — General Information, Great Lakes*. It contains navigational information and a brief description of the main port facilities as well as geographic, oceanographic and atmospheric characteristics. A geographical index at the end of that booklet should also be consulted.

The detailed descriptions of the geographical areas is given in a series of volumes and booklets. Their limits are printed on the back cover of the booklets. **The appropriate descriptive booklet(s) should be consulted in conjunction with *CEN 300 — General Information, Great Lakes* booklet.**

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

Meteorological and ice information has been revised by the Atmospheric Environment Service, Department of the Environment.

The photographs are by the Canadian Hydrographic Service, 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.



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

Remarks

Buoys are generally 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 in the text, normally refer to the largest scale Canadian chart but 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; *Canadian Tide and Current Tables* should be consulted. However, abnormal changes in water level are mentioned.

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 having significance for navigation or anchoring.

Units and terminology used in this booklet

Latitude and **longitude** 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 offshore. 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 means nautical miles per hour.

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

Where sections are quoted verbatim from *U.S. Coast Pilot 6*, the figures in square brackets [thus] after **units of measurement** are the International System of Units (SI) equivalent in nautical miles, metres or tonnes.

Elevations and **vertical clearances** are given above chart datum.

Heights of objects, distinct from elevations, refer to the heights of 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.

Deadweight tonnage and mass are expressed in metric tonnes of 1,000 kilograms (2,204.6 pounds). The kilogram is used for expressing relatively small masses.

Figures in brackets following the population identify the census year. 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. Details of local time kept will be found in Chapter 3 of booklet *CEN 300 — General Information, Great Lakes*.

Public wharf is a Government wharf that is available for general use; it is still shown on older charts as "Government Wharf" or "Govt Whf".

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**” is used to designate pleasure craft and, in general, small vessels with shallow draught.

Pictographs are symbols shown at the beginning of certain paragraphs to allow quick reference to information or to emphasize details. The Pictograph

Legend is shown on the inside front and back covers of this booklet.



References to other publications:

Canadian Coast Guard

- *List of Lights, Buoys and Fog Signals*
- *Radio Aids to Marine Navigation (Atlantic and Great Lakes)*
- *Ice Navigation in Canadian Waters*
- *Annual Edition of Notices to Mariners*
- *The Canadian Aids to Navigation System*
- *Merchant Ship Search and Rescue Manual (CANMERSAR)*
- *The International Code of Signals*

Environment Canada

- *Great Lakes Marine Weather Guide*
- *Great Lakes Climatological Atlas*

Canadian Hydrographic Service

- *Canadian Tidal Manual*
- *Chart No. 1 — Symbols, Abbreviations and Terms*
- *Tides in Canadian Waters*
- *Notes on the Use of Loran-C Charts*
- *Canadian Tide and Current Tables*
- *Catalogue of Nautical Charts and Publications (Great Lakes)*

St. Lawrence Seaway Management Corporation

- *The Seaway Handbook*
-

ABBREVIATIONS

Units

°C	degree Celsius
cm	centimetre
h	hour
ha	hectare
kHz	kilohertz
km	kilometre
kn	knot
kPa	kilopascal
m	metre
min	minute
MHz	megahertz
mm	millimetre
ft	foot
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

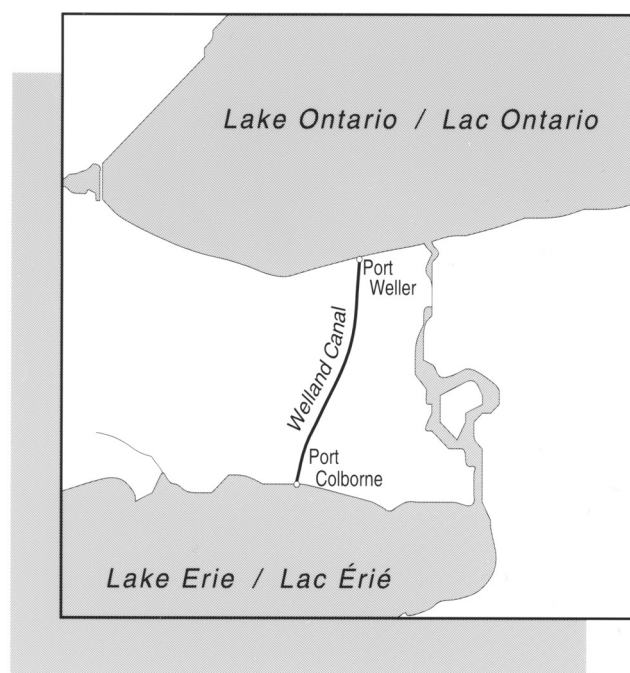
Various

CCG	Canadian Coast Guard
CHS	Canadian Hydrographic Service
HF	high frequency
HW	high water
LW	low water
M	million, mega
NAD	North American Datum
SAR	Search and Rescue
VHF	very high frequency
VTs	Vessel Traffic Services

Welland Canal

General

Chart 2042



1 The Welland Canal crosses the Niagara Escarpment between Lake Ontario and Lake Erie in a generally north-south direction. The distance from its north end at Port Weller Harbour to its south end at Port Colborne is 23.5 miles. Eight locks handle the difference in elevation of 99.3 m (326 ft) between the two lakes.

2 Channel widths range from 59 m (194 ft) to 107 m (351 ft) in sections of the canal flanked by two embankments, to 122 m (400 ft) at the entrance to Port Weller Harbour.

3 The Welland Canal has been rebuilt three times in the 170 years since a water transportation route was first constructed between Lake Ontario and Lake Erie.

4 The First Welland Canal was built during the years 1824 to 1829. From Port Dalhousie, on Lake Ontario, the route of this canal followed the valley of Twelve Mile Creek to the summit level at Thorold, then south to Welland River at Port Robinson. From Port Robinson, vessels followed Welland River to its mouth at Chippawa and then proceeded upstream on the upper Niagara River to Lake Erie. This canal had forty wooden locks, each 33.5 m (110 ft) long and 6.7 m (22 ft) wide with 2.4 m (8 ft) of water over the sills. A feeder canal 21.9 miles long from the Grand River above Dunnville maintained the summit level from Port Robinson to Allanburg.

5 In 1833, the summit level was extended from Port Robinson to Port Colborne, which then became the south entrance of the Welland Canal.

6 The Second Welland Canal was begun in 1841, when the Legislature of Upper Canada purchased the canal and began to enlarge it. The number of locks was reduced to twenty-seven by increasing their lift. The new locks, built of cut stone, were each 46 m (151 ft) long and 8 m (26 ft) wide, with 2.7 m (9 ft) of water over the sills. The new canal, opened in 1845, had a second Lake Erie entrance at Port Maitland. This second entrance used a new channel which connected with the feeder canal.

7 The section of canal between Port Colborne and the feeder canal junction at Welland was later enlarged; it opened for 2.7 m (9 ft) draught navigation in 1850.

8 The Third Welland Canal, built by the Dominion Government, began at Port Dalhousie and extended in a SE

direction, climbing the escarpment at Thorold and then generally following the route of the Second Welland Canal to Port Colborne. The 1883 navigation depth of 3.7 m (12 ft) was increased to 4.3 m (14 ft) by 1887.

9 The Fourth Welland Canal, originally named *Welland Ship Canal* and later *Welland Canal*, was built during the years 1913 to 1933. This canal, most of which is still in use today, was opened to navigation in August 1932. The Lake Ontario end is at Port Weller Harbour, from which point the route follows the Ten Mile Creek valley almost due south to Thorold. From Thorold to the Lake Erie entrance at Port Colborne, the route mostly follows that of the Third Welland Canal, with short diversions to give better alignment. Water levels in the canal system are controlled by the *St. Lawrence Seaway Management Corporation*.



10 (Details of the Welland Canal and wharf facilities are listed in tables in this chapter.)

11 The *Seaway Handbook* includes the **Seaway Regulations** of the *St. Lawrence Seaway Management Corporation Act* and other information needed to use the Seaway. A copy of the *Seaway Handbook* must be carried on every vessel in transit through the St. Lawrence Seaway; copies may be obtained from The Information Officer, The St. Lawrence Seaway Management Corporation, 202 Pitt Street, Cornwall, Ontario, K6J 3P7, telephone (613) 932-5170, fax (613) 932-5037.

12 A *Pleasure Craft Guide* for the St. Lawrence Seaway offers information on operating pleasure craft in the locks between Montréal and Lake Ontario and in the Welland Canal. This publication may also be requested from the St. Lawrence Seaway Management Corporation. In the interests of safety, craft of less than 6 m (20 ft) in length or 900 kg in weight are not permitted to transit through the Seaway locks. Pleasure craft over 19.8 m (65 ft) in length must be fitted with VHF radiotelephone equipment. For more information, consult Sailing Directions booklet *CEN 300 — General Information, Great Lakes* and the *Seaway Handbook*.

13 There are **speed limits** in the Welland Canal for all vessels over 12 m (39 ft) in length. The *Seaway Regulations* specify speed limits for both normal and high water levels.

14 The Welland Canal has a **controlling depth** of 8.2 m (27 ft); the maximum permitted draught is 8 m (26 ft 3 in). Masters must ensure that hogging, sagging or improper trimming do not cause their vessels to exceed the permitted draught; corrective action for vessels exceeding the permitted draught may cause considerable delays.

15 No vessel shall transit the Welland Canal if any part of the vessel or anything on the vessel extends more than 35.5 m (116 ft) above the water level, or if the vessel is more than 222.5 m (730 ft) in overall length or 23.16 m (76 ft) in extreme breadth. Under certain conditions, vessels up to

225.5 m (740 ft) in overall length and 23.8 m (78 ft) in extreme breadth may be allowed to transit.



16 **Caution.** — Vessels with high superstructures flush with the ship's side, with heavy cargohandling equipment offset to one side, stulcken masts or other unusual equipment whose upper extremities are close to the ship's side, and radar towers or radio antennae, must be very careful when passing bascule bridges. **Bascule bridges** impose restrictions on vessel dimensions; for details refer to Section 3 of the *Seaway Regulations* in the *Seaway Handbook*.

17 Radio equipment requirements and radio reporting procedures are given in the *Seaway Handbook*.

18 For information on pollution control in the St. Lawrence Seaway, and specifically in the Welland Canal, see Section 59 of the *Seaway Regulations*.

19 All vessels transiting the Welland Canal must comply with dispatch instructions issued by "Seaway Welland" on VHF radio. Details of the traffic control system are given in the *Seaway Handbook*.

20 If weather and ice conditions permit, the Welland Canal opens to navigation about April 1 and closes in mid-December. The actual opening and closing dates are announced each year by *Seaway Notices* and *Notices to Shipping*.

21 The quarantine station for vessels bound for any Canadian port via the St. Lawrence River is Quarantine Station, Montréal. Vessels intending to transit the St. Lawrence Seaway without calling at Montréal are examined by Canada Customs and National Health and Welfare officials at Pointe-aux-Trembles anchorage. Inspection by officials of the Department of Agriculture will normally be at the port of destination.

Port Weller Harbour

Charts 2042, 2077

22 **Port Weller Harbour** (43°14'N, 79°13'W), an artificial harbour 23 miles SSE of Toronto, is the Lake Ontario entrance to the Welland Canal. Port Weller Harbour and the adjoining urban communities of **Weller Park** and **Port Weller East** are part of the city of St. Catharines.

23 Port Weller Harbour is administered by the *St. Lawrence Seaway Management Corporation*.

24 (Port Weller Harbour and the navigational aids in the harbour are described in *Sailing Directions* booklet *CEN 302 — Lake Ontario*. A marina on the east side of the Port Weller Harbour east breakwater is also described in *Sailing Directions* booklet *CEN 302*.)



25 There is a **pilot exchange point** 1 to 2 miles north of Port Weller Harbour. For more information on pilotage, consult *Sailing Directions* booklet *CEN 300 —*

General Information, Great Lakes, the Annual Edition of Notices to Mariners and Radio Aids to Marine Navigation (Atlantic and Great Lakes).

26 Tugs, if required, are available from *Port Weller Dry Docks Ltd.*



27 A tie-up **wharf** on the east side of Port Weller Harbour at Mile 1.3 is for the use of small craft waiting to enter the Welland Canal. There is a direct-line telephone to communicate with Lock Control. Other use of this wharf is not permitted.



28 **Caution.** — A **current** of up to 1 knot has been observed between limit of approach signs L/A1 and L/A2 below Lock 1 when the lock is being emptied. Small craft near the tie-up wharf may be affected.

Welland Canal

Chart 2042

29 The route of the Welland Canal is not the same as that of its predecessors, particularly on the lower terrain north of the Niagara Escarpment. In general, the canal follows a north and south course between Lake Ontario and Lake Erie.

30 The first 6.3 mile stretch of the canal, heading south from Lake Ontario, is flanked by slightly rising lowlands known as the **Garden of Canada** because of their natural beauty and extensive fruit orchards. In this section, the first three locks raise vessels 42 m (138 ft) from the level of Lake Ontario and bring them to the foot of the Niagara Escarpment. The long, straight reaches of canal prism provide ample space for the movement and passage of upbound and downbound vessels.

31 The next four locks raise vessels to the top of the escarpment. Three of these locks are built in steps, one after the other, so that vessels are raised another 43 m (141 ft) in a distance of 0.5 mile. This stepped system of three locks has a pair of locks for each lift, one for upbound vessels and one for downbound vessels, thereby avoiding delays. From here there is a short stretch of canal prism, 0.4 mile long, which allows vessels to pass each other. At the south end of this short stretch of canal is the last of the seven main locks, which raises vessels 14 m (46 ft), nearly to the level of Lake Erie.

32 A new Welland Canal by-pass was opened in 1973. The by-pass section, lying east of this part of the Fourth Welland Canal, stretches from Port Robinson southward to Ramey's Bend, a distance of 7 miles. This stretch replaced a narrow 7.5 mile section, spanned by six bridges that wound through the city of Welland. In contrast to the old section, along which bulky structures often blocked the line of sight, the Welland Canal by-pass channel is unobstructed and almost straight.

33 Along the section from Ramey's Bend to the Port Colborne entrance at Mile 23.45, the canal and its structures, including Guard Lock 8, are part of the original Fourth Welland Canal.

34 Five vertical-lift bridges, six bascule bridges and one fixed-span high-level bridge cross the canal; these **bridges** carry railway lines and highways. The vertical-lift bridges operate on the principle of the counter-balanced elevator, with a movable span that lifts to provide a vertical **clearance** of 36.6 m (120 ft). They offer a less restricted channel than is available with the bascule bridges that are more common on navigable waterways. All bascule and vertical-lift bridges have auxiliary power in case of power failure.

35 (*Cautionary information on bascule bridges is given earlier in this chapter.*)

36 Lights are shown from all bridges in the Welland Canal. Details of aids to navigation for passage through the locks are given in the *Seaway Handbook*.

37 **Guard lock and water level fluctuation.** — On Lake Erie, with its vast expanse of shallow water, the water level is subject to rapid fluctuations caused by changes in the force and direction of the wind. A change in wind direction from east to west has been observed to change the water level by as much as 3.4 m (11 ft) at Port Colborne. Such a change in water level, if transferred to the summit level of the canal, would introduce tremendous hydraulic control problems and extensive traffic delays. For this reason, Lock 8 was constructed at Port Colborne, just north of where the canal joins Lake Erie, to raise or lower ships from the regulated level of the canal to that of the lake.

38 (*Information on seiches and wind effect in Lake Erie is given in Sailing Directions booklet CEN 300 — General Information, Great Lakes.*)

39 About midway between Lake Ontario and Lake Erie, the Welland Canal crosses **Welland River**; this is a sluggish stream which joins Niagara River at the head of the rapids above Niagara Falls. The level of Welland River is 1.8 m (6 ft) below the level of the Welland Canal, which meant that an underpass had to be built to carry its waters under the canal. The foundation of this structure, which is an inverted syphon culvert, lies 25 m (82 ft) below the level of the water in the canal. Welland River no longer flows directly into the Niagara River; its waters are diverted through the Chippawa–Queenston power canal.

40 (*More information on Welland River is given in Chapter 2.*)

41 Cross winds can cause serious delays to navigation in restricted waterways. To reduce this effect, many fast-maturing native trees have been planted as a windbreak along the banks of the Welland Canal. The roots of these trees also bind together the earth embankment of the prism reaches and

Lock information

Lock No.	Type	Usable length m and (ft)	Width m and (ft)	Lift m and (ft)	Miles from Port Weller Harbour
1	Single	222.5 (730)	24.38 (80)	14 (46)	1.58
2	Single	222.5 (730)	24.38 (80)	14 (46)	3.12
3	Single	222.5 (730)	24.38 (80)	14 (46)	5.47
4	Double	222.5 (730)	24.38 (80)	15 (49)	6.60
5	Double	222.5 (730)	24.38 (80)	15 (49)	6.74
6	Double	222.5 (730)	24.38 (80)	13 (43)	6.90
7	Single	222.5 (730)	24.38 (80)	14 (46)	7.40
8	Guard	350 (1,148)	24.38 (80)	0.5–3.5 (2–11)	21.09

provide a greater measure of protection against the erosive action of water.

42 *(Information on vessel traffic under adverse wind conditions is given in the Seaway Handbook.)*

43 **Safety features.** — Upper lock gates are protected from upbound vessels by a heavy concrete breast wall at the upper end of each lock; this wall prevents an upbound

vessel from damaging the upper gates when entering a lock at the lower level. The lower gates are protected from downbound vessels by a wire rope fender across the lock.

44 All controlling equipment operating the valves, gates, fenders and signals at each lock is interlocked to protect the equipment and to prevent disaster.

Welland Canal – Mileage and General Data

Mile	Structure, Locality, etc.	Mile	Structure, Locality, etc.
0.00	Lake Ontario entrance – Port Weller Harbour	12.92	Turning Basin No. 2
1.10	Wharf 1 – Port Weller Harbour (East)	13.27	Syphon Culvert
1.15	Wharf 2 – Port Weller Harbour (West)	15.41	East Main Street Tunnel
1.30	Small-craft wharf	16.85	Wharf 10 – Welland
1.58	Lock 1 – Single	17.46	Townline Tunnel
1.85	Port Weller Dry Docks	19.80	Wharf 11 – Canada Starch Company
3.12	Lock 2 – Single	20.10	Entrance to Ramey's Bend
4.50	Wharf 3 – St. Catharines wharf	20.60	Turning Basin No. 3
5.47	Lock 3 – Single	20.60	Wharf 12 – Ramey's Bend
6.60	Lock 4 – Double	20.75	Wharf 13 – Robin Hood Multifoods
6.74	Lock 5 – Double	20.75	Wharf 14 – R.E. Law
6.90	Lock 6 – Double	20.75	Tailrace from Supply Weir
7.40	Lock 7 – Single	21.09	Lock 8 – Guard Lock
7.92	Thorold Tunnel	21.87	Wharf 15 – Port Colborne
8.10	Wharves 5 and 6 – Thorold	22.05	Small-craft wharf
8.10	Turning Basin No. 1	22.27	Wharf 16 – Port Colborne
8.20	Wharf 7 – Ontario Paper Company	22.45	Wharf 17 – Port Colborne
8.30	Guard Gate Cut	22.50	Wharf 18 – Port Colborne
8.48	Wharf 8 – Ontario Paper Company	22.80	Wharf 19 – Port Colborne
8.85	Wharf 9 – Beaverboard Wharf	22.80	Wharf 20 – Port Colborne
10.05	Intake Weir – Third Canal Channel	23.45	Lake Erie entrance – Port Colborne Harbour
12.66	Port Robinson Ferry		



45 (The facilities of the Welland Canal are listed in the table “Wharves — Welland Canal” at the end of this chapter.)

46 **Lock 1** is 1.6 miles south of the entrance to Port Weller Harbour; **Bridge 1**, a bascule bridge, crosses the south entrance of the lock. A submerged air bubbler pipeline has been installed from the end of the south training wall at Lock 1 to the west shore of the canal.

47 The canal widens out 0.1 mile south of Bridge 1 to form a basin and fitting out berth on its east side. *Port Weller Dry Docks Ltd.*, a division of *Canadian Shipbuilding and Engineering Ltd.*, operates a shipbuilding and repair facility on the east side of the basin. Two **dry docks** here can handle vessels up to 222.5 m (730 ft) long and 23.2 m (76 ft) wide. The channel leading to the dry docks, flanked on the north side by dolphins, is reported to be dredged to a depth of 7 m (23 ft). These are the only dry docks in the Lake Ontario area that can handle vessels of this size.

48 (Other shipyards in the Great Lakes area are listed in *Sailing Directions* booklet CEN 300 — General Information, Great Lakes.)

49 A **submerged water pipeline** crosses the basin in the approach to the dry dock. A **submerged natural gas pipeline** crosses the canal at Mile 2.4.

50 **Lock 2** is entered at Mile 3.12; **Bridge 3A**, a bascule bridge, crosses the south entrance of the lock.

51 The city of **St. Catharines**, with a population of 129,300 (1991), extends 8 miles south of Port Weller Harbour on both sides of the Welland Canal.

52 A **submerged natural gas pipeline** crosses the canal near Mile 4; a **submerged sewer pipeline** crosses at Mile 4.65. A **submerged telephone cable** crosses the canal 0.1 mile farther south.

53 **Bridge 4A**, a high-level bridge known as *Garden City Skyway*, crosses the canal at Mile 4.8; **Bridge 4**, a double bascule bridge, crosses at Mile 4.9.

54 A **submerged power cable** and a **submerged telephone cable** cross the canal near Bridge 4. A **submerged**

WELLAND CANAL — LOCK 1 (1994)



conduit carrying power and communications cables is laid across the channel between Bridge 4 and Bridge 4A.

54.1 A submerged water pipeline crosses the canal 100 m south of Bridge 4.

55 **Lock 3** is entered at Mile 5.47. A submerged air bubbler pipeline has been installed from the end of the south training wall at Lock 3 to the west shore of the canal.



56 **Caution.** — The outflows north of Locks 2 and 3 from pondage pools cause

eddies and **cross currents** in the lower approaches to these locks.

57 **Bridge 5**, a lift bridge known locally as the *Glendale Avenue Bridge*, is 0.53 mile south of Lock 3.

57.1 A **submerged sewer pipeline** crosses the canal 60 m (197 ft) north of Bridge 5.

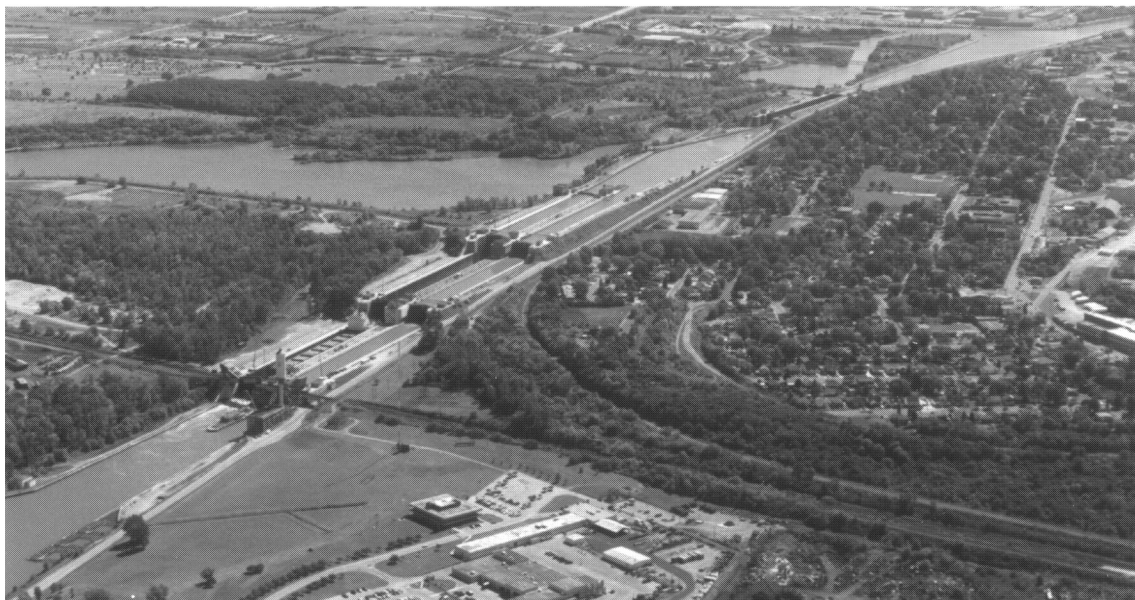
58 Two **submerged natural gas pipelines** cross the canal 30 m (98 ft) south of Bridge 5. A **submerged power cable** and **overhead power cables**, with a clearance of 46 m (151 ft), cross the canal 0.1 mile farther south.

59 **Bridge 6** (east and west), a railway bascule bridge, crosses the north entrance to Lock 4.

WELLAND CANAL — LOCK 3 (1994)



WELLAND CANAL — TWIN LOCKS 4, 5 AND 6 (1994)



60 **Twin Flight Locks 4, 5 and 6** are entered 1 mile south of Lock 3. These three pairs of locks are stepped and raise vessels a total of 43 m (141 ft).

61 The Vessel Traffic Control Centre, Administration Building and Seaway Welland radio station are on the west side of the canal near the entrance to Lock 4.

62 **Lock 7**, 0.35 mile south of Lock 6 (the highest of the flight locks), has a lift of 14 m (46 ft) and raises upbound vessels to the summit of the canal.

63 The city of **Thorold**, with a population of 17,542 (1991), lies on the west side of the Welland Canal at Mile 7.5. **Thorold South**, part of the city of Thorold, is on the east side of the canal at Mile 8.



64 (Details of the wharves at Thorold and Thorold South are listed in the table “Wharves — Welland Canal” at the end of this chapter.)

65 **Turning Basin No. 1** is at Mile 8.1, 0.5 mile south of Lock 7.

66 Three **submerged pipelines** cross the canal at the south end of Turning Basin No. 1; one is a natural gas line, one is a water line and the third is a culvert. A **submerged water pipeline** crosses the canal at Mile 8.6.

67 The channel through the **Guard Gate cut** at Mile 8.3, 0.75 mile south of Lock 7, has a width of 59.4 m (195 ft).

68 **Bridge 10 piers**, remnants of a dismantled railway bridge, are located at Mile 9.1, 0.8 mile south of the Guard Gate cut.

69 The canal bottom for 2.2 miles south of Bridge 10 is solid rock.

70 **Overhead power cables**, with a clearance of 46 m (151 ft), span the canal 0.1 mile south of Bridge 10.

71 A **submerged pipeline** crosses the canal at mile 9.9; a **submerged natural gas pipeline** crosses at mile 10.2.



72 **Caution.** — There may be strong **cross currents** at the entrance to the Third Welland Canal channel, on the west side of the canal near Mile 10.

73 **Allanburg**, a rural community on the east side of the canal at Mile 10.35, is part of the city of Thorold.

74 **Bridge 11**, at Allanburg, is a lift bridge.

75 **Overhead power cables** with clearances of 40 to 46 m (131 to 151 ft) span the canal 0.2 to 0.9 mile south of Bridge 11. Two **submerged oil pipelines** cross the canal at Mile 12.

76 **Port Robinson**, a rural community at Mile 12.6, is part of the city of Thorold.

77 A small passenger **ferry**, operated by the *St. Lawrence Seaway Management Corporation*, crosses the canal at Port Robinson. The ferry carries 8 persons and operates a weekday service from April until January from 07:00 to 18:00, with shorter hours on Saturdays, Sundays, and holidays.

78 A **submerged cable** and two **submerged gas pipelines**, one active and one abandoned, cross the canal near Port Robinson.

79 **Turning Basin No. 2** is at Mile 12.9.

80 The city of **Welland**, with a population of 47,914 (1991), is on both sides of the closed section of the Fourth Welland Canal, 7 miles north of Port Colborne. It is an important manufacturing centre with steel, iron, textile, twine,

electrical equipment and rubber industries. It is served by the *Canadian National Railway*.



81 (Details of the wharf at Welland are given in the table "Wharves — Welland Canal" at the end of this chapter.)

82 Two **submerged cables** and many **submerged pipelines** cross the Welland by-pass section between Port Robinson and **Ramey's Bend**, which is at Mile 20.1. A syphon culvert and two street tunnels also pass under this section of the canal. There are four **overhead power cables** with clearances of 43 m (141 ft).

83 Ramey's Bend is the north entrance point of a slip which was part of the Third Welland Canal. There is a salvage yard and dry dock at the south end of this slip.

84 The **dry dock** on the west shore near the south end of the slip, operated by *Marsh Engineering Ltd.*, is 82.3 m (270 ft) long and 18.3 m (60 ft) wide with a sill depth of 2.6 m (9 ft) in 1994.

85 A **submerged power cable** crosses the slip near the entrance.

86 The bottom of the Welland Canal from Ramey's Bend to the Lake Erie entrance is solid rock.



87 (Details of the wharves near Ramey's Bend are listed in the table "Wharves — Welland Canal" at the end of this chapter.)

88 **Turning Basin No. 3** is 0.5 mile south of Ramey's Bend at Mile 20.6.

89 The *Robin Hood Multifoods Inc.* elevator and mill are at Mile 20.7. These structures are **conspicuous**.



90 **Caution.** — An unused section of the

Third Welland Canal enters the channel from the SW at Mile 20.7, near the *Robin Hood Multifoods Inc.* elevator. This section of canal serves as the tailrace of the supply weir. The moderate **current** here may affect vessels in Turning Basin No. 3 or berthing at Wharves 12 and 13.

91 **Lock 8**, entered at Mile 21.1, has a lift of 0.6 to 3.4 m (2 to 11 ft), depending on the Lake Erie water level at Port Colborne.

92 **Bridge 19** and **Bridge 19A**, both bascule bridges, cross the north and south entrances to Lock 8.

93 A **submerged supply line** for an air bubbler system crosses the canal at the south end of the approach wall south of Lock 8. **Submerged water and sewage pipelines** cross the canal at Mile 21.85.

94 **Bridge 21**, a road lift bridge, is near Mile 22.

Port Colborne

Charts 2042, 2120

95 The harbour at **Port Colborne** (42°52'N, 79°15'W), 17 miles west of the United States' city of Buffalo, is on the north shore of **Gravelly Bay** at the south of Lake Erie entrance to the Welland Canal. It consists of an outer harbour, which extends from the original shoreline to offshore breakwaters, and an inner harbour, which includes the facilities for 2.5 miles along the Welland Canal.

96 The outer harbour is protected by breakwaters. The west breakwater, which is 0.7 mile long and constructed of stone-filled timber crib work covered with concrete, extends towards Sugar Loaf Point. A west breakwater extension extends 0.35 mile in a SSE direction; it is built of concrete cribs and a concrete superstructure, with armour stone on the WSW face and a concrete pierhead at its SSE end.

97 The east breakwater is constructed of timber and concrete crib work, with stone rip-rap protection along the outer face. Its pierhead should be given a berth of 30 m (98 ft).

98 A **submerged power cable** extends NNE from the west breakwater to a position on shore NNE of the *Port Colborne Grain Terminal* elevator.

99 The main channel through the outer harbour has a least width of 107 m (351 ft) and is dredged to a depth of 8.2 m (27 ft). A dredged area on the west side of the channel leads to the wharves at the *Port Colborne Grain Terminal* and the *Maple Leaf Mills Inc.* plant. The dredged areas are marked by **buoys** and **light buoys**.

100 Port Colborne is a **Customs** vessel reporting station for pleasure craft.

101 The harbour at Port Colborne is administered by the *St. Lawrence Seaway Management Corporation*.

102 **Landmarks.** — The harbour can be identified from offshore by the *Port Colborne Grain Terminal* elevator and the flour mill and elevator of *Maple Leaf Mills Inc.* A white water tower 0.2 mile north of the grain terminal is conspicuous. The Sugar Loaf (*described in Chapter 2*), west of Port Colborne, is also conspicuous.

Chart 2120



104 **Anchorage is prohibited** in the approaches to the harbour.

105 There is a **dumping ground** north of the anchorage area.



106 There is a **pilot exchange point** 1 to 2 miles south of Port Colborne. For more information on pilotage, consult Sailing Directions booklet *CEN 300 — General Information, Great Lakes*, the *Annual Edition of Notices to Mariners* and *Radio Aids to Marine Navigation (Atlantic and Great Lakes)*.

PORT COLBORNE (1994)



Charts 2042, 2120



107 Port Colborne Outer light (556), at the SSE end of the west breakwater extension, is shown at an elevation of 11 m (36 ft) from a white square structure, 7.6 m (25 ft) high, with a red upper part. The light is brighter over an arc of 30° in a SSW direction. The light-structure is floodlit.



107.1 There is an **anchorage area** centred 4.5 miles south of *Port Colborne Outer light* in depths of 19.2 to 24 m (63 to 79 ft); this is for vessels waiting to enter Port Colborne harbour.

108 Port Colborne West Breakwater light (557), at the west end of the west breakwater, is shown at an elevation of 7.3 m (24 ft) from a white circular tower, 5.1 m (17 ft) high.

109 Port Colborne Inner light (558), at the east end of the west breakwater, is shown at an elevation of 15.2 m (50 ft) from a white square structure, 13.1 m (43 ft) high, with a red upper part.

110 Port Colborne Harbour light (559), a steering light on the east breakwater, is shown at an elevation of 9.8 m (32 ft). The light is visible from northward between bearings of 178°45' and 180°45'; it helps upbound vessels navigating between Bridge 21 and a position abreast of the south end of Wharf 17. This light is maintained by the *St. Lawrence Seaway Management Corporation*.

111 Port Colborne East Breakwater light (560), at the west end of the east breakwater, is shown at an elevation of 10.7 m (35 ft) from a white circular tower, 6.2 m (20 ft) high, with a green upper part.

112 Port Colborne Entrance **range lights** are in line bearing 015½°. The front light (560.6), on Wharf 17, is shown at an

elevation of 11.1 m (36 ft) from a white circular tower, 7.4 m (24 ft) high, with a fluorescent-orange triangular daymark with a black vertical stripe. The rear light (560.7) is shown at an elevation of 17 m (56 ft) from a white circular tower, 13.5 m (44 ft) high, with a fluorescent-orange triangular daymark with a black vertical stripe.

113 *Port Colborne light buoy E3 (555)*, moored east of the south end of the west breakwater extension, marks the east edge of the channel.



114 **Caution.** — Three rock-filled timber **cribs**, with elevations of 3 m (10 ft), lie along the east side of the channel at the inner end of the outer harbour.



115 **Caution.** — Vessels using Wharf 16 should avoid the *International Nickel Company water intake*, which is on the east side of the harbour 580 m (1,903 ft) south of Bridge 21.

116 The city of **Port Colborne**, with a population of 18,766 (1991), is on both sides of the harbour. The principal exports are grain, flour, cement, carbon blocks, graphite block, crushed stone and pig iron. Imports include coal, fuel oil, diesel fuels, grain, corn, iron ore, sand and gravel. The city is served by the *Canadian National Railway* and has highway connections to Canadian and United States' cities.

117 Fresh water, bunker fuels, provisions and ships stores are available.

118 Ship repair facilities are available. For more information, contact the *St. Lawrence Seaway Management Corporation*.

119 Tug assistance is not compulsory for docking. Towing service, when required, is normally arranged through vessel agents or owners.



120 (Details of the wharves at Port Colborne are listed in the table "Wharves — Welland Canal".)

121 A tie-up **wharf** on the west side of Port Colborne inner harbour, south of Bridge 21, is for the use of small craft waiting to enter the Welland Canal. There is a direct-line telephone to communicate with Lock Control. Other use of this wharf is not permitted.



122 There are marinas and a yacht club in Gravelly Bay west of Port Colborne.

123 *Marlon Marina Inc.*, in the NE corner of Gravelly Bay, had depths of 1.8 to 2.2 m (6 to 7 ft) in 1994 and offered dockage with power and water, pump out, ramp, engine repairs, salvage work, 40 tonne hoist, boat hardware, out-board motor sales and service, picnic area, pay phone, showers, laundromat, ice, gasoline and diesel fuel, and monitored VHF Channel 68. This marina specialized in repairs to all types of motors.

124 *Sugarloaf Harbour Marina*, on the north shore of Gravelly Bay west of *Marlon Marina*, had depths of 1.7 m (6 ft) in 1994 and offered dockage with power and water, ramp, canoe and boat rentals, picnic area, pay phone, showers,

Wharves

Welland Canal

Wharf No.	Name / Locality	Wharf Length	Depth †	Elevation ††	Remarks
		m (ft)	m (ft)	m (ft)	
Note: All information in this table was provided by local authorities. User should consult local authorities for latest conditions.					
1	Port Weller Harbour (East)	194 (638)	8.2 (27)	2.6 (9)	Self-unloaders and rental cranes. Various partial cargoes.
2	Port Weller Harbour (West)	393 (1,288)	8.2 (27)	2.6 (9)	Self-unloaders. Coal, sand, zircon ore, bulk sugar. Capacity 76,500 tonnes. Diesel and Bunker C fuels available.
3	St. Catharines Wharf	101 (330)	7.6 (25)	1.5 (5)	Closed.
5	Industrial Dock Thorold	152 (500)	6.4 (21)	1.5 (5)	Self-unloaders. Coal.
6	Industrial Dock Thorold	West 343 (1,125) East 91 (299)	8.2 (27) 7 (23)		One 2.7-tonne crawler crane. One 3.2-tonne crawler crane. } Combined.
7	Ontario Paper Wharf Thorold South	185 (607)	8.2 (27)	1 (3)	Pulpwood and chemicals. Capacity 90,000 cords pulpwood.
8	Ontario Paper Wharf Thorold	132 (434)	7 (23)	1 (3)	Closed.
9	Beaverboard Wharf Thorold	306 (1,004)	7.1 (23)	1 (3)	Closed.
10	Welland Dock, Welland	223 (732)	9.1 (30)	2.4 (8)	Self-unloaders or rental cranes.
11	Canada Starch Dock Old channel, mile 19.8	120 (394)	8.2 (27)		Three berthing dolphins. Self unloaders.
12	Ramey's Bend	548 (1,798)	8.2 (27)		Tunnel and belt conveyor (loading). Stone and sand.
13	Robin Hood Multifoods Wharf	305 (1,000)	7.6 (25)	1.5 (5)	Elevator. Grain and grain products.
14	R.E. Law Wharf	213 (700)	7.9 (26)	1.5 (5)	Closed.

Port Colborne Harbour

15	Underwater Gas Developers Beam Building and Supply	259 (850)	4.3 (14)	3.7 (12)	Self-unloaders. Sand.
16	Snider's Wharf	451 (1,480)	9.1 (30)	3.7 (12)	One belt conveyor. Pipeline 17.8 to 20.3 cm (7 to 8 in). Stone and marine diesel oil. Capacity 27,000 tonnes.
17	Canadian Furnace Wharf	341 (1,120)	9.1 (30)	3.7 (12)	Ore and limestone (unloading). Pig iron and scrap (loading). Capacity 225,000 tonnes.
18	1. Fueling Wharves 2. West Street Wharf 3. —	503 (1,650) 183 (600) 178 (584)	9.1 (30) 3 (10) 4.3 (14)	2.4 (8)	Marine diesel fuel, coal. Capacity 772,820 litres (170,000 gallons). Closed.
19	Maple Leaf Milling	183 (600) (north) 91 (300) (south)	5.1 (17) 5.8 (19)	2.4 (8)	Grain elevator. Capacity 63,000 tonnes.
20	Ports Canada Wharf	183 (600) (slip) 274 (900)	4.7 (15) 5.8 (19)		Grain elevator. Closed. Capacity 84,000 tonnes.
	Holding (quarantine) wharf, out of service.				

† Depth below chart datum.

†† Elevation above chart datum.

laundromat, ice, safety equipment, snack bar, restaurant and licensed dining room, and monitored VHF Channel 68. A sailing school was also based here.



124.1 Sugarloaf Marina West light (557.1), near the south end of the detached wall on the west side of the marina entrance, is shown at an elevation of 9 m (30 ft) from a white mast 6 m (20 ft) high. Sugarloaf Marina East light (557.2), near the SW corner of the wharf on the east side of the entrance, is shown at an elevation of 9 m (30 ft) from a white mast 6 m (20 ft) high. These aids are privately maintained.

125 *Lakeside Yacht Club*, a private club on Mill Ditch, on the west shore of Gravelly Bay, had depths of 0.6 m (2 ft) in 1994.

126 *Surfside Marina and Restaurant*, on the south side of the mouth of Mill Ditch, had depths of 0.2 m (1 ft) in 1994 and offered dockage with power and water, concrete ramp, picnic area, pay phone, showers, ice, bait and restaurant.

127 *Marlon Marina Inc.*; *Bell Marine & Mill Supply Ltd.*, West Pier; and *Millen Marine & Industrial Supply*, 577 Elm Street, Port Colborne, are authorized dealers for Canadian Hydrographic Service nautical **charts** and publications.

Upper Niagara River and Buffalo Harbor

General

ENCs US4NY32M, US5NY34M, US5NY35M, Charts 14822, 14832, 14833

¹ This chapter describes the upper Niagara River ($42^{\circ}53'N$, $78^{\circ}55'W$), which flows northward from the NE end of Lake Erie to Niagara Falls. Black Rock Canal and Buffalo Harbor, New York, which are at the NE end of Lake Erie, are also described.

² The waters of Niagara River drop 326 feet (99.4 m) in the 29 miles between Lake Erie and Lake Ontario. Half of the drop is at Niagara Falls, which, with the steep-walled gorge downstream, is among the scenic wonders of the world.

³ (*The lower Niagara River, from its mouth on Lake Ontario to Niagara Falls, is described in Sailing Directions booklet CEN 302 — Lake Ontario.*)

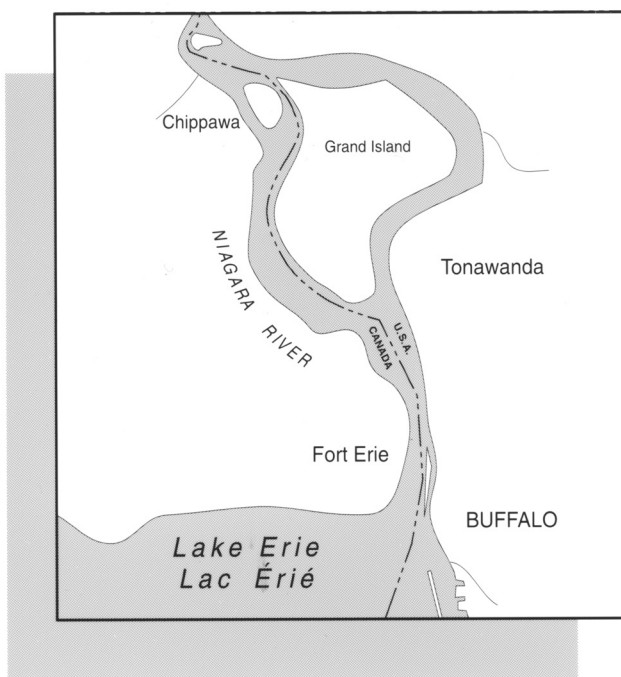
Upper Niagara River

ENC US5NY34M, Chart 14832

⁴ Lake Erie converges at its NE end and flows into Niagara River. The river divides into two channels at Strawberry Island, 4.5 miles from its entrance, and then flows around Grand Island. Chippawa Channel, which is the western or Canadian channel, is 11 miles long; it is divided at its downstream end by Navy Island.

⁵ The eastern or United States' channel, 13 miles long, is in three sections: Black Rock Canal, Tonawanda Channel, and Niagara River Channel. The United States' and Canadian channels merge into one channel at the downstream end of Grand Island; the great rapids and falls are 3 miles farther downstream. Niagara Falls is 17 miles from the Lake Erie entrance of the Niagara River.

⁶ The International Boundary between Canada and the United States follows the middle of the upper Niagara River from the Lake Erie entrance to a point south of Strawberry Island where the river forks. The boundary then follows the Grand Island shore of Chippawa Channel. At the NW end of Grand Island, where the channels merge, the International Boundary again follows the middle of the river, then passes south and west of Goat Island.



7 Depths and vertical clearances under overhead cables and bridges on the upper Niagara River refer to the sloping surface of the river when water level elevations are at the chart datum of 569.2 feet (173.5 m) on Lake Erie; 564.4 feet (172.0 m) at the lower entrance to Black Rock Canal ($42^{\circ}56'00''N$, $78^{\circ}54'30''W$); 563.8 feet (171.85 m) at the Huntley Station gauge ($42^{\circ}58'12''N$, $78^{\circ}55'54''W$); 563.4 feet (171.7 m) at the Tonawanda Island gauge ($43^{\circ}01'42''N$, $78^{\circ}53'12''W$); and 561.5 feet (171.1 m) at the Power Plant Intake gauge ($43^{\circ}04'42''N$, $79^{\circ}00'54''W$). Chart datum elevations refer to International Great Lakes Datum 1985 (IGLD 1985), which is mean sea level at Rimouski, Quebec.

8 Niagara River falls 10 feet (3 m) from Lake Erie to the upstream end of the upper rapids, near the junction with Welland River at Chippawa, 1.5 miles above Niagara Falls. Just below the Welland River entrance, 1 mile east of Goat Island, the waters continue their descent to the level of Lake Ontario; the river falls 316 feet (96 m) through the rapids above and below the falls and downstream to Lake Ontario.

9 Fluctuations in the water level of Lake Erie above or below chart datum affect Niagara River levels. The amount ranges from the full Lake Erie difference at the head of the river, to near zero at Chippawa.



10 For 1.5 miles from the entrance the river is wide, shallow and rocky, with a current of 1.8 to 2.7 knots. Just above the *Peace Bridge* the river enters a gorge 0.3 mile wide and 1.8 miles long to the lower end of Squaw Island. In the upper part of this gorge, the river is shallow with a current of 7 knots at low to mean stages of the river, to 8 knots at high stages. In the lower part of the gorge the river is deeper and wider. Currents just below the *International Bridge* range from 3.6 knots at low to mean stages of the river, to 4.3 and 4.5 knots at high stages. In Tonawanda Channel and Chippawa Channel, the current ranges from less than 1 to 3.6 knots.

11 Black Rock Canal is the recommended deep water route from the head of the upper Niagara River to a position downstream of Squaw Island.



12 **Caution.** — Proceeding downstream on the upper Niagara River is considered to be “proceeding from seaward”. Buoyage on the river and on Black Rock Canal is based on this convention; when heading downstream in these areas, red buoys are kept to starboard.

13 (*The description of Black Rock Canal, given later in this chapter, is quoted from U.S. Coast Pilot 6.*)

ENC US5NY35M, Chart 14833

Niagara River — Old channel

14 The channel is marked by **buoys**. *Middle Reefs light buoy EU4* (552), 0.5 mile SW of Middle Reefs, marks the SE side of the entrance channel.

15 In 1994, a depth of 10 feet (3.0 m) was found near *Middle Reefs light buoy EU4*.



16 **Caution.** — As mentioned earlier, there are strong **currents** in the upper Niagara River. Mariners are cautioned to exercise extreme care, particularly during spring floods and following extended periods of heavy rainfall and after strong westerly winds on Lake Erie.

17 **Waverly Shoal** ($42^{\circ}52'N$, $78^{\circ}56'W$), with a depth of 10 feet (3 m), is a wide area in the approaches to Niagara River and Buffalo Harbor.



18 **Caution.** — A floating timber **ice boom** is moored across the entrance to Niagara River from early December to mid-May. The submerged cables and anchors for the ice boom extend from a position near *Buffalo Harbor Old Breakwater North End light* and past *West Breakwater light* to a position near the ruins of the **Erie Beach** wharf on the Canadian shore ($42^{\circ}53'N$, $78^{\circ}56'W$).

19 **Middle Reefs** ($42^{\circ}53'N$, $78^{\circ}55'W$) lie in mid-stream at the Niagara River entrance; there are depths of less than 1 foot (0.3 m).

20 An abandoned light-structure on a rock outcrop on the south part of Middle Reefs consists of a white steel skeleton **tower** with a cylindrical upper part. A **conspicuous** circular building in mid-river, 0.15 mile SE of the abandoned light structure, is part of the Buffalo water intake.



21 *Buffalo Intake Crib light* (U.S. 2670), on the above-mentioned building, is privately maintained and operates only during the navigation season.

22 The ruins of Fort Erie lie near the shore 0.7 mile NNE of Erie Beach wharf. A **monument** on the east side of the old fort was hidden by trees in 1994.

23 **Limekiln Reef**, 0.3 mile off the Canadian shore ENE of the old fort, has depths of 5 and 6 feet (1.5 and 1.8 m).

24 **Bird Island Reef**, a shallow rocky area 0.3 mile east of Limekiln Reef, extends 0.3 mile from the breakwater on the east shore. A submerged **wreck** lies on the NW edge of Bird Island Reef.

25 The town of **Fort Erie** ($42^{\circ}55'N$, $78^{\circ}55'W$), with a population of 26,006 (1991), fronts on Lake Erie and on the upper Niagara River. A highway bridge and a railway bridge connect Fort Erie and Buffalo, New York. In 1994, there were no facilities for small craft or larger vessels along the west side of the river between the ruins of the Erie Beach wharf, 1.7 miles SSW of the *Peace Bridge*, and the bridge itself. North of the bridge there are several private wharves and boathouses.

26 Fort Erie is a **Customs** vessel reporting station for pleasure craft.

27 The *Peace Bridge*, crossing Niagara River 1.8 miles from its entrance at Lake Erie, is a highway **bridge** connecting Fort Erie and Buffalo. The recommended channel is through the fourth span from the United States' mainland; it has a vertical

FORT ERIE AND BUFFALO (1994)



clearance of 67 feet (20.4 m) at the centre and a horizontal clearance of 385 feet (117.3 m).

28 An **overhead power cable** 0.15 mile downstream of the *Peace Bridge* has a clearance of 126 feet (38.4 m).

29 The *International Bridge*, 1.4 miles downstream of the *Peace Bridge*, is a single-track railroad **bridge**; it has fixed spans with vertical clearances of 22 feet (6.7 m). A swing span at the east end of the bridge, close west of Squaw Island, does not open.



30 **Caution.** — There are strong **currents** in the vicinity of the two bridges; *see* the note on *Currents* above. Navigation through the *Peace Bridge* is difficult due to the **turbulence** of the current.

31 Two **water towers**, one west of the *Peace Bridge* and the other west of the *International Bridge*, are conspicuous.



32 A Public **wharf** along the shore at Fort Erie, just below the *International Bridge*, is 160 feet (48.8 m) long. In 1994, there were depths of 3 feet (0.9 m) at the south end of the wharf to 11 feet (3.4 m) along the face of the wharf. There is a Canada Customs wharf for small craft close downstream of the Public wharf.



33 **Caution.** — The **current** along the face of the Public wharf ranges from 3 to 3.5 knots. This wharf should be approached with caution. There is a slight upstream eddy at the customs wharf.

34 *Nicholls' Marine Ltd.*, on the Niagara River downstream of the *Peace Bridge*, is a repair and salvage business with a forklift and a concrete ramp, and a retail store with boat hardware and fishing tackle. There are no wharves at this facility.

ENC US5NY34M, Chart 14832

35 **Chippawa Channel**, the west channel of the upper Niagara River, lies between Grand Island and the Ontario shore; it is almost entirely in Canadian waters. The channel extends from Strawberry Island to Navy Island, a distance of 9.5 miles.

36 Chippawa Channel has a least mid-stream depth of 9 feet (2.7 m).



37 *Niagara Parks Commission Marina*, on the Canadian shore near the south end of Chippawa Channel, had depths of 4 to 11 feet (1.2 to 3.4 m) in 1994 and offered dockage with power and water, pump out, ramp, picnic area, pay phone, showers, ice, snack bar, souvenir shop and gasoline. The marina is on the scenic *Niagara River Parkway*.

38 A **submerged pipeline** crosses Chippawa Channel 1.2 miles downstream of **Black Creek** (42°59'N, 79°01'W).

39 **Slaters Point** (43°04'N, 79°02'W), a rounded feature on the Canadian mainland, is the NW entrance point of Chippawa Channel.



40 **Caution.** — A **shoal spit** extends 0.15 mile off the NW tip of **Navy Island** (43°03'N, 79°01'W). Mariners are cautioned to give the point a wide berth.

41 **Welland River** (43°04'N, 79°03'W) joins Niagara River 1 mile downstream of Navy Island and 1.5 miles above Niagara Falls.



42 **Caution.** — All vessels are prohibited from entering the part of Niagara River downstream of a line joining the end of the breakwater at the mouth of Welland River and the westerly side of the mouth of Gill Creek at Niagara Falls, New York.



43 **Caution.** — There is a strong **current** in Niagara River at the Welland River entrance.

44 **Chippawa**, an urban community at the mouth of Welland River, is part of the city of **Niagara Falls**, which had a population of 75,399 in 1991.

45 Chippawa is a **Customs** vessel reporting station for pleasure craft.

46 There is a small harbour inside the mouth of Welland River.



47 Chippawa light (551), on the north side of the Welland River entrance, is shown at an elevation of 16 feet (4.9 m) from an ornamental mast; it is privately maintained by *Ontario Hydro-Electric Commission*.

48 An **intake structure and breakwater**, operated by *Ontario Hydro-Electric Commission*, extends across the Welland River entrance from the north shore.

49 The construction of the intake structure reversed the flow of Welland River; it now flows westwards from Niagara River. The lower section, 3.6 miles long, is used to divert water from Niagara River through the Chippawa-Queenston power canal.

50 Welland River is entered between the south end of the intake structure and the mainland. A **footbridge** with a clearance of 13 feet (4 m) crosses this entrance. There is a red flashing **light** on a post at the east end of the footbridge and a green flashing **light** at the west end. A highway **bridge** with a clearance of 13 feet (4 m) crosses the river 0.3 mile upstream.



51 **Caution.** — The **ruins** of a bridge lie 0.1 mile upstream of the highway bridge.

52 **Overhead cables** cross the entrance to Welland River and also 0.3 mile, 0.5 mile and 0.8 mile from the entrance.



53 *Greater Niagara Yacht Club* (also known as *Greater Niagara Boating Club*) is a private organization on the south side of Welland River 1.2 miles from its entrance. In 1994, there was a depth of 8 feet (2.4 m) in the approaches and 5 to 20 feet (1.5 to 6.1 m) at the wharves.

54 In 1994, the limiting depth in Welland River from Niagara River to *Greater Niagara Yacht Club* was 20 feet (6.1 m); thereafter the natural width varies from 50 to 100 feet (15.2 to 30.5 m), with a reported depth of 6 feet (1.8 m) as far as Port Robinson on the Welland Canal, 8 miles from Chippawa.

U.S. shores — Upper Niagara River and Buffalo Harbor

*[from U.S. Coast Pilot 6,
Chapter 6, partial]*

55 **Channels.**—*Black Rock Canal is the recommended route from Lake Erie to facilities in the Niagara River below Squaw Island. The channel formerly dredged in the open river W of Bird Island and Squaw Island has shoaled to depths of 10 feet [3 m] or less. The bottom in this reach is generally rocky, and the currents are strong and variable. Great care should be exercised in navigating this section of the river.*

56 *A floating steel pontoon ice boom is placed across the entrance to the head of the Niagara River during the winter. In any one year, installation of the boom shall not commence prior to December 16 or prior to the water temperature at the Buffalo water intake reaching 4°C (39°F), whichever occurs first. The boom shall be opened by April 1, unless there is more than 250 square miles [647 square kilometres] of ice E of Long Point (42°33'N., 80°03'W.); complete disassembly and removal of all floatation equipment shall be completed within two weeks thereafter.*

57 **Black Rock Canal** provides a safe passage for vessels around the rapids and shoals in the head of the Niagara River.

58 *The Lake Erie entrance to Black Rock Canal is through Buffalo Harbor North Entrance Channel and across the northern section of the Outer Harbor to Black Rock Canal Entrance Channel. From its entrance, the canal leads northward along the Buffalo front, parallel with the river and separated from it by Bird Island Pier and Squaw Island. Bird Island Pier and Squaw Island retain the canal pool from the W, and, along with Black Rock Lock, serve to keep the canal level at the same elevation as the water surface of Lake Erie.*

59 *From Black Rock Lock at the northern end of Squaw Island, a dredged channel continues northward through Tonawanda Channel for about 9 [8] miles to a turning basin on the N side of Tonawanda Island at North Tonawanda.*

60 *From Buffalo North Entrance Channel through Black Rock Canal and Lock to and in the turning basin N of Tonawanda Island, the Federal project depth is 21 feet [6.4 m]. (See Notice to Mariners and the chart for controlling depths.)*

61 *From the downstream end of the turning basin at North Tonawanda, Niagara River Channel leads along the N side of Grand Island to a basin off the public dock at Niagara Falls, NY.*

62 *Black Rock Canal and the dredged channels leading to the turning basin N of Tonawanda Island are marked by lights, buoys, and lighted ranges.*

63 *Passing down the Niagara River from Lake Erie toward Niagara Falls is considered “proceeding from seaward.” Buoyage in the river and the Black Rock Canal is based on this convention. Red buoys are on the right-hand side, looking downstream, and green on the left-hand side.*

64 **Black Rock Lock** connects the canal with the river near the foot of Squaw Island. The lock has a usable length of 625 feet [190.5 m] with a clear width of 68 feet [20.7 m] and a depth of 21 feet [6.4 m] over the sills. The lock has an average lift of 5.2 feet [1.6 m].

65 **Locking Through.**—When approaching Black Rock Lock, vessel operators must inform lock personnel, well in advance, of their desire to pass through the lock. Personnel will indicate when it is safe to proceed into the lock. Contact lock personnel on VHF-FM channel 16; channels 12 and 14 are working channels. A horn signal of two long and two short blasts indicates to lock personnel that you wish to lock through. This signal should be given regardless of any other communication you may have established. See 33 CFR 207.590 chapter 2 [of U.S. Coast Pilot 6], for details on navigating the canal and lock.

71 *The following signals control the movement of vessels through Black Rock Lock:*

72 *For downbound (northbound) traffic, a signal light mounted on a standard on the E approach wall at the entrance to the lock chamber shows green to indicate a clear entrance into the lock chamber. When this signal is red, the downbound vessel will moor at the E approach wall until such time as clear entrance to the lock is indicated by the green light.*

73 *For upbound (southbound) traffic approaching the lock from the Niagara River channel, a signal light shows green to indicate a clear entrance to the lock chamber and red to indicate that the lock chamber is closed.*

74 *A **special anchorage** is on the west side of Black Rock Canal inside the pier at 42°53'45"N., 78°54'15"W. (See 33 CFR 110.1 and 110.84, chapter 2 [of U.S. Coast Pilot 6], for limits and regulations.)*

75 **Caution.**—The canal generally has a slight current downstream. During rapidly rising or high water in Lake Erie, there is a strong crosscurrent at the S end of Bird Island Pier.

76 *The **Peace Bridge** (42°54'23"N., 78°54'07"W.) crossing Black Rock Canal has a 200-foot [61-m] fixed span with a vertical clearance of 100 feet [30.5 m] — an overhead power cable 0.2 [0.17] mile below the bridge has a vertical clearance of 144 feet [43.9 m]. The **Ferry Street Bridge** (42°54'55"N., 78°54'08"W.) has a 149-foot [45.4-m] bascule span with a vertical clearance of 17 feet [5.2 m] for 86 feet [26.2 m] from the east abutment, thence decreasing to 12 feet [3.7 m] at the west abutment. The bridgetender monitors VHF-*

*FM channel 16 and works on channel 12. The **International Bridge** (42°55'53"N., 78°54'08"W.) with a combined rail and highway swing span has a vertical clearance of 17 feet [5.2 m] — an overhead power cable, 500 feet [152 m] southeast of the bridge, has a reported vertical clearance of 121 feet [37 m]. (See 33 CFR 117.1 through 117.49 and 117.769, Chapter 2, [of U.S. Coast Pilot 6] for drawbridge regulations.)*

77 **Regulations.**—A **speed limit** of 6 mph (5.2 knots) is enforced in Black Rock Canal. (See 33 CFR 162.175 and 207.590, chapter 2 [of U.S. Coast Pilot 6], for canal regulations.)

78 *The canal has no docks or facilities for mooring large vessels. The Buffalo Yacht Club maintains a small small-craft basin on the canal adjacent to the Buffalo waterworks pumping station. Downstream from the yacht club basin, a berthing area about 12 feet [3.7 m] deep has been dredged for the U.S. Naval and Marine Corps Reserve Training Center.*

79 **Lower Black Rock Harbor** is the name applied to the part of Buffalo which fronts on the Niagara River below Black Rock Lock. The harbor is about 0.75 [0.65] mile long with the upper part between the lock and the mainland. Loaded vessels should use the Black Rock Canal to approach the harbor. Approaching from the open river, the current passing the guide pier below the Black Rock Lock creates a powerful eddy with water flowing upstream along the U.S. side for more than 0.5 [0.4] mile below the lock. Caution is advised when entering the harbor or docking. The harbor has several marinas. Transient berths, gasoline, diesel fuel, water, ice, electricity, marine supplies, a launching ramp, mobile lifts to 30 tons [27 tonnes], and hull, engine, and electronic repairs are available. In 1977, depths of 7 to 12 feet [2.1 to 3.7 m] were reported alongside the berths.

80 *Just below Black Rock Lock, **Strawberry Island** divides the Niagara River into Chippawa Channel and Tonawanda Channel, leading W and E, respectively, of Grand Island. ...*

81 *Chippawa Channel has several small-craft facilities on both the Grand Island, United States, side of the channel and the mainland Ontario side. Beaver Island State Park Marina is at the S end of Grand Island. Transient berths, water, electricity, and sewage pump-out facilities are available. In 2002, depths of 5 feet [1.5 m] were reported in the entrance with 4 feet [1.2 m] alongside the berths. Big Six Mile Creek Marina is on the W side of Grand Island about 7.5 [6.5] miles from the upper end of the channel. Transient berths, gasoline, water, electricity, sewage pump-out facilities, and launching ramps are available. In 1977, depths of 8 feet [2.4 m] were reported in the entrance with 6 to 10 feet [1.8 to 3 m] alongside the berths reported in 1982. A fixed highway bridge and two overhead cables*

crossing the entrance have a reported least clearance of 16 feet [4.9 m].

82 **Tonawanda Channel** extends from Strawberry Island for about 8.5 [7.4] miles along the E side of Grand Island to Tonawanda Island and the adjoining cities of Tonawanda and North Tonawanda. The dredged and natural channel through this stretch was previously described.

83 **South Grand Island Bridge**, crossing the channel about 3.4 [3] miles below Strawberry Island, has twin fixed highway spans with a clearance of 99 feet [30.2 m] at the centre of the central spans. Vessels requiring the full height should keep at least 90 feet [27.4 m] from the face of the piers. Two overhead power cables with a minimum clearance of 115 feet [35.1 m] cross the channel about 0.75 [0.65] mile downstream of the bridge.

84 **Wharves**.—Several deep-draft facilities are in Tonawanda Channel on the E side of the river. The depths alongside are reported depths; for the latest depths, contact the operators.

84.1 **NRG Energy CR Huntley, Station Coal Wharf** (42°58'10"N., 78°55'46"W.): 753 feet [229 m] of berthing space with a depth of 17 feet [5.2 m] alongside and a deck height of 10 feet [3 m]; open storage for 500,000 tons [453,592 t] of coal; receipt of coal for plant consumption; owned and operated by NRG Energy, Inc.

84.2 **Marathon Ashland Petroleum Tonawanda Terminal Wharf** (42°58'39"N., 78°56'22"W.): 1,410 feet [430 m] of berthing space with a depth of 21 feet [6.4 m] alongside and a deck height of 8 feet [2.4 m]; tank storage with a capacity for 110,000 barrels of asphalt; receipt of asphalt by barge; owned and operated by Marathon Ashland Petroleum Co.

84.3 **NOCO Energy Corp. Tonawanda Terminal Wharf** (43°00'03"N., 78°55'45"W.): 400 feet [122 m] of berthing space with a depth of 21 feet [6.4 m] alongside and a deck height of 12 feet [3.7 m]; tank storage with a capacity of 1,066,150 barrels; receipt of petroleum products by barge and tanker; owned and operated by NOCO Energy Corp.

85 Several marinas on both sides of Tonawanda Channel between Strawberry Island and South Grand Island Bridge provide transient berths, gasoline, diesel fuel, water, ice, electricity, sewage pump-out, marine supplies, and launching ramps. Mobile lifts to 40 tons [36 tonnes] are available for hull, engine, and electronic repairs. In 1977, depths of 25 feet [7.6 m] and less were reported alongside the berths.

86 **Tonawanda Harbor**, about 12 [10.4] miles via Tonawanda Channel below the head of the Niagara River, is the W terminus of the New York State Barge Canal. The harbor comprises the river frontage of **Tonawanda, NY**, and **North Tonawanda, NY**; **Tonawanda Creek**, which separates the two cities, for about 1,400 feet [427 m] to

the Main-Webster Street Bridge; and all of the waterfront of Tonawanda Island, which lies in the river off the main shore.

87 The part of Tonawanda Harbor extending S from the North Tonawanda turning basin along the E side of Tonawanda Island has depths of about 15 feet [4.6 m] with depths of 12 feet [3.7 m] in Tonawanda Creek from the mouth to the highway bridge 0.2 [0.17] mile above the mouth.

88 **Bridges**.—Two bridges cross Tonawanda Harbor from the S part of Tonawanda Island to the mainland. Frederick B. Durkee Memorial Bridge is a fixed highway span with a clearance of 14 feet [4.3 m] at the centre. A railroad swing bridge just S has a clearance of 10 feet [3 m], but is being maintained in the open position. (See **33 CFR 117.1 through 117.59 and 117.811**, chapter 2 [of U.S. Coast Pilot 6], for drawbridge regulations.)

89 Three bridges cross the lower part of Tonawanda Creek. A railroad swing bridge just above the mouth has a clearance of 9 feet [2.7 m]. (See **33 CFR 117.809**, chapter 2 [of U.S. Coast Pilot 6], for drawbridge regulations.) The bridge is maintained in the open position. Fixed highway bridges 0.2 and 0.3 [0.17 and 0.26] mile above the mouth have clearances of 24 and 15 feet [7.3 and 4.6 m], respectively.

90 A **speed limit** of 5 mph (4.4 knots) is enforced in the harbor and in Tonawanda and Ellicott Creeks within the Tonawanda and North Tonawanda city limits. The **harbor-masters** of both communities and the sheriff of Erie County enforce these laws and can be contacted through their respective departments.

91 Several marinas in the harbor provide transient berths, gasoline, diesel fuel, water, ice, electricity, sewage pump-out, and marine supplies. Mobile lifts to 40 tons [36 tonnes] are available for hull, engine, and electronic repairs. In 1977, depths of 8 to 13 feet [2.4 to 4 m] were reported alongside the berths.

92 The **New York State Canal System** is entered through Tonawanda Creek. (The canal system is described in chapter 14 [of U.S. Coast Pilot 6].)

93 **Niagara River Channel**, a dredged channel, leads from the lower end of the turning basin at North Tonawanda along the N side of Grand Island to a basin off the public dock at Niagara Falls, NY. The channel is marked by lighted buoys (See Notice to Mariners and the latest edition of the chart for controlling depths.)

94 **Cayuga Island**, close to the north shore of Niagara River Channel, about 5 [4] miles below Tonawanda Island, is separated from the mainland by **Little River**, which outlets at either end of the island. **Cayuga Creek** flows into Little River at about midlength of the island. Little River and Cayuga Creek afford a well-protected harbor for small craft.

94.1 A dredged entrance channel leads from deep water in Niagara River through the lower entrance to Little River. In 2016, the controlling depth was 3½ feet [1.1 m]. The upper entrance to Little River, marked by a private 344° range, had a reported controlling depth of 4 feet [1.2 m] in 1980. Depths inside are about 4 to 7 feet [1.2 to 2.1 m].

94.2 A fixed highway bridge with a reported clearance of 10 feet [3 m] crosses Little River just west of the mouth of Cayuga Creek. An overhead cable with a clearance of 55 feet [16.8 m] crosses the river about 0.35 [0.3] mile west of the bridge. A fixed highway bridge crossing Cayuga Creek just above the mouth has a clearance of 9 feet [2.7 m].

95 A marina on the N side of the lower entrance to Little River provides gasoline, ice, a launching ramp, a 2-ton [1.8-tonne] lift, and hull and engine repairs.

96 **Buckhorn Island** is at the NW end of Grand Island opposite Niagara Falls, NY. A two-section permanent flow control dike extends NW from the W end of Buckhorn Island closing off the former Buckhorn Channel. Lights mark the ends of the dikes.

97 An unmarked **dumping ground** is between the dredged portion of Niagara River Channel and the NE end of Buckhorn Island; caution is advised.

98 **North Grand Island Bridge**, a twin fixed highway bridge, crosses the river between Niagara Falls, NY, and Buckhorn Island. The bridge has a clearance of 50 feet [15.2 m] for a center width of 260 feet [79.2 m] over the central span of the Niagara River Channel. Two overhead power cables crossing the river about 0.5 and 0.7 [0.4 and 0.6] mile below the bridge have clearances of 79 and 75 feet [24.1 and 22.9 m], respectively. Cable support towers in the river are marked by lights.

99 **Niagara Falls, NY**, is on the N shore of the Niagara River at the W end of Niagara River Channel. A public dock on the N side of the dredged basin at Niagara Falls provides 300 feet [91.4 m] of berthing space with 4 feet [1.2 m] reported alongside in 1977.

100 Niagara Falls is a **customs port of entry**.

101 **ENCs US4NY32M, US5NY34M, US5NY35M Charts 14822, 14832, 14833.**—**Buffalo Harbor** is at the E end of Lake Erie, where the lake converges to an open and comparatively shallow bay about 8 [7] miles across N and S and is subject to great storms from the SW. The lake discharges into the Niagara River at the NE corner of this bay. The city of **Buffalo, NY**, is along the E lakeshore and the E bank of the head of the Niagara River. **Buffalo River** meanders through the city from E to W and enters the lake near the head of the Niagara River.

102 Waterborne commerce at the port is in iron ore, limestone, iron and steel products, petroleum and coal products, grain, sand, tar, cement, salt, other minerals, and general and containerized cargo in the foreign and domestic trades.

103 **Prominent features.**—The stacks at Lackawanna near the S end of the harbor are the most conspicuous objects when approaching Buffalo Harbor. Also prominent are the HSBC Bank building and the City Hall tower in downtown Buffalo.

104 **Buffalo Harbor Light** (42°52'14"N., 78°54'09"W.), 71 feet [21.6 m] above the water, is shown from a white tower on the S end of the detached W breakwater on the N side of Buffalo Harbor North Entrance Channel. A mariner radio-activated sound signal at the light is initiated by keying the microphone five times on VHF-FM channel 83A.

105 **Channels.**—A Federal project provides for dredged channels in an **Outer Harbor** formed by breakwaters parallel with the shore and in **Buffalo River, Buffalo Ship Canal** and **Black Rock Canal**. (See Notices to Mariners and the latest edition of the chart for controlling depths.)

106 The north and south entrances to the Outer Harbor are marked by lights on the ends of the breakwaters; the north entrance is also marked by lighted buoys. There is a strong north current across the north entrance channel; navigators should guard against this by holding up toward the south.

107 The Outer Harbor provides a safe harbor of refuge and anchorage and is also used extensively by large lake vessels as a channel. Vessels seeking anchorage and small vessels passing along the breakwaters are cautioned against approaching them nearer than 100 feet [30.5 m] in order to avoid striking the stone riprap.

108 **Lackawanna Canal** extends south for 0.75 [0.65] mile from the south end of the Outer Harbor. The entrance is marked by private lights. In 1977, the reported controlling depth was 26½ feet [8 m].

109 **Union Canal** extends east for about 0.8 [0.7] mile from the south end of the Outer Harbor. In 1977, the controlling depth in the dredged section was 20½ feet [6.2 m].

110 The dredged section of the **Buffalo River** extends southeast and then generally east for about 5.8 [5.0] miles from the north end of the Outer Harbor to the ConRail railroad bridge. The entrance to the river is marked by lights and buoys. The river is subject to extensive shoaling. Navigation is possible above the dredged channel to Bailey Avenue Bridge, however, submerged rocks above the bridge render navigation very hazardous.

111 From about 1,000 feet [305 m] downstream from the junction of the Buffalo River and Buffalo Ship Canal upstream for about 1 [0.9] mile, the river bottom is soft clay and mud overlying rock to a depth ranging from 1 to several feet [0.3 to 1 m]. Vessels grounding in this portion of the river are seldom damaged by contact with the

bottom. Above this point for about 1 mile, the channel is cut through solid rock.

112 **Buffalo Ship Canal** extends southeast for about 1.4 [1.2] miles from the inner end of Buffalo River Entrance Channel.

113 **Black Rock Canal Entrance Channel**, marked by lights and buoys, extends north from the north end of the Outer Harbor. Black Rock Canal is the navigable channel of the upper Niagara River as far north as Tonawanda and is discussed more fully under Niagara River. The Lake Erie west terminus of the Erie branch of the New York State Canal System is at Tonawanda.

114 **Anchorage.**—The Outer Harbor is all good anchorage ground, except that the bottom is very soft clay S of the middle gap of the breakwaters. There are about 22 large mooring rings on the breakwater adjoining the North Entrance Channel and 25 on the breakwater adjoining the South Entrance Channel. Vessels are permitted to moor to the breakwaters with manilla or synthetic lines, but not with wire rope or chains. Vessels are requested not to anchor N of Berthing Area 11. Vessels not longer than 550 feet [167.6 m] will be permitted to anchor in Berthing Areas 11 through 17. However, no anchorage will be permitted in Berthing Areas 11 through 24 until vessel traffic to the Niagara Frontier Transportation Authority pier at the foot of Michigan Avenue has ended for the navigation season, and then only by permission from the District Engineer, U.S. Army Corps of Engineers, Buffalo, NY. Anchorage will be permitted in berthing areas S of Berthing Area 24 with no restrictions as to length of vessel. The berthing areas are all marked by large orange numbers painted on the harbor face of the breakwaters.

115 An explosives anchorage is in the Outer Harbor. (See 33 CFR 110.1 and 110.208, chapter 2 [of U.S. Coast Pilot 6], for limits and regulations.)

116 A special anchorage is in the small-craft basin on the E side of Outer Harbor. (See 33 CFR 110.1 and 110.84b, chapter 2 [of U.S. Coast Pilot 6], for limits and regulations.)

117 **Dangers.**—Numerous unmarked detached shoal spots with depths less than 30 feet [9.1 m] are in the E end of Lake Erie, in the approaches to Buffalo Harbor and the Niagara River. ...

118 Unmarked 20-foot [6.1-m] shoals are 1.4 and 2.6 [1.2 and 2.3] miles SW of Buffalo Harbor Light.

119 An artificial reef is 1.9 [1.7] miles SSE of Buffalo Harbor Light in about 42°50'41"N., 78°53'27"W.

120 **Fluctuations of water level.**—The water level of Lake Erie at Buffalo is frequently affected, usually for periods of less than 12 hours, by strong SW or NE winds. It is reported that these winds may raise or lower water levels by as much as 6 feet [1.8 m]. The record fluctuations

recorded are 10½ feet [3.2 m] above and 4½ feet [1.4 m] below Low Water Datum.

121 The records of the monthly mean stages at Buffalo show that the periods of lowest water during the navigation season are in the spring and fall, the latter being the busiest time of the year in the harbor, when the necessity for deep water is greatest.

122 Water level information for the Buffalo area is available on the internet at <http://tidesandcurrents.noaa.gov/>.

123 **Currents.**—There is very little current in the outer harbor except during sudden fluctuations of water level, which may cause considerable current, especially in the entrance channels.

124 The currents in the river are reported to reach velocities of 3 to 5 mph [2.6 to 4.3 knots], changing direction and velocity abreast Buffalo Ship Canal. Rapid fluctuations in Lake Erie produce quite strong currents in the river within 1 [0.9] mile of the mouth, inflowing or outflowing as the case may be. Heavy rainfalls and spring freshets are attended by strong outflowing currents due to rapid rises of the river and the consequent discharge of flood water. These conditions cause difficulties to navigation and sometimes damage to vessels by tearing them from their moorings, but occur only two or three times each year and for only a few hours at a time. With heavy rainfalls, it is reported that currents in the river sometimes reach velocities of 6 to 10 knots.

125 **Towage.**—Tugs to 1,250 hp are available at Buffalo. Arrangements for tugs are made through the Great Lakes Towing Co. dispatcher in Cleveland at 800-321-3663 or on VHF-FM channels 16, 10, 12, and 18A via remote antenna. The tugs' VHF-FM channels include 16, 6, 12, 14, and 18A. At least 4 hours advance notice is requested. City regulations require that all vessels which require the opening of one or more bridges while navigating in the Buffalo River must have the assistance of one or more tugs when approaching and passing these bridges. Vessels navigating stern first are required to have a tug on the stern and a tug on the bow.

126 Buffalo is a customs port of entry.

127 **Quarantine, customs, immigration, and agricultural quarantine.**—(See chapter 3 [of U.S. Coast Pilot 6], Vessel Arrival Inspections, and appendix [of U.S. Coast Pilot 6] for addresses.)

128 **Quarantine** is enforced in accordance with the regulations of the U.S. Public Health Service. (See Public Health Service, chapter 1 [of U.S. Coast Pilot 6].)

129 **Coast Guard.**—Buffalo Coast Guard Station and Sector Office are on the S side of the entrance to the Buffalo River (See Appendix A [of U.S. Coast Pilot 6] for address.)

130 **Harbor regulations.**—A speed limit of 6 mph (5.2 knots) is enforced in Buffalo Harbor except in the Outer Harbor where the speed limit is 10 mph (8.7 knots). (See

33 CFR 162.165 and 207.580, chapter 2 [of U.S. Coast Pilot 6], for regulations.)

131 Local harbor regulations are established by the Corporation Counsel and enforced by the **harbormaster**, who may be reached at City Hall. Vessels shall not approach or pass any movable bridge at a speed exceeding 3 mph (2.6 knots). Copies of the regulations may be obtained from the Corporation Counsel, City Hall, Niagara Square, Buffalo, NY 14202.

132 Buffalo has wharves in the Outer Harbor, Buffalo Ship Canal and in Buffalo River. See the Buffalo Facilities table [of U.S. Coast Pilot 6] for a list of major wharves in Buffalo Harbor. All of the facilities have direct highway connections and most have rail connections. Water is available at many of the piers and wharves.

132.1 Erie Basin, close N of the mouth of the Buffalo River, is the site of the city's marina. Transient berths, gasoline, diesel fuel, water, ice, electricity, sewage pump-out facilities, marine supplies, a launching ramp, and minor engine repairs are available. In 1977, depths of 20 feet [6.1 m] were reported in the entrance channel and alongside the berths, with 17 feet [5.2 m] alongside the gasoline dock. The Buffalo **harbormaster** maintains an office in Erie Basin; telephone, 716-842-0452.

132.2 A state park and small-craft basin are on the east side of Buffalo Outer Harbor about 2.3 [2.0] miles southeast of the mouth of Buffalo River. The basin has a marina with 1,000 slips and launching ramps.

133 **ENC US4NY32M, Chart 14822**.—From **Stony Point** at the S end of Buffalo Harbor, the shoreline trends S for about 3.5 [3] miles and is obstructed by shallow patches extending 1 [0.9] mile offshore.

134 A **dumping ground** extends lakeward from the west side of Stony Point with a reported least depth of 6 feet [1.8 m] in 1977.

135 (The shoreline and facilities east and south of Black Rock Canal are described in U.S. Coast Pilot 6.)

Lake Erie

Niagara River to Long Point

General

Charts 2100, 2110, 2120, 2140, 2181

1 This chapter describes the north coast of Lake Erie between the west entrance point of Niagara River and Long Point. The distance along the shoreline and along the shore of Long Point Bay is 90 miles. The distance along the recommended offshore track between *Buffalo Harbor Traffic Lighted Bell Buoy B* and Long Point is 54 miles.

2 An *Ocean Data Acquisition System (ODAS)* light buoy is moored in mid-lake, 8 miles south of Port Colborne.



3 **Pilotage** is compulsory on the Great Lakes. For details of the pilotage control areas see the section on *Pilotage* in Sailing Directions booklet *CEN 300 — General Information, Great Lakes*. Under the *Pilotage Act*, masters of vessels intending to navigate in Great Lakes waters are subject to the *Great Lakes Pilotage Regulations*.

4 General information on the St. Lawrence Seaway traffic control system is given in Sailing Directions booklet *CEN 300 — General Information, Great Lake*.

5 Information on ice conditions and a physical description of Lake Erie is given in Sailing Directions booklet *CEN 300 — General Information, Great Lakes*.

6 The normal navigation season in Lake Erie is from mid-April to mid-December. Navigation at the west end of the lake and in Detroit River may open two to four weeks earlier.



7 **Caution.** — There are temporary oil and gas **drilling towers** in various parts of Lake Erie; most of these towers are shown on the charts. These towers have a quick-flashing white **light** and an automatic **fog signal** sounding one blast of 2 seconds duration followed by 18 seconds of silence.

8 There are many **submerged gas pipelines and gas wellheads** in the lake, most of which are shown on the charts. Damage to these facilities can be extremely hazardous; the natural gas is under pressure and contains toxic chemicals as well as being flammable.



9 **Caution.** — Recent wellhead and pipeline installations may not be charted;



usual **anchorage areas** are shown on the charts but mariners are cautioned to consult local authorities before anchoring.

9.1 **Caution.** — Many **wrecks** (*some uncharted*) litter the bottom of Lake Erie. As they constitute navigation and anchoring hazards, the mariner is advised to consult the most up-to-date copy of their chart.

10 **Caution.** — Various types of **fishing nets** are used in Lake Erie, of which gill nets, impounding nets and trap nets may be a hazard to navigation. The principal fish netting areas are indicated on Canadian and United States' general and coastal charts but fishing gear may be encountered anywhere on the lake.

11 Sailing Directions booklet *CEN 300 — General Information, Great Lakes* includes notes on the datum reference for depths, elevations and vertical clearances shown on Canadian Hydrographic Service charts of the Great Lakes. Booklet *CEN 300* also includes information on the hydrologic cycle and its effect on Lake Erie waters, and the effects of seiches on the water plane of the lake.

11.1 Real-time water level information for Lake Erie at Port Colborne is available from the *Canadian Hydrographic Service Automated Water Level Gauge*, telephone number 905-835-2501 and for Lake Erie at Port Dover from the *Canadian Hydrographic Service Automated Water Level Gauge*, telephone number 519-583-2259. (*More information on water levels is given in Sailing Directions booklet CEN 300 — General information, Great Lakes.*)

Niagara River to Port Colborne

Charts 2120, 14832

12 From the west entrance point of Niagara River ($42^{\circ}53'N$, $78^{\circ}56'W$) to Point Abino, 8 miles to the WSW, the coast is a succession of points of land and shallow bays.

13 **Windmill Point**, 3.7 miles west of Niagara River, is low and rocky, with a few trees at the outer end increasing in number away from the point. There is a sandy beach west of Windmill Point.

14 A boulder **breakwater** 0.2 mile east of Windmill Point extends 0.2 mile offshore. There is a break in the middle, with bushes growing as far out as the gap. In 1994, the breakwater had a maximum height of 3.4 m (11 ft).

15 **Bertie Bay** is 0.8 mile east of Windmill Point. **Roses Reef**, a shallow rocky spit 2.5 miles ENE of Windmill Point, extends 0.5 mile offshore.

16 A **submerged water intake** 1.3 miles ENE of Windmill Point extends 0.25 mile offshore; the crib at the outer end has a depth of 2.2 m (7 ft) and in 1994 was marked by a privately maintained floating wooden spar. An addition to this pipeline extends 1 mile in a SW direction.

17 **Caution.** — A **rock awash** 0.4 mile east of Windmill Point is marked by a privately maintained **buoy**. This buoy was not in place in 1994.

18 **Point Abino** ($42^{\circ}50'N$, $79^{\circ}06'W$) lies 8 miles WSW of Niagara River. This limestone point is the end of a peninsula which extends from the main coastline; the point itself is 6 m

POINT ABINO (1994)



(20 ft) high, but the peninsula reaches a height of more than 30 m (98 ft).

18.1 *Point Abino light buoy EA2 (553.2)* lies 0.4 mile south of Point Abino.



19 **Caution.** — **Shoal water** with depths of less than 5 m (16 ft) extends 0.5 mile off Point Abino.

20 The tower of a disused lighthouse on the beach at the south end of Point Abino makes a good landmark. The tower is white with a red upper part.

21 **Abino Bay**, east of Point Abino, is shallow with a sandy bottom. The community of **Crystal Beach** is on the NE shore of Abino Bay.

22 The **wharf** at Crystal Beach is in ruins and the shore approach is closed (1994). There is a sheltered picnic area at the inner end of the wharf.

23 A **water tower** 1 mile NNE of Abino Bay has an elevation of 57 m (187 ft) and is white in colour. It shows well from offshore but is not seen from Abino Bay.

24 A **submerged water intake** 0.25 mile west of the Crystal Beach wharf extends 0.2 mile offshore; the **crib** at the outer end has a depth of 2.4 m (8 ft). A **sewer outfall** 0.2 mile ENE of the NE entrance point of Abino Bay extends 0.3 mile offshore.

25 *Buffalo Canoe Club*, a private organization on the NW shore of Abino Bay, had depths of 0.5 m (2 ft) in 1994.

26 *Buffalo Yacht Club*, a private organization on the west shore of Abino Bay, had depths of 1.5 to 1.7 m (5 to 6 ft) in 1994.



27 *Bertie Boating Club*, south of *Buffalo Yacht Club*, had depths of 0.8 m (3 ft) in the approaches and 1.3 m (4 ft) at the wharves in 1994 and offered dockage with power and water, pump out, ramp, picnic area, pay phone, snack bar, licensed restaurant, ice and bait.

28 Two earth-mound **breakwaters** with elevations of 2.5 to 3 m (8 to 10 ft) protect the wharves of the *Buffalo Yacht Club* and the *Bertie Boating Club*. There is a submerged crib 46 m (151 ft) NNW of the outer end of the north breakwater.



29 Abino Bay **range lights**, in line bearing $244\frac{1}{2}^\circ$, mark the channel leading to the *Buffalo Yacht Club*. The front light (552.4), on the outer end of the concrete wharf separating the *Buffalo Yacht Club* from the *Bertie Boating Club*, is shown from a white mast, 1.2 m (4 ft) high, with a fluorescent-orange triangular daymark. The rear light (552.5) is shown from a white skeleton tower, 6.6 m (22 ft) high, with a fluorescent-orange triangular daymark. The lights are privately maintained.



30 **Caution.** — In 1994, the entrance channels to the *Buffalo Yacht Club*, to the north, and the *Bertie Boating Club* were each marked by privately maintained red and green spar buoys. Care must be taken to avoid confusion

in approaching the two separate buoyed channels leading to the neighbouring clubs.

31 Abino Bay is a **Customs** vessel reporting station for pleasure craft.

Chart 2120

32 From Point Abino WNW for 6 miles to **Cassaday Point**, which is a sandy and partly wooded feature at the east end of Gravelly Bay, the shore is bordered by shallow water. The sand dunes behind Cassaday Point are covered by trees and reach heights of 10 m (33 ft). There are large houses on the beach east and west of Cassaday Point.

33 **Cassaday Reef**, marked by a private buoy, is a shallow rocky spit extending 1 mile off Cassaday Point.

34 *Cassaday Point light buoy EA2/2 (553.6)* lies 1.6 miles SSW of Cassaday Point.

Port Colborne to Port Maitland

35 Port Colborne ($42^\circ53'N$, $79^\circ15'W$), the southern or Lake Erie entrance to the Welland Canal, lies 7 miles WNW of Point Abino. The harbour is protected from the force of Lake Erie storms by breakwaters.



36 There is a traffic control calling-in point for upbound and downbound vessels 2.6 miles from the outer breakwater at Port Colborne. For details of the St. Lawrence Seaway traffic control system see the *Seaway Handbook*.

37 (*Port Colborne is described in Chapter 1.*)

38 From Port Colborne to Port Maitland, 15 miles to the west, the coast is bordered by shoal water and features many points and shallow bays.

39 **Sugar Loaf Point**, 1 mile west of Port Colborne, is the low and rocky west entrance point of Gravelly Bay (*named on Chart 2042*). A sandy beach on the point is backed by a protective wall and by sand dunes. Houses and trees line the shore. Shoal water extends off the point.

40 The **Sugar Loaf**, 0.4 mile NW of Sugar Loaf Point, is a **conspicuous** conical knoll resembling the glacial feature called a kame. It is 43 m (141 ft) high and wooded.

41 **Morgans Point**, 3.3 miles WSW of Sugar Loaf Point, has an elevation of 5 m (16 ft). The point has a gravel beach and is fringed by trees. A few small sandy knolls on the SW side are covered with coarse grass and some small trees. Shoal water extends off the point; the 5 m (16 ft) contour lies 0.5 mile offshore.

42 **Grabell Point**, 1.7 miles WNW of Morgans Point, is low and gravelly with a white sandy beach. The beach is covered with coarse grass and rises steeply behind the shore to sand dunes, 10 m (33 ft) high, which have trees and houses on them. A depth of 1 m (3 ft) lies 0.6 mile off the point.

43 To pass south of the shoal water off Morgans Point and Grabell Point, keep Rock Point visible just south of Mohawk Point, bearing 269°. (*Mohawk Point and Rock Point are described later in this section.*)

44 **Rock Island**, a small islet 1.8 miles west of Grabell Point, is 1.7 m (6 ft) high and connected to the mainland by a shallow rocky spit.

45 There is a **sil**o 1.1 mile NW of Rock Island. There is an uncharted **sil**o 0.3 mile north of Grabell Point and an uncharted **chimney** at Lowbanks.

46 **Mohawk Point** (42°51'N, 79°29'W), the SW entrance point of **Moulton Bay**, has a rock and gravel beach. There are large trees and wooded dunes behind the beach. There are several cottages and homes west of the point; the shoreline has protection against erosion. **Lowbanks**, a community forming part of the town of Dunnville, is at the head of Moulton Bay.



47 **Caution.** — **Shoal spits** extend off the points; caution is necessary when entering or leaving Moulton Bay and the bays on each side of Grabell Point.



48 **Mohawk Marina**, on the NW shore of Moulton Bay SW of Lowbanks, had depths of 0.2 m (1 ft) in 1994 and offered dockage with power and water, ramp, repairs and salvage, boat hardware, paddle boat and fishing boat rental, water taxi service, picnic area, groceries, snack bar, bait, tackle, ice and gasoline.



49 There is good fair-weather **anchorage** in Moulton Bay in depths of 5 to 8 m (16 to 26 ft). The clay bottom is covered in places with boulders and gravel. The bay is sheltered from west winds.

50 **Mohawk Bay** lies between Mohawk Point and **Rock Point**. Rock Point is wooded and rises to a bluff, 10 m (33 ft) high, on the SW part of the point; the sandy slopes are covered with grass and bushes. Rock Point and the wooded bluff to the west are **conspicuous**. Except for a low section in the middle, the shore is fringed by wooded bluffs, up to 30 m (98 ft) high, with some grassed areas.

51 **Mohawk Island** (42°50'N, 79°31'W), 2 miles WSW of Mohawk Point, is a whitish whale-backed island 4.7 m (15 ft) high with a line of green bushes along the higher part. The island is gravelly on its eastern side and rocky on its western side, and is home to gulls, terns and cormorants.

52 An abandoned light-structure on Mohawk Island makes a good **landmark**. The grey stone tower has a catwalk around the upper part and is 20 m (66 ft) in elevation. The former lightkeeper's house has no roof (1994).



53 **Caution.** — A **foul area** with depths of less than 1 m (3 ft) extends 0.7 mile SSE of Mohawk Island.

54 **Mohawk Island light buoy EA4** (561) lies 1.3 miles SSE of Mohawk Island.



55 An **anchorage area** in Mohawk Bay, 0.5 mile NW of Mohawk Island, has depths of 5 to 8 m (16 to 26 ft).

56 **Connor Bay** (42°50'N, 79°35'W) lies between Rock Point and **Grant Point**. Grant Point is heavily wooded behind a gravelly shore. The SW end of Grant Point has a rock outcrop with a sandy beach to the north.

Port Maitland

Chart 2140

57 Grand River (*described later in this section*) flows into the NE side of Connor Bay. **Splatt Bay**, part of Connor Bay, lies on the west side of the Grand River entrance.

58 The community of **Port Maitland** (42°52'N, 79°34'W), on the north shore of Lake Erie at the mouth of Grand River, is part of the town of Dunnville.



59 Port Maitland light (563), near the outer end of the west pier, is shown from a white tower, 12.5 m (41 ft) high, with green upper and lower parts and a fluorescent-orange triangular daymark with a black vertical stripe.

60 Port Maitland East Pier light (562.8), on the south end of the east pier, is shown at an elevation of 9 m (30 ft) from a white circular tower, 7.4 m (24 ft) high, with a red upper part.



61 **Caution.** — When approaching Port Maitland from the west, Port Maitland light should not be allowed to bear more than 049° in order to clear the shoal water off Grant Point. When approaching from the east, Port Maitland light should not be allowed to bear less than 320° in order to clear the spit off Rock Point.

62 The harbour at Port Maitland lies inside the river entrance and is entered between two parallel piers. The east pier is 2.2 m (7 ft) high at its highest point; the west pier is 2.8 m (9 ft) high except at the offshore end where it is 4.1 m (13 ft) high. The east pier is in disrepair and has a gap in the middle.



63 **Caution.** — It is dangerous to attempt to pass through the gap in the east pier; there are **ruins awash** in this area.

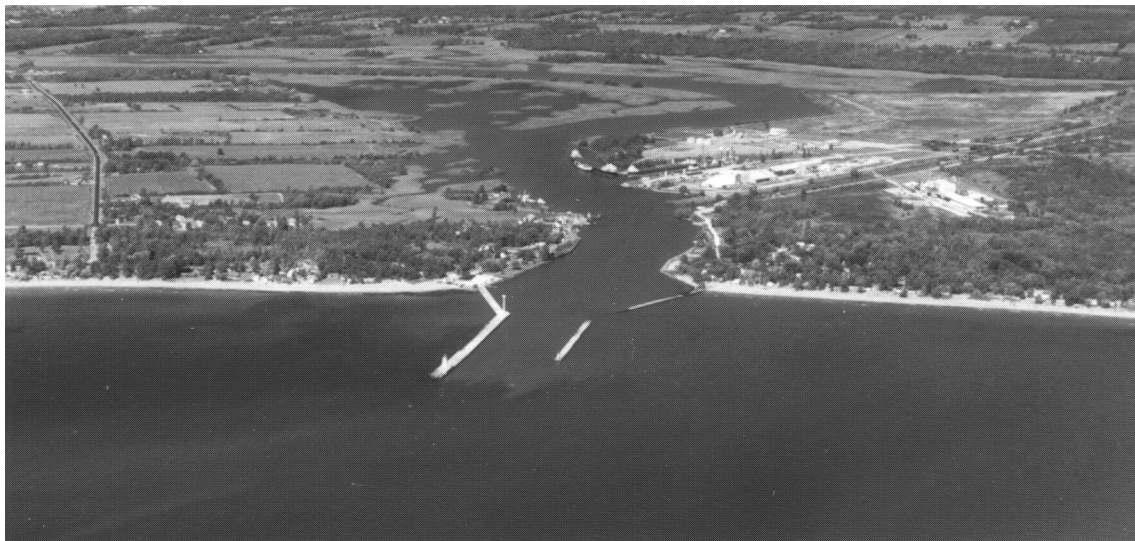


64 **Caution.** — The harbour at Port Maitland and its approaches are subject to **silting**; depths may be less than charted.



65 **Caution.** — Storms from the south or SW may cause water to **surge** up Grand River. Water level changes are greatest in the spring and fall, at which times SW winds may raise the water 2 to 2.4 m (7 to 8 ft). The water rushes out when the wind shifts to the north or NE;

PORT MAITLAND (1994)



the resulting strong **current** makes it difficult to manoeuvre vessels in the harbour entrance.



66 A facility known locally as the Canada Coal Company slip is on the east side of the harbour. The **wharves** on each side of the slip have deck elevations of 2.4 m (8 ft). In 1994, a depth of 3.2 m (10 ft) was found along the wharves.

68 *Talisman Energy* uses the south side of the Canada Coal Company slip for berthing tugs, barges and drilling rigs. The *Marine Recycling Corporation* berths vessels along the north wall of the slip.

69 *Powell's Shipyard*, on the west side of the river opposite the feeder canal, has a floating **dry dock** with lifting capacity of 440 tonnes. This full service shipyard also offers marine construction and salvage services. For a list of other shipyards on the Great Lakes, see *Sailing Directions* booklet *CEN 300 — General Information, Great Lakes*.

70 The former Old Welland Canal feeder is closed by a dam. The closed off section of the canal, 0.3 mile in length, is used as a basin for fishing vessels and also has some private dockage. *Siddall Fisheries* is at the entrance to the canal.

71 There is a public launching **ramp** at the south entrance to the abandoned canal. The ramp is on the east side of Grand River near the end of South Canal Road.

72 **Overhead power cables** with clearances of 11 and 12 m (36 and 39 ft) cross the feeder canal.

73 **Grand River** flows into Connor Bay at Port Maitland. The river has a general width of 100 m (328 ft) for a distance of 4.5 miles to Dunnville, at which point a dam closes the river. The channel gradually shoals to 3 m (10 ft) at Dunnville. The channel generally follows in mid-stream

until the river becomes narrower near a large island 1 mile downstream of the dam at Dunnville. From this point the channel favours the west side of the river until the east end of the island is rounded, then the channel follows a mid-river course. The bottom is generally mud, sand and clay. Local knowledge is required to navigate vessels of 3 m (10 ft) draught beyond the halfway mark to Dunnville.

74 A **rock** 3 miles upstream of the river mouth has a least depth of 1.4 m (5 ft); the channel passes west of the rock.

75 The town of **Dunnville**, with a population of 12,131 (1991), is on the NE side of Grand River 4 miles upstream of Port Maitland. Provisions are available in town.

76 Dunnville is a **Customs** vessel reporting station for pleasure craft.



77 **Dunnville Public wharf**, on the NE side of the river 0.2 mile downstream of the dam, is constructed of sheet steel piling 2.3 m (8 ft) high. Finger wharves 1.2 m (4 ft) high extend from the wharf. In 1994, depths of 1 m (3 ft) were found at the wharf.

78 *Port Maitland Sailing Club*, a private club, has berthing and clubhouse facilities on the west side of the harbour opposite the old Welland Canal feeder. The minimum approach depth to this facility was 1.5 m (5 ft) in 1994.



79 *Hansa Marine*, on the SW shore of Grand River 2.3 miles from its mouth, had depths of 0.5 m (2 ft) in the approaches to 0.9 m (3 ft) at the wharves in 1994 and offered dockage with power and water, pump out, repairs and salvage, 25 tonne hoist, boat hardware, canoe and boat rentals, picnic area, showers, snack bar, ice and gasoline, and monitored VHF Channel 68.

80 *Vic Powell and Sons*, 0.1 mile west of *Hansa Marine*, in 1994 had a marine railway and repaired and built steel boats.

81 *Betamik Marina*, on the NE shore of Grand River 1 mile upstream of *Hansa Marine*, had depths of 1.6 m (5 ft) in 1994 and offered dockage with power and water, pump out, concrete ramp, picnic area, pay phone, showers, laundromat, snack bar and restaurant.

82 *Town & Country Marine Ltd.*, on the NE shore of the river 0.15 mile east of the dam at Dunnville, had depths of 2.2 m (7 ft) in 1994 and offered dockage with power and water, pump out, engine repairs, boat and motor sales and service, picnic area, showers, boat hardware, ice and gasoline.

83 *Dunnville Boat Club*, a private organization on the east side of the river 100 m (328 ft) downstream of the dam at Dunnville, had depths of 0.7 m (2 ft) in the approaches to 1.7 m (6 ft) at the wharves.

84 *Grand Island Bar-B-Q*, on the north shore of the western channel of Grand River at *Byng*, had depths of 0.7 to 1 m (2 to 3 ft) in 1994 and offered dockage with power and water, ramp, canoe and boat rentals, picnic area, pay phone, ice, snack bar, restaurant, mini-putt and playground.

Port Maitland to Long Point Bay

Charts 2110, 2120

85 From Port Maitland to Peacock Point, a distance of 18 miles, the coastline consists of many bays and points. The bottom is irregular and the 5 m (16 ft) line lies 1 to 3 miles offshore. The 10 m (33 ft) contour may be considered as the danger line in this area.



86 **Caution.** — **Submerged gas collector pipelines** extend offshore between Port Maitland and Peacock Point.

Chart 2120

87 A **shoal** 1 mile SSW of Grant Point ($42^{\circ}50'N$, $79^{\circ}38'W$), which is the west entrance point of Connor Bay, has a depth of 2.9 m (10 ft).

88 (*Grant Point and the directions for clearing the dangers extending from it are described earlier in this chapter.*)

89 **Low Point** and **Blott Point** are features NW of Grant Point. Low Point is conspicuous; it is white limestone and heavily wooded with cottages visible among the trees. Blott Point is low and rocky and lined with cottages. A string of reefs extends 4 miles SW from these two points; some of these reefs have depths of less than 1 m (3 ft).

90 **Tecumseh Reef** ($42^{\circ}48'N$, $79^{\circ}43'W$), with a depth of 0.8 m (3 ft), is the outer part of the shallow spit extending from Low Point and Blott Point.

91 *Tecumseh Reef light buoy EA6 (565)* lies south of the reef.

92 There are three **silos** 2 miles NW of Blott Point.

93 **Evans Point**, 5 miles west of Grant Point, is low-lying and wooded with slopes rising gently behind a sandy shore. Sandy knolls, 15 m (49 ft) high, some wooded and some bare, make this the highest part of the coast between Port Maitland and Peacock Point. The sandy knolls make good **landmarks**. A fine sand beach lies west of the point.

94 The **submerged ruins** of a wharf, 110 m (361 ft) long, lie close inshore 0.5 mile NE of Evans Point.

94.1 There is (1997) a privately maintained **light** 0.4 mile NE of Evans Point. This light is reported to be a white strobe light shown at an elevation of 15 m (49 ft) from a pole near the water's edge. The light marks the concrete launching **ramp** of *Austin's Trailer Park*. This light is shown only when required by local boaters.

95 **Featherstone Point**, 4 miles WSW of Evans Point, is wooded and built up with summer cottages. There is a protective wall, 1.5 m (5 ft) high, behind the beach along the south shore of the point.

96 There are two **silos** 0.6 mile NE of Featherstone Point.

97 A **shoal** 0.9 mile south of Featherstone Point, near the 10 m (33 ft) contour, has a depth of 3.4 m (11 ft).

98 **Hoover Point** ($42^{\circ}49'N$, $79^{\circ}53'W$), 2.2 miles WSW of Featherstone Point, is low and has tall trees. A rocky ledge fringes the shore around Hoover Point. An islet, 7 feet (2.1 m) in elevation, a rock awash and a patch drying 3 feet (0.9 m) lie 0.6 mile off the point.

100 A **submerged water intake** 0.6 mile west of Hoover Point extends 0.5 mile offshore.

101 Between Hoover Point and Peacock Point, 4.4 miles to the WSW, the bottom is irregular and rocky.



102 **Caution.** — **Submerged gas collector pipelines** extend offshore between Hoover Point and Peacock Point.

103 **Stoney Creek**, 1.7 miles west of Hoover Point, flows into Lake Erie over a limestone bottom. In 1994, there was a drying bar inside the mouth of the creek.

104 An **overhead telephone cable** with a clearance of 29 feet (8.8 m) spans the entrance to Stoney Creek.

105 **Sandusk Creek** lies 3.2 miles west of Hoover Point. The entrance channel is subject to silting; a bar across the channel dried 1 foot (0.3 m) in 1994.



106 **Caution.** — Storms from the SW to SE cause a serious **swell** in the entrance to Sandusk Creek; only small boats should attempt to enter, and only in calm conditions.



107 **Caution.** — In 1976 there were **submerged pilings** in the bay, near the channel into Sandusk Creek. These were not found in 1994, but a concrete pile in

the NE part of the bay approaching Sandusk Creek was 5 feet (1.5 m) dry.

108 A highway **bridge** over Sandusk Creek 0.5 mile from the entrance has a vertical clearance of 9 feet (2.7 m).

Long Point Bay

109 **Long Point Bay** ($42^{\circ}40'N$, $80^{\circ}10'W$) lies 36 miles west of Port Colborne. The bay is entered between Peacock Point and the eastern tip of Long Point, 15 miles to the SSW.



109.1 **Caution.** — The bottom around Long Point is fine sand; strong winds cause heavy seas and currents that can change the bottom profile in just hours. Charted depths may not be correct. Mariners are cautioned to stay well clear when rounding Long Point. Large erratic boulders may be found in Long Point Bay and their positions may change seasonally due to ice movement.



110 An **anchorage area** in the western part of Long Point Bay has depths of 27 to 35 feet (8.2 to 10.7 m).

111 **Peacock Point** ($42^{\circ}48'N$, $79^{\circ}59'W$), which is the north entrance point of Long Point Bay, lies 18 miles west of Port Maitland. The point is 50 feet (15.2 m) in elevation and is heavily wooded. It has a gravelly shore with limestone boulders lining the shore for erosion control. Several islets lie off the point and shoal water extends 0.5 mile to the south.

111.1 A **water intake** extends 0.1 mile SW from Peacock Point; a crib at the outer end has a depth of 2.8 m.

112 The communities of **Nanticoke** and **Port Dover** are on the north side of the bay. The *Ontario Power Generation Nanticoke Generating Station*, no longer in operation, is 3 miles west of Peacock Point; the *US Steel Canada, Nanticoke Works* plant is 1.8 miles farther west. The *Esso Canada* refinery is 3.7 miles NW of Peacock Point.

113 **Hickory Creek** flows into Long Point Bay 2 miles NW of Peacock Point.



114 **Caution.** — A wide **shoal area** extending 3 miles SW from Peacock Point has several rocks with depths of less than 10 feet (3 m). The outermost shallow spot, 2.3 miles SW of the point, is a reef with a depth of 7 feet (2.1 m).

115 A **shoal** of 12 feet (3.7 m) lies 1 mile SSE of Peacock Point.

116 Most of the coast between Peacock Point and Port Dover, except for the dredged channels in the vicinity of Nanticoke, is bordered by shallow water extending up to 1 mile offshore. There are numerous submerged and dry rocks inside the 6 foot (1.8 m) contour.

117 **Nanticoke Shoal** ($42^{\circ}44'N$, $80^{\circ}04'W$), 5 miles SW of Peacock Point, is the only detached shoal in Long Point Bay. This rocky danger has a least depth of 4.6 feet (1.4 m).

118 *Nanticoke Shoal light buoy EA8 (568.5)* marks the SE side of the danger.

119 There are **spoil areas** north and ESE of Nanticoke Shoal.

Nanticoke Harbour

120 **Nanticoke Harbour** ($42^{\circ}48'N$, $80^{\circ}03'W$), which extends 8 miles westwards from Peacock Point, is administered by the *Department of Transport*. The harbour limits are shown on the chart.

121 The former *Ontario Power Generation Nanticoke Generating Station* is **conspicuous**. The two chimneys have been demolished (2018).

122 A microwave **tower** 0.2 mile NNE of the former generating station has an elevation of 303 feet (92.4 m); the tower is a red and white skeleton structure with two dish antennas and has air obstruction **lights**.

123 The *Esso Canada* oil refinery, 2 miles NNE of the former *Ontario Power Generation Nanticoke Generating Station*, has **conspicuous** chimneys and other structures. The larger chimney has an elevation of 460 feet (140.2 m); a smaller chimney has an elevation of 433 feet (132 m). The chimneys have air obstruction **lights**.

124 There is a *US Steel Canada, Nanticoke Works* plant 1.8 miles west of the former generating station. The plant buildings are **conspicuous**. A chimney with a white upper part, elevation 333 feet (101.5 m), is the most conspicuous structure.

125 A **buoyed channel** leads from a position 1.2 miles west of Nanticoke Shoal to the approach channels of the *US Steel Canada, Nanticoke Works* wharf and the combined former *Ontario Power Generation* and *Esso Canada* berthing slip. In 1994, a least depth of 29 feet (8.8 m) was found in the channels.



126 *Nanticoke Generating Station Channel Entrance range lights* are 1.5 miles NW of Peacock Point. The lights are in line bearing 043° . The front light (566) is shown from a white skeleton tower, 32 feet (9.8 m) high, with a fluorescent-orange triangular daymark with a black vertical stripe. The rear light (566.01) is shown from a skeleton tower, 70 feet (21.3 m) high, with a fluorescent-orange inverted triangular daymark with a black vertical stripe. The range lights are visible 45° each side of the line of the range.



127 **Caution.** — A **wreck**, with a known depth of 27 feet (8.3 m), is SE of the range at $42^{\circ}45'55''N$, $80^{\circ}03'02.8''W$.



128 **Caution.** — **Submerged gas collector pipe-lines** cross the channel NW of Nanticoke Shoal.



129 The *US Steel Canada, Nanticoke Works* **wharf**, 1.2 miles WSW of the former generating station, is at the outer end of a **causeway and pier**, which extends

NANTICOKE (1994)



0.6 mile offshore; the berth is along the outer east face. It is a concrete structure with an elevation of 22 feet (6.7 m). There is a conveyor belt along the wharf and a hopper at the outer end. One hundred twenty-five (125) ships were scheduled for the 2015 season.

 130 **USSC range lights**, in line bearing 342°, lead to the *Stelco* wharf. The front light (566.14) is shown at an elevation of 45 feet (13.7 m); the rear light (566.15) is shown at an elevation of 55 feet (16.8 m). These lights are privately maintained.

131 **USSC wharf light** (566.27), on the outer end of the *US Steel Canada, Nanticoke Works* wharf, is shown at an elevation of 30 feet (9.1 m) from a mast. It is privately maintained.

 132 A **slip** at the former *Ontario Power Generation Nanticoke Generating Station* is 500 feet (152.4 m) wide and 1,000 feet (304.8 m) long. The west side is sheet steel piling and has an elevation of 23 feet (7 m). The east side of the slip consists of eight steel dolphins and two concrete piers connected by catwalks. The piers on the east side have an elevation of 23 feet (7 m). In 1994, the least depth in the usable part of the berthing area was 27 feet (8.2 m).

133 There are pipelines from the east side of the slip to the *Esso Canada* refinery 2 miles to the north.

 134 **Generating Station Entrance range lights** are in line bearing 344°. The front light (566.37), at the head of the slip, is shown at an elevation of 28 feet (8.5 m) from a mast with a white triangular daymark with a black vertical stripe. The rear light (566.38) is shown

at an elevation of 49 feet (14.9 m) from the corner of a building. These lights are privately maintained.

 134.1 **Caution.** — There is (2000) an area of shallower water in the slip along the line of the range. Depths along this area range from 27 feet (8.2 m) at the entrance to the slip to 23 feet (7 m) at the mid point, reducing to 17 feet (5.2 m) near the head of the slip.

135 **East Entrance light** (566.5), on a pile at the east entrance point of the slip, is shown at an elevation of 27 feet (8.2 m). **Wharf Entrance light** (566.51), on a mast at the west entrance point of the slip, is shown at an elevation of 27 feet (8.2 m). The two lights are privately maintained.

Nanticoke Creek

136 **Nanticoke Creek** (42°48'N, 80°04'W), 3.7 miles west of Peacock Point, lies midway between the former generating station and the *USSC* wharf. Nanticoke Creek is entered between two breakwaters 70 feet (21.3 m) apart. The north breakwater, a rusting sheet steel piling structure, is 300 feet (91.4 m) long. The south breakwater is similar and has a boulder extension 250 feet (76.2 m) long.

 137 **Nanticoke breakwater light** (567), on the outer end of the south breakwater, is shown at an elevation of 20 feet (6.1 m) from a white circular tower, 16 feet (4.9 m) high, with a green upper part. This light is privately maintained.

138 There is a starboard hand **daybeacon** on the outer end of the north breakwater.

NANTICOKE CREEK (1994)



139 A **submerged power cable** crosses the entrance to Nanticoke Creek.

140 Nanticoke Creek entrance channel and the inner harbour had a depth of 2 feet (0.6 m) in 1994.

141 *Dovercraft Marine Ltd.*, a boat building and repair facility, is located on the NE shore inside the creek entrance. The basin of *Hoover's Marina* is on the north shore 0.1 mile farther upstream. Upstream of the basin, on the same side, there are sheds and berthing facilities for fishing vessels.



142 *Hoover's Marina* dried at chart datum in 1994 and offered dockage with power and water, ramp, picnic area, snack bar, restaurant, ice and gasoline. The main wharf, in front of the restaurant and fuel dock, is a sheet pile structure with a concrete deck 3 feet (0.9 m) high.



143 **Caution.** — **Submerged water intakes** extend offshore east of the approach to Nanticoke Creek.

144 An isolated **rock** 0.8 mile SSE of the outer end of the Nanticoke Creek south breakwater has a depth of 16 feet (4.9 m).

145 The city of **Nanticoke**, with a population of 22,727 in 1991, is 1 mile north of Nanticoke Creek entrance. In 1994, the nearby town of **Delhi** had a population of 12,000.

Charts 2120, 2110

Port Dover

146 The community of **Port Dover**, which is part of the city of Nanticoke, is near the mouth of **Lynn River**, 6 miles west of Nanticoke Creek.

147 Port Dover is a **Customs** vessel reporting station for pleasure craft.



148 A *Canadian Coast Guard Search and Rescue Cutter* is based at Port Dover from the beginning of May to the end of November each year, though these dates are subject to change (*see* information on *Search and rescue* in Sailing Directions booklet *CEN 300 — General Information, Great Lakes*).

149 The **speed limit** in Port Dover harbour is 3 knots.

150 Port Dover is a base for commercial fishing vessels and is a port of call for pleasure craft. It is entered between two piers 100 feet (30.5 m) apart. The angled east pier is connected to a rubble breakwater which forms the south wall of a sheltered basin used by fishing vessels. The harbour extends 0.5 mile up Lynn River and into **Black Creek**. A marina 0.3 mile east of the main harbour entrance is protected by a rubble breakwater.



151 **Caution.** — In strong southerly winds, a heavy **swell** enters the harbour between the piers.



152 **Caution.** — A rocky **shoal area** 0.4 mile SE of the harbour entrance dries 1 foot (0.3 m). Depths of 4 feet (1.2 m) and 16 feet (4.9 m) lie 1 and

PORT DOVER (1994)



1.4 miles SE of the outer end of the Port Dover Harbour east entrance pier, respectively. There is a **rock**, depth 6 feet (1.8 m), 0.8 mile SSE of the harbour entrance.



153 Port Dover East Pier light (570), near the outer end of the east pier, is shown at an elevation of 27 feet (8.2 m) from a white circular tower with a red upper part.

154 Port Dover West Pier light (571), near the outer end of the west pier, is shown from a white square structure 28 feet (8.5 m) high.

155 A **fog-horn** at the West Pier light-structure sounds one blast every 30 seconds; it points in a 201° direction and operates only during the navigation season.

155.1 This fog-horn is user activated. Mariners requiring the horn to be turned on can activate it by clicking a radio microphone five times in a five-second period on VHF Channel 19. The horn can be activated with 1 watt power at a range of 3 miles and will operate for 30 minutes. The horn can be re-activated as required.



156 **Caution.** — A **submerged power cable** to the East Pier light is laid along the west and NW faces of the East Pier and continues from the north corner of the pier in a SSE direction to the south side of the sheltered basin. A submerged telephone cable crosses the entrance to the basin.



157 Port Dover Marina light (569.5), on the south side of the entrance to the marina basin, is shown at an elevation of 30 feet (9.1 m) from a white circular tower, 20 feet (6.1 m) high, with a red upper part.

158 There is a port hand **daybeacon** on a white pole on the rubble breakwater at the NW entrance point of the marina basin.

159 *Port Dover light buoy ED2 (569)* lies 1.1 miles SSE of Port Dover West Pier light.



160 **Caution.** — There are **submerged gas collector pipelines** in the approaches to Port Dover (shown on Chart 2110).

161 A municipal **water tower** 0.8 mile NE of the river mouth is conspicuous. The structure, elevation 212 feet (64.5 m), is 156 feet (47.5 m) in height and has air obstruction **lights**. The yellow *Omstead Fisheries* building, 0.18 mile ENE of the east pier, is prominent from an eastern approach.

162 The submerged **ruins** of a pier, 100 feet (30.5 m) west of the west pier, extend 700 feet (213.4 m) offshore. No part of this ruin was visible in 1994.



163 Port Dover Public **wharf** is along the west wall at the inner end of the west pier. The wharf deck has an elevation of 6 feet (1.8 m).



164 **Caution.** — Vessels berth at the Public wharf in fair weather. Users are cautioned that the berths may become untenable in southerly winds because of a **surge** running between the piers.

165 A basin on the east side of the harbour is entered at the inner end of the east pier. The **wharves** in this basin are used by fishing vessels.

166 A rubble **checkwater arm** extends 150 feet (45.7 m) into Lynn River from the north wall of the basin; this checkwater arm offers some protection to the berths upstream of it.

167 There is a starboard hand **daybeacon** on a white pole, 10 feet (3 m) high, on the outer end of the checkwater arm.



168 The former Canada Customs **wharf**, with an outer face 120 feet (36.6 m) long, is on the east side of Lynn River 100 feet (30.5 m) upstream of the checkwater arm. The deck elevation is 3 feet (0.9 m); there were depths of 5 feet (1.5 m) in 1994.

169 **Historical Note.** — A plaque at the site of the former customs wharf commemorates the massing of troops and volunteers here under General Isaac Brock on August 8, 1812.

They then journeyed by open boat to Amherstburg and from there captured Detroit.

170 A double-lift bascule road **bridge** crosses Lynn River 0.2 mile NE of the Public wharf; the clearance of the bridge in a closed position is 24 feet (7.3 m). There are traffic **lights** on each side of the bridge. From April 9 to October 7 the bridge opens on the hour and half-hour; it also opens on request for commercial traffic. From October 8 to April 8 the bridge opens on demand between the hours of 04:00 and 20:00. The bridge is closed from 12:00 to 12:15 and from 12:45 to 13:00 to allow road traffic to pass. The signal for opening the bridge is *three blasts* on a whistle or horn. The bridge operator can be contacted on VHF Channel 6 and monitors upstream traffic by television.

171 **Submerged power cables** cross the harbour upstream of the former customs wharf and at the north side of the bridge. **Submerged pipelines** and another **cable** also cross near the bridge.

172 **Overhead power cables** with clearances of 55 to 66 feet (16.8 to 20.1 m) cross Lynn River and Black Creek. An **overhead telephone cable** with a clearance of 32 feet (9.8 m) crosses the inner end of a narrow inlet leading south from Black Creek.



173 *Port Dover Harbour Marina*, in the basin 0.3 mile east of the main harbour entrance, had depths of 4 feet (1.2 m) in 1994 and offered dockage with power and water, pump out, ramp, 35 tonne hoist, picnic area, pay phone, showers, laundromat, ice, gasoline and diesel fuel, and monitored VHF Channel 68. *Cliffside Yacht Club* is also based here. A **submerged power cable** crosses the entrance to the marina basin.

174 *Bridge Yachts Ltd.*, on the east side of Lynn River upstream of the lift bridge, had depths of 1 to 6 feet (0.3 to 1.8 m) in 1994 and offered dockage with power and water, pump out, some repairs, 35 tonne hoist, mast stepper, boat hardware, boat and motor sales and service, stove alcohol and ice, and monitored VHF Channels 16 and 68. *Bridge Yachts* is an authorized dealer for Canadian Hydrographic Service nautical **charts** and publications.

175 *Jack Matthews Marine Service*, on the east side of Lynn River next to *Bridge Yachts*, had depths of 1 to 3 feet (0.3 to 0.9 m) in 1994 and offered dockage, repairs and salvage work, 20 tonne hoist, boat hardware and water.

176 *Port Dover Yacht Club*, a private organization on the east shore at the junction of Black Creek and Lynn River, had depths of 3 feet (0.9 m) in 1994.

177 *Riverview Marina*, on the east side of the river 0.4 mile NE of the junction of Black Creek and Lynn River, reported depths of 5 feet (1.5 m) in 1995 and offered dockage with power and water, engine repairs and a 30 tonne hoist.

Chart 2110

Port Dover to Deep Hole Point

178 From Port Dover to Deep Hole Point, which is the NW entrance point of Inner Bay, the distance is 10 miles. The 6 miles of coast between Port Dover and Normandale consists of a high sandy bluff with trees along the top. The 18-foot (5.5 m) contour is the danger line.



178.1 **Caution.** — **Dangerous rocks** lie as much as 0.5 mile offshore.

178.2 A **radio tower** 1.8 miles west of Port Dover is conspicuous; it has an elevation of 427 feet (130 m).

179 A **submerged water intake** 0.6 mile west of Port Dover extends 0.25 mile offshore. The crib at the outer end has a depth of 9 feet (2.7 m).

180 **Young's Creek** (42°45'N, 80°15'W) flows into Long Point Bay 3 miles SW of Port Dover. The community of **Port Ryerse**, which is part of the city of Nanticoke, is on Young's Creek; its white-coloured houses are visible from offshore. The town of **Simcoe**, with a population of 14,290 (1986), lies 11 km NNW of Port Ryerse.

181 *Proctor Marine Ltd.*, 487 Queensway West, Simcoe, is an authorized dealer for Canadian Hydrographic Service nautical **charts** and publications.

182 A channel leads into a basin formed by a widening in the mouth of Young's Creek; the channel and basin both dried at chart datum in 1994.

183 In 1981, **submerged ruins** of two parallel breakwaters extended 0.1 mile offshore at Port Ryerse. All that was found of these ruins in 1994 was some concrete rubble on shore SW of the boat basin.

184 A **submerged water intake**, close NE of the boat basin at Port Ryerse, extends 0.2 mile offshore.

184.1 **Fishers Glen** is 2.5 miles SW of Port Ryerse.

185 A **radio tower**, 0.4 mile NNE of Fishers Glen, is 265 feet (80.8 m) high, elevation 381 feet (116 m).

185.1 A **radio tower** 2 miles NW of Fishers Glen has an elevation of 548 feet (167 m).

186 The community of **Normandale**, population 143 (1981), is 3.5 miles SW of Port Ryerse. The houses of the community are prominent from inshore. At one time Normandale was an important shipping point with an iron ore smelter but the wharf is now ruined. Boaters are advised not to use the wharf, although some parts are still intact. There were depths of less than 1 foot (0.3 m) in 1994.

187 An **artificial reef** called **Bell Reef** lies 0.9 mile offshore, 1.3 miles south of Normandale. The depth over this reef is reported to be 16 feet (4.9 m). In 1994, the reef was marked by a private buoy with a yellow flag.

188 **Turkey Point** (42°39'N, 80°21'W) is the marshy land area bounding the NE side of Inner Bay. *The Turkey Point Fish and Game Club* has a lodge here.

189 **Deep Hole Point** is the south end of Turkey Point.
 190 The community of **Turkey Point** ($42^{\circ}42'N$, $80^{\circ}20'W$), population 407 (1981), is 1.3 miles SW of Normandale.

 191 **Turkey Point Marina Basin**, at the entrance to a canal 1.7 miles south of the community, had depths of 1 to 2 feet (0.3 to 0.6 m) in 1994 and offered dockage with power and water, pump out, mast stepper, 4 lane ramp, fishing boat rentals, picnic area, trailer campground, pay phone, showers, laundromat, some boat hardware, bait, tackle, propane, snack bar, restaurant and licensed pub, ice, gasoline and diesel fuel, and monitored VHF Channels 16 and 68 and the marine weather channel. This marina is an authorized dealer for Canadian Hydrographic Service nautical **charts** and publications.

 192 The entrance channel to **Turkey Point Marina Basin** is protected on the north and south sides by **breakwaters**. There are privately maintained **lights** on the outer ends of the breakwaters. The north breakwater light is shown at an elevation of 23 feet (7 m) from a red and white tower; the south breakwater light is shown at an elevation of 20 feet (6.1 m) from a green and white tower.

193 Turkey Point is a **Customs** vessel reporting station for pleasure craft.

Inner Bay

194 **Inner Bay**, open to the SW side of Long Point Bay, is entered between Deep Hole Point and **Pottohawk Point**, 3.1 miles to the SE. The SW and Turkey Point shores of the bay are marshy; the NW shore consists of a low clay bluff.

195 The recommended entrance to Inner Bay is SE of Deep Hole Point, between **Whitefish Bar** and a string of shoal water to the SE.

196 The entrance channel to Inner Bay is marked by **buoys**; these may be moved to suit the best channel through the shifting sand bars.

197 **Whitefish Bar Island**, a privately owned island known locally as **Bait Island**, lies in Inner Bay 0.7 mile SW of Deep Hole Point. A large **tree** in the middle of Whitefish Bar Island is conspicuous (1994); a white building on the island is prominent.

 198 Long Point Inner Bay light EC10 (576) ($42^{\circ}37'N$, $80^{\circ}21'W$), 1.9 miles SSW of Deep Hole Point, is shown at an elevation of 29 feet (8.8 m) from a white circular tower, 15 feet (4.6 m) high, with a red upper part and marked **EC10**.

 198.1 **Caution.** — There is a **dangerous wreck** 2 miles west of **Long Point Inner Bay light**. Part of this wreck is 4 feet (1.2 m) above water (2000). This is the wreck of a 42-foot (12.8-m) pleasure craft.

199 The community of **St. Williams** ($42^{\circ}39'N$, $80^{\circ}24'W$), population 442 (1981), is 0.7 mile NW of the NW shore of

Inner Bay. The community is surrounded by an agricultural district.

 200 A **Canadian Coast Guard Inshore Rescue Boat** is based near St. Williams from the end of May to early September each year, though these dates are subject to change (see information on **Search and Rescue** in Sailing Directions booklet **CEN 300 — General Information, Great Lakes**).

 201 St. Williams light (574), on the SW end of a stone-filled timber crib 440 feet (134.1 m) from the shore at St. Williams, is shown at an elevation of 34 feet (10.4 m) from a white circular tower, 31 feet (9.4 m) high, with a red upper part.

202 The eastern and western entrances to the basins at **Booth's Marina**, NE of St. Williams light, are marked by private **light buoys**.

203 Two prominent **silos** 0.4 mile north of St. Williams light are 85 feet (25.9 m) high, elevation 177 feet (54 m).

 204 **Fin & Feather Marina**, on the north shore of Inner Bay, had depths of 1 foot (0.3 m) in 1994 and offered dockage with power and water, pump out, ramp, picnic area, camping, pay phone, showers, bait, tackle, snack bar, ice and gasoline.

205 **Booth's Harbour Marina**, in the two basins NE of St. Williams light, had depths of 1 foot (0.3 m) in 1994 and offered dockage with power and water, pump out, ramp, 25 tonne hoist, picnic area, pay phone, showers, some boat hardware, SCUBA equipment, bait, restaurant, stove alcohol, ice and gasoline. This marina is an authorized dealer for Canadian Hydrographic Service nautical **charts** and publications.

206 **Long Point Bay Sailing Club**, a private organization in the western basin at **Booth's Harbour Marina**, had depths of 1 foot (0.3 m) in 1994.

207 **Edward's Marina and Trailer Park**, at St. Williams, had depths of 1 foot (0.3 m) in 1994 and offered some dockage, pump out, ramp, picnic area, trailer camping, pay phone, drinking water, showers, ice and a restaurant. In 1994, the marina had privately maintained **lights** on tripods on floating tires.

208 **Hilltop Lodge and Marina**, also at St. Williams, was dry at chart datum in 1994 and offered some dockage with power and water, pump out, picnic area, pay phone, laundromat and ice.

 209 **Caution.** — A **submerged gas collector pipeline** crosses Inner Bay.

210 The community of **Port Rowan** ($42^{\circ}37'N$, $80^{\circ}27'W$), population 811 (1981), is on the west side of Inner Bay 3 miles SW of St. Williams. It is a popular summer resort and a supply centre for the Long Point area. A small fishing fleet operates out of the harbour at Port Rowan.

PORT ROWAN (1994)



211 Port Rowan is a **Customs** vessel reporting station for pleasure craft.

212 A **water tower** at Port Rowan is visible from south of the Long Point peninsula. The water tower is green in colour and marked "Port Rowan". Less conspicuous, though showing well from the south, is the spire of the Anglican church at Port Rowan.



213 The Public **wharf** at Port Rowan extends 1,000 feet (304.8 m) from shore and has an outer L-end. A sheet pile breakwater NE of the wharf provides a sheltered slip for small craft.



214 Port Rowan light (575), at the outer end of the Public wharf, is shown at an elevation of 35 feet (10.7 m) from a white circular tower, 29 feet (8.8 m) high, with a red upper part. This light is privately maintained.



215 *Shady Akers Marina & Campground*, on the NW shore of Inner Bay between St. Williams and Port Rowan, has a small basin protected by a sheet steel pile breakwater on the east side of the entrance channel. In 1994, this marina offered dockage, ramp, picnic area, trailer camping, pay phone, water, showers, bait and a swimming pool; the approaches to this basin were weedy and had depths of 1 foot (0.3 m).

216 *Funny Farm*, on the NW shore 1.1 miles NNE of Port Rowan, had depths of 1 foot (0.3 m) in 1994 and offered dockage with power and water, ramp, sheltered picnic area, trailer camping, pay phone, showers, ice and a swimming pool.

217 *Bluebill Marina*, 0.7 mile NNE of Port Rowan, had depths of 2 to 3 feet (0.6 to 0.9 m) in 1994 and offered dockage with power and water, pump out, ramp, repairs, boat hardware, boat and motor sales and service, 6 tonne hydraulic trailer, mast stepper, picnic area, pay phone, showers, bait, tackle, stove alcohol, ice and gasoline, and monitored VHF Channel 16. *The Knotty Nautical Store*,

the chandlery here, is an authorized dealer for Canadian Hydrographic Service nautical **charts** and publications. In 1994, the entrance to this marina was marked by privately maintained **lights**.

218 *Helmsman Marina*, at Port Rowan, had depths of 2 feet (0.6 m) in 1994 and offered dockage with power and water, ramp, picnic area, camping, showers and snack bar. In 1994, the bay and the entrance channel were weedy.

219 **Big Creek** flows into Inner Bay 1 mile south of Port Rowan. A bridge over the creek 0.2 mile from the entrance has a clearance of 9 feet (2.7 m). In 1994, the entrance of the buoyed channel to the creek dried at chart datum, with depths of up to 14 feet (4.3 m) near the bridge.

220 The community of **Port Royal**, population 34 (1981), is on Big Creek 1.7 miles from the entrance.

221 **Coletta Bay**, at the SW corner of Inner Bay, is shallow. The community of **Long Point**, population 210 (1981), is south of Coletta Bay. SW of Coletta Bay is the entrance to a dredged cut called **Hastings Channel**, which is marked by wooden piles.



222 *Sandboy Marina & Variety*, NW of the entrance to Hastings Channel, had depths of 2 to 3 feet (0.6 to 0.9 m) in 1994 and offered dockage with power and water, pump out, ramp, salvage work, boat hardware, canoe and boat rentals, water taxi service, picnic area, trailer camping, pay phone, showers, some groceries, bait, tackle, some propane, naphtha, ice and gasoline. This marina is an authorized dealer for Canadian Hydrographic Service nautical **charts** and publications.

223 *Marina Shores Ltd.*, in Hastings Channel, had depths of 2 feet (0.6 m) in 1994 and offered some dockage with power and water, pump out, ramp, repairs and salvage, 15 tonne hoist, water taxi service, pay phone, showers, boat hardware, boat and motor sales and service,

bait, some propane, stove alcohol and butane, ice and gasoline, and monitored VHF Channel 6.

224 *Norm's Bayview Marina*, at the south end of Hastings Channel, had depths of 2 feet (0.6 m) in 1994 and offered dockage with power and water, pump out, ramp, repairs and salvage, boat and motor sales and service, camping, pay phone, showers, boat hardware, bait, tackle, some propane, stove alcohol, kerosene, ice and gasoline, and monitored VHF Channel 16.

225 *Rotten Ronnie's Hook & Hammer*, 124 Erie Blvd., Long Point, is an authorized dealer for Canadian Hydrographic Service nautical **charts** and publications.

226 **Old Cut Point** is on the south side of Inner Bay 2.7 miles SE of Port Rowan. The end of the point is a marsh with reeds and a few trees. The community of **Old Cut**, 0.8 mile SSW of Old Cut Point, is a summer resort. Near the community, at **Dickinson Creek**, a dredged channel with a depth of 1 foot (0.3 m) leads to two dredged cuts and two marinas.

227 **Thoroughfare Point** is the offshore limit of a peninsula extending from the south side of Inner Bay. It

is midway between Old Cut Point and Pottohawk Point. A grove of trees on the NW side of the point makes it conspicuous.

228 Several long and low club houses, brown in colour, on the west side of a small bay 1.1 miles east of Thoroughfare Point, make good **landmarks** (1994).

229 **Sturgeon Bay** and **Little Rice Bay** lie between Old Cut Point and Thoroughfare Point.



230 *Old Cut Boat Livery*, in the NW dredged cuts at Dickinson Creek on the SW side of Sturgeon Bay, had depths of 2 feet (0.6 m) in 1994 and offered dockage with boathouses, boat and motor rentals, pay phone, bait, tackle, some propane, snack bar, ice and gasoline.

231 *Post's Marina*, in the SE dredged cut, had depths of 3 feet (0.9 m) in 1994 and offered some dockage with power and water, ramp, engine repairs, 2 tonne chain lift, boat hardware, bait, tackle, ice and gasoline.

232 (*The north shore of Long Point, east of Pottohawk Point, and the south side of Long Point are described in Chapter 4.*)

Lake Erie

Long Point to Point Pelee

General

Charts 2100, 2110, 2120, 2121, 2122, 2165, 2181

1 This chapter describes the north coast of Lake Erie between Long Point and Point Pelee, a distance of 120 miles. The main harbours of refuge are Port Stanley, Rondeau Bay, and Wheatley.

1.1 Real-time water level information for Lake Erie at Port Stanley is available from the *Canadian Hydrographic Service Automated Water Level Gauge*, telephone number 519-782-3866, for Lake Erie at Eriean from the *Canadian Hydrographic Service Automated Water Level Gauge*, telephone number 519-676-1915 and for Lake Erie at Kingsville from the *Canadian Hydrographic Service Automated Water Level Gauge*, telephone number 519-733-4417. (More information on water levels is given in *Sailing Directions* booklet CEN 300 — General information, Great Lakes.)



2 **Caution.** — There are submerged gas collector pipelines, submerged gas wellheads, and gas drilling towers between Long Point and Point Pelee; caution is necessary when anchoring in this part of Lake Erie. Most of the pipelines and wellheads are shown on the charts but recent installations may not be charted.



2.1 **Caution.** — Many wrecks (some uncharted) litter the bottom of Lake Erie. As they constitute navigation and anchoring hazards, the mariner is advised to consult the most up-to-date copy of their chart.

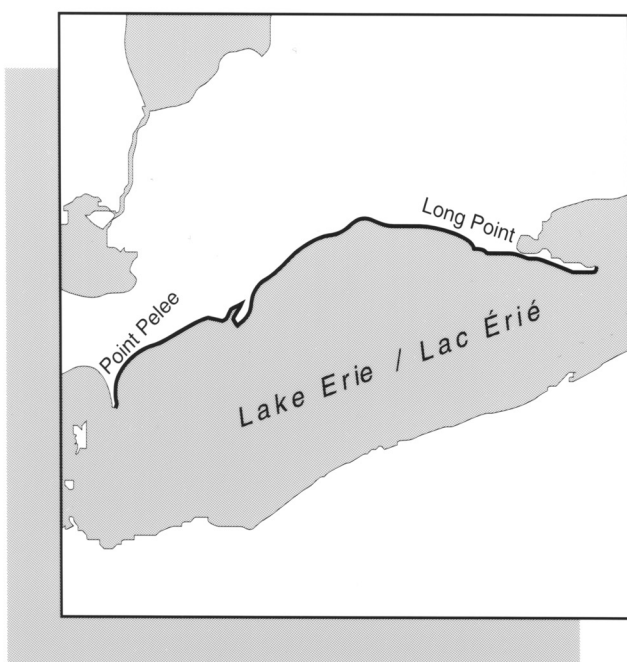


3 **Caution.** — Gill nets and impounding fish nets are used in Lake Erie; the limits and details of these fishing areas are shown in location diagrams on the charts, though fishing nets may be encountered anywhere on the lake.



4 There is a traffic control calling-in point for upbound and downbound vessels off Long Point light. Consult the *Seaway Handbook* for details of the St. Lawrence Seaway traffic control system, and *Radio Aids to Marine Navigation (Atlantic, St. Lawrence, Great Lakes, Lake Winnipeg and Eastern Arctic)* for details of Vessel Traffic Services in Canadian waters.

4.1 **Light buoy.** — An *Ocean Data Acquisition System (ODAS)* light buoy, marked 45132, is moored 12 miles south of Port Stanley.



LONG POINT (1994)



Long Point to Port Burwell

Charts 2110, 2120

5 **Long Point** ($42^{\circ}33'N$, $80^{\circ}08'W$), a narrow peninsula 18 miles long which forms the southern boundary of Long Point Bay and Inner Bay, is generally low-lying and marshy with small lakes. The ridges running ENE and WSW across Long Point give it the appearance of being completely wooded when viewed from the south; from the east, the low areas give the point the appearance of a broken group of islands. A few sand knolls along the south shore, near the east end, reach elevations of 20 to 60 feet (6.1 to 18.3 m).

 5.1 **Caution.** — The bottom around Long Point is fine sand; strong winds cause heavy seas and currents that can change the bottom profile in just hours. Charted depths may not be correct. Mariners are cautioned to stay well clear when rounding Long Point.

6 A provincial park, numerous cottages, several marinas, and the community of Long Point are at the western end of the peninsula. The marinas are approached from Inner Bay.

7 *Long Point Provincial Park* was created in 1921; it is on the west end of the peninsula south of Sturgeon Bay.

8 The area of marsh south of Pottohawk Point is a game reserve owned by *Long Point Company*. In 1866 *Long Point Company* purchased most of the Long Point peninsula. The company has since donated most of the area to the people of Canada for management as a National Wildlife Area, and it is now a World Biosphere Reserve. The *Long Point National Wildlife Area* includes most of the area east of *Long Point Provincial Park*.

9 Landing is prohibited at most of the beaches around Long Point. Public access is limited to the provincial park and

a beach at Squires Ridge, which is on the north shore of Long Point between Sawlog Creek and Cedar Creek.

10 **Historical note.** — In the past there have been attempts to maintain a channel into Inner Bay across the west end of Long Point. In 1817, when Lieutenant Henry Bayfield conducted a hydrographic survey of the area, vessels drawing 9 feet (2.7 m) could navigate close to the west side of Inner Bay. Later, a gap across the point was either artificially made or scoured out by wave action, and in 1839 there was a good channel 0.4 mile wide with a depth of 11 feet (3.4 m). This gap eventually filled up. In 1896 there was a small gap, close west of the old channel, with only a few inches of water in it. Several other small gaps developed later, but these breaks also eventually filled up.

NE and south sides of Long Point

11 **Bluff Point** ($42^{\circ}34'N$, $80^{\circ}08'W$), on the north side of Long Point, lies 7 miles ESE of Pottohawk Point and 4.2 miles NNW of the eastern tip of Long Point. Bluff Point is densely wooded and appears to be higher than the surrounding land, though the outer part is low and marshy.

12 **Bluff Bar**, which extends NW from Bluff Point, is a sand bar which dries 1 to 2 feet (0.3 to 0.6 m). Depths of less than 6 feet (1.8 m) extend 1 mile west of Bluff Bar; the west end of the shoal water is marked by a **buoy**.

13 *Bluff Bar light buoy EA11 (578)* lies 0.5 mile north of Bluff Bar.

 14 There is an **anchorage area** SW of Bluff Bar in depths of 18 to 20 feet (5.5 to 6.1 m), mud bottom. The anchorage should be approached with caution because depths shoal rapidly.

 15 **Caution.** — There are **submerged gas collector pipelines** near the above-described anchorage.

16 **Gravelly Bay** lies midway between Bluff Point and the east end of Long Point.



17 Long Point light (579), at the east end of Long Point ($42^{\circ}33'N$, $80^{\circ}03'W$), is shown from a white octagonal tower, 86 feet (26.2 m) high, with a red upper part.

18 A **Racon**, identification Morse Code “M” (— —), operates at Long Point light.

19 There are eight **groynes**, to protect the coast from erosion, on the north side of the outer end of Long Point, north of the light-structure.

20 A **wreck** 1.9 miles NW of Long Point light has a depth of 19 feet (5.8 m).

21 A red and white **tower** on the WSW side of Long Point, 1 mile south of Old Cut Point, has an elevation of 112 feet (34 m). The tower is not tall enough to be seen from a distance.

Chart 2121

22 **Clear Creek** ($42^{\circ}35'N$, $80^{\circ}35'W$) flows into Lake Erie 6.4 miles west of the western limit of Long Point and 10.5 miles east of Port Burwell. There is no access to the creek, which was once used by fishing boats. The community of Clear Creek, population 62 (1981), is 0.2 mile inland.

23 There are two red and white **radio towers** near the shore, 0.7 mile west of Clear Creek. The taller tower has an elevation of 91 m (299 ft). The towers have air obstruction **lights**.

24 **Houghton Sand Hills** are two prominent features on the shore about 1 mile apart. The higher eastern hill, 58 m

(190 ft) in elevation, is 2 miles west of Clear Creek. The hills are oval-shaped mounds about 245 m (804 ft) long and rise 21 to 27 m (69 to 89 ft) above the surrounding land. There are also smaller sand knolls.

25 The clay banks that fringe the shore near the Houghton Sand Hills give way to steep sand cliffs, 38 to 43 m (125 to 141 ft) in elevation, flat on top and bare to heavily wooded. These cliffs are very gullied but from a distance appear to be unbroken. There are sand beaches, 30 to 122 m (98 to 400 ft) wide, where the sand cliffs have receded from the shoreline. Along the coast between Long Point and Port Burwell, the lake bottom is mostly soft.

26 **Little Otter Creek** flows into Lake Erie 0.7 mile east of Port Burwell.

26.1 A wind farm extends east and west of Port Burwell, along and behind the shoreline. The wind turbine electric generators are prominent.

Chart 2181

Port Burwell

27 The village of **Port Burwell** ($42^{\circ}39'N$, $80^{\circ}48'W$), with a population of 883 (1991), lies 36 miles west of Long Point light. The village is inland of the mouth of **Big Otter Creek**. There are clay banks on both sides of the village, which is built on gradually rising land and partly obscured by trees. The main industries are farming and fishing. There is a **hospital** at Tillsonburg, 25 km north by highway.

28 The well-sheltered harbour at Port Burwell is entered between two piers at the widened mouth of Big Otter Creek.

PORT BURWELL (1994)



The east pier extends 1,000 feet (305 m) from the shore. An area of landfill on the west side of the harbour entrance reaches 0.2 mile farther south and is fronted by a breakwater wall. A boulder breakwater at the south end of the breakwater wall extends another 0.25 mile to the SSW and has an elevation of 10 feet (3 m).



29 The west pier is a Public **wharf** but extensive **silting** along the west side of the harbour prevents the use of the southern, concrete, part of the wharf. There is a sheet steel pile section of the west wharf, farther up the creek, where fishing boats berth in depths of 4 to 9 feet (1.1 to 2.7 m). The east pier has municipal wharf space at its north end.



30 **Caution.** — There has been serious **silting** at the entrance to Port Burwell. In 1994, an awash patch was found in the middle of the river entrance. Fishing boats keep a narrow channel scoured through the silt into the harbour. Depths are less than 3 feet (0.9 m). Local knowledge is necessary to enter the harbour. The best channel is reported to be marked by a pair of **light buoys** and a pair of spar **buoys**. These aids are privately maintained.



31 Port Burwell East Pier light (583), near the south end of the east pier, is shown at an elevation of 23 feet (7 m) from a white cylindrical tower 16 feet (4.9 m) high.

32 Port Burwell Outer West Breakwater light (580), on the west side of the harbour approach at the south end of the boulder breakwater extension, is shown at an elevation of 34 feet (10.4 m) from a white cylindrical tower, green upper portion, 24 feet (7.3 m) high.

32.1 An abandoned light tower is at the south end of the west breakwater wall.

33 A **conspicuous** red and white former light-structure on high ground east of the harbour is reputedly Canada's oldest wooden lighthouse. In 1995 a privately maintained light was shown from the structure.



34 **Caution.** — During SW storms there is **turbulence** in the shallow inner approaches to the harbour.

35 A **bridge** with a vertical clearance of 34 feet (10.4 m) crosses Big Otter Creek 1.1 miles upstream of the harbour entrance. Small craft can navigate as far as 1 mile above the bridge.

36 **Overhead power and telephone cables** 100 feet (30.5 m) downstream of the bridge have a clearance of 35 feet (10.7 m). A **submerged natural gas pipeline** crosses Big Otter Creek 100 feet (30.5 m) upstream of the bridge.



37 A Public **wharf** on the east side of the harbour just downstream of the bridge is 200 feet (61 m) long, with an elevation of 7 feet (2.1 m) and a depth of 4 feet (1.2 m) in 1994. The wharf and building of *Martins Fish House* are on the west side downstream of the bridge. There is also a fish

plant on the east side of the harbour, downstream of the Public wharf.



38 *Brad Cranex Marina*, on the west side of the creek 0.1 mile downstream of the highway bridge, dried at chart datum in 1994 and offered dockage, drinking water, ramp, repairs, canoe rental, picnic area, bait, tackle, ice and gasoline.

39 *Big Otter Marina*, on the west side above the highway bridge, dried at chart datum in 1994 and offered dockage with power and water, pump out, ramp, repairs, some boat hardware, canoe and paddle boat rentals, picnic area, camping, pay phone, showers, bait, tackle, stove alcohol, ice and gasoline. The approach was between red and green posts marking a narrow shallow channel.

Port Burwell to Port Stanley

Chart 2121

41 The distance from Port Burwell to Port Stanley is 18 miles. The 10 m (33 ft) contour parallels the shore 1 mile off. Port Bruce is midway between Port Burwell and Port Stanley.

42 *Port Burwell Provincial Park*, west of Port Burwell, has campsites and a fine sandy beach and offers a wide variety of activities to the visitor. The facilities of Port Burwell are near by. There are no facilities for boaters in the park.

43 Between Port Burwell and Port Bruce most of the shore is backed by gullied bluffs, flat-topped and bare, with trees farther back from the edge. The bluffs are grey at the bottom to light brown at the top, and 24 to 30 m (79 to 98 ft) in elevation. The break in the coast of Catfish Creek, at Port Bruce, shows well from offshore. The treed bluff west of Port Bruce gives the impression of a butte or mesa higher than the surrounding land with even height and sharp edges.

44 A **silos** 4 miles west of Port Burwell is grey in colour and stands alone in an open field; it is conspicuous from SE to SW but hidden by trees from east and west. A pale green **water tank** 0.9 mile west of the silo is also hidden on certain approaches.

45 The community of **Port Bruce** (42°39'N, 81°00'W), population 177 (1981), is in a farming district 9 miles west of Port Burwell on the west side of **Catfish Creek**; the buildings at Port Bruce are not prominent. The bank on the east side of the creek rises steeply from the shore.

46 The harbour at Port Bruce is entered between two piers 30 m (98 ft) apart. The east pier is 95 m (312 ft) long, including several piles at the outer end. The west pier is 305 m (1,000 ft) long, with the outer portion extending 84 m (276 ft) from the shore. Due to the outline of the shore, the

PORT BRUCE (1994)



west pier extends 122 m (400 ft) farther into the lake than the east pier. Pleasure craft and fishing vessels use the harbour.



47 Port Bruce light (585), at the outer end of the west pier, is shown at an elevation of 8.5 m (28 ft) from a white circular tower, 6.1 m (20 ft) high, with a green upper part.



48 **Caution.** — Mariners are cautioned to avoid a line of **piles** that extends 20 m (66 ft) from the south end of the east pier toward a red buoy at the entrance to the harbour. In 1994, the piles dried 0.3 m (1 ft) but were submerged at summer water levels. The piles are reported to break in a strong southerly swell.



49 **Caution.** — SW winds cause **turbulence** in the shallow approaches to Port Bruce; the harbour is difficult to enter during SW storms.



50 **Caution.** — The harbour and its approaches are subject to **silting**; depths are reported to be maintained by dredging but may be less than charted. In 1994, the harbour had depths of 1.2 m (4 ft), with an area awash south of the bridge. Local knowledge is advised to negotiate the winding creek.

51 A highway **bridge** 0.6 mile from the mouth of the creek has a vertical clearance of 4.9 m (16 ft). An **overhead power and telephone cable** upstream of the bridge has a clearance of 8.5 m (28 ft).



52 *North Erie Marina and Trailer Park*, on the east side 100 m (328 ft) downstream of the bridge, was awash at chart datum in 1994 and offered dockage with

power and water, pump out, ramp, water taxi service, picnic area, camping, showers, ice and gasoline, and monitored VHF Channels 16 and 68.

53 *Bob Lane Marina*, on the west shore of the creek 100 m (328 ft) upstream of the bridge, had depths of 0.2 m (1 ft) in 1994 and offered dockage with power and water, ramp, some boat hardware, water taxi service, picnic area and camping, bait, tackle, ice and stove alcohol.

54 A **submerged water intake** 6.8 miles west of Port Bruce extends 0.7 mile offshore; the intake **crib** has a depth of 6.4 m (21 ft). Cylindrical concrete structures on a small land fill area here are part of the water pumping system.

54.1 There is a conspicuous radio tower with an elevation of 139 m (456 ft) and red air obstruction lights 1.3 miles east of Port Stanley.

Chart 2181

Port Stanley

55 The village of **Port Stanley** (42°39'N, 81°13'W), with a population of 2,223 (1991), is at the mouth of **Kettle Creek**, 18 miles west of Port Burwell and 54 miles west of Long Point light. Port Stanley exports Soya beans, corn and wheat. The city of **St. Thomas**, with a population of 29,990 (1991), is 7 miles north of the village.

56 There is a thriving fishing industry at Port Stanley. There are also facilities for storage and shipment of petroleum, potash, hot asphalt, and liquid fertilizer. The navigation

PORT STANLEY (1994)



season is from March to December. Port Stanley was used by 38 ships in 1994.

57 The harbour at Port Stanley, a good harbour of refuge consisting of an inner harbour and an outer harbour, is entered between two breakwaters. The east breakwater has an elevation of 11 feet (3.4 m); the west breakwater has an elevation of 10 feet (3 m).

58 Port Stanley is a Public Harbour administered by the *Department of Transport*.

59 Port Stanley is a **Customs** vessel clearing station for commercial vessels and a vessel reporting station for pleasure craft.

60 **Landmarks.** — Oil storage tanks on shore near the inner end of the west breakwater are conspicuous. Further into the harbour, three potash storage domes on the west side are prominent. Five grain silos at the inner end of the west pier are 140 feet (42.7 m) high.



61 Port Stanley breakwater light (588), on the south end of the west breakwater, is shown from a white square structure, 32 feet (9.7 m) high.

63 Port Stanley East Breakwater light (587), on the SW end of the east breakwater, is shown at an elevation of 28 feet (8.5 m) from a white circular tower with a red upper part.

64 A **submerged cable** and the **submerged pilings** of a ruined wharf are south and east of the conspicuous oil tanks.



65 The **wharf** of the west pier is 2,100 feet (640 m) long, with an elevation of 8 feet (2.4 m) and a least depth of 17 feet (5.1 m) in 2005. A concrete ware-

house near the north end of the west pier has a floor area of 9,000 square feet (836 m²). Part of the warehouse is used by *Omstead Fisheries*. South of the warehouse is a grain elevator and the five silos, mentioned above, with a combined capacity of 17,000 tonnes of grain.

66 The **wharf** of the east pier is 800 feet (243.8 m) long with an elevation of 8 feet (2.4 m). North from the east pier, a wall 1,100 feet (335 m) long extends almost to the bascule road bridge across the creek; there are several fish-processing plants along this harbour front and fishing vessels berth alongside the wall. Large stocks of coal are stored on the south part of the east side of the inner harbour (1994).

67 The **wharves** in the harbour south of the bascule bridge are Public wharves, with some sections leased to commercial interests. The harbour master is the authority for the berths in this part of the harbour.

68 A double-lift bascule road **bridge** crosses Kettle Creek 0.6 mile from the harbour entrance. The vertical clearance in a closed position is 11 feet (3.4 m). From May to the end of September the bridge opens on the hour and half-hour from 06:00 to 22:00. From October 1 to April 30 the bridge opens on the hour and half-hour from 06:00 to 18:00. After hours or in an emergency, the bridge operator can be contacted on VHF Channel 6. The bridge will be raised at any time for commercial and government vessels.

69 There are four red **lights**, two on each lift span, on the upstream and downstream sides of the bridge. There are two white **lights** under the bridge on each side of the channel.

70 A **submerged sewage pipeline** crosses Kettle Creek 50 feet (15.2 m) upstream of the bridge. Another **submerged pipeline** crosses the creek 0.1 mile further upstream. A **submerged telephone cable** crosses the channel at the south side of the bridge.



71 **Caution.** — A heavy **surge** enters Port Stanley harbour with southerly winds; small craft are cautioned to move upstream of the bridge when southerly storms are expected.



72 **Caution.** — The harbour is subject to **silting**; depths are reported to be maintained by dredging but may be less than charted.

73 Subject to depth limitations, small craft can navigate as far as 1 mile upstream of the bascule bridge. In this stretch there are small-craft facilities and a railway **bridge** with a vertical clearance of 15 feet (4.6 m). There is a limiting depth of 1 foot (0.3 m) from the harbour to the railway bridge, and awash upstream from the railway bridge to a second highway bridge at the limit of navigation.

74 There is a **speed limit** of 7 knots in Port Stanley harbour and 4 knots in Kettle Creek upstream of the bascule bridge.

75 A **submerged power cable** crosses Kettle Creek south of the railway bridge; an **overhead telephone cable** close north of the bridge has a clearance of 14 feet (4.3 m).

76 Fresh water and provisions are available. There are machine shops in St. Thomas. Emergency deck and engine repairs can be carried out.



77 The small-craft facilities at Port Stanley are on Kettle Creek, north of the bascule bridge.

78 *Kettle Creek Marina*, on the east side 150 feet (45.7 m) upstream of the bascule bridge, had depths of 1 to 4 feet (0.3 to 1.2 m) in 1994 and offered dockage with power and water, and a picnic area.

79 *Port Stanley Sailing Club*, a private organization on the east side upstream of the marina, had depths of 1 to 2 feet (0.3 to 0.6 m) in 1994.

80 *Kanagio Yacht Club*, a private organization on the west side downstream of the railway bridge, had depths of 1 to 3 feet (0.3 to 0.9 m) in 1994.

81 *Stan's Marina*, on the east side of Kettle Creek near the railway bridge, had depths of 1 to 2 feet (0.3 to 0.6 m) in 1994 and offered dockage with power and water, pump out, concrete ramp, repairs and some salvage, boat hardware, 30 tonne hoist, water taxi service, fishing charters, picnic area, showers, propane, ice, gasoline and diesel fuel, and monitored VHF Channel 68.

82 *Harbour Club Marina*, on the west side upstream of the railway bridge, dried at chart datum in 1994 and offered dockage with power and water, concrete ramp, picnic area, some bait and tackle, ice and gasoline.

83 *Portside Marina*, on the east side downstream of the railway bridge, had depths of 1 foot (0.3 m) in the approaches and 3 feet (0.9 m) at the wharves in 1994, and offered dockage with power and water, pump out, 20 tonne hoist, sailboat rentals and lessons, picnic area and showers.

84 *Berry's Bend Marina*, on the east side upstream of the second highway bridge, had depths of 1 to 2 feet (0.3 to 0.6 m) in 1994 and offered dockage, ramp and picnic area.

85 *Carey's Marina*, on the east side upstream of *Berry's Bend Marina*, dried at chart datum in 1994 and offered dockage, water, camping and picnic area.

86 *Ships Ahoy Marine Ltd.*, on the highway between Port Stanley and St. Thomas, in 1994 offered marine services and mobile repair services to hull, motor and electronics.

87 *Kanter Yachts Corp.*, in St. Thomas, in 1994 offered marine and mobile repair service. *Kanter Yachts* specialized in steel and aluminum construction, and offered repairs to rigging, equipment and woodwork; vessels up to 125 feet (38.1 m) could be accommodated in their workshop.

88 *Berry-Hill Ltd.*, 75 Burwell Road, St. Thomas, is an authorized dealer for Canadian Hydrographic Service nautical **charts** and publications.

Port Stanley to Rondeau Bay

Charts 2121, 2122

89 Between Port Stanley and a position on shore 7 miles NNE of Pointe aux Pins, which is a distance of 32 miles, the clay cliffs have a general elevation of 30 m (98 ft). The bluff coast is deeply gullied in places, notably in the vicinity of Port Talbot. The exposed shore consists mostly of a narrow shingle beach.

Chart 2121

90 Small creeks flow into the lake at Port Talbot, Tyrconnell, Port Glasgow and at **Clearville**, 6.5, 11, 19 and 25 miles from Port Stanley, respectively. In 1994, it was reported that there were no channels from the lake into any of these creeks.



91 The offshore **anchorage** along this coast is generally good, in clay with boulders.

92 **Plum Point**, 9 miles SW of Port Stanley, can be identified by its light-coloured clay cliff. It is grassy with a few trees and is higher than the surrounding ground.

92.1 A **water tower** 3.4 miles NW of Plum Point has an elevation of 84 m and has air obstruction **lights**.

93 **Patrick Point** (42°35'N, 81°28'W), 3.3 miles farther SW, is a conspicuous wooded feature. Patrick Point has cliffs similar to those of Plum Point but is easily distinguished by its trees.

94 The settlement of **Tyrconnell**, population 38 (1981), is 1.2 miles north of Patrick Point.

95 There are **submerged boulders** off Plum Point and Patrick Point.

96 A **submerged water intake** 4 miles WSW of Patrick Point extends 0.2 mile offshore; the **crib** at the outer end has a depth of 4.3 m (14 ft).

96.1 A conspicuous communications tower is 1 mile inland from the water intake. The tower, 90 m (295 ft) high, shows a white strobe light by day and a red aircraft warning light, flashing in groups of 3, at night.

97 The community of **Port Glasgow**, population 17 (1981), is a summer resort 19 miles SW of Port Stanley.

98 **Sixteenmile Creek** ($42^{\circ}30'N$, $81^{\circ}37'W$), 0.7 mile SW of Port Glasgow, is not navigable.

99 Sheet steel piling **breakwalls** protect a boat basin 100 m (328 ft) NE of the mouth of Sixteenmile Creek. In 1994, a steel sheet piling breakwall was under construction on the east side of the channel for an expansion of the boat basin and its facilities. In 1994, the entrance channel had a limiting depth of 0.5 m (2 ft).



100 Port Glasgow light (585.5), at the outer end of the breakwall on the west side of the entrance to the boat basin, is shown at an elevation of 8.8 m (29 ft) from a white mast, 6.6 m (22 ft) high, with a green upper part. The light is privately maintained.



101 *Port Glasgow Marina and Yacht Club*, in the boat basin, had depths of 0.2 to 0.5 m (1 to 2 ft) in 1994 and offered dockage with power and water, ramp, picnic area, camping, boat hardware, snack bar, bait, tackle, ice and gasoline.



102 **Caution.** — It may be dangerous to enter the *Port Glasgow Marina and Yacht Club* basin with southerly winds. Southerly winds also cause silting in the entrance.

Chart 2122

103 **Pointe aux Pins** ($42^{\circ}15'N$, $81^{\circ}52'W$), 37 miles SW of Port Stanley, is a low-lying feature but trees, reported to be 18 m (59 ft) high, make the point seem higher from offshore.



104 Pointe aux Pins light (590), on the SE end of the point, is shown from a white square skeleton tower, 12.9 m (42 ft) high.

105 The community of **Morpeth**, population 284 (1981), is 1 mile inland and 8 miles north of Pointe aux Pins light. The houses are visible from offshore. The *Talisman Energy Morpeth Gas Plant* is near Morpeth.

106 **Conspicuous objects.** — A radio tower 9.8 miles north of Pointe aux Pins light has an elevation of 110 m (361 ft); the tower has air obstruction **lights**. The Blenheim water tower, 8.2 miles NW of Pointe aux Pins light, is green and has an elevation of 75 m (246 ft); it has air obstruction

lights. The flare stack at the *Talisman Energy Morpeth Gas Plant* is 6.4 miles north of Pointe aux Pins light; the red and white stack is 106 m (348 ft) high and has air obstruction **lights**.

107 A **submerged gas pipeline** is laid from a point 6 miles north of Pointe aux Pins light to Port Alma ($42^{\circ}10'N$, $82^{\circ}15'W$). This pipeline is 1 mile offshore at a point 2.5 miles NE of Pointe aux Pins light and is laid parallel to the shoreline. Three yellow cautionary **buoys**, 1 to 2 miles apart, mark the route of the pipeline NE of Pointe aux Pins.

Charts 2181, 2122

Rondeau Bay

108 **Rondeau Bay** ($42^{\circ}15'N$, $81^{\circ}55'W$) is entered at Erieau, 2.6 miles west of Pointe aux Pins light. The bay is a natural basin with depths of 7 feet (2.1 m) and less, with deeper water in the entrance. The shores of the bay are marshy with numerous creeks. The surrounding country is low and heavily wooded in places, notably at the Provincial Park on Pointe aux Pins. Parts of the NW and south shores of the bay are farm land. The low west side of the entrance is well marked by cottages and larger buildings; the east side of the entrance is a long narrow sand spit with a few trees.

109 The village of **Erieau**, with a population of 474 (1991), is a summer resort on the west side of the entrance to Rondeau Bay. There are motels, several stores and a church in the village.



110 Two **piers** protect the entrance to Rondeau Bay and the sheltered basins at Erieau. The structure on the west side is a combined breakwater and wharf; the northern part is a Public **wharf** 1,100 feet (335 m) long with a deck elevation of 8 feet (2.5 m), and the southern part is a concrete breakwater 1,000 feet (305 m) long. In 1994, a least depth of 8 feet (2.5 m) was found at the north end of the west pier. The east pier, also a Public **wharf**, is a timber, sheet piling and concrete structure 787 feet (239.9 m) long, with a deck elevation of 7 feet (2.1 m).

111 The warehouse and plant of *Erieau Packers Ltd.* are on the west pier.



112 **Caution.** — The entrance to Rondeau Bay is subject to **silting**; depths may be less than charted.



113 **Caution.** — The water level in Rondeau Bay rises considerably with SE winds and falls rapidly with a shift to the SW. The entrance channel may be dangerous for small craft when the current is flowing out of the bay.



114 Rondeau West breakwater **range lights** are in line bearing $012^{\circ}00'$. The front light (592), on the south end of the west breakwater pier, is shown from a white square structure, 24 feet (7.3 m) high. The rear light (593) is shown from a white skeleton tower with a fluorescent-orange triangular daymark with a black vertical stripe.

ERIEAU (1994)



115 Rondeau East Pier light (591), on the south end of the east pier, is shown from a white square skeleton tower, 36 feet (11 m) high, with a red upper part.

116 A **submerged power cable** is laid along the face of the west pier from the rear range light to the front range light.



117 A **slip**, owned by the *Erieau Marina*, extends 0.25 mile westward from the Rondeau Bay entrance channel. The slip is 150 feet (45.7 m) wide. There are many small finger **wharves** along the north side of the slip. The south wall of the slip has a deck elevation of 6 feet (1.8 m) and is used by commercial vessels and tugs. There is a basin on the south side of the inner end of the slip.



118 **Caution.** — Two groups of **piles** lie off the north side of the entrance to the slip. The eastern group of piles is awash; the western piles have an elevation of 16 feet (4.9 m).

119 **Shirley Point** ($42^{\circ}16'N$, $81^{\circ}54'W$) is the NW entrance point of the Rondeau Bay entrance channel.



120 Rubble **breakwaters** protect a boat basin south of Shirley Point. The basin, entered at the NE corner, is 300 feet (91.4 m) wide and 600 feet (182.9 m) long. There are seven **wharves**, 150 feet (45.7 m) long, in the basin; the two northern wharves are Public wharves, the other five are used by commercial fishing vessels.



121 Rondeau Inner Harbour light (591.5), on the east end of the north breakwater at the entrance to the boat basin, is shown from a white circular tower, 15 feet (4.6 m) high.

122 A **submerged power cable** crosses from Rondeau Inner Harbour light to the west side of the basin.

123 *Rondeau Provincial Park* is an 8 square mile (21 km²) section of Carolinian forest covering the triangular peninsula on the east side of Rondeau Bay.



124 There is a T-shaped Public **wharf** at *Rondeau Provincial Park*, on the east shore of Rondeau Bay (see Chart 2122) 4.3 miles NNE of Shirley Point. The wharf is 262 feet (79.9 m) long and 16 feet (4.9 m) wide; the end section is 66 feet (20.1 m) wide and had depths of 1 foot (0.3 m) in 1994. The wharf has a sheet pile facing up to 8 feet (2.5 m) in elevation, and timber decking.



125 *Erieau Marina*, in the slip extending westward from Rondeau Bay entrance channel, had depths of 2 to 10 feet (0.6 to 3 m) in 1994 and offered dockage with power and water, pump out, ramp, repairs and salvage work, boat hardware, 25 tonne hoist, mast stepper, boat and motor sales and service, boat and houseboat rentals, motel accommodation, picnic area, camping, pay phone, showers, bait, tackle, stove alcohol, snack bar, restaurant with licensed dining room and pub, ice, gasoline and diesel fuel, and monitored VHF Channel 68. *Barney's Boats Inc.*, also based here, is an authorized dealer for Canadian Hydrographic Service nautical **charts** and publications.

126 *Johnston's Motel and Marina*, on the south shore of Rondeau Bay 0.2 mile west of Shirley Point, had depths of 1 to 2 feet (0.3 to 0.6 m) in 1994 and offered dockage with power and water, ramp, salvage work, some boat hardware, boat rentals, water taxi service, motel accommodation, picnic area, showers, bait, ice and gasoline.

Chart 2122

127 *Rondeau Yacht Club*, at the Public wharf 4.3 miles NNE of Shirley Point, had depths of 0.3 m (1 ft) in 1994 and

offered a picnic area, drinking water, and sailing and canoeing lessons. The facilities of *Rondeau Provincial Park* are near by.

128 *Rondeau Bay Marina*, on the NE shore of Rondeau Bay 4.7 miles NNE of Shirley Point, had depths of less than 0.3 m (1 ft) in 1994 and offered some dockage with power and water, ramp, canoe and boat rentals, picnic area, pay phone, showers, bait, tackle, licensed restaurant, bicycle rental, ice and gasoline.

129 *The Summer Place Marina and Family Campground*, in the NE corner of Rondeau Bay, had depths of 0.5 to 0.9 m (2 to 3 ft) in 1994 and offered some dockage with power and water, pump out, ramp, salvage work, boat hardware, boat rentals, camping, pay phone, showers, groceries, bait, tackle, propane, ice, Coleman fuel and gasoline. The approaches to this marina were awash at chart datum in 1994.

Rondeau Bay to Point Pelee

130 The distance from Rondeau Bay entrance to Point Pelee is 34 miles. The land is 9 to 24 m (30 to 79 ft) in elevation, the central section being slightly higher. The coast is thickly wooded in places, in other parts open farm land comes to the edge of the bluff. There are small villages and summer resorts along the shore. Wheatley Harbour is the only refuge along this part of the coast.

131 **Erie Beach** ($42^{\circ}16'N$, $82^{\circ}00'W$) is a community 4 miles west of the entrance to Rondeau Bay. The community of **Cedar Springs**, population 182 (1981), is 1.7 miles NW of Erie Beach.



132 **Caution.** — **Firing practice area.** — A *Canadian Land Forces* small arms range 0.7 mile west of Erie Beach extends 2 miles offshore; the range perimeter is marked by **spar buoys**. Mariners and fishermen are strictly forbidden to pass through, troll or anchor in the area inside the buoys when the **red flag** of the range is flying. It is vital to recognize and avoid this danger area. Details of the firing area are given in the *Annual Edition of Canadian Notices to Mariners*.

133 The Cedar Springs **water tower**, a cylindrical tank with a blue band around its upper part, has an elevation of 56 m (184 ft). **Dealtown** is 5 miles WSW of Erie Beach.

134 **Submerged pipelines.** — A water intake at the small arms firing range extends 0.4 mile offshore; the crib at the outer end has a depth of 5.6 m (18 ft). A water intake 0.9 mile ENE of Dealtown extends 0.45 mile offshore; the crib at the outer end has a depth of 5.9 m (19 ft). A sewer outfall at Dealtown extends 229 m (751 ft) offshore; the crib at the outer end has a depth of 2.2 m (7 ft) and is marked by a privately maintained **light buoy**.

135 The community of **Port Alma** ($42^{\circ}11'N$, $82^{\circ}15'W$), population 80 (1981), is 16 miles WSW of Rondeau Bay entrance. The community of **Port Crewe**, population 17 (1981), is 1.3 miles NE of Port Alma.



136 The **wharf** at Port Alma is owned by *Talisman Energy*. It is 75 m (246 ft) long and 4.9 m (16 ft) wide; the deck, which has an elevation of 3.4 m (11 ft), is on piles.



137 Port Alma Wharf light, near the outer end of the gas company wharf, is shown at an elevation of 9.1 m (30 ft) from a steel frame 5.9 m (19 ft) high. The light is privately maintained.

138 A **submerged pipeline** leading to the Port Alma wharf from offshore is marked by a yellow **buoy** and by black flags on yellow poles.

139 **Landmarks.** — A radio tower, 0.25 mile inland 5 miles WSW of Port Alma, has an elevation of 66 m (217 ft). There are two silos 1.3 miles farther SW.

140 **Two Creeks** ($42^{\circ}05'N$, $82^{\circ}27'W$), 10.5 miles SW of Port Alma and 1.4 miles NE of Wheatley Harbour, is a small harbour entered between two rubble breakwaters. The entrance is narrow and shallow; depths change with movement of the bottom material. The entrance should be navigated only by small craft with local knowledge and in good weather. In 1996, the entrance was reported to be closed by a dry gravel bar.

141 There are two **towers** near Wheatley Harbour; a tower to the NW is 100 m (328 ft) high and has air obstruction **lights** at the top and middle, and a tower just east of the harbour is 30 m (98 ft) high. A green **water tank** 1.4 miles north of the entrance to Wheatley Harbour has an elevation of 53 m (174 ft); it has air obstruction **lights**.

142 A **submerged water intake** 0.1 mile NE of Wheatley Harbour extends 0.2 mile offshore; the crib at the outer end has a depth of 3.8 m (12 ft). A **submerged water intake** 0.2 mile farther NE extends 0.35 mile offshore; the crib at the outer end has a depth of 4.3 m (14 ft) and is marked by a **light buoy**; a crib nearer shore has a depth of 0.7 m (2 ft) and is marked by a spar buoy. The buoys are privately maintained.

Chart 2165

Wheatley

143 **Wheatley Harbour** ($42^{\circ}04'N$, $82^{\circ}28'W$), 30 miles SW of Pointe aux Pins and 9 miles NNE of Point Pelee, is at the mouth of **Muddy Creek**. It is the only harbour of refuge between Rondeau Bay and Point Pelee, and is the site of a flourishing fishing industry. The village of **Wheatley**, with a population of 1,574 (1991), is 1.5 km north of the harbour.

WHEATLEY HARBOUR (1994)



144 Wheatley Harbour is a commercial fishing harbour administered by the *Fisheries and Oceans Canada* and operated by a Harbour Manager.

145 Wheatley Harbour is a **Customs** vessel clearing station for commercial vessels.

146 The harbour entrance is 22 m (72 ft) wide between two piers. The east pier is a sheet steel pile and concrete breakwall extending 60 m (197 ft) offshore; the west pier is a shorter concrete and sheet steel wall with an elevation of 3 m (10 ft).

147 A detached boulder **breakwater** lies SE of the entrance; the north end of the breakwater is 75 m (246 ft) east of the outer end of the east pier. This breakwater is 75 m (246 ft) long and has an elevation of 4 m (13 ft).

 148 **Caution.** — The harbour is subject to **silting**; depths are reported to be maintained by dredging but may be less than charted.

 149 **Caution.** — Entering Wheatley Harbour with a SE wind and swell can be difficult. Mariners are cautioned to exercise particular care under these conditions.

150 Three **submerged water and sewer pipelines** cross Wheatley Harbour.

151 The grey building of *Omstead Fisheries Company* plant on the east side of the harbour is prominent.

 152 Wheatley Harbour light (595), on the outer end of the east pier, is shown from a white cylindrical tower, 4.2 m (14 ft) high, with a red upper portion.

153 Wheatley light (594), on the SW end of the detached breakwater, is shown at an elevation of 4.6 m (15 ft) from a white mast 2 m (7 ft) high.

 154 There are three basins on the west side of the harbour which have berths for fishing vessels and other commercial craft. There is a sewage tank pumping station at the SW corner of the southern basin.

155 The plant and cold storage warehouse of *Omstead Fisheries Company*, with a total storage capacity of 5,400 tonnes of fish and farm produce, is on the east side of the harbour. The facilities of *Liddle Brothers*, a commercial fishing company, are at the north end of the harbour on the east side. *Hike Metal Products*, where steel fishing and commercial vessels are built and repaired, is on the west side of the harbour. There is a *Provincial Fish Research Centre* on the west side of the harbour.

Lake Erie

Point Pelee to Detroit River

General

Charts 2123, 2181

1 This chapter describes the north shore of Lake Erie between Point Pelee and the Detroit River entrance, a coastal distance of 30 miles. Also described are Pelee Passage and Pelee Island, and the islands and dangers north of the International Boundary south and west of Pelee Island. The islands and dangers south and west of Pelee Island in United States' waters, and the approaches to Toledo Harbour, are described by excerpts from *U.S. Coast Pilot 6*.

1.1 Real-time water level information for Lake Erie at Bar Point is available from the *Canadian Hydrographic Service Automated Water Level Gauge*, telephone number 519-736-7488. (More information on water levels is given in *Sailing Directions* booklet CEN 300 — General information, Great Lakes.)

 2 **Caution.** — Navigation in the area north of the upbound vessel route between Pelee Passage and Detroit River is hazardous due to submerged fishing net stakes and different types of fishing nets and several wrecks; consult the chart for details.

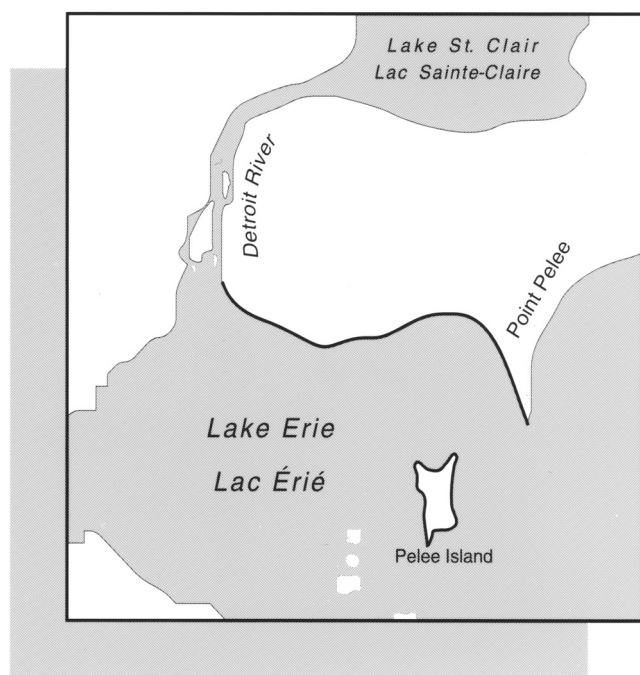
 2.1 **Caution.** — Many wrecks (some uncharted) litter the bottom of Lake Erie. As they constitute navigation and anchoring hazards, the mariner is advised to consult the most up-to-date copy of their chart.

3 Two passenger and automobile ferries, the *M.V. Jiimaan* and the *M.V. Pelee Islander*, serve Pelee Island, Leamington, Kingsville, and Sandusky, Ohio, from March to mid-December. On Pelee Island, the ferries usually berth at West Dock from mid-June to the end of October. If the weather is unfavourable at West Dock, the ferries berth at Scudder. The usual ferry routes are shown on the chart.

Pelee Passage

Chart 2123

4 **Pelee Passage** ($41^{\circ}52'N$, $82^{\circ}35'W$), between Point Pelee and Pelee Island, is the main shipping channel through the island region at the west end of Lake Erie. The shipping



POINT PELEE (1994)



routes adopted by the *Lake Carriers Association* and the *Canadian Shipowners Association* are shown on the chart.



5 **Point Pelee** is the southernmost point on the north shore of Lake Erie; it is the tip of a peninsula which projects 9 miles into the lake. A shallow sand and gravel spit extends 0.5 mile to the SSE, and a dangerous shoal area extends 5.5 miles farther SSE. Excellent **anchorage** can be found in the lee of the peninsula.

6 Most of the peninsula is marshy with low sandy ridges along both shores. *Point Pelee National Park*, noted for its fine sand beaches and unusual flora and as a resting place for migrating birds, occupies the southern part of the peninsula. A visitor centre at the park sells souvenirs and birding items, and has a snack bar, washrooms and postal service. The building is fully accessible to the disabled.

7 There are no facilities for boaters in *Point Pelee National Park* and the park is not accessible from the lake; the shoreline is **buoyed** to indicate the keep-out area. A private shuttle service to the park is available from *Leamington Municipal Marina* and Leamington ferry terminal.

8 **Southeast Shoal** ($41^{\circ}50'N$, $82^{\circ}28'W$) lies 3.5 to 5.5 miles SSE of Point Pelee.



9 Southeast Shoal light (597), near the south end of Southeast Shoal, is shown from a white square building, 18.3 m (60 ft) high, with two red stripes.

10 A **Racon**, identification Morse Code letter "K" (— • —), operates at Southeast Shoal light.

11 **East Shoal** lies between Point Pelee and Southeast Shoal.

12 **Light buoys** mark Pelee Passage and shoals in the area.



13 There is a *Sarnia Vessel Traffic Services* calling-in point south of Southeast Shoal for upbound and downbound vessels. For details, consult the *Radio Aids to Marine Navigation (Atlantic, St. Lawrence, Great Lakes, Lake Winnipeg and Eastern Arctic)*.

14 There are several **wrecks** in the vicinity of Southeast Shoal and Pelee Passage, as shown on the chart.

15 There are **submerged gas collector pipelines** in Pelee Passage. Three **submerged power cables** cross the area.

16 **Middle Ground** ($41^{\circ}51'N$, $82^{\circ}35'W$) is a rocky reef 5 miles west of Southeast Shoal.



17 Pelee Passage light (602), on a pier at the north end of Middle Ground, is shown from a white circular tower, 24.4 m (80 ft) high, with green upper and lower parts. There is a helipad on top of the light structure.

18 A **Racon**, identification Morse Code letter "M" (— —), operates at Pelee Passage light.

19 **Grubb Reef**, on the north side of Pelee Passage NNE of Middle Ground, has several detached rocky patches.

Pelee Island

20 **Pelee Island** ($41^{\circ}47'N$, $82^{\circ}40'W$), 7.4 miles SW of Point Pelee, is the largest island in Lake Erie. The island is very fertile; fruit, wine and farm products are exported. The population of the island ranges from 300 in the winter to 600 for the rest of the year.

21 A disused light structure stands on **Lighthouse Point**, which is the northern tip of Pelee Island. The grey stone structure is 12.2 m (40 ft) high, with an elevation of 14.9 m

SCUDDER, PELEE ISLAND (1994)



(49 ft). In 1994, it was partly obscured by trees but visible from 135° through south to 215°.

22 **Sheridan Point**, the NW end of Pelee Island, 2.3 miles WSW of Lighthouse Point, is flat and densely wooded. **North Bay** lies between the two points.

 23 **Caution.** — Gill net fishing operations take place around Pelee Island.

24 **Submerged power cables** cross North Bay from the mainland.

24.1 A **conspicuous microwave tower** is near the NE shore of Pelee Island. This tower has a single aircraft warning **light** on top.

Chart 2181

25 The community of **Scudder** (41°49'N, 82°39'W) is on North Bay, at the north end of Pelee Island.

 26 **Scudder wharf** extends 830 feet (253 m) from shore. The outer section is 322 feet (98.1 m) long and 45 feet (13.7 m) wide. The approach channel to the wharf had a least depth of 13 feet (4 m) in 1994, but the limiting depth is considered to be 11 feet (3.4 m) because of storm and low

water conditions which occur occasionally. This wharf is used by the ferry as required. There is a small ticket office building at the south end.

 27 There is good **anchorage** for small craft in the bay west of Scudder wharf, with sand and clay bottom. The bay offers protection from southerly winds.

28 A detached rubble **breakwater**, 600 feet (182.9 m) long, protects the harbour at Scudder. Another rubble **breakwater** 400 feet (121.9 m) east of Scudder wharf extends 600 feet (182.9 m) in a NW and west direction, protecting a small-craft harbour.

29 The small-craft harbour at Scudder is used by fishing vessels and pleasure craft. In 1994, there was a privately owned marine railway near Scudder wharf and gasoline was available from the *Co-op*, next to the marina.

 30 The municipal *Scudder Marina*, in the eastern part of the small-craft harbour, had a depth of 4 feet (1.2 m) in 1994 and offered dockage with power and water, ramp, picnic area, pay phone and showers, and monitored VHF Channel 68. Scudder Marina is an authorized dealer for

Canadian Hydrographic Service nautical **charts** and publications.

31 In 1994, diesel fuel was not available on Pelee Island.



32 Scudder Breakwater light (603), on the NE end of the detached breakwater, is shown at an elevation of 24 feet (7.3 m) from a white circular tower with a red upper part.

33 Scudder wharf light (604), near the north end of the wharf, is shown at an elevation of 30 feet (9.1 m) from a fixture on the side of the grain elevator.

34 Scudder wharf Inner light (605), on the east end of a breakwater-wharf extending east from Scudder wharf, is shown at an elevation of 19 feet (5.8 m) from a white circular tower, 12 feet (3.7 m) high, with a red upper part.

Chart 2123

35 **West Dock** ($41^{\circ}46'N$, $82^{\circ}41'W$) is on the west shore of Pelee Island, 3.1 miles south of Sheridan Point.



36 An L-shaped **ferry wharf** is at West Dock. The wharf is 188 m (617 ft) long and extends nearly due west. An outer section extending south from the main wharf is 131.7 m (432 ft) long and 15.9 m (52 ft) wide, with an elevation of 2.6 m (9 ft). A landfill area on the south side of the main wharf gives space for parking and ferry facilities.

37 There is a seasonal **Customs** office and vessel reporting station for pleasure craft at the inner end of the wharf at West Dock. Customs officers visit other localities on Pelee Island when necessary.



38 Pelee Island West wharf light (606), near the south end of the outer section of the wharf, is shown

at an elevation of 10.7 m (35 ft) from a white circular tower, 6.1 m (20 ft) high, with a green upper part.

39 A **radio tower** 0.2 mile ESE of West Dock is 61 m (200 ft) high and is the only distinctive landmark when approaching from the west. In 1994, the tower supported two dish antennae and had air obstruction **lights**.

40 Pelee Island airport is 1 mile NNE of West Dock.

41 Submerged concrete **groynes** along the shore south of West Dock extend 10 m (33 ft) offshore.



42 **Caution.** — An artificial fish habitat 50 m (164 ft) offshore, 0.4 mile south of West Dock, consists of 5 boulder islands 2.4 m (8 ft) in elevation and 6 m (20 ft) in diameter.

43 **Fish Point** is the narrow south tip of Pelee Island; it has a boulder rip-rap shoreline and is densely wooded at the point.



44 **Caution.** — A shifting sand spit extends south of Fish Point; avoid this danger by keeping farther offshore.

45 **Chickenolee Reef**, a rocky area 2 miles ESE of Fish Point, has a least depth of 0.2 m (1 ft). An east cardinal spar **buoy** marks the east side of the reef.

46 **South Bay**, on the south shore of Pelee Island, offers protected **anchorage** for small craft but is open to the south and east.

46.1 **Wreck.** — A wreck with a depth of 9.6 m lies 7 miles ESE of South Bay.



47 *Dick's Marina*, on the NE shore of South Bay, had depths of less than 0.4 m (1 ft) in 1994 and offered dockage with power and water, ramp, camping, picnic area, pay phone, showers, bait, tackle, snack bar, ice and gasoline,

WEST DOCK, PEELEE ISLAND (1994)



SOUTH BAY, PEELEE ISLAND (1994)



and monitored VHF Channel 68. *Dick's Marina* had a private range consisting of fluorescent-orange triangular daymarks, and the entrance channel was marked by privately maintained floats.

48 **Middle Island** ($41^{\circ}41'N$, $82^{\circ}41'W$), 2.3 miles south of the south end of Pelee Island, is the southernmost land in Canada. The International Boundary passes south and SW of the island.

49  **Caution.** — There is a dangerous sunken wreck on the SW side of Middle Island.

Islands and dangers WNW of Pelee Island

50 **Hen Island** ($44^{\circ}47'N$, $82^{\circ}48'W$), 5 miles west of Pelee Island, has rock cliffs 3 m (10 ft) in elevation and is wooded. There is a private fishing club on the SE corner of the island. **Hen Island Shoal**, 1.2 miles NNE of Hen Island, is a rock with a depth of 5.8 m (19 ft).

51 **Little Chicken Island**, 1 mile SSE of Hen Island, is a small outcrop of a shallow rocky bank. **Big Chicken Island**, near the west end of the same bank, is a bare rock outcrop 3 m (10 ft) in elevation. **Chick Island**, 0.5 mile NNE of Big Chicken Island, is a single bare rock 1.3 m (4 ft) in elevation; detached rocks lie north of it. The east and WNW sides of the rocky bank are each marked by a cardinal spar buoy.

52 **East Sister Island** ($41^{\circ}49'N$, $82^{\circ}51'W$), 7.5 miles WNW of Pelee Island, is low, flat and densely wooded; there is a rock awash off the east end of the island. **East Sister Shoal** is a detached bank 0.7 mile NE of East Sister Island.

53 **North Harbour Island**, 0.7 mile north of East Sister Island, is low and sparsely wooded; **North Harbour Island Reef** lies 1.4 miles farther north.

54 *North Harbour Island Reef light buoy E 13* (619) marks the north side of this danger.

55 **Middle Sister Island** ($41^{\circ}51'N$, $83^{\circ}00'W$), 6.6 miles WNW of East Sister Island, is flat and low, though trees make it appear higher. With the exception of a rock awash near the SE end, there is good water close to the island. There may be submerged fishing net stakes near the island.

56  **Middle Sister Island light** (623), on the north end of the island, is shown from a white square tower, 17.4 m (57 ft) high. The light may be obscured from southern approaches by trees.

[from U.S. Coast Pilot 6,
Chapter 6, partial]

57 **ENCs** *US4MI11M*, *US5MI11M*, *US5OH10M*, *US6OH08M*, *US6OH1AM*, *US4OH08M*, *US5OH08M* **Charts 14830, 14844, 14842.**—*South Passage* extends along the S shore of Lake Erie, bounded by Point Marblehead and Catawba Island on the S and Kelleys Island, South Bass Island, and Green Island on the N. Although it is obstructed by numerous shoals, a depth of 16 feet [4.9 m] can be carried through the passage.

58 **Kelleys Island** is about 4 [3.5] miles N of Point Marblehead with a deep channel 2.7 [2.3] miles wide between. The island, about 3 [2.6] miles long E and W and

about 2 [1.7] miles wide N and S, is bordered on the E side by a rocky bank that extends 0.7 [0.6] mile off. A buoy marks the extent of the bank E of **Long Point**, the NE point of the island. The other shores of the island should not be approached closer than 0.25 [0.22] mile except at the landings. W of Long Point, an open bay has depths of 18 feet [5.5 m] to within 0.4 [0.35] mile of the shore. A dangerous sunken wreck is 0.4 [0.35] mile W of Long Point. Kellstone, Inc. has a dock on the W side of the island, and a ferry dock with service to Marblehead, Sandusky and South Bass Island (Put-In-Bay) is on the SW side of the island. A marina and a small-craft basin are on the E side of the broad bight on the S side of the island. Jetties protect the entrance channel to the basin. In 1980, shoaling to 4 feet [1.2 m] was reported to extend 75 feet [23 m] W from the outer end of the S jetty. The basin has a depth of about 8 feet [2.4 m]. Another marina is located on the N side of the bight, about 0.4 [0.35] mile NW of the basin. The marinas can provide transient berths, gasoline, diesel fuel, water, ice, marine supplies and pump-out facility. The marinas monitor VHF-FM channel 68 and 80.

59 W of **Carpenter Point**, the W point of Kelleys Island, several submerged rocks are covered less than 18 feet [5.5 m]. A rock, covered 12 feet [3.7 m], is marked on the W side by a lighted buoy 0.6 [0.5] mile WNW of Carpenter Point. A wreck, covered 17 feet [5.2 m], is 0.6 [0.5] mile N of the point.

60 **American Eagle Shoal**, extending W from Carpenter Point, has a least depth of 10 feet [3 m] about 1.7 [1.5] miles W of the point. **South Shoal**, with depths of 15 to 18 feet [4.6 to 5.5 m], continues W from American Eagle Shoal. These shoals lie on the NE side of the vessel route through South Passage. Numerous submerged net stakes, covered 13 to 18 feet [4 to 5.5 m], are in or near the vessel route SE of South Shoal.

61 **Scott Point Shoal**, W of South Shoal on the SW side of the vessel route, is rocky and has a least depth of 11 feet [3.4 m] at the NE end where it is marked by a lighted buoy. From the buoy, the shoal extends SW to within 0.6 [0.5] mile of **Mouse Island**. **Mouse Island Reef**, with a least depth of 9 feet [2.7 m], is on the SW side of the vessel route, 1 [0.9] mile WNW of Scott Point Shoal, **Starve Island Reef**, with a least depth of 7 feet [2.1 m], is on the NE side of the vessel route and is marked off its W side by a lighted buoy. **Starve Island**, 1 [0.9] mile N of Starve Island Reef, is on a shoal bank off the SE side of South Bass Island. The shoal bank extends from South Bass Island to an 8-foot [2.4-m] spot 0.5 [0.4] mile SE of Starve Island. A deepwater passage about 0.4 [0.35] mile wide is between the 8-foot [2.4-m] spot and Starve Island Reef.

62 **South Bass Island**, about 3.5 [3] miles long NE and SW, is 2.5 [2.2] miles N of Mouse Island and 5 [4.3] miles NW of Kelleys Island. Shoals extend 0.2 to 0.5 [0.17 to 0.4] mile off the SE side of the island except at Starve Island, and the W side of the island is deep-to. **South Bass Island Light**

(41°37'44"N., 82°50'29"W.), 95 feet [29.0 m] above the water, is shown from a white skeleton tower with a red and white diamond-shaped daymark on the SW point of the island.

63 **Put-In-Bay**, a semicircular inlet on the N side of South Bass Island, is protected on the W side by **Peach Orchard Point**. A shoal with a least depth of 2 feet [0.6 m] extends 0.25 [0.22] mile NE from the point and is marked at the outer end by a lighted buoy. **Gibraltar Island** is a small bold islet in the W part of the bay on the E side of Peach Orchard Point. Shallow water is between the SW side of the island and the shore. A buoy marks a detached shoal with a least depth of 10 feet [3 m] on the E side of the bay.

64 **Perrys Victory and International Peace Memorial**, commemorating his victory in the naval battle of 1813, is a conspicuous landmark on the E side of Put-In-Bay on the narrow constriction of South Bass Island. The 335-foot [102.1-m] monument is a granite tower marked by a light and surmounted by a glass-covered bronze bowl.

65 **Put-In-Bay, OH**, a harbor on the south side of the bay, is used principally for fruit shipments and excursion business. Ferry service is available to Sandusky, Port Clinton, Kelleys Island and Middle Bass Island. The approach to the harbor is marked by lighted and unlighted buoys. A dredged channel, marked by buoys, leads west along the piers on the south side of the bay.

67 Small-craft facilities at Put-In-Bay provide gasoline, diesel fuel, water, electricity, sewage pump-out, and a 5-ton [4.5-tonne] hoist.

68 **Green Island**, rocky and wooded, is 1 [0.9] mile W of South Bass Island. A light marks the W end of the island. A shoal extends 0.3 [0.26] mile off the E end.

69 **Kelleys Island Shoal**, with a least depth of 2 feet [0.6 m], is NE of Kelleys Island. A narrow channel with depths of 18 feet [5.5 m] or more is between the NE end of Kelleys Island and the SW end of the shoal. The NE end of the shoal is about 2.5 [2.2] miles from the island and is marked by a lighted buoy. A buoy marks the NW side of the shoal.

70 **Gull Island Shoal**, 2.4 [2.1] miles N of Kelleys Island, is marked on the S side by a lighted buoy. The shoal extends 1.5 [1.3] miles NE from the buoy. The SW part of the shoal has numerous bare rocks.

71 **Ballast Island** is about 0.8 [0.7] mile NE of the NE point of South Bass Island with shoal water between. A channel with a depth of about 8 feet [2.4 m] and marked by buoys leads across the bank about 0.3 [0.26] mile S of Ballast Island. The N side of Ballast Island is deep-to and is marked by a light.

72 **Middle Bass Island** is 0.5 [0.4] mile N of the NE projection of South Bass Island, and the main body of the island extends N 1.5 [1.3] miles. From the NE end of the island, a narrow peninsula extends 1.4 [1.2] miles ENE. A shoal with bare rocks extends 0.75 [0.65] mile from the end

of the peninsula and is marked by a lighted bell buoy. **Sugar Island** is connected to the NW corner of Middle Bass Island by a rocky ledge covered 1 foot [0.3 m]. A 10-foot [3-m] spot is about 0.5 [0.4] mile NE of Sugar Island. The E, S, and W sides of Middle Bass Island have deep water within 0.3 [0.26] mile. Middle Bass Island State Park Marina is on the E side of the island near the S end. The marina provides transient berths, electricity, water, ice, pump-out facility, launching ramp and monitors VHF-FM channel 71. Passenger ferry service is available to Put-In-Bay. Automobile and passenger ferry service is available to Catawba Island.

73 **Rattlesnake Island**, 1 [0.9] mile W of Middle Bass Island, has clean shores except for a shoal extending 0.15 [0.13] mile from the E end and a shoal and small islet extending 0.3 [0.26] mile from the W end. A wreck, covered 23 feet [7 m], is 1.2 [1] miles WNW of the island.

74 **North Bass Island** is about 1 [0.9] mile N of Middle Bass Island. Shoals and rocks extend about 0.4 [0.35] mile offshore around the island except on the W side where a broad bank with depths of 5 to 12 feet [1.5 to 3.7 m] extends 1.2 [1] miles off. A buoy marks the SW extremity of the bank. A lighted buoy marks the extent of shoals off the NE side of the island. A sunken wreck with masts visible is 1.2 [1] miles E of North Bass Island, in about 41°43'09"N, 82°47'16"W.

75 **West Sister Island** (41°44'21"N., 83°06'21"W.), the westernmost of the island group, is about 8.5 [7.4] miles NNW of Locust Point on the S lakeshore. The shores of the island are deep-to except for **West Sister Reef**, a 1-foot [0.3-m] shoal extending 0.4 [0.35] mile off the SE side. A light marks the SW end of the island.

76 **ENCs US4MI11M, US5MI11M, US5OH10M, US6OH08M, US6OH1AM, US4OH08M, US5OH08M, US6MI07M, US6OH07M, US5MI07M, US5OH07M, US5OH1BM Charts 14830, 14844, 14842, 14846.**— **Perry Cove** between Catawba Island and **Locust Point** (41°36.2'N., 83°05.0'W.), a rounding projection 12 [10] miles W, a broad open bight has depths less than 24 feet [7.3 m]. The Portage River empties into the S side of the bight. A large shallow bank with depths less than 14 feet [4.3 m] extends about 5.5 [4.8] miles N and NE off Locust Point. A least depth of 2 feet [0.6 m], marked on the E side by a buoy, is about 4.7 [4.1] miles NE of the point, and there are scattered patches of 3 to 10 feet [0.9 to 3 m] elsewhere. **Niagara Reef**, a detached shoal with a least depth of 3 feet [0.9 m], is 6.8 [5.9] miles NE of the point and is marked on the N side by a lighted buoy. Strangers should not attempt passage S of Niagara Reef.

77 **ENCs US4MI11M, US5MI11M, US6MI07M, US6OH07M, US6OH07M, US5MI07M, US5OH07M, US5OH1BM, US5OH31M, Charts 14830, 14846, 14847.**— **Maumee Bay** is a large shallow expanse forming the SW corner of Lake Erie. The bay has prevailing depths of less than

10 feet [3 m] and is obstructed by several dumping grounds. A dredged channel leads from deep water in Lake Erie SW through the bay to the mouth of the Maumee River.

78 **Toledo Harbor**, serving the city of **Toledo, Ohio**, is at the W extremity of Lake Erie. The harbor includes the lower 7 [6.1] miles of the **Maumee River** and a channel about 18 [15.6] miles long through Maumee Bay from deep water in Lake Erie to the mouth of the river. The principal cargoes handled at the port are coal, iron ore, grain, petroleum products, and general cargo.

79 **Prominent features.**—The TV towers S to SW of Cedar Point and the stacks of the Consumers Power Company 6.6 [5.7] miles WNW of Toledo Harbor Light are conspicuous in the approach to the harbor.

80 **Toledo Harbor Light** (41°45'43"N., 83°19'44"W.), 72 feet [22 m] above the water; is shown from the NW side of the entrance channel about 8.5 [7.4] miles NE of the river mouth; a seasonal sound signal is at the light. Maumee Bay Entrance Light 2, about 8 [7] miles NE of Toledo Harbor Light, is equipped with racon and a sound signal.

81 **Channels.**—A dredged entrance channel, marked by buoys, lights, and a 237.6° lighted range, leads SW for about 18 [15.6] miles from deep water in Lake Erie through the shallow water of Maumee Bay to the mouth of Maumee River; thence upstream for about 7 [6.1] miles. Maumee Mooring Basin is on the NW side of the channel at the mouth of the river, and turning basins are 2.7, 6.3, and 7 [2.3, 5.5, and 6.1] miles above the mouth.

82 For detailed channel information and minimum depths as reported by the U.S. Army Corps of Engineers (USACE), use NOAA Electronic Navigational Charts. Surveys and channel condition reports are available through the USACE hydrographic survey website listed in Appendix A.

83 No distinct bars form in the dredged channel, which is, however, subject to considerable fill along the south sides each year. Depths in Maumee Bay outside of the improved channel are less than 10 feet [3 m], and navigation is possible for small boats only. In the lake, dredge operations have thrown up a ridge of earth along the edges of the channel. This ridge may rise as much as 3 feet [0.9 m] above the natural lake bottom.

Point Pelee to Detroit River

Chart 2123

84 From Point Pelee to the Detroit River entrance, depths near the shore are fairly regular. Except in the vicinity of Little Point and in the Detroit River approaches, the 5 m (16 ft) contour lies 0.2 to 0.6 mile offshore.

STURGEON CREEK (1994)



85 **Pigeon Bay** ($42^{\circ}00'N$, $82^{\circ}40'W$) is the broad, open bight west of Point Pelee. The eastern shore of the bay, the location of *Point Pelee National Park*, is undeveloped; the shore west of Sturgeon Creek is lined with residences.

86 **Sturgeon Creek** flows into Pigeon Bay 7 miles NNW of Point Pelee. The mouth of the creek is protected by two rubble breakwaters. The west breakwater is 201 m (659 ft) long; the east breakwater is 146 m (479 ft) long. The entrance between the breakwaters is 38 m (125 ft) wide. The abutments of a former bridge lie inside the entrance. The channel between the abutments is 12 m (39 ft) wide. In 1994, this small-craft harbour dried at chart datum.

87 A **bridge** with a vertical clearance of 5.5 m (18 ft) crosses Sturgeon Creek 0.15 mile from the entrance. An **over-head power cable** with a clearance of 15 m (49 ft) spans the creek 30 m (98 ft) NE of the bridge.

88  **Sturgeon Creek light** (609.8), on the west breakwater, is shown at an elevation of 6.1 m (20 ft) from a white circular tower, 3.7 m (12 ft) high, with a green upper part.

89 **Sturgeon Creek Entrance light** (609.7), on the east breakwater, is shown at an elevation of 6.1 m (20 ft) from a white circular tower with a red upper part.

90 A **radio tower** 0.5 mile east of the entrance to Sturgeon Creek has an elevation of 154 m (505 ft). A **microwave tower** 0.4 mile farther east has an elevation of 96 m (315 ft). Both towers have air obstruction **lights**.

91  **Caspar Marina**, on the east side of Sturgeon Creek close upstream of the highway bridge, had depths of less than 0.4 m (1 ft) in 1994 and offered dockage

with power and water, pump out, ramp, picnic area, pay phone, showers, ice, and restaurant with licensed dining room.

92 **Towle Harbour**, on the west shore of Sturgeon Creek close upstream of the highway bridge, had depths of less than 0.5 m (2 ft) in 1994 and offered dockage with power and water, ramp, engine and hull repairs, 8 tonne hoist, some boat hardware, picnic area and showers.

93 **Sturgeon Woods Trailer Park & Marina**, on the east side of Sturgeon Creek 0.6 mile upstream of the highway bridge, had depths of less than 0.7 m (2 ft) in 1994 and offered dockage with power and water, ramp, paddle boat rentals, picnic area, camping, pay phone, swimming pool, showers, laundromat, ice, groceries, bait, tackle, snack bar, propane, naphtha, and a recreation hall and arcade.

Leamington

94 The town of **Leamington** ($42^{\circ}01'N$, $82^{\circ}36'W$), with a population of 14,182 (1991), is 2 miles NW of Sturgeon Creek and 9 miles NW of Point Pelee. Tomato growing and processing is an important industry, and greenhouse horticulture is practised extensively. In addition to the canned and fresh vegetable industry, the town produces auto parts and tobacco. Tourism is growing, with attractions such as the *Jack Miner Bird Sanctuary*, *Pelee Island Winery* and *Point Pelee National Park* all within a short drive, and diving in Pelee Passage is being promoted. The municipal marina is a major destination for boaters from the United States.

95 **Landmarks**. — A microwave tower 1.3 miles NW of the harbour has an elevation of 71 m (233 ft) and has air obstruction **lights**. The Leamington water tower, 0.7 mile

LEAMINGTON (1994)



farther NW, is red and has an elevation of 78 m (256 ft); the water tower can be seen from 15 miles away but is obscured by trees when close to shore. Two apartment buildings NE of the marina are conspicuous.

Chart 2181

96 The harbour at Leamington, protected by an offshore breakwater and entered between boulder breakwaters, consists of a basin with the ferry terminal on the west side and a marina on the east side.

97 Leamington is a **Customs** vessel clearing station for commercial vessels and a vessel reporting station for pleasure craft.

98 A detached boulder **breakwater**, 1,000 feet (305 m) long and 13 feet (4 m) high, lies in an east-west direction 0.5 mile south of the shoreline.



99 The **ferry wharf** at Leamington extends 0.3 mile from shore. The southern 620 feet (189 m) of the wharf, which includes a wood-surfaced wharf and a section of armourstone, is not in use.

100 A rubble **breakwater** extending 510 feet (155.4 m) east from the ferry wharf is 13 feet (4 m) in elevation. Another **breakwater** extending westwards across the south side of the harbour is 1,150 feet (351 m) long and 10 feet (3 m) high.



101 Leamington breakwater light (611), on the east end of the detached breakwater, is shown at an elevation of 31 feet (9.4 m) from a white square skeleton tower, 22 feet (6.7 m) high.

102 Leamington Breakwater West light (610.6), on the west end of the detached breakwater, is shown at an elevation

of 22 feet (6.7 m) from a white square tower, 11 feet (3.4 m) high.

103 Leamington Harbour light (612), at the junction of the ferry wharf and the rubble breakwater extending east, is shown at an elevation of 33 feet (10.1 m) from a white circular tower, 24 feet (7.3 m) high.

104 Leamington Harbour Main Entrance light (612.8), on the east end of the breakwater extending east from the ferry wharf, is shown at an elevation of 20 feet (6.1 m) from a white cylindrical tower 16 feet (4.9 m) high, with a green upper part.

105 Leamington Breakwater Harbour Entrance light (612.5), on the west end of the breakwater at the entrance to the small-craft basin, is shown at an elevation of 29 feet (8.8 m) from a white circular tower, 20 feet (6.1 m) high, with a red upper part.

106 There are two buildings on the ferry wharf. The southern building is a restaurant and dinner theatre; the northern building, red brick with green trim, is the ferry terminal. The ferry landing, new in 1994, is on the east side of the wharf, north and east of the ferry terminal.

107 In 1994, depths along the east side of the ferry wharf ranged from 5 feet (1.5 m) at the north end to 15 feet (4.6 m) by the restaurant building.



107.1 **Caution.** — A silt bar has formed from the south end of the ferry wharf to a position 0.15 mile SE. The bar has depths ranging from 5 feet (1.5 m) near the wharf to 9 feet (2.7 m) at the outer end.

108 A **submerged power cable** is laid from near Leamington Harbour light and along the east face of the ferry wharf.

109 **Submarine pipelines.** — A submerged water intake with a crib at its outer end extends into the lake 0.15 mile east of the ferry wharf. A submerged sewer outfall is laid close west of and parallel to the inner part of the ferry wharf. A submerged water intake 3.2 miles west of Leamington (*Chart 2123*) extends 0.6 mile offshore; the crib at the outer end is marked by a privately maintained **buoy**.



110 **Leamington Municipal Marina**, east of the ferry wharf, is protected by breakwaters. In 1994, the marina had depths of 6 to 8 feet (1.8 to 2.4 m) and offered dockage with power and water, pump out, ramp, mast stepper, picnic area, pay phone, showers, laundromat, ice, gasoline and diesel fuel, and monitored VHF Channel 68. This is an authorized dealer for Canadian Hydrographic Service nautical **charts** and publications. In 1994, the marina also offered a shuttle service to *Pelee Island Winery*.

Kingsville

111 The town of **Kingsville** ($42^{\circ}02'N$, $82^{\circ}44'W$), with a population of 5,716 (1991), is an important fishing and farming centre 6 miles west of Leamington. The district is popular as a summer resort and is noted as being the location of the *Jack Miner Bird Sanctuary* and *Pelee Island Winery*.

112 The harbour at Kingsville consists of a basin formed by converging piers and the outer breakwater of the ferry terminal. The entrance channel is protected by West Pier. The

harbour offers the best shelter between Point Pelee and the mouth of the Detroit River. The navigation season is from mid-March to late December. A fleet of fishing vessels uses the harbour as a base of operations; larger vessels discharge stone from Michigan. The harbour was used by 19 freighters, 14 barges and 20 fishing vessels in 1993.

113 The harbour at Kingsville is administered by *Transport Canada*; the harbour master's office is on the east pier.

114 Kingsville is a **Customs** vessel clearing station for commercial vessels.



115 Seven small finger **wharves** at the head of the basin are for the use of fishing boats and small craft. The *Fishermen's Company* building is on the east pier. On the west side of the basin, large stocks of crushed stone and gravel are stored in the *Southwestern Sales Corp.* yard.

116 The ferry terminal at Kingsville was rebuilt in 1994.



117 **Caution.** — Depths are reported to be maintained by dredging but may be less than charted. Shoaling is reported in the entrance channel east of Kingsville West Pier light. In 1994, a least depth of 6 feet (1.8 m) was found at the fishing boat slips and a depth of 11 feet (3.4 m) at the ferry wharf.



118 **Caution.** — An uncomfortable **swell** enters the harbour with south and SE gales.



119 Kingsville West Pier light (*616*), near the SE end of the west pier, is shown at an elevation of 25 feet (7.6 m) from a white circular tower, 19 feet (5.8 m) high, with a green upper part.

KINGSVILLE (1994)



120 Kingsville Ferry Wharf light, near the SW corner of the new outer ferry terminal wharf, is shown at an elevation of 30 feet (9.1 m) from a white circular tower, 21 feet (6.3 m) high, with a red upper part.

121 Kingsville Entrance **range lights** are in line bearing 308°. The front light (613), on a finger wharf in the west corner of the harbour, is shown from a white circular tower, 12 feet (3.7 m) high, with a fluorescent-orange triangular daymark with a black vertical stripe. The rear light (614) is shown from a white square skeleton tower with a fluorescent-orange triangular daymark with a black vertical stripe.

121.1 The Kingsville municipal **water tower**, with air obstruction **lights**, is **conspicuous** from the lake. It is obscured on closer approach.

122 **Historical Note.** — Jack Miner (1865–1944) was born in Ohio and settled near Kingsville in 1878. A distinguished naturalist, Miner was awarded the *Order of the British Empire* in 1943 for his achievements in conservation. The *Jack Miner Bird Sanctuary* continues today as a bird sanctuary primarily for the conservation of migrating Canada geese and ducks. The grounds include a museum, a nature stadium, and a pond area where birds can be fed by hand.

Chart 2123

123 The community of **Cedar Beach** (42°00'N, 82°48'W), population 334 (1981), is 2.2 miles WSW of Kingsville at the mouth of **Cedar Creek**. Cedar Beach is primarily a summer resort. The small-craft harbour in the creek is entered between two rubble breakwaters which are 64 m (210 ft) long and 2.4 to 3.2 m (8 to 10 ft) in elevation. The entrance channel between the breakwaters is 25 m (82 ft) wide.



124 Cedar Creek light (617), at the outer end of the west breakwater, is shown at an elevation of 8 m (26 ft) from a white circular tower, 5.8 m (19 ft) high, with a green upper part.

125 Cedar Creek East light (616.8), on the south end of the east breakwater, is shown at an elevation of 4.2 m (14 ft) from a white mast 1.8 m (6 ft) high.



126 **Caution.** — Depths in this area are subject to change due to shifting sand; depths may be less than charted. In 1994, a depth of 0.7 m (2 ft) was found in the entrance and 1.5 m (5 ft) in the channel upstream to where the creek forks east and west.

127 **Bridges** across the east and west forks of Cedar Creek have clearances of 3.3 and 2.1 m (11 and 7 ft), respectively. In 1994, depths of 0.5 m (2 ft) were found in the eastern fork, past the marinas, as far upstream as the bridge.



128 *Township of South Gosfield Municipal Slips*, on the west side of Cedar Creek inside the entrance and on the south side of Cedar Creek past the eastern bend, had depths of 0.8 m (3 ft) in the approaches and 0.2 to 1.4 m (1 to 5 ft) at the wharves in 1994, and offered dockage with power and water, ramp, picnic area, pay phone and showers.

129 *Erie View Marine*, on the north shore of Cedar Creek, had depths of 0.2 to 0.5 m (1 to 2 ft) in 1994 and offered dockage with power and water, repairs, boat hardware, sales and service of new and used boats and motors, 20 tonne hoist, picnic area and showers. In 1994, *Erie View Marine* managed the municipal slips.

130 *Melton Bros. Welding and Marine*, at Cedar Creek, had depths of 0.2 m (1 ft) in 1994 and offered dockage with power and water, pump out, ramp, repairs and salvage, some boat hardware, 40 tonne marine railway, 15 tonne hoist,

CEDAR CREEK (1994)



COLCHESTER (1994)



15 tonne hydraulic trailer, picnic area, showers, ice and gasoline.

131 *Cedar Island Yacht Club*, a private club NW of the entrance to Cedar Creek, had depths of 0.2 to 0.9 m (1 to 3 ft) in 1994.

132 *Cedar Island Yacht Club* is a **Customs** vessel reporting station for pleasure craft.

133 **Littles Point** ($41^{\circ}59'N$, $82^{\circ}55'W$), 6.8 miles WSW of the mouth of Cedar Creek, has light brown bluffs 20 m (66 ft) high. The bluffs are wooded at the point, with open farmland on each side.

134 There is a conspicuous **microwave tower** 3 miles NE of Littles Point.

135 **Grecian Shoal** lies 0.8 mile SW of Littles Point. The south edge of the shoal is marked by a **buoy**. **Colchester Reef** ($41^{\circ}56'N$, $82^{\circ}54'W$) lies 3.2 miles SSE of Littles Point.



136 Colchester Reef light (620), near the SE edge of Colchester Reef, is shown from a white skeleton tower 11.9 m (39 ft) high.

137 The community of **Colchester**, population 711 (1981), is 0.5 mile west of Littles Point.



138 The harbour at Colchester is protected by rubble breakwaters. The west breakwater extends 123 m (404 ft) south and then 151 m (495 ft) ENE. The east breakwater extends 184 m (604 ft) WSW from shore towards the entrance channel, which is 30 m (98 ft) wide. A **wharf** on

the west side of the basin is 114 m (374 ft) long with a deck elevation of 2.1 m (7 ft); there are floating finger **wharves** near this wharf. In 1994, the entrance channel and the west half of the basin had a depth of 0.8 m (3 ft). Drying shoals on the east side of the basin were marked by private **buoys**.



139 Colchester East light (621.5), on the west end of the east breakwater, is shown at an elevation of 6.6 m (22 ft) from a white circular tower, 3.3 m (11 ft) high, with a red upper part.

140 There is a port hand **daybeacon** on a white mast near the east end of the west breakwater.



141 *Colchester Harbour Marina* had depths of 0.9 m (3 ft) in the approaches and 0.4 to 1.4 m (1 to 5 ft) at the wharves in 1994, and offered dockage with power and water, ramp, picnic area, pay phone, showers, ice and gasoline, and monitored VHF Channel 68.

142 **Submarine pipelines**. — A submerged water intake east of the east breakwater at Colchester extends 0.2 mile offshore. A submerged sewer outfall 1.8 miles WNW of Colchester extends 0.4 mile offshore; the diffuser at the outer end has a depth of 5.3 m (17 ft).

143 There is a **dumping area** 1 mile offshore 1.9 miles west of Colchester.

144 From Colchester to the Detroit River entrance at **Bar Point**, a distance of 9 miles, the low-lying coast is wooded and partly lined with residences. Gill net and impounding net fishing operations take place in this area.

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 and PFD's (include number): _____

Liferafts (include type and colour): _____ 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

Stopover Points (include date and time): _____ Time of Arrival: _____

Number of People on Board: _____

Search and Rescue Telephone Number: _____

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 (Email)

JRCC Trenton (Great Lakes and Arctic) 1-800-267-7270

+1-613-965-3870 (Satellite, Local or Out of Area)

+1-613-965-7279 (fax)

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 (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 (Email)

MRSC St. John's (Newfoundland and Labrador Region) 1-800-563-2444

+1-709-772-5151 (Satellite, Local or out of area)

+1-709-772-2224 (fax)

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.*

Distances in nautical miles: Lake Erie

	Port Colborne																
Buffalo, NY	19	Buffalo, NY															
Tonawanda, NY	29	11	Tonawanda, NY														
Port Maitland	16	33	43	Port Maitland													
Nanticoke	39	55	64	25	Nanticoke												
Port Dover	45	63	72	32	7	Port Dover											
Port Burwell	77	92	102	65	54	54	Port Burwell										
Port Stanley	95	110	119	83	72	72	20	Port Stanley									
Rondeau Bay	127	142	151	115	104	104	56	43	Rondeau Bay								
Wheatley	152	167	177	141	129	133	80	67	27	Wheatley							
Kingsville	175	189	200	162	152	152	107	94	55	35	Kingsville						
Erie, PA	56	68	77	47	38	41	46	61	85	109	129	Erie, PA					
Conneaut, OH	80	93	103	70	57	59	42	51	64	85	106	29	Conneaut, OH				
Cleveland, OH	139	153	162	127	122	116	81	74	46	47	56	89	63	Cleveland, OH			
Sandusky, OH	177	192	202	165	151	155	113	99	60	41	36	129	104	48	Sandusky, OH		
Toledo, OH	206	221	230	194	193	182	138	124	85	64	39	161	136	83	45	Toledo, OH	
Detroit River Light	190	205	215	178	164	168	123	109	70	47	21	144	121	72	41	26	Detroit River Light

Abino, Point, C3/P18
 Abino Bay, C3/P21
 Allanburg, C1/P73
 American Eagle Shoal, C5/P60

Bait Island, C3/P197
 Ballast Island, C5/P71
 Bar Point, C5/P144
 Bell Reef, C3/P187
 Bertie Bay, C3/P15
 Big Chicken Island, C5/P51
 Big Creek, C3/P219
 Big Otter Creek, C4/P27
 Bird Island Reef, C2/P24
 Black Creek (Lynn River), C3/P150
 Black Creek (Niagara River), C2/P38
 Black Rock Canal, C2/P57
 Black Rock Canal
 Entrance Channel, C2/P113
 Black Rock Lock, C2/P64
 Blott Point, C3/P89
 Bluff Bar, C4/P12
 Bluff Point, C4/P11
 Buckhorn Island, C2/P96
 Buffalo, NY, C2/P101
 Buffalo Harbor, C2/P101
 Buffalo Outer Harbor, C2/P106
 Buffalo River, C2/P101
 Buffalo River, C2/P110
 Buffalo Ship Canal, C2/P112
 Byng, C3/P84

Carpenter Point, C5/P59
 Cassaday Point, C3/P32
 Cassaday Reef, C3/P33
 Catfish Creek, C4/P45
 Cayuga Creek, C2/P94
 Cayuga Island, C2/P94
 Cedar Beach, C5/P123
 Cedar Creek, C5/P123
 Cedar Springs, C4/P131
 Chickenolee Reef, C5/P45
 Chick Island, C5/P51
 Chippawa, C2/P44
 Chippawa Channel, C2/P35
 Clear Creek, C4/P22
 Clearville, C4/P90
 Colchester, C5/P137
 Colchester Reef, C5/P135
 Coletta Bay, C3/P221
 Connor Bay, C3/P56
 Crystal Beach, C3/P21

Dealtown, C4/P133
 Deep Hole Point, C3/P189
 Delhi, C3/P145
 Dickinson Creek, C3/P226
 Dunnville, C3/P75

East Shoal, C5/P11
 East Sister Island, C5/P52
 East Sister Shoal, C5/P52
 Erieau, C4/P109
 Erie Beach (Lake Erie), C4/P131
 Erie Beach (Niagara River), C2/P18
 Evans Point, C3/P93

Featherstone Point, C3/P95
 Fishers Glen, C3/P184.1
 Fish Point, C5/P43
 Fort Erie, C2/P25

Gibraltar Island, C5/P63
 Grabell Point, C3/P42
 Grand River, C3/P73
 Grant Point, C3/P56
 Gravelly Bay (Long Point), C4/P16
 Gravelly Bay (Port Colborne), C1/P95
 Grecian Shoal, C5/P135
 Green Island, C5/P68
 Grubb Reef, C5/P19
 Gull Island Shoal, C5/P70

Hastings Channel, C3/P221
 Hen Island, C5/P50
 Hen Island Shoal, C5/P50
 Hickory Creek, C3/P113
 Hoover Point, C3/P98
 Houghton Sand Hills, C4/P24

Inner Bay, C3/P194

Kelleys Island, C5/P58
 Kelleys Island Shoal, C5/P69
 Kettle Creek, C4/P55
 Kingsville, C5/P111

Lackawanna Canal, C2/P108
 Leamington, C5/P94
 Lighthouse Point, C5/P21
 Limekiln Reef, C2/P23
 Little Chicken Island, C5/P51
 Little Otter Creek, C4/P26
 Little Rice Bay, C3/P229
 Little River, C2/P94
 Littles Point, C5/P133
 Locust Point, C5/P76
 Long Point, C4/P5
 Long Point (community), C3/P221
 Long Point, Ohio, C5/P58
 Long Point Bay, C3/P109
 Lowbanks, C3/P46
 Lower Black Rock Harbor, C2/P79
 Low Point, C3/P89
 Lynn River, C3/P146

Maumee Bay, C5/P77
 Maumee River, C5/P78
 Middle Bass Island, C5/P72
 Middle Ground, C5/P16
 Middle Island, C5/P48
 Middle Reefs, C2/P19
 Middle Sister Island, C5/P55
 Mohawk Bay, C3/P50
 Mohawk Island, C3/P51
 Mohawk Point, C3/P46
 Morgans Point, C3/P41
 Morpeth, C4/P105
 Moulton Bay, C3/P46
 Mouse Island, C5/P61
 Mouse Island Reef, C5/P61
 Muddy Creek, C4/P143

Nanticoke, C3/P112
 Nanticoke, C3/P145

Nanticoke Creek, C3/P136
 Nanticoke Harbour, C3/P120
 Nanticoke Shoal, C3/P117
 Navy Island, C2/P40
 New York State Canal System, C2/P92
 Niagara Falls, C2/P44
 Niagara Falls, NY, C2/P99
 Niagara Reef, C5/P76
 Niagara River Channel, C2/P93
 Normandale, C3/P186
 North Bass Island, C5/P74
 North Bay, C5/P22
 North Harbour Island, C5/P53
 North Harbour Island Reef, C5/P53
 North Tonawanda, NY, C2/P86

Old Cut, C3/P226
 Old Cut Point, C3/P226

Patrick Point, C4/P93
 Peach Orchard Point, C5/P63
 Peacock Point, C3/P111
 Pelee, Point, C5/P5
 Pelee Island, C5/P20
 Pelee Passage, C5/P4
 Perry Cove, C5/P76
 Pigeon Bay, C5/P85
 Pins, Pointe aux, C4/P103
 Plum Point, C4/P92
 Port Alma, C4/P135
 Port Bruce, C4/P45
 Port Burwell, C4/P27
 Port Colborne, C1/P95
 Port Crewe, C4/P135
 Port Dover, C3/P112
 Port Dover, C3/P146
 Port Glasgow, C4/P97
 Port Maitland, C3/P58
 Port Robinson, C1/P76
 Port Rowan, C3/P210
 Port Royal, C3/P220
 Port Ryerse, C3/P180
 Port Stanley, C4/P55
 Port Weller East, C1/P22
 Port Weller Harbour, C1/P22
 Pottowhawk Point, C3/P194
 Put-In-Bay, C5/P63
 Put-In-Bay, Ohio, C5/P65

Ramey's Bend, C1/P82
 Rattlesnake Island, C5/P73
 Rock Island, C3/P44
 Rock Point, C3/P50
 Rondeau Bay, C4/P108
 Roses Reef, C3/P15

St. Catharines, C1/P51
 St. Thomas, C4/P55
 St. Williams, C3/P199
 Sandusk Creek, C3/P105
 Scott Point Shoal, C5/P61
 Scudder, C5/P25
 Seaway Handbook, C1/P11
 Seaway Regulations, C1/P11
 Sheridan Point, C5/P22
 Shirley Point, C4/P119
 Simcoe, C3/P180
 Sixteenmile Creek, C4/P98
 Slaters Point, C2/P39

South Bass Island, C5/P62
 South Bay, C5/P46
 Southeast Shoal, C5/P8
 South Passage, C5/P57
 South Shoal, C5/P60
 Splatt Bay, C3/P57
 Squaw Island, C2/P55
 Starve Island, C5/P61
 Starve Island Reef, C5/P61
 Stoney Creek, C3/P103
 Stony Point, C2/P133
 Strawberry Island, C2/P80
 Sturgeon Bay, C3/P229
 Sturgeon Creek, C5/P86
 Sugar Island, C5/P72
 Sugar Loaf, C3/P40
 Sugar Loaf Point, C3/P39

Tecumseh Reef, C3/P90
 Thorold, C1/P63
 Thorold South, C1/P63
 Thoroughfare Point, C3/P227
 Toledo, Ohio, C5/P78
 Toledo Harbor, C5/P78
 Tonawanda, NY, C2/P86
 Tonawanda Channel, C2/P82
 Tonawanda Creek, C2/P86
 Tonawanda Harbor, C2/P86
 Turkey Point, C3/P188
 Turkey Point (community), C3/P190
 Two Creeks, C4/P140
 Tyrconnell, C4/P94

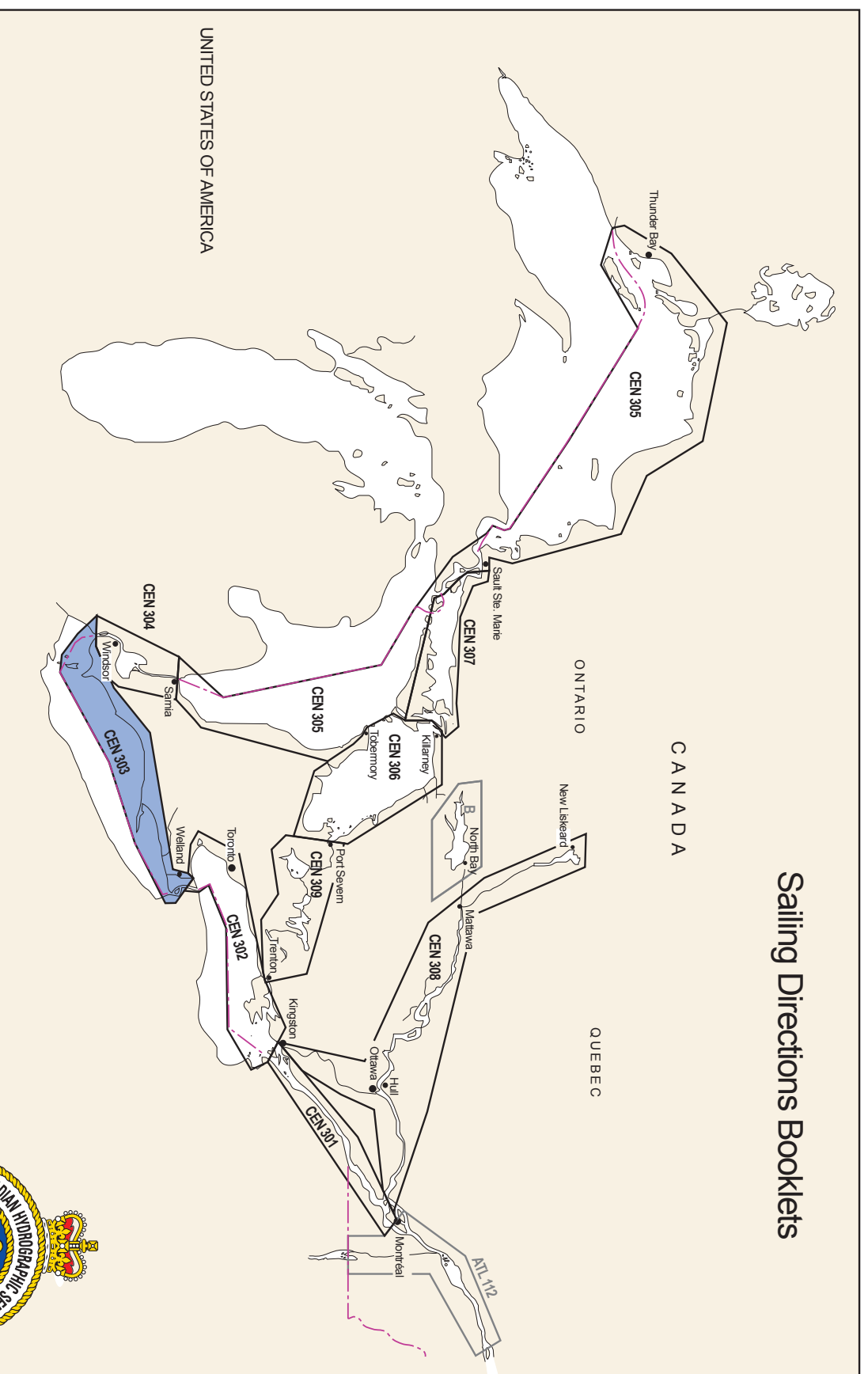
Union Canal, C2/P109
 Upper Niagara River, C2/P1

Waverly Shoal, C2/P17

Welland, C1/P80
 Welland Canal, C1/P29
 Welland River, C1/P39
 Welland River, C2/P41
 Weller Park, C1/P22
 West Dock, C5/P35
 West Sister Island, C5/P75
 West Sister Reef, C5/P75
 Wheatley, C4/P143
 Wheatley Harbour, C4/P143
 Whitefish Bar, C3/P195
 Whitefish Bar Island, C3/P197
 Windmill Point, C3/P13

Young's Creek, C3/P180

Sailing Directions Booklets



UNITED STATES OF AMERICA

CANADA

ONTARIO

QUEBEC

CEN 300 General Information, Great Lakes

B Small Craft Guide, Lake Nipissing

ATL 112 St. Lawrence River, Cap-Rouge to Montréal and Rivière Richelieu

CEN 301 St. Lawrence River, Montréal to Kingston

CEN 302 Lake Ontario

CEN 303 Welland Canal and Lake Erie

CEN 304 Detroit River, Lake St. Clair, St. Clair River

CEN 305 Lake Huron, St. Marys River, Lake Superior

CEN 306 Georgian Bay

CEN 307 North Channel of Lake Huron

CEN 308 Rideau Canal and Ottawa River

CEN 309 Trent-Severn Waterway

