

# Ramsar Information Sheet

Published on 17 February 2020 Update version, previously published on : 1 January 2001

# **Canada**Malpeque Bay



Designation date 28 April 1988
Site number 399
Coordinates 46°32'37"N 63°47'50"W
Area 24 440,00 ha

# Color codes

Fields back-shaded in light blue relate to data and information required only for RIS updates.

Note that some fields concerning aspects of Part 3, the Ecological Character Description of the RIS (tinted in purple), are not expected to be completed as part of a standard RIS, but are included for completeness so as to provide the requested consistency between the RIS and the format of a 'full' Ecological Character Description, as adopted in Resolution X.15 (2008). If a Contracting Party does have information available that is relevant to these fields (for example from a national format Ecological Character Description) it may, if it wishes to, include information in these additional fields.

# 1 - Summary

#### Summary

An estuarine embayment of extensive shallow open water, intertidal flats, and islands, fringed in places by saltmarsh and protected from the sea by a sandspit and dune formation with a number of saline ponds. The shallow waters within the bay support beds of Zostera (eelgrass), an abundant food source for large numbers of migratory waterbirds. Up to 20,000 Branta canadensis, and several species of duck, including a high abundance of Anas rubripes, and shorebirds stage here in spring and fall. The area is also important for supporting large nesting colonies of Ardeidae (herons, bitterns, etc.), Phalacrocoracidae (cormorants), and Laridae (gulls and terns).

# 2 - Data & location

#### 2.1 - Formal data

#### 2.1.1 - Name and address of the compiler of this RIS

#### Compiler 1

Compiler 2

Name	Brad Potter, Manager
Institution/agency	Fish and Wildlife Section, Department of Environment, Water and Climate Change
Postal address	P.O Box 2000, 183 Upton Road, Charlottetown, Prince Edward Island, Canada C1A7N8
E-mail	bdpotter@gov.pe.ca
Phone	9025697595
Name	Matthew Ginn
Institution/agency	Fish and Wildlife Section, Department of Environment, Water and Climate Change
Postal address	P.O Box 2000, 183 Upton Road, Charlottetown, Prince Edward Island, Canada C1A7N8
E-mail	mginn@gov.pe.ca

#### 2.1.2 - Period of collection of data and information used to compile the RIS

From year 2001
To year 2019

Phone 9023685275

#### 2.1.3 - Name of the Ramsar Site

Official name (in English, French or Spanish)

Unofficial name (optional) Maqpa'q (Mi'kmac name)

#### 2.1.4 - Changes to the boundaries and area of the Site since its designation or earlier update

(Update) A Changes to Site boundary Yes O No 

(Update) B. Changes to Site area No change to area

#### 2.1.5 - Changes to the ecological character of the Site

(Update) 6b i. Has the ecological character of the Ramsar Site (including applicable Criteria) changed since the previous RIS?

#### 2.2 - Site location

#### 2.2.1 - Defining the Site boundaries

b) Digital map/image

<1 file(s) uploaded>

Former maps 0

# Boundaries description

The Bay is approximately 24 400 ha and is situated on the north coast of Prince Edward Island, 10 km north of the City of Summerside, in Prince County.; The site centroid is located at 46°32'N., 63°48'W. The site consists of the entire waterbody of Malpeque Bay, which is contained within approximately 320 km of shoreline, with a centroid situated at at 46°32'N., 63°48'W.

#### 2.2.2 - General location

a) In which large administrative region does the site lie?	Prince Edward Island
b) What is the nearest town or population centre?	Prince

#### 2.2.3 - For wetlands on national boundaries only

a) Does the wetland extend onto the territory of one or more other countries? Yes O No  $\ensuremath{ \odot}$ 

b) Is the site adjacent to another designated Ramsar Site on the territory of another Contracting Party? Yes O No  $\odot$ 

# 2.2.4 - Area of the Site

Official area, in hectares (ha): 24440

Area, in hectares (ha) as calculated from GIS boundaries 24486.354

#### 2.2.5 - Biogeography

#### Biogeographic regions

99	
Regionalisation scheme(s)	Biogeographic region
Marine Ecoregions of the	Gulf of St. Lawrence – Eastern Scotian Shelf
World (MEOW)	

#### Other biogeographic regionalisation scheme

Atlantic Canada

Maritime Lowlands

Ref: Ecological Regions of North America – Level III http://www.cec.org/Page.asp? PageID=122&ContentID=1329&SiteNodeID=498&BL\_ExpandID=

# 3 - Why is the Site important?

# 3.1 - Ramsar Criteria and their justification

☑ Criterion 1: Representative, rare or unique natural or near-natural wetland types

Some 23 small rivers and creeks contribute fresh water to the wetland, thus producing principally an Hydrological services provided estuarine regime. Numerous small salt marshes (average size 5 ha) are scattered along the coastline which is characterized by a band of intertidal sand-mud that varies in width from 0.5 m to 1,000 m.

Other reasons

Malpeque Bay is the second largest bay in terms of surface area in Prince Edward Island, following Hillsborough Bay.

- ☑ Criterion 2 : Rare species and threatened ecological communities
- ☑ Criterion 3 : Biological diversity

Much of the shallow waters of the Bay contain Eelgrass Zostera marina, which supports a diverse community of marine invertebrates, fish and birds. Bird life in the area is considerable, and include a variety of waterfowl, waterbirds, and shorebirds, such as. Canada Geese Branta canadensis, Mallard Anas platyrynchos, American Black Duck Anas rubripes, Northern Pintail Anas acuta, Green-winged Teal Anas crecca, Greater Scaup Athya marila, Red-breasted Merganser Mergus serrator, Double-crested Cormorant Phalacrocorax auritus, great blue heron Ardea herodias, Black-bellied Plover Pluvialis squatarola, Semipalmated Plover Charadrius semipalmatus, and Piping plover Charadrius melodus.

- ☑ Criterion 4 : Support during critical life cycle stage or in adverse conditions
- ☑ Criterion 5: >20,000 waterbirds

Overall waterbird numbers 27750 Start year 1987 Source of data: Government of Prince Edward Island Fish and Wildlife Section

☑ Criterion 6 : >1% waterbird population

3.2 - Plant species whose presence relates to the international importance of the site

Scientific name	Common name	Criterion 2	Criterion 3	Criterion 4	IUCN Red List	CITES Appendix I	Other status	Justification
Zostera marina	Eelgrass Zostera marina		<b>2</b>		LC			supports a diverse community of marine invertebrates, fish and birds

3.3 - Animal species whose presence relates to the international importance of the site

Phylum	Scientific name	Common name	Specie qualifie under criterio 2   4   6	es r on	Specie contribu under criterio	r S	op. ize	Period of pop. Est.	% occurrence 1)		CITES Appendix I	CMS Appendix I	Other Status	Justification
Birds														
CHORDATA / AVES	Anas crecca carolinensis	Green-winged Teal			<b>7 7 1</b>	7	50							Up to 750 have been observed in peak autumn periods.
CHORDATA / AVES	Anas rubripes	American Black Duck			<b>7 7 7</b>	15	500			LC				Up to 1,500 have been observed in peak autumn periods.
CHORDATA / AVES	Ardea herodias	Great Blue Heron				3	00			LC				Largest nesting colony in province at Courtin Island.
CHORDATA / AVES	Aythya marila	Greater Scaup				12	200			LC				Up to 1,200 have been observed in peak autumn periods.
CHORDATA / AVES		Canada Goose		000	77	] 🗌 14	000		1.79	LC				The eel grass flats and intertidal areas near Courtin Island (Bunbury Island) at the mouth of Indian River and Darnley Basin are important seasonal concentration areas for Canada geese in spring and fall when peak numbers reach 14,000 and 20,000 geese respectively.
CHORDATA / AVES	Charadrius melodus	Piping Plover	<b>V</b> V							NT			Endangered (COSEMC) See: http://www.sararegistry.gc.ca/species/speciesDetails_e.cfm? sid=687	Whole life cycle
CHORDATA / AVES	Mergus serrator	Red-breasted Merganser				30	000		7.5	LC				Up to 3,000 have been observed in peak autumn periods.
CHORDATA / AVES	Phalacrocorax auritus	Double-crested Cormorant		3 🗆 C		98	300		1					In recent years, numbers have increased slightly with a 1994-98 average of 4,645 nests. This population estimate represents about 2% of the estimated Canadian population, and over 1% of the estimated North American population.

<sup>1)</sup> Percentage of the total biogeographic population at the site

Smaller numbers of Northern Pintail Anas acuta, Common and Barrow's Goldeneye Bucephala spp., and Scoter also occur. Shorebirds are abundant about the Bay from mid-July to early autumn, and several pairs of nesting Piping Plover occur at overwash sites on the outer beach. Some of the islands are colonial nesting sites for seabirds, and Courtin Island is the largest Great Blue Heron colony with 300 birds in the Province.

# 3.4 - Ecological communities whose presence relates to the international importance of the site

Name of ecological community	Community qualifies under Criterion 2?	Description	Justification						
Seagrass communities		These shallow, productive, coastal waters account for 31% of the site area, and eel grass (Zostera marina) dominates half (3 800 ha) of this area.							

# 4 - What is the Site like? (Ecological character description)

#### 4.1 - Ecological character

Malpeque Bay is a coastal lagoon system protected from the open sea (Gulf of St. Lawrence) by a 25 km-long coastal sandspit and dune formation. A one km-wide channel at the eastern tip of the sandspit provides for the main exchange of tidal waters between the bay and open ocean. Some 23 small rivers and creeks contribute fresh water to the wetland, thus producing principally an estuarine regime. Numerous small salt marshes (average size 5 ha) are scattered along the coastline which is characterized by a band of intertidal sand-mud that varies in width

The majority of the bay is shallow (average depth 4 m, maximum 13 m) with numerous shoals. These shallow, productive, coastal waters account for 31% of the site area, and eel grass (Zostera marina) dominates half (3 800 ha) of this area. The 25 km protecting sandspit has wide sand beaches (260 ha) and several small saline ponds. Areas of overwash occur at intervals, but an extensive dune system vegetated with marram grass (Ammophila breviligulata) dominates. The bay contains nine islands, five wooded and four covered with grasses and shrubs.

#### 4.2 - What wetland type(s) are in the site?

Marine or coastal wetlands				
Wetland types (code and name)	Local name	Ranking of extent (1: greatest - 4: least)	Area (ha) of wetland type	Justification of Criterion 1
A: Permanent shallow marine waters		1	12960	Representative
B: Marine subtidal aquatic beds (Underwater vegetation)				
D: Rocky marine shores		2		Representative
E: Sand, shingle or pebble shores		3	900	Representative
F: Estuarine waters		4		Representative
G: Intertidal mud, sand or salt flats		0	7600	Representative
H: Intertidal marshes		0	700	Representative
J: Coastal brackish / saline lagoons		0	80	

#### Other non-wetland habitat

Other non-wetland habitats within the site	Area (ha) if known
Islands in Malpeque Bay (5 wooded islands and 4 covered with grass and shrubs)	2200

#### 4.3 - Biological components

#### 4.3.1 - Plant species

Other noteworthy plant species

Scientific name	Common name	Position in range / endemism / other
Ammophila breviligulata		

#### 4.3.2 - Animal species

Other noteworthy animal species

Phylum	Scientific name	Common name	Pop. size	Period of pop. est.	%occurrence	Position in range /endemism/other
CHORDATAVANES		Northern Pintail				
CHORDATAVAES	Bucephala clangula	Common Goldeneye				

#### 4.4 - Physical components

# 4.4.1 - Climate

Climatic region	Subregion
D: Moist Mid-Latitude climate with cold winters	Dfb: Humid continental (Humid with severe winter, no dry season, warm summer)

4.4.2 -	Geomorp	hic	setti	ng
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4.2 - Geomorphic setting
a) Minimum elevation above sea level (in metres)
a) Maximum elevation above sea level (in metres)
Entire river basin
Upper part of river basin ☐
Middle part of river basin ☐
Lower part of river basin ☑
More than one river basin

RIS for Site no. 399,	Malpeque Bay, Canac	la			
Not in river basin ☐					
Coastal ☑					
Please name the river basin	n or basins. If the site lies in a	sub-basin, please also name	the larger river basin. For a coastal/marine site, please name the sea or ocean.		
Some 23 small rivers	and creeks contribute fr	esh water to this wetlar	d, thus producing principally an estuarine regime.		
4.4.3 - Soil		_			
	(I Indata) -	Mneral 🗹	0- 0- 0		
		at RIS update No change	Increase O Decrease O Unknown O		
Are sail types subject to					
condition	change as a result of changin ons (e.g., increased salinity or	acidification)? Yes ○ No ●			
4.4.4 - Water regime					
Water permanence Presence?	Changes at RIS update				
Usually permanent water present					
present					
Source of water that maintain Presence?	s character of the site  Predominant water source	Changes at RIS update			
Water inputs from surface water		No change			
Marine water	<b>2</b>	No change			
Water destination					
Presence?	Changes at RIS update				
Marine	No change				
Stability of water regime	Character at DIC and date				
Presence? Water levels fluctuating	Changes at RIS update  No change				
(including tidal)	Tto origingo				
4.4.5 - Sediment regim	ne				
Significant accretion o	or deposition of sediments occ				
		_	Increase O Decrease O Unknown ⊚		
Significant transportatio	on of sediments occurs on or th	_			
	-		Increase O Decrease O Unknown ⊚		
	Sediment reg	gime unknown 📙			
4.4.6 - Water pH					
		Unknown 🗹			
4.4.7 - Water salinity					
	Mixohaline (brackish)/Mixosali	. 0 /			
	(Update) Changes	at RIS update No change ©	Increase O Decrease O Unknown O		
		line (30-40 g/l) 🗹			
	<sup>(Update)</sup> Changes		Increase O Decrease O Unknown O		
		Unknown			
4.4.8 - Dissolved or sus	spended nutrients in wat	er			
		Unknown ☑			
4.4.9 - Features of the	surrounding area which	may affect the Site			
	and if so how, the landscape a surrounding the Ramsar Site	differ from the i) broadly sim	ilar Ō ii) significantly different <b>⊚</b>		
		site itself:			
	rea has greater urbanisation of	_			
	g area has higher human popu				
	Surrounding area has more intensive agricultural use ☐  Surrounding area has significantly different land cover or habitat types ☑				
ourrounding area has sig	grinicantiy different land cover o	nabitat types 💌			

# 4.5 - Ecosystem services

# 4.5.1 - Ecosystem services/benefits

Provisioning Services

Ecosystem service		Examples	Importance/Extent/Significance
	Food for humans	Sustenance for humans (e.g., fish, molluscs, grains)	High

#### Regulating Services

Ecosystem service	Examples	Importance/Extent/Significance
Hazard reduction	Coastal shoreline and river bank stabilization and storm protection	High

#### Cultural Services

Ecosystem service	Examples	Importance/Extent/Significance
Recreation and tourism	Water sports and activities	Medium
Recreation and tourism	Recreational hunting and fishing	Medium
Recreation and tourism	Nature observation and nature-based tourism	Medium
Recreation and tourism	Picnics, outings, touring	High
Scientific and educational	Long-term monitoring site	High

#### Supporting Services

Ecosystem service	Examples	Importance/Extent/Significance
Biodiversity	Supports a variety of all life forms including plants, animals and microorganizms, the genes they contain, and the ecosystems of which they form a part	Medium

#### Other ecosystem service(s) not included above:

This shallow, productive bay is an important nursery area for finfish and shellfish.	The Bay is internationally famous for Malpeque Bay Oysters
and locally for soft-shelled clams.	

Within the site:	unknown
Outside the site:	unknown

Have studies or assessments been made of the economic valuation of ecosystem services provided by this Ramsar Site?

#### 4.5.2 - Social and cultural values

i) the site provides a model of wetland wise use, demonstrating the	
application of traditional knowledge and methods of management and	]
use that maintain the ecological character of the wetland	
ii) the site has exceptional cultural traditions or records of former civilizations that have influenced the ecological character of the wetland	

iii) the ecological character of the wetland depends on its interaction  $\hfill\Box$  with local communities or indigenous peoples

iv) relevant non-material values such as sacred sites are present and their existence is strongly linked with the maintenance of the ecological character of the wetland

<no data available>

# 4.6 - Ecological processes

<no data available>

# 5 - How is the Site managed? (Conservation and management)

### 5.1 - Land tenure and responsibilities (Managers)

#### 5.1.1 - Land tenure/ownership

Pub	ш	OVVI	1013	111	ν

Category	Within the Ramsar Site	In the surrounding area
Local authority, municipality, (sub)district, etc.		<b>V</b>
Provincial/region/state government	<b>&gt;</b>	<b>&gt;</b>

Fillvate Ownership		
Category	Within the Ramsar Site	In the surrounding area
Other types of private/individual owner(s)	<b>✓</b>	✓
Foundation/non- governmental organization/trust	<b>2</b>	

#### Other

Category	Within the Ramsar Site	In the surrounding area
Commoners/customary rights	<b>2</b>	

#### Provide further information on the land tenure / ownership regime (optional):

As the site is primarily open water and intertidal flats, a large area is undeeded. The coastal sandspit is provincial Crown land and a large portion is owned by the Lennox Island Indian Reserve, while the islands and salt marshes are mostly privately owned. A portion (97 ha) of Courtin Island (Bunbury Island) is owned by the Island Nature Trust. Two provincial parks are present in the area: Green Park (87 ha) and Cabot Park (58 ha). During the 1989 to 1992 period, an additional 60 ha of salt marsh on the eastern side of the bay were acquired under the Eastern Habitat Joint Venture of the North American Waterfowl Management Plan.

The surrounding area is mostly private and municipal lands.

#### 5.1.2 - Management authority

Please list the local office / offices of any Forests, Fish and Wildlife Division agency or organization responsible for Department of Agriculture and Forestry managing the site: Provide the name and title of the person or Brad Potter, Manager, Fish and Wildlife people with responsibility for the wetland: P.O. Box 2000 183 Upton Road Postal address:

Charlottetown, Prince Edward Island

Canada C1A 7N8

E-mail address: | bdpotter@gov.pe.ca

#### 5.2 - Ecological character threats and responses (Management)

#### 5.2.1 - Factors (actual or likely) adversely affecting the Site's ecological character

Human settlements (non agricultural)

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Unspecified development	Medium impact	Medium impact		No change	<b>2</b>	No change
Housing and urban areas	Low impact	Medium impact	<b>2</b>	No change		No change

#### Agriculture and aguagulture

Agriculture and aquaculture						
Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Marine and freshwater aquaculture	Low impact	High impact	<b>2</b>	No change		No change
Annual and perennial non-timber crops	Medium impact	High impact		No change	<b>2</b>	No change

#### Energy production and mining

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Mining and quarrying	Low impact	Medium impact		No change	✓	No change

Biological resource use

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Fishing and harvesting aquatic resources			<b>/</b>			
Unspecified	Low impact			No change	<b>✓</b>	No change

Invasive and other problematic species and genes

	Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
ı	Invasive non-native/ alien species	Low impact	High impact	<b>/</b>	No change	<b>/</b>	No change

Please describe any other threats (optional):

· · · · · · · · · · · · · · · · · · ·	
Peat harvesting.	
reachaivesting.	

#### 5.2.2 - Legal conservation status

National legal designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
Natural Area	Malpeque Bay Salt Marsh Natural Area		whole
Provincial Natural Area	Courtin Island (Bunbury Island) Provincial Natural Area		whole
Provincial Park	Cabot Beach Provincial Park		whole
Provincial Park	Green Park Provincial Park		whole
Wildlife Management Area	Indian River Wildlife Management Area		whole

Non-statutory designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
Important Bird Area	Malpeque Bay IBA	http://www.ibacanada.com/site.js p? siteID=PE001	whole

# 5.2.3 - IUCN protected areas categories (2008)

la Strict Nature Reserve □
Ib Wilderness Area: protected area managed mainly for wilderness protection
Il National Park: protected area managed mainly for ecosystem protection and recreation
III Natural Monument: protected area managed mainly for conservation of specific natural features
IV Habitat/Species Management Area: protected area managed mainly for conservation through management intervention
V Protected Landscape/Seascape: protected area managed mainly for landscape/seascape conservation and recreation
M Managed Resource Protected Area: protected area managed mainly for the sustainable use of natural ecosystems

# 5.2.4 - Key conservation measures

Legal protection

J		
Measures	Status	
Legal protection	Partially implemented	

Species

Opodioo	
Measures	Status
Threatened/rare species	Implemented
management programmes	implemented

Human Activities

Measures	Status
Regulation/management of wastes	Implemented
Harvest controls/poaching enforcement	Implemented
Regulation/management of recreational activities	Implemented
Communication, education, and participation and awareness activities	Partially implemented
Research	Partiallyimplemented

#### 5.2.5 - Management planning

Is there a site-specific management plan for the site? No

Has a management effectiveness assessment been undertaken for the site? Yes O No  $\odot$ 

If the site is a formal transboundary site as indicated in section Data and location > Site location, are there shared management planning Yes O No 

processes with another Contracting Party?

Please indicate if a Ramsar centre, other educational or visitor facility, or an educational or visitor programme is associated with the site:

A management plan for the overall Ramsar site is proposed. Some of this area is managed through habitat projects under the North American Waterfowl Management Plan.

#### 5.2.6 - Planning for restoration

Is there a site-specific restoration plan? No need identified

# 5.2.7 - Monitoring implemented or proposed

Monitoring	Status
Birds	Implemented

No major studies of migratory birds have been carried out at the site. Waterfowl use has been documented by aerial surveys conducted by Environment Canada and the Prince Edward Island Department of Fisheries, Aquaculture and Environment.

# 6 - Additional material

#### 6.1 - Additional reports and documents

#### 6.1.1 - Bibliographical references

Canadian Wildlife Service. (2001). Canada 30: Malpeque Bay, Prince Edward Island. Information sheet on Ramsar wetlands. Sackville, NB: Environment Canada. Retrieved from http://www.wetlands.org/RSIS/\_COP9Directory/Directory/ris/4CA030en.pdf

#### 6.1.2 - Additional reports and documents

i. taxonomic lists of plant and animal species occurring in the site (see section 4.3)

<no file available>

ii. a detailed Ecological Character Description (ECD) (in a national format)

<no file available>

iii. a description of the site in a national or regional wetland inventory

<no file available>

iv. relevant Article 3.2 reports

<no file available>

v. site management plan

<no file available>

vi. other published literature

<1 file(s) uploaded>

#### 6.1.3 - Photograph(s) of the Site

Please provide at least one photograph of the site:



Shot of Malpeque Bay from Malpeque Bay Salt Marsh Provincial Natural Area within the RAMSAR site ( Matthew Ginn, 22-09-2019)

#### 6.1.4 - Designation letter and related data

#### Designation letter

<no file available

Date of Designation 1988-04-28