



Pêches et Océans
Canada

Fisheries and Oceans
Canada

**Protocols for the sampling
of commercial catches
of marine fish and invertebrates
in the Gulf of St. Lawrence**



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The sampling of commercial catches of marine fish and invertebrates is one of the main tools used by the Department of Fisheries and Oceans (DFO) to achieve its mandate regarding the assessment of these resources. The implementation of the sampling program is ensured by specialized personnel. One of their functions is to collect biological data related to all species of marine groundfish, pelagic fish and invertebrates landed in the various maritime communities.

The commercial data delivery for fishing activities conducted in the Gulf of St. Lawrence is the result of DFO interregional agreements for commercial catch sampling, while taking into account each region's [resource status responsibilities](#). The protocols, like the sampling plans which are re-examined annually, are standardized in consultation with assessment biologists responsible for each exploited stock.

This document presents the protocols for the collection of biological data for commercial catches of marine species in the Gulf of St. Lawrence and is structured according to fish and invertebrate species groups. For each species, the sampling protocols are illustrated in the form of shortened data sheets on which the species code, the type of form, the main procedure guidelines, the sampling stratification criteria as well as the biological material collection techniques for detailed laboratory examination are presented. Forms and detailed directives to complete these are also available. The codes and procedures particular to each type of sampling, the definition of fishing zones as that of the landing districts are also available.

FISH

[Data sheets](#)

[Sampling forms](#)

[Directives - forms](#)

[Summary of protocols](#)

INVERTEBRATES

[Data sheets](#)

[Sampling forms](#)

[Directives - forms](#)

[Summary of protocols](#)

SAMPLING FORMS - FISH

Port sampling

Accuracy of 1.0 cm, 1.0 mm and 0.1 mm

Accuracy of 0.5 cm

At-sea sampling

Accuracy of 1.0 cm, 1.0 mm and 0.1 mm

Accuracy of 0.5 cm

DIRECTIVES – SAMPLING FORMS (FISH)

[Port sampling](#)

[At-sea sampling](#)

SAMPLING FORMS - INVERTEBRATES

Port sampling

[Waved Whelk](#)

[Sea cucumber](#)

[Common Razor Clam](#)

[Hyas Crab](#)

[Rock Crab](#)

[Snow Crab](#)

[Northern Shrimp](#)

[American Lobster](#)

[Surf Clam sp.](#)

[Soft Shell Clam](#)

[Green Sea Urchin](#)

[Scallop sp.](#)

At-sea sampling

[Waved Whelk](#)

[Sea cucumber](#)

[Common Razor Clam](#)

[Hyas Crab](#)

[Rock Crab](#)

[Snow Crab](#)

[Northern Shrimp](#)

[American Lobster](#)

[Surf Clam sp.](#)

[Soft Shell Clam](#)

[Green Sea Urchin](#)

[Scallop sp.](#)

DIRECTIVES – SAMPLING FORMS (INVERTEBRATES)

Port sampling

[Waved Whelk](#)
[Sea cucumber](#)
[Common Razor Clam](#)
[Hyas Crab](#)
[Rock Crab](#)
[Snow Crab](#)
[Northern Shrimp](#)
[American Lobster](#)
[Surf Clam sp.](#)
[Soft Shell Clam](#)
[Green Sea Urchin](#)
[Scallop sp.](#)

At-sea sampling

[Waved Whelk](#)
[Sea cucumber](#)
[Common Razor Clam](#)
[Hyas Crab](#)
[Rock Crab](#)
[Snow Crab](#)
[Northern Shrimp](#)
[American Lobster](#)
[Surf Clam sp.](#)
[Soft Shell Clam](#)
[Green Sea Urchin](#)
[Scallop sp.](#)

[Description of a data sheet - Fish](#)

Data sheets

[Spiny Dogfish](#) – [Additional taxonomic information](#)

[Capelin](#) – [Additional taxonomic information](#)

[Atlantic Halibut](#) – [Additional taxonomic information](#)

[Greenland Halibut](#) – [Additional taxonomic information](#)

[Atlantic Herring, divisions 4RS](#) – [Additional taxonomic information](#)

[Atlantic Herring, division 4T](#)

[Yellowtail Flounder](#) – [Additional taxonomic information](#)

[Atlantic Mackerel](#) – [Additional taxonomic information](#)

[White Hake](#) – [Additional taxonomic information](#)

[Atlantic Cod, divisions 3Pn4RS](#) – [Additional taxonomic information](#)

[Atlantic Cod, division 4T](#)

[American Plaice](#) – [Additional taxonomic information](#)

[Witch Flounder](#) – [Additional taxonomic information](#)

[Winter Flounder](#) – [Additional taxonomic information](#)

[Redfish sp.](#) – [Additional taxonomic information](#)

Description of a data sheet - Fish

<p>Species name</p> <p>CODE: species code (Waite 1983)</p>	<p>Species illustration</p>
<p>Fishing zone:</p>	<p>NAFO divisions (Halliday and Pinhorn 1990) to which the data sheet applies.</p>
<p>Sampling protocol:</p>	<p>Type of sampling (port or at-sea).</p>
<p>PROCEDURES</p>	
<p>USE:</p>	<p>The form corresponding to the sampled species as well as the directives attached to it, according to the type of sampling.</p>
<p>SELECT:</p>	<p>The number of fish required per sample.</p>
<p>SEX:</p>	<p>Indication on the need for determining or not the sex for the sampled species.</p>
<p>MEASURE:</p>	<p>The grouping and the type of length measurement required for the sampled species.</p>
<p>COLLECT:</p>	<p>The selection criteria for the collection of otoliths, spines or for the preservation of specimens.</p>
<p>PRESERVE:</p>	<p>The preservation method for the collection of specimens, otoliths or spines.</p>

SPINY DOGFISH

CODE: 0220



Photo: É. Parent

Fishing zone:

4RST

Sampling protocol:

at-sea or port sampling

PROCEDURES

USE:

at-sea:

Complete the [form](#) according to the related [directives](#). Change form after each sampled tow.

port:

Complete the [form](#) according to the related [directives](#).

SELECT:

at-sea:

A maximum of 250 fish per tow for as many tows as possible per trip.

port:

Select randomly around 250 fish from the overall catch. If the landing is categorized according to commercial criteria, all categories must be sampled. The number of fish to sample by category is defined by the following rule:

$250 \text{ fish} \div \text{by the number of categories} = \text{the number of fish to measure by category.}$

SEX:

Yes.

MEASURE:

The total length and round to the nearest 1.0 cm. Lower the caudal peduncle in order to measure the maximal length.

COLLECT:

1 spine of the posterior dorsal fin by 1.0 cm length-class per sex.

PRESERV:

The spines in envelopes, labeled according to the [instructions](#).

CAPELIN

CODE: 0064



Photo: F. Grégoire

Fishing zone:

4RST

Sampling protocol:

at-sea or port sampling**PROCEDURES**

USE:

at-sea:

Complete the [form](#) according to the related [directives](#). Change form after each sampled tow.

port:

Complete the [form](#) according to the related [directives](#).

SELECT:

at-sea:

A maximum of 150 fish per tow for as many tows as possible per trip.

port:

Select randomly around 150 fish from the overall catch. If the landing is categorized according to commercial criteria, all categories must be sampled. The number of fish to sample by category is defined by the following rule:

$$150 \text{ fish} \div \text{by the number of categories} = \text{the number of fish to measure by category.}$$

SEX:

Yes. The male can be distinguished by its secondary sex characteristics, such as its lateral line and its anal fin that are larger during spawning season.

MEASURE:

The total length and round to the nearest 1.0 mm.

COLLECT:

1 fish by 5.0 mm length-class per sex.

PRESERVE:

Each fish frozen separately in plastic bags labeled with the sex and the length. The bags are placed in waxed cartons labeled according to the [instructions](#).

ATLANTIC HALIBUT

CODE: 0030



Photo: C. Nozères

Fishing zone:

4RST

Sampling protocol:

at-sea or port sampling

PROCEDURES

USE:

at-sea:

Complete the [form](#) according to the related [directives](#).
Change form after each sampled tow.

port:

Complete the [form](#) according to the related [directives](#).

SELECT:

at-sea:

A maximum of 250 fish per tow for as many tows as possible per trip.

port:

Select randomly around 250 fish from the overall catch. If the landing is categorized according to commercial criteria, all categories must be sampled. The number of fish to sample by category is defined by the following rule:

$250 \text{ fish} \div \text{by the number of categories} = \text{the number of fish to measure by category.}$

SEX:

Yes. Determine the maturity only when otoliths are collected.

MEASURE:

The fork length and round to the nearest 1.0 cm.

COLLECT:

3 otoliths by 1.0 cm length-class per sex.

PRESERVE:

The otoliths in envelopes labeled according to the [instructions](#).

Note the maturity on the envelopes according to these codes:

MA mature
IM immature

GREENLAND HALIBUT

CODE: 0031



Photo: C. Nozères

Fishing zone:

4RST

Sampling protocol:

at-sea or port sampling

PROCEDURES

USE:

at-sea:

Complete the [form](#) according to the related [directives](#). Change form after each sampled tow.

port:

Complete the [form](#) according to the related [directives](#).

SELECT:

at-sea:

A maximum of 150 fish per tow for as many tows as possible per trip.

port:

Select randomly around 150 fish from the overall catch. If the landing is categorized according to commercial criteria, all categories must be sampled. The number of fish to sample by category is defined by the following rule:

$150 \text{ fish} \div \text{by the number of categories} = \text{the number of fish to measure by category.}$

SEX:

Yes.

MEASURE:

The fork length and round to the nearest 1.0 cm.

COLLECT:

1 otolith by 1.0 cm length-class per sex.

PRESERVE:

The otoliths in envelopes labeled according to the [instructions](#).

ATLANTIC HERRING

CODE: 0060



Photo: F. Grégoire

Fishing zone:

4RS

Sampling protocol:

at-sea or port sampling

PROCEDURES

USE:

at-sea:

Complete the [form](#) according to the related [directives](#). Change form after each sampled tow.

port:

Complete the [form](#) according to the related [directives](#).

SELECT:

at-sea:

A maximum of 150 fish per tow for as many tows as possible per trip.

port:

Select randomly around 150 fish from the overall catch. If the landing is categorized according to commercial criteria, all categories must be sampled. The number of fish to sample by category is defined by the following rule:

$150 \text{ fish} \div \text{by the number of categories} = \text{the number of fish to measure by category.}$

SEX:

No.

MEASURE:

The total length and round to nearest 0.5 cm.

COLLECT:

55 fish selected randomly, excluding individuals that have been measured.

PRESERVE:

The fish frozen in waxed cartons labeled according to the [instructions](#).

ATLANTIC HERRING

CODE: 0060



Photo: F. Grégoire

Fishing zone:

4T

Sampling protocol:

at-sea or port sampling

PROCEDURES

USE:

at-sea:

Complete the [form](#) according to the related [directives](#). Change form after each sampled tow.

port:

Complete the [form](#) according to the related [directives](#).

SELECT:

at-sea:

A maximum of 250 fish per tow for as many tows as possible per trip.

port:

Select randomly around 250 fish from the overall catch. If the landing is categorized according to commercial criteria, all categories must be sampled. The number of fish to sample by category is defined by the following rule:

$250 \text{ fish} \div \text{by the number of categories} = \text{the number of fish to measure by category.}$

SEX:

No.

MEASURE:

The total length by gripping the caudal lobes and round to the lowest 0.5 cm.

COLLECT:

2 fish by 0.5 cm length-class among the measured fish.

PRESERVE:

The fish frozen in waxed cartons labeled according to the [instructions](#).

YELLOWTAIL FLOUNDER

CODE: 0042

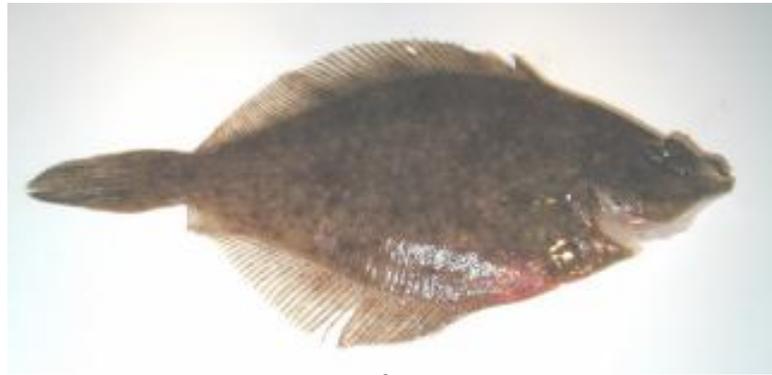


Photo: É. Parent

Fishing zone:

4T

Sampling protocol:

at-sea or port sampling

PROCEDURES

USE:

at-sea:

Complete the [form](#) according to the related [directives](#). Change after with each sampled tow.

port:

Complete the [form](#) according to the related [directives](#).

SELECT:

at-sea:

A maximum of 250 fish per tow for as many tows as possible per trip.

port:

Select randomly around 250 fish from the overall catch. If the landing is categorized according to commercial criteria, all categories must be sampled. The number of fish to sample by category is defined by the following rule:

$250 \text{ fish} \div \text{by the number of categories} = \text{the number of fish to measure by category.}$

SEX:

Yes.

MEASURE:

The total length and round to the nearest 1.0 cm.

COLLECT:

1 otolith by 1.0 cm length-class per sex.

PRESERVE:

The otoliths in envelopes labeled according to the [instructions](#).

ATLANTIC MACKEREL

CODE: 0070



Photo: S. Hurtubise

Fishing zone:

4RST

Sampling protocol:

at-sea or port sampling

PROCEDURES

USE:

at-sea:

Complete the [form](#) according to the related [directives](#). Change after with each sampled tow.

port:

Complete the [form](#) according to the related [directives](#).

SELECT:

at-sea:

A maximum of 150 fish per tow for as many tows as possible per trip.

port:

Select randomly around 150 fish from the overall catch. If the landing is categorized according to commercial criteria, all categories must be sampled. The number of fish to sample by category is defined by the following rule:

$150 \text{ fish} \div \text{by the number of categories} = \text{the number of fish to measure by category.}$

SEX:

No.

MEASURE:

The fork length and round to the nearest 0.5 cm.

COLLECT:

2 fish by 0.5 cm length-class.

PRESERVE:

The fish frozen in waxed cartons labeled according to the [instructions](#).

WHITE HAKE

CODE: 0012

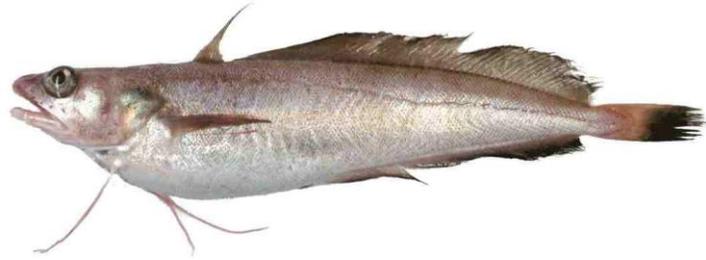


Photo: C. Nozères

Fishing zone:

4T

Sampling protocol:

at-sea or port sampling

PROCEDURES

USE:

at-sea:

Complete the [form](#) according to the related [directives](#).
Change form after each sampled tow.

port:

Complete the [form](#) according to the related [directives](#).

SELECT:

at-sea:

A maximum of 250 fish per tow for as many tows as possible per trip.

port:

Select randomly around 250 fish from the overall catch. If the landing is categorized according to commercial criteria, all categories must be sampled. The number of fish to sample by category is defined by the following rule:

$250 \text{ fish} \div \text{by the number of categories} = \text{the number of fish to measure by category.}$

SEX:

No.

MEASURE:

The total length and round to the nearest 1.0 cm.

COLLECT:

1 otolith by 1.0 cm length-class per sex.

PRESERVE:

The otoliths in envelopes labeled according to the [instructions](#).

ATLANTIC COD

CODE: 0010



Photo: A. Chevrier

Fishing zone:

[4RS, 3Pn](#)

Sampling protocol:

at-sea or port sampling

PROCEDURES

USE:

at-sea:

Complete the [form](#) according to the related [directives](#). Change form after each sampled tow.

port:

Complete the [form](#) according to the related [directives](#).

SELECT:

at-sea:

A maximum of 150 fish per tow for as many tows as possible per trip.

port:

Select randomly around 150 fish from the overall catch. If the landing is categorized according to commercial criteria, all categories must be sampled. The number of fish to sample by category is defined by the following rule:

$150 \text{ fish} \div \text{by the number of categories} = \text{the number of fish to measure by category.}$

SEX:

No.

MEASURE:

The fork length and round to the nearest 1.0 cm.

COLLECT:

3 otoliths by 3.0 cm length-class.

PRESERVE:

The otoliths in envelopes labeled according to the [instructions](#).

ATLANTIC COD

CODE: 0010



Photo: A. Chevrier

Fishing zone:

4T

Sampling protocol:

at-sea or port sampling

PROCEDURES

USE:

at-sea:

Complete the [form](#) according to the related [directives](#). Change form after each sampled tow.

port:

Complete the [form](#) according to the related [directives](#).

SELECT:

at-sea:

A maximum of 250 fish per tow for as many tows as possible per trip.

port:

Select randomly around 250 fish from the overall catch. If the landing is categorized according to commercial criteria, all categories must be sampled. The number of fish to sample by category is defined by the following rule:

$250 \text{ fish} \div \text{by the number of categories} = \text{the number of fish to measure by category.}$

SEX:

No.

MEASURE:

The fork length and round to the nearest 1.0 cm.

COLLECT:

1 otolith by 1.0 cm length-class.

PRESERVE:

The otoliths in envelopes labeled according to the [instructions](#).

AMERICAN PLAICE

CODE: 0040



Photo: A. Chevrier

Fishing zone:

4T

Sampling protocol:

at-sea or port sampling

PROCEDURES

USE:

at-sea:

Complete the [form](#) according to the related [directives](#). Change form after each sampled tow.

port:

Complete the [form](#) according to the related [directives](#).

SELECT:

at-sea:

A maximum of 250 fish per tow for as many tows as possible per trip.

port:

Select randomly around 250 fish from the overall catch. If the landing is categorized according to commercial criteria, all categories must be sampled. The number of fish to sample by category is defined by the following rule:

$250 \text{ fish} \div \text{by the number of categories} = \text{the number of fish to measure by category.}$

SEX:

Yes.

MEASURE:

The total length and round to the nearest 1.0 cm.

COLLECT:

1 otolith by 1.0 cm length-class per sex.

PRESERVE:

The otoliths in vials containing glycerin and labeled according to the [instructions](#).

WITCH FLOUNDER

CODE: 0041



Photo: C. Nozères

Fishing zone:

4RST

Sampling protocol:

at-sea or port sampling

PROCEDURES

USE:

at-sea:

Complete the [form](#) according to the related [directives](#). Change form after each sampled tow.

port:

Complete the [form](#) according to the related [directives](#).

SELECT:

at-sea:

A maximum of 250 fish per tow for as many tows as possible per trip.

port:

Select randomly around 250 fish from the overall catch. If the landing is categorized according to commercial criteria, all categories must be sampled. The number of fish to sample by category is defined by the following rule:

$250 \text{ fish} \div \text{by the number of categories} = \text{the number of fish to measure by category.}$

SEX:

Yes.

MEASURE:

The total length and round to the nearest 1.0 cm.

COLLECT:

1 otolith by 1.0 cm length-class per sex.

PRESERVE:

The otoliths in envelopes labeled according to the [instructions](#).

WINTER FLOUNDER

CODE: 0043



Photo: C. Nozères

Fishing zone:

4RST

Sampling protocol:

at-sea or port sampling

PROCÉDURES

USE:

at-sea:

Complete the [form](#) according to the related [directives](#).
Change form after each sampled tow.

port:

Complete the [form](#) according to the related [directives](#).

SELECT:

at-sea:

A maximum of 250 fish per tow for as many tows as possible per trip.

port:

Select randomly around 250 fish from the overall catch. If the landing is categorized according to commercial criteria, all categories must be sampled. The number of fish to sample by category is defined by the following rule:

$250 \text{ fish} \div \text{by the number of categories} = \text{the number of fish to measure by category.}$

SEX:

Yes.

MEASURE:

The total length and round to the nearest 1.0 cm.

COLLECT:

No.

PRESERVE:

No.

REDFISH

CODE: 0023



Photo: C.Nozères

Fishing zone: **4 RST, 3Pn4Vn from January to March (Unit 1)**

Sampling protocol: **at-sea or port sampling**

PROCEDURES

USE:

at-sea:

Complete the [form](#) according to the related [directives](#).
Change form after each sampled tow.

port:

Complete the [form](#) according to the related [directives](#).

SELECT:

at-sea:

A maximum of 150 fish per tow for as many tows as possible per trip.

port:

Select randomly around 150 fish from the overall catch. If the landing is categorized according to commercial criteria, all categories must be sampled. The number of fish to sample by category is defined by the following rule:

$150 \text{ fish} \div \text{by the number of categories} = \text{the number of fish to measure by category.}$

SEX:

Yes.

MEASURE:

The fork length and round to the nearest 1.0 cm.

COLLECT:

No.

PRESERVE:

No.

Directives related to the forms – Fish (at-sea sampling)

Coded by:	first cell:	M = DFO, sea O = Observer, sea
	following two cells:	sampled region code. CN = North Shore ES = Estuary GN = North Gaspé GS = South Gaspé IM = Magdalen Islands
	last three cells:	first sampler initials.
Species:	sampled species code according to the data sheets.	
Sample no.:	each sampler gives a unique number to each sample by species, regardless of the fishing location.	
Date:	sampling date (DD MM YY).	
Vessel name:	name of the fishing vessel that caught the sampled species.	
CFV no.:	commercial fishing vessel number (999999 for combined vessels, no vessel or when number not available).	
Landing district:	code of the district where the sampled species was landed.	
Fishing zone and ground:	the NAFO unit area in the first three cells. The fishing ground in the last four.	
Landed weight:	total weight, in kilograms, of the sampled species commercial landing. Leave the cells blank for recreational fishing (eg: capelin sampled on the beach). Notice: Landing = catch - discard.	
Gear:	code of the gear used by the fisher.	
Mesh size:	size, in millimeters, of the net or codend stretched mesh, accordingly.	
Sequential no. of gear haul	sequential gear haul number as determined by the fisher.	
Depth:	depth, in meters, of the site where the gear has been fishing.	

Fishing effort: determination of the fishing effort by gear type used.

Example:

gillnet (GN): number of gillnets used in each haul.

bottom otter trawl (OTB): tow duration (number of hours) during which the trawl was fishing.

longline (LL): number of longlines used in each haul.

jigger (LHM): number of jiggers used multiplied (x) by the number of hours fished.

Catch weight: total weight, in kilograms, of the sampled species catch (before discarding).

Sample weight: total weight, in kilograms, of all the measured fish noted on the form. The value can be exact or estimated.

Group: code for accuracy and units of measurement for the measured fish noted on the form:

1.0 cm:	1	1.0 mm:	3
0.5 cm:	2	0.1 mm:	4

Type of measurement: [type of measurement](#) used.

Fishing site: position of the sampled tow: latitude and longitude (ddmm.mm) or Loran-C coordinates if latitude and longitude are not available.

Seq. no: sequential number of the collected spines or otoliths for each length-class, according to the stratification criteria described in the data sheets. This number is unique for the sample.

Length: length of the measured fish according to the procedures described in the data sheet for the sampled species. For species requiring otoliths collection grouped by 3.0 cm length-class, measurements must be recorded on the form using a length-class stratification for which the first interval is from 0-2.0 cm.

Count/Sex for each measured fish, draw a vertical line (|) in the space corresponding to its length and sex (illustrations [spiny dogfish](#) and [flatfish](#)). Note the sex as follows:

M: male	F: female	I: unsexed
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Total: total number of measured fish for each length-class, per sex (when applicable).

No. of measured fish: total number of measured fish noted on the form.

No. of otoliths/
spines:

total number of preserved otoliths or spines noted on the form according to the procedures described in the [data sheets](#).

No. of frozen
fish:

total number of frozen fish according to the procedures described in the data sheets.

Notes:

space provided for comments.

Directives related to forms – Fish (port sampling).

Coded by:	first cell:	Q = DFO, port
	following two cells:	sampled region code. CN = North Shore ES = Estuary GN = North Gaspé GS = South Gaspé IM = Magdalen Islands
	last three cells:	first sampler initials.
Species:	sampled species code according to the data sheets.	
Sample no.:	each sampler gives a unique number to each sample by species, regardless of the fishing location.	
Date:	sampling date (DD MM YY).	
Vessel name:	name of the fishing vessel that caught the sampled species.	
CFV no.:	commercial fishing vessel number (999999 for combined vessels, no vessel or when number not available).	
Landing district:	code of the district where the sampled species was landed.	
Fishing zone and ground:	the NAFO unit area in the first three cells. Leave the remaining cells blank.	
Landed weight:	total weight, in kilograms, of the sampled species commercial landing. Leave the cells blank for recreational fishing (eg: capelin sampled on the beach). Notice: Landing = catch - discard.	
Gear:	code of the gear used by the fisher.	
Mesh size:	size, in millimeters, of the net or codend stretched mesh, according to the case.	
Depth:	average depth, in meters, of all the sites where the gear has been fishing.	
No. of cat.:	total number of categories recorded in the landing (when applicable). NB the category is designating a bunch of fish selected from the catch according exclusively to commercial criteria.	

Sampled cat.: code for the commercial category sampled:

unsorted:	0
very small:	1
small:	2
medium:	3
large:	4
very large:	5
others (to be described in the notes):	9

Cat. weight: total weight, in kilograms, of the category from which the sampled species fish specimens have been selected.

Sample weight: total weight, in kilograms, of all the measured fish noted on the form. The value can be exact or estimated.

Sampled status: status of the sampled species:

round:	1
gutted:	2
gutted, head off:	3
bobtailed:	4
bled:	5
split:	6
others (to be described in the notes):	9

Group: code for accuracy and units of measurement for the measured fish noted on the form:

1.0 cm:	1	1.0 mm:	3
0.5 cm:	2	0.1 mm:	4

Type of measurement: [type of measurement](#) used.

Seq. no: sequential number of the collected spines or otoliths for each length-class, according to the stratification criteria described in the data sheets. This number is unique for the sample.

Length: length of the measured fish according to the procedures described in the data sheet for the sampled species. For species requiring otoliths collection grouped by 3.0 cm length-class, measurements must be recorded on the form using a length-class stratification for which the first interval is from 0-2.0 cm.

Count/Sex for each measured fish, draw a vertical line (|) in the space corresponding to its length and sex (illustrations [spiny dogfish](#) and [flatfish](#)). Note the sex in the following way:
M: male F: female I: unsexed

Total: total number of measured fish for each length-class, per sex (when applicable).

No. of measured fish: total number of measured fish noted on the form.

No. of otoliths/spines: total number of preserved otoliths or spines noted on the form according to the procedures described in the [data sheets](#).

No. of frozen fish: total number of frozen fish according to the procedures described in the data sheets.

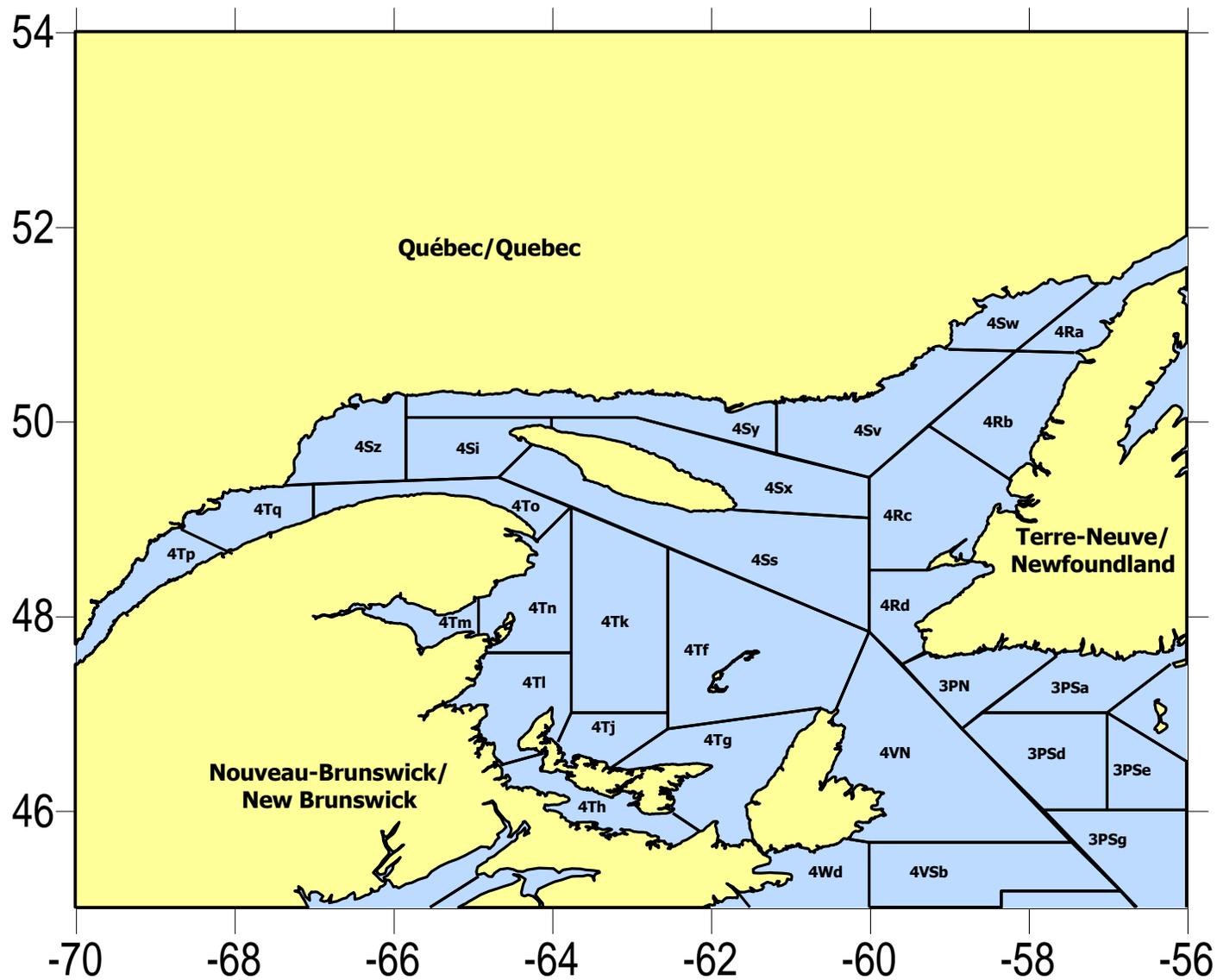
Notes: space provided for comments.

Limits of the NAFO fishing unit areas (Halliday and Pinhorn 1990). [See the map.](#)

NAFO: Northwest Atlantic Fisheries Organization

UNIT AREA	DESCRIPTION
4Tf	Magdalen Islands area
4Tm	Restigouche to Port-Daniel Est
4Tn	Pointe-au-Maquereau to Cap-de-Gaspé
4To	*Cap-de-Gaspé to Capucins
4Tp	Ste-Flavie to Quebec to Colombier
4Tq	Les Méchins to Métis and Betsiamites to Pointe-des-Monts
4Si	Area west to Anticosti Island
4Ss	Area south to Anticosti Island
4Sz	*Pointe-des-Monts to rivière Moisie
4Sy	*Rivière Moisie to Natashquan
4Sv	Kégaska to Tête-à-la-Baleine
4Sw	Baie-des-Moutons to Blanc-Sablon
4Ra	*Blanc-Sablon to Pointe Riche
4Rb	*Pointe Riche to Pearl Island
4Rc	*Pearl Island to Cape St George
4Rd	*Cape St George to Cape Ray
3Pn	*Cape Ray to Burgeo
* Locality included in the zone.	

NAFO unit areas (Adapted from Halliday and Pinhorn 1990).



Types of measurements for marine fish sampling.

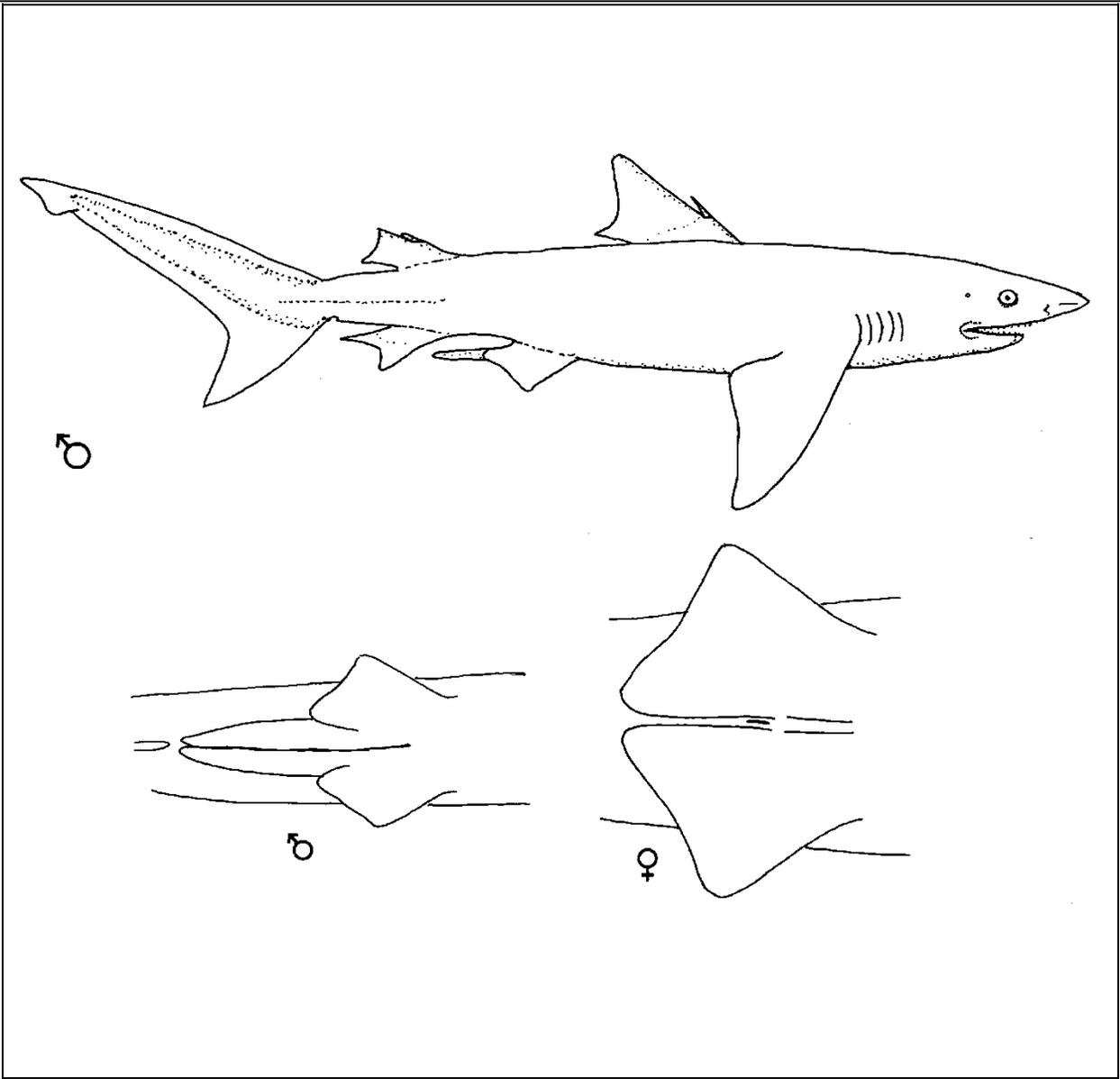


(3) (2)(1)

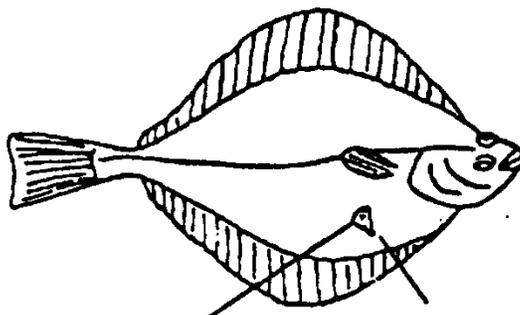
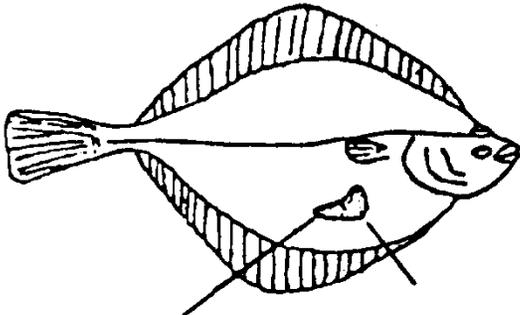
Photo: S. Hurtubise

- | | |
|------------------------------------|--|
| (1) <u>Total</u> length: | from the forward end of the head to the end of the longest caudal fin ray, except for herring of area 4T for which the rays must be brought back on the longitudinal axis by gripping the tail. |
| (2) <u>Fork</u> length: | from the forward end of the head to the cartilaginous end of the shortest ray or median ray of the caudal fin. |
| (3) <u>Standard</u> length: | from the forward end of the head to the end of the caudal peduncle. |

Illustrations of the sexual characteristics of the Spiny Dogfish (Compagno 1984).



Illustrations of the sexual characteristics of flatfish (Adapted from Kulka and Firth 1985).

		IMMATURE	MATURE
MALE	 <p>small and firm gonad</p> <p>anterior part round</p>	 <p>whitish gonad, firm no posterior lobe</p> <p>anterior part slender</p> <p>Photo: R. Morneau</p>	
	 <p>small gonade, posterior lobe not much developed</p> <p>anterior part round</p>	 <p>soft gonad, pinkish</p> <p>anterior part round</p> <p>Photo: R. Morneau</p>	

[Description of a data sheet - Invertebrates](#)

DATA SHEETS

[Waved Whelk](#) – [Additional taxonomic information](#)

[Sea cucumber](#) – [Additional taxonomic information](#)

[Common Razor Clam](#) – [Additional taxonomic information](#)

[Hyas Crab](#) – [Additional taxonomic information](#)

[At-sea](#)

[Port](#)

[Rock Crab](#) – [Additional taxonomic information](#)

[Snow Crab](#) – [Additional taxonomic information](#)

[Inshore – At-sea](#)

[Inshore - Port](#)

[Offshore – At-sea](#)

[Offshore - Port](#)

[Northern Shrimp](#) – [Additional taxonomic information](#)

[American Lobster](#) – [Additional taxonomic information](#)

[Surf Clam sp.](#) – [Additional taxonomic information](#)

[Soft Shell Clam](#) – [Additional taxonomic information](#)

[Green Sea Urchin](#) – [Additional taxonomic information](#)

[Scallop sp.](#) – [Additional taxonomic information](#)

[At-sea](#)

[Port](#)

Description of a data sheet - Invertebrates.

<p>Species name</p> <p>CODE: species code (Waite 1983)</p>	<p>Species illustration</p>
<p>Fishing zone:</p>	<p>Zones of the fishery management plan to which the data sheet applies.</p>
<p>Sampling protocol:</p>	<p>Type of sampling (port or at-sea).</p>
<p>PROCEDURES</p>	
<p>USE:</p>	<p>The form corresponding to the sampled species as well as the directives attached to it, according to the type of sampling.</p>
<p>SELECT:</p>	<p>The number of individuals required per sample.</p>
<p>SEX:</p>	<p>Indication on the need for determining or not the sex for the sampled species.</p>
<p>MEASURE:</p>	<p>The grouping and the type of length measurement required for the sampled species.</p>
<p>COLLECT:</p>	<p>The selection criteria for the preservation of specimens.</p>
<p>PRESERVE:</p>	<p>The preservation method for the collection of specimens.</p>

WAVED WHELK

CODE: 4211



Photo: Y. Dufresne

Fishing zone:

1 to 15

Sampling protocol:

at-sea or port sampling

PROCEDURES

USE:

at-sea:

Complete the [form](#) according to the related [directives](#).
Change form after each sampled tow.

port:

Complete the [form](#) according to the related [directives](#).

SELECT:

at-sea:

All the whelks of a pot for as many pots as possible per trip.

port:

Select randomly around 150 whelks from the overall catch. If the landing is categorized according to commercial criteria, all categories must be sampled. The number of whelks to sample by category is defined by the following rule:

$150 \text{ whelks} \div \text{by the number of categories} = \text{the number of whelks to measure by category.}$

SEX:

Yes.

MEASURE:

The [maximal height](#) of the shell and round to the nearest 1.0 mm.

COLLECT:

No.

PRESERVE:

No.

Directives related to the form – Waved Whelk (at-sea sampling).

Coded by:	first cell:	M = DFO, sea O = Observer, sea
	following two cells:	sampled region code. CN = North Shore ES = Estuary GN = North Gaspé GS = South Gaspé IM = Magdalen Islands
	last three cells:	first sampler initials.
Species:	sampled species code according to the data sheets.	
Sample no.:	each sampler gives a unique number to each sample by species, regardless of the fishing location.	
Date:	sampling date (DD MM YY).	
Vessel name:	name of the fishing vessel that caught the sampled species.	
CFV no.:	commercial fishing vessel number (999999 for combined vessels, no vessel or when number not available).	
Landing district:	code of the district where the sampled species was landed.	
Fishing zone and ground:	the fishing zone in the first three cells. The fishing ground in the last four.	
Landed weight:	total weight, in kilograms, of the sampled species commercial landing. Notice: Landing = catch - discard.	
Gear:	code of the gear used by the fisher.	
Total no. of pots:	total number of hauled pots corresponding to the landing.	
Mesh size:	size, in millimeters, of the pot stretched mesh.	
Pot seq. no.:	sequential number of the pot hauling, as determined by the fisher.	
Depth:	depth, in meters, of the site where the gear has been fishing.	
Soaking time	number of days during which the pot was soaked.	
Catch weight	total weight, in kilograms, of the sampled species catch (before discarding).	

Sample weight: total weight, at the nearest 0.1 kilogram, of all the measured whelks noted on the form. The value may be exact or estimated.

Fishing site: position of the sampled pot: latitude and longitude (ddmm.mm) or Loran-C coordinates if latitude and longitude are not available.

Height: [maximal height](#) of the shell measured according to the [procedures](#).

Count/Sex: for each measured whelk, draw a vertical line (|) in the space corresponding to the height and sex ([illustrations](#)). Note the sex in the following way:
M: male F: female

Total: total number of measured whelks for each height-class, per sex.

No. measured total number of measured whelks noted on the form.

No. smashed total number of smashed whelks in the sample that could not be measured.

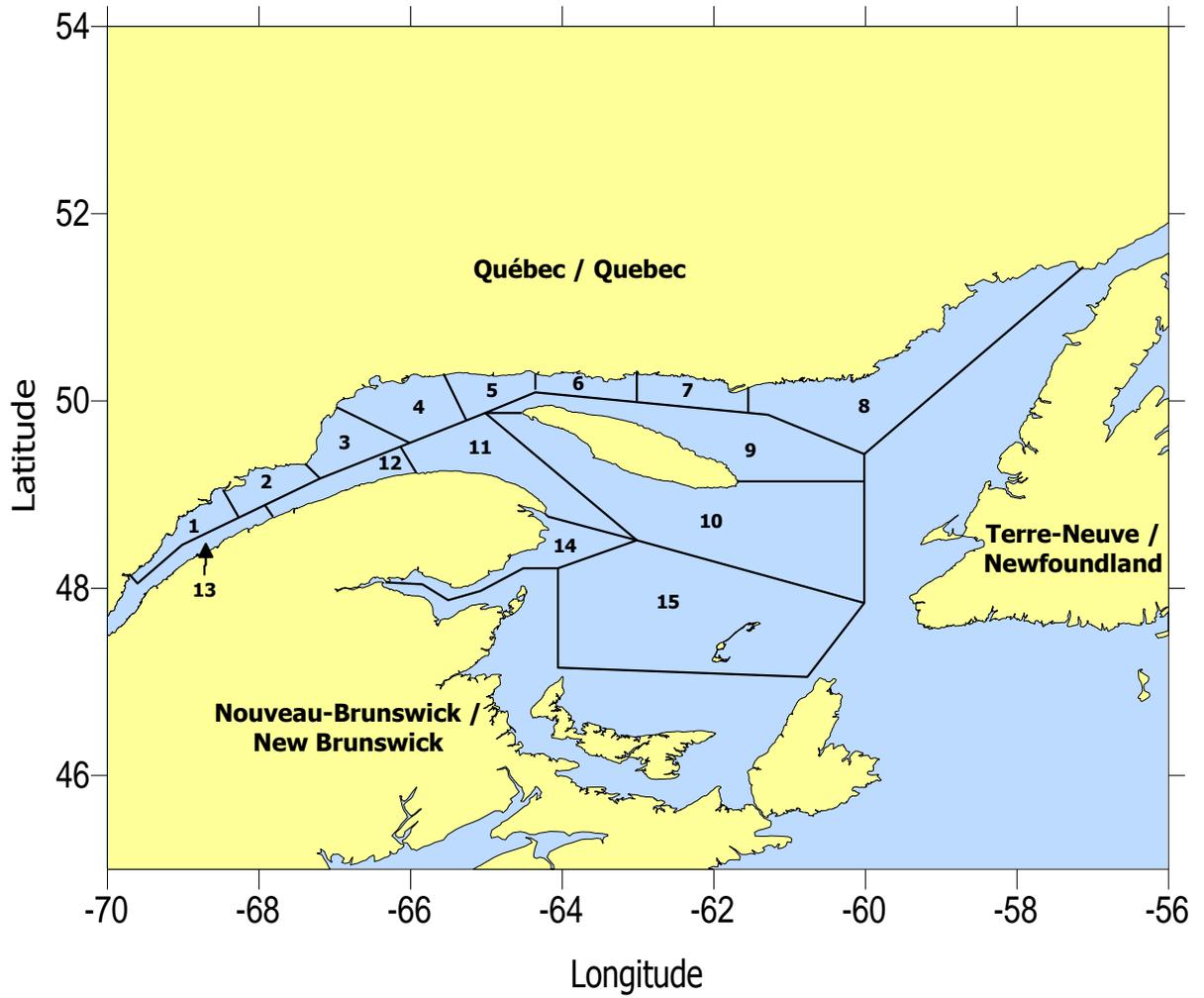
Notes: space provided for comments.

Directives related to the form – Waved Whelk (port sampling).

Coded by:	first cell:	Q = DFO, port
	following two cells:	sampled region code. CN = North Shore ES = Estuary GN = North Gaspé GS = South Gaspé IM = Magdalen Islands
	last three cells:	first sampler initials.
Species:	sampled species code according to the data sheets.	
Sample no.:	each sampler gives a unique number to each sample by species, regardless of the fishing location.	
Date:	sampling date (DD MM YY).	
Vessel name:	name of the fishing vessel that caught the sampled species.	
CFV no.:	commercial fishing vessel number (999999 for combined vessels, no vessel or when number not available).	
Landing district:	code of the district where the sampled species was landed.	
Fishing zone ground:	the fishing zone in the first two cells. The remaining cells are left blank.	
Landed weight:	total weight, in kilograms, of the sampled species commercial landing. Notice: Landing = catch - discard.	
Gear:	code of the gear used by the fisher.	
Total no. of pots:	approximation of the total number of hauled pots corresponding to the landing.	
No. of pots per sling:	average number of pots per sling.	
Soaking time	average number of days during which all the pots were soaked.	
No. of cat.:	total number of categories recorded in the landing (when applicable). NB the category is designating a bunch of whelks selected from the catch according exclusively to commercial criteria.	

Sampled cat.:	code of the commercial category sampled:
	unsorted: 0
	very small: 1
	small: 2
	medium: 3
	large: 4
	very large: 5
	others (to be described in the notes): 9
Cat. weight:	total weight, in kilograms, of the category from which the sampled whelks have been selected.
Sample weight:	total weight, at the nearest 0.1 kilogram, of all the measured whelks noted on the form. The value can be exact or estimated.
Height:	maximal height of the shell measured according to the procedures .
Count/Sex:	for each measured whelk, draw a vertical line () in the space corresponding to the height and sex (illustrations). Note the sex in the following way: M: male F: female
Total:	total number of measured whelks for each height-class, per sex.
No. measured	total number of measured whelks noted on the form.
No. smashed	total number of smashed whelks in the sample that could not be measured.
Notes:	space provided for comments.

Waved Whelk fishing zones.



Type of measurement for Waved Whelk sampling.

WAVED WHELK

end of the whorl



base

Photo: R. Morneau

maximal height of the shell

Illustrations of the Waved Whelk sexual characteristics.

Photo: I. Bérubé



Female (ovary)

Male (penis)

SEA CUCUMBER

CODE : 6611



Photo: J.-P. Dallaire

Fishing zone:

A, B, C et 3A

Sampling protocol:

at-sea or port sampling**PROCEDURES**

USE:

at-sea:

Complete the [form](#) according to the related [directives](#).
Change form after each sampled tow.

port:

Complete the [form](#) according to the related [directives](#).

SELECT:

at-sea:

Around 150 individuals per visited fishing site.

port:

Select randomly around 150 individuals from the overall catch. If the landing is categorized according to commercial criteria, all categories must be sampled. The number of whelks to sample by category is defined by the following rule:

$$150 \text{ individuals} \div \text{by the number of categories} = \text{the number of individuals to measure by category.}$$

SEX:

No.

MEASURE:

Out of water, the sea cucumber is capable of changing shape by stretching or by becoming flaccid at rest. Therefore, it is important to measure the length when the individual is contracted and that it adopts a rather rounded form with the tentacles retracted. The maximum [length](#) is rounded up to the nearest 5.0 mm.

COLLECT:

No.

PRESERVE:

No.

Directives related to the form – Sea cucumber (at-sea sampling).

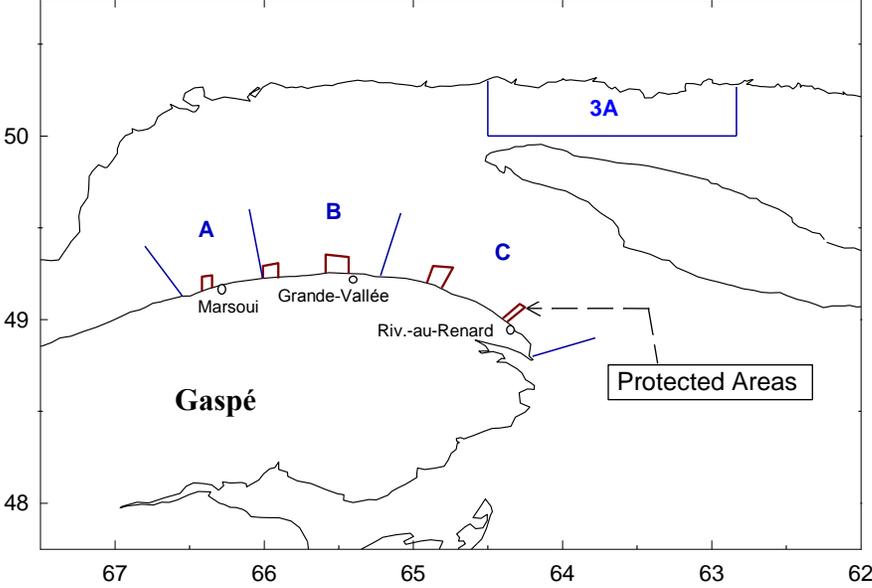
Coded by:	first cell:	M = DFO, sea O = Observer, sea
	following two cells:	sampled region code. CN = North Shore ES = Estuary GN = North Gaspé GS = South Gaspé IM = Magdalen Islands
	last three cells:	first sampler initials.
Landing district:	<u>code of the district</u> where the sampled species was landed.	
Sample no.:	each sampler gives a unique number to each sample by species, regardless of the fishing location.	
Seq. no. of tow:	sequential number of the tow, as determined by the fisher.	
Date:	sampling date (DDMMYYYY).	
Vessel name:	name of the fishing vessel that caught the sampled species.	
CFV no.:	commercial fishing vessel number (999999 for combined vessels, no vessel or when number not available).	
Gear:	note the gear code according to the following descriptions: dredge/runner sea cucumber LGS dredge other DRB diving PLO	
Species:	sampled species code according to the data sheets.	
Depth:	depth, in meters, of the site where the gear has been fishing.	
Speed:	speed, in knots, at which the dredge was towed for the sampled tow.	
No. of baskets in tow:	total number of collected baskets in the sampled tow.	
Tow weight:	total weight, in kilograms, of the species commercial landing in the sampled tow. Notice: Landing = catch - discard.	
Fishing site:	starting and ending position of the sampled tow: latitude and longitude (ddmm.mm), starting and ending time of the sampled tow, tow duration: number of minutes during which the sampled dredge was fishing.	
Notes:	space provided for comments.	

Bottom type:	type of bottom determined according to the presence of mud, sand or rocks (< 5 cm, between 5 and 20 cm or > 20 cm) in the sampled tow.
Bycatch species:	number of individuals of other species counted in the sampled tow (green urchins, Hyas crabs, rock crabs, snow crabs, scallops, whelks, sea stars sp.)
No. measured	total number of measured individuals noted on the form.
Total number of counted indiv. in tow:	total number of individuals in the sampled tow. May differ from No. measured if all individuals have not been measured.
Length:	maximal length of an individual measured according to the procedures .
Count:	for each measured individual, draw a vertical line () in the space corresponding to the maximal length.
Total:	total number of measured individuals for each length-class.

Directives related to sea cucumber (port sampling).

Coded by:	first cell:	Q = DFO, port
	following two cells:	sampled region code. CN = North Shore ES = Estuary GN = North Gaspé GS = South Gaspé IM = Magdalen Islands
	last three cells:	first sampler initials.
Landing district:	code of the district where the sampled species was landed.	
Sample no.:	each sampler gives a unique number to each sample by species, regardless of the fishing location.	
Date:	sampling date (DDMMYYYY).	
Vessel name:	name of the fishing vessel that caught the sampled species.	
CFV no.:	commercial fishing vessel number (999999 for combined vessels, no vessel or when number not available).	
Gear:	note the gear code according to the following descriptions: dredge/runner sea cucumber LGS dredge other DRB diving PLO	
Species:	sampled species code according to the data sheets.	
Landed weight:	total weight, in kilograms, of the sampled species commercial landing. Notice: Landing = catch - discard.	
Fishing site (average position):	position of the sampled tow: latitude and longitude (ddmm.mm) Zone is filled according to the fishing zone in which the fishing activity is occurring.	
Notes:	space provided for comments.	
No. measured	total number of measured individuals noted on the form.	
Length:	maximal length of an individual measured according to the procedures .	
Count:	for each measured individual, draw a vertical line () in the space corresponding to the maximal length.	
Total:	total number of measured individuals for each length-class.	

Sea cucumber fishing zones.



Type of measure used for the sampling of sea cucumber.

SEA CUCUMBER



Photo: M. Beaudoin

Maximal length of a contracted individual

COMMON RAZOR CLAM

CODE: 4301



Photo: S. Hurtubise

Fishing zone:

[1 to 3](#)

Sampling protocol:

at-sea or port sampling

PROCEDURES

USE:

at-sea:

Complete the [form](#) according to the related [directives](#). Change form after each sampled haul.

port:

Complete the [form](#) according to the related [directives](#).

SELECT:

at-sea:

A maximum of 150 clams per haul for as many hauls as possible per trip.

port:

Select randomly around 150 clams from the overall catch. If the landing is categorized according to commercial criteria, all categories must be sampled. The number of clams to sample by category is defined by the following rule:

$150 \text{ clams} \div \text{the number of categories} = \text{the number of clams to measure by category.}$

SEX:

No.

MEASURE:

The [maximal anteroposterior length](#) of the shell and round to the nearest 1.0 mm.

COLLECT:

No.

PRESERVE:

No.

Total no. of tows/pans:	total number of tows or of collected pans at the time of picking, corresponding to the landing.
Total width of the dredge:	total width of a dredge multiplied by the total number of used dredges and round to the nearest 0.1 m.
Seq. no. of tow/pan:	sequential number of the tow or of the filling of pan, as determined by the fisher.
Depth:	depth, in meters, of the site where the gear has been fishing.
Tow/pick duration:	number of minutes during which the sampled dredge was fishing or number of minutes spent by the harvester to fill the sampled pan.
Tow/pan weight:	total weight, in kilograms, of the tow/pan (before discarding) for the sampled species.
Sampled fraction of tow/pan:	sampled fraction, in percent, of the tow/pan. NB a tow may be done with more than one dredge.
Fishing site:	position of the sampled tow: latitude and longitude (ddmm.mm) or Loran-C coordinates if latitude and longitude are not available.
Length:	the maximal anteroposterior length of the shell measured according to the procedures .
Count:	for each measured clam, draw a vertical line () in the space corresponding to the shell length.
Total:	total number of measured clams for each length-class.
No. of measured clams:	total number of measured clams noted on the form.
Notes:	space provided for comments.

Directives related to the form – Common Razor Clam (port sampling).

Coded by: first cell: Q = DFO, port
following two cells: sampled region code.
CN = North Shore
ES = Estuary
GN = North Gaspé
GS = South Gaspé
IM = Magdalen Islands
last three cells: first sampler initials.

Species: sampled species code according to the data sheets.

Sample no.: each sampler gives a unique number to each sample by species, regardless of the fishing location.

Date: sampling date (DD MM YY).

Vessel name: name of the fishing vessel that caught the sampled species.

CFV no.: commercial fishing vessel number (999999 for combined vessels, no vessel or when number not available).

Landing district: [code of the district](#) where the sampled species was landed.

Fishing zone and ground: the first cell according to the following codification:
Magdalen Islands: 1
Gaspé: 2
North Shore : 3
The [fishing ground](#) is noted in the last four cells.

Landed weight: total weight, in kilograms, of the sampled species commercial landing.
Notice: Landing = catch - discard.

Gear: note the gear code according to the following description:
standard dredge (boat) DRB
hydraulic dredge (without a conveyor) DHY
hydraulic dredge (with a conveyor) DHYC
manually picked CMA

Total no. of tows/pans: total number of tows or of collected pans at the time of picking, corresponding to the landing.

No. of cat.: total number of categories recorded in the landing (when applicable).
NB the category is designating a bunch of clams selected from the catch according exclusively to commercial criteria.

Sampled cat.: code of the commercial category sampled:

unsorted:	0
very small:	1
small:	2
medium:	3
large:	4
very large:	5
others (to be described in the notes):	9

Cat. weight: total weight, in kilograms, of the category from which the sampled clams have been selected.

Sample weight: total weight, at the nearest 0.1 kilogram, of all the measured clams noted on the form. The value can be exact or estimated.

Length: the [maximal anteroposterior length](#) of the shell measured according to the [procedures](#).

Count: for each measured clam, draw a vertical line (|) in the space corresponding to the shell length.

Total: total number of measured clams for each length-class.

No. of measured clams: total number of measured clams noted on the form.

Notes: space provided for comments.

Type of measurement for Common Razor Clam sampling.

COMMON RAZOR CLAM



Photo: S. Hurtubise

HYAS CRAB

CODE: 2521 (*H. araneus*)
2527 (*H. coarctatus*)



Hyas araneus
Photo: A. Chevrier

Fishing zone: [12 to CN-4](#)

Sampling protocol: **at-sea**

PROCEDURES

USE:

at-sea:

Complete the [form](#) according to the related [directives](#).
Change form after each sampled pot.

SELECT:

at-sea:

All the crabs from a pot for as many pots as possible per trip.

SEX:

at-sea:

Yes.

MEASURE:

at-sea:

1. the carapace maximal [width](#) for males and females and round to the nearest 1.0 mm.
2. the right claw maximal [height](#) for males only and round to the nearest 0.1 mm.

If the right claw is missing, use the left claw.

COLLECT:

No.

PRESERVE:

No.

HYAS CRAB

CODE: 2521 (*H. araneus*)
2527 (*H. coarctatus*)



Hyas araneus
Photo: A. Chevrier

Fishing zone: [12 to CN-4](#)
Sampling protocol: **port**

PROCEDURES

USE: port:	Complete the form according to the related directives .
SELECT: port:	Select randomly around 150 crabs from the overall catch. If the landing is categorized according to commercial criteria, all categories must be sampled. The number of crabs to sample by category is defined by the following rule: $150 \text{ crabs} \div \text{by the number of categories} = \text{the number of crabs to measure by category.}$
SEX: port:	No.
MEASURE: port:	1. the weight of each male only and round to the nearest 1.0 g. 2. the carapace maximal width for males only and round to the nearest 1.0 mm. 3. the right claw maximal height for males only and round to the nearest 1.0 mm. If the right claw is missing, use the left claw.
COLLECT:	No.
PRESERVE:	No.

Directives related to the form – Hyas Crab (at-sea sampling).

Coded by:	first cell:	M = DFO, sea O = Observer, sea
	following two cells:	sampled region code. CN = North Shore ES = Estuary GN = North Gaspé GS = South Gaspé IM = Magdalen Islands
	last three cells:	first sampler initials.
Species:	sampled species code according to the data sheets.	
Sample no.:	each sampler gives a unique number to each sample by species, regardless of the fishing location.	
Date:	sampling date (DD MM YY).	
Vessel name:	name of the fishing vessel that caught the sampled species.	
CFV no.:	commercial fishing vessel number (999999 for combined vessels, no vessel or when number not available).	
Landing district:	code of the district where the sampled species was landed.	
Fishing zone and ground:	the fishing zone in the first three cells. The fishing ground is noted in in the last four cells.	
Landed weight:	total weight, in kilograms, of the sampled species commercial landing. Notice: Landing = catch - discard.	
Gear:	code of the type of pot used by the fisher.	
Mesh size:	size, in millimeters, of the stretched mesh of the pot.	
Seq. no. of the pot	sequential number of the pot haul, as determined by the fisher.	
Depth:	depth, in meters, of the fishing site where the pot was soaked.	
Soaking time	number of days, at the nearest 0.1 day, during which the pot was soaked.	
Fishing site:	position of the sampled pot: latitude and longitude (ddmm.mm) or Loran-C coordinates if latitude and longitude are not available.	

Sex: [sex](#) of the measured crabs. Note the sex as follows:

M: male F: female

Carapace width [carapace maximal width](#) measured according to the [procedures](#).

Claw height [claw maximal height](#) measured according to the [procedures](#).

Carapace condition: (1) Clean: immaculated exoskeleton, carapace with no epibiont, iridescent claws.
(2) Intermediate: hard exoskeleton slightly marked with scars, presence of small epibionts on the carapace, claws more or less iridescent.
(3) Dirty: exoskeleton dirty, marked with scars, important presence of bryozoans and/or epibionts on the carapace, drab claws.

Species: write **A** if *Hyas araneus* or **V** if *Hyas coarctatus*.

Missing legs: status of legs according to the codification presented below with respect to the [sequence](#).

NB leave blank if no leg is missing, regenerated or broken by handling.

M: missing R: regenerated C: broken by handling

Maturity stages [maturity stage](#) of females, [eggs development](#) as well as [clutch status](#).

Notes: space provided for comments.

Directives related to the form – Hvas Crab (port sampling).

Coded by:	first cell:	Q = DFO, port
	following two cells:	sampled region code. CN = North Shore ES = Estuary GN = North Gaspé GS = South Gaspé IM = Magdalen Islands
	last three cells:	first sampler initials.
Species:	sampled species code according to the data sheets.	
Sample no.:	each sampler gives a unique number to each sample by species, regardless of the fishing location.	
Date:	sampling date (DD MM YY).	
Vessel name:	name of the fishing vessel that caught the sampled species.	
CFV no.:	commercial fishing vessel number (999999 for combined vessels, no vessel or when number not available).	
Landing district:	code of the district where the sampled species was landed.	
Fishing zone and ground:	the fishing zone in the first three cells. The remaining cells are left blank	
Landed weight:	total weight, in kilograms, of the sampled species commercial landing. Notice: Landing = catch - discard.	
Community code	code of the community where the crab was landed.	
Gear:	code of the gear used by the fisher.	
Mesh size:	average size, in millimeters, of the stretched mesh for the sampled pots.	
Depth:	average depth, in meters, of all the fishing sites where the pots were soaked.	
No. of cat.:	total number of categories recorded in the landing (when applicable). NB the category is designating a bunch of crabs selected from the catch according exclusively to commercial criteria.	

Sampled cat.: code of the commercial category sampled:

unsorted:	0
very small:	1
small:	2
medium:	3
large:	4
very large:	5
others (to be described in the notes):	9

Cat. weight: total weight, in kilograms, of the category from which the sampled crabs have been selected.

Weight: weight, in grams, for each male only.

Carapace width [carapace maximal width](#) measured according to the [procedures](#).

Claw height [claw maximal height](#) measured according to the [procedures](#).

Carapace condition:

(1) Clean:	immaculated exoskeleton, carapace with no epibiont, iridescent claws.
(2) Intermediate:	hard exoskeleton slightly marked with scars, presence of small epibionts on the carapace, claws more or less iridescent.
(3) Dirty:	exoskeleton dirty, marked with scars, important presence of bryozoans and/or epibionts on the carapace, drab claws.

Species: write **A** if *Hyas araneus* or **V** if *Hyas coarctatus*.

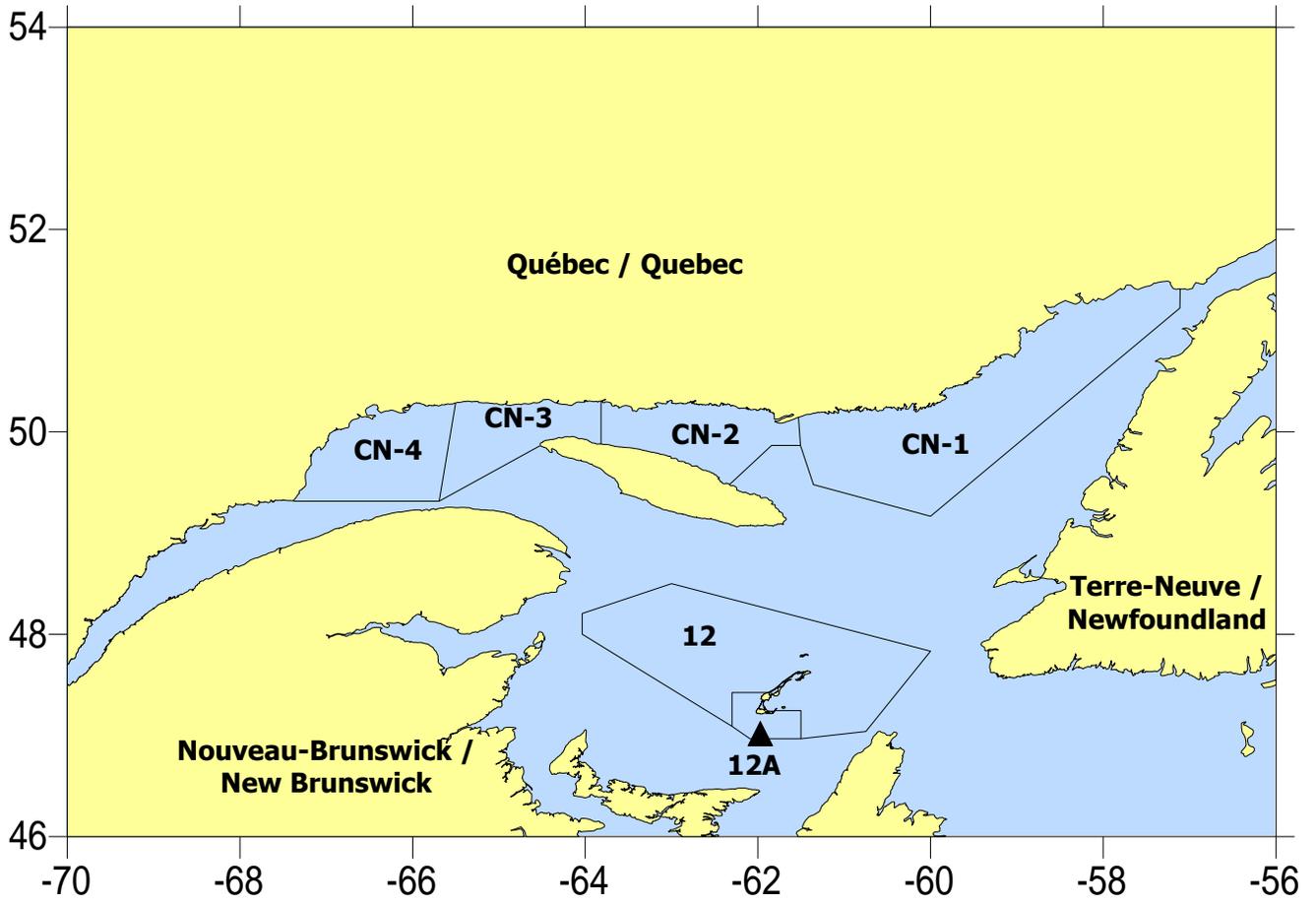
Missing legs: status of legs according to the codification presented below with respect to the [sequence](#).

NB leave blank if no leg is missing, regenerated or broken by handling.

M: missing R: regenerated C: broken by handling

Notes: space provided for comments.

Hyas Crab fishing zones.



ROCK CRAB

CODE: 2513



Photo: S. Hurtubise

Fishing zone:

12A to 17C

Sampling protocol:

at-sea or port sampling

PROCEDURES

USE:

at-sea:

Complete the [form](#) according to the related [directives](#). Change form after each sampled pot.

port:

Complete the [form](#) according to the related [directives](#).

SELECT:

at-sea:

All the crabs of a pot for as many pots as possible per trip.

port:

Select randomly around 150 crabs from the overall catch. If the landing is categorized according to commercial criteria, all categories must be sampled. The number of crabs to sample by category is defined by the following rule:

$150 \text{ crabs} \div \text{the number of categories} = \text{the number of crabs to measure by category.}$

SEX:

at-sea:

Yes.

port:

No.

MEASURE:

The [maximal width](#) of the carapace (spine to spine) using a modified vernier caliper (with plates). Round to the nearest 1.0 mm.

COLLECT:

No.

PRESERVE:

No.

Directives related to the form – Rock Crab (at-sea sampling).

Coded by:	first cell:	M = DFO, sea O = Observer, sea
	following two cells:	sampled region code. CN = North Shore ES = Estuary GN = North Gaspé GS = South Gaspé IM = Magdalen Islands
	last three cells:	first sampler initials.
Species:	sampled species code according to the data sheets.	
Sample no.:	each sampler gives a unique number to each sample by species, regardless of the fishing location.	
Date:	sampling date (DD MM YY).	
Vessel name:	name of the fishing vessel that caught the sampled species.	
CFV no.:	commercial fishing vessel number (999999 for combined vessels, no vessel or when number not available).	
Landing district:	code of the district where the sampled species was landed.	
Fishing zone and ground:	the fishing zone in the first three cells. The fishing ground is noted in in the last four cells.	
Landed weight:	total weight, in kilograms, of the sampled species commercial landing. Notice : Landing = catch - discard.	
Community code	code of the community where the crab was landed.	
Sling seq. no.	sequential number of the sling, as determined by the fisher.	
or		
Fishing area no.	note the fishing area code associated with the sampled site. NB The fishing area number is used for all the catching techniques other than the sling.	
Soaking time	number of days during which the pot was soaked.	
Fishing site:	position of the sampled pot: latitude and longitude (ddmm.mm) or Loran-C coordinates if latitude and longitude are not available.	
Pot no.:	sequential number of the pot, as determined by the fisher.	

- Pot type: code for the type of pot:
- (1) standard wooden pot of which the length, the width and the height are respectively of 92 cm x 71 cm x 50 cm.
 - (2) standard metal pot of which the length, the width and the height are respectively of 92 cm x 71 cm x 50 cm.
 - (3) standard plasticized composite pot of which the length, the width and the height are respectively of 92 cm x 71 cm x 50 cm.
 - (4) conical pot, rock crab.
 - (5) wooden pot of which the length, the width and the height are respectively of 92 cm x 71 cm x 42 cm.
 - (6) wooden pot of which the length, the width and the height are respectively of 124 cm x 92 cm x 50 cm. This pot is characterized by the presence of two parlours.
 - (9) others (to be described in the notes).

Activity code
CA / CR:

for each hauled pot (CA) and each measured crab (CR), note:

CA:

- S: standard pot (with no anomaly).
P: lost pot.
B: blocked pot.
D: defective pot.

CR:

- M: crabs present in the pot and measured.
N: crabs present in the pot but not measured.
A: no crab in the pot.

Width: [carapace maximal width](#) measured according to the described [procedures](#).

Sex: sex of the measured crab. Note in the following way:

M: male F: female

Eggs: note the presence or absence of eggs for females in the following way:

- 0: absence of eggs
1: presence of eggs

- Carapace condition:
- (1) carapace still soft at the abdomen level, although the dorsal surface is hard, walking legs still soft and cracking but hardened claws.
 - (2) hard crab with a recent carapace, clean and iridescent, white abdomen, no epiphyte, very sharp dactyls.
 - (3) hard crab with a drab carapace, yellowed abdomen and rounded dactyls.
 - (4) hard crab, drab carapace covered with algae and hydrozoa, yellow-beige abdomen with a dirty aspect and dactyls end used and blackened.

NB The conditions 1 and 2 are associated with crabs having moulted in the current year.

No. of measured crabs:

total number of measured crabs noted on the form.

Notes:

space provided for comments.

Directives related to the form – Rock Crab (port sampling).

Coded by:	first cell:	Q = DFO, port
	following two cells:	sampled region code. CN = North Shore ES = Estuary GN = North Gaspé GS = South Gaspé IM = Magdalen Islands
	last three cells:	first sampler initials.
Species:	sampled species code according to the data sheets.	
Sample no.:	each sampler gives a unique number to each sample by species, regardless of the fishing location.	
Date:	sampling date (DD MM YY).	
Vessel name:	name of the fishing vessel that caught the sampled species.	
CFV no.:	commercial fishing vessel number (999999 for combined vessels, no vessel or when number not available).	
Landing district:	code of the district where the sampled species was landed.	
Fishing zone and ground:	the fishing zone in the first three cells. The remaining cells are left blank	
Landed weight:	total weight, in kilograms, of the sampled species commercial landing. Notice: Landing = catch - discard.	
Community code	code of the community where the crab was landed.	
Gear:	code of the fishing gear used by the fisher.	
Total no. of pots	approximation of the total number of hauled pots corresponding to the landing.	
No. of pots per sling/area:	average number of pots per sling or per fishing area.	
Soaking time	average number of days during which all the pots were soaked.	
No. of cat.:	total number of categories recorded in the landing (when applicable). NB the category is designating a bunch of crabs selected from the catch according exclusively to commercial criteria.	

Sampled cat.: code of the commercial category sampled:

unsorted: 0

very small: 1

small: 2

medium: 3

large: 4

very large: 5

others (to be described
in the notes): 9

Cat. weight: total weight, in kilograms, of the category from which the sampled crabs have been selected.

Sample weight: total weight, in kilograms, of all the measured crabs noted on the form. The value can be exact or estimated.

Width: [carapace maximal width](#) measured according to the described [procedures](#).

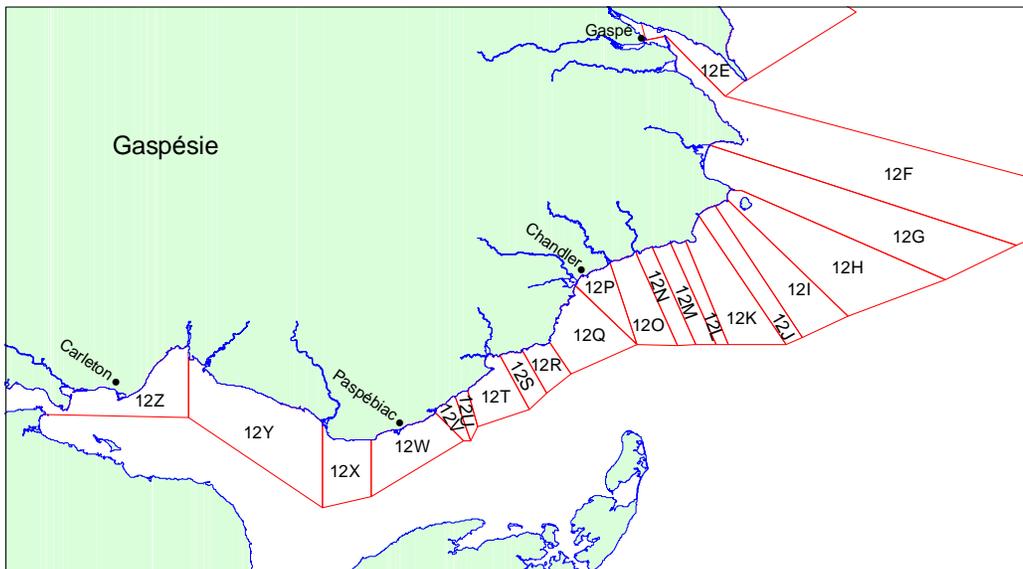
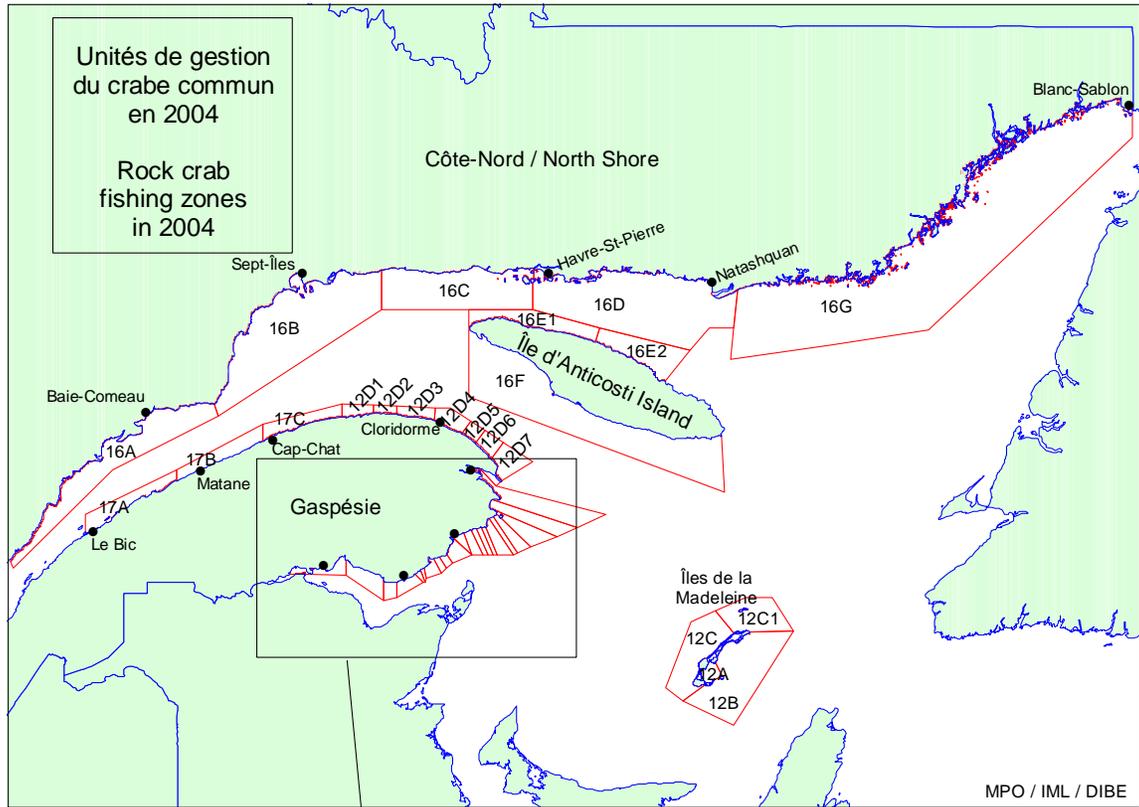
- [Carapace condition](#):
- (1) carapace still soft at the abdomen level, although the dorsal surface is hard, walking legs still soft and cracking but hardened claws.
 - (2) hard crab with a recent carapace, clean and iridescent, white abdomen, no epiphyte, very sharp dactyls.
 - (3) hard crab with a drab carapace, yellowed abdomen and rounded dactyls.
 - (4) hard crab, drab carapace covered with algae and hydrozoa, yellow-beige abdomen with a dirty aspect and dactyls end used and blackened.

NB The conditions 1 and 2 are associated with crabs having moulted in the current year.

No. of measured crabs: total number of measured crabs noted on the form.

Notes: space provided for comments.

Rock Crab fishing zones.



Community codes

Codes	Descriptions	Codes	Descriptions
1	Anse-à-Brillant	40	Port-Cartier
2	Anse-à-Valleau	41	Port-Daniel
3	Baie-Comeau	42	Rivière-Portneuf
4	Baie-Trinité	43	Rimouski
5	Blanc Sablon	44	Rivière-au-Renard
6	Bonaventure	45	Rivière-au-Tonnerre
7	Brador	46	Rivière-Madeleine
8	Cap-aux-Meules	47	Rivière-Saint-Paul
9	Cap-des-Rosiers	48	Ruisseau Chapados
10	Carleton	49	Sept-Îles
11	Cloridorme	50	St-Georges-de-Malbaie
12	Étang-du-Nord	51	St-Godefroi
13	Gascons	52	St-Joachim-de-Tourelle
14	Godbout	53	Ste-Anne-des-Monts
15	Grande-Entrée	54	Ste-Thérèse de Gaspé
16	Grande-Rivière	55	Tête-à-la-Baleine
17	Grande-Vallée	56	Vieux-fort
18	Grosse Île	57	Pointe Sud (Île d'Anticosti)
19	Harrington	58	Baie du Renard (Île d'Anticosti)
20	Havre-Aubert	59	Miguasha
21	Havre-aux-Maisons	60	Sandy Beach (Gaspé)
22	Havre-Saint-Pierre	61	Anse-à-Beaufils
23	Île d'Entrée	62	Baie-Johan-Beetz
24	Kégaska	63	Chandler
25	La Romaine	64	St-Siméon (Bonaventure)
26	La Tabatière	65	Anse-au-Griffon
27	Les Escoumins	66	New-Richmond
28	Les Méchins	67	Rivière Caplan (Caplan)
29	Matane	68	Ruisseau Leblanc (Caplan)
30	Middle Bay	69	Cap-Chat
31	Millerand	70	Caraquet
32	Mingan	71	Shippagan
33	Mont-Louis	72	Lamèque
34	Natashquan	73	Port au Choix
35	Newport	74	Port Saunders
36	Old Harry	75	Black Dove Cove
37	Paspébiac	76	Grande Grave
38	Pointe-au-Loup	77	Tadoussac
39	Pointe-Basse		

Fishing area codes

CODE	FISHING AREA
1	Belle Anse
2	Est de la Romaine
3	L'île to Godi aux îles to Gode
4	L'île du Grand Rigolet
5	Ouest de la Romaine
6	Est de Tête-à-la-Baleine
7	Tête-à-la-Baleine
8	Baie du Renard (Île d'Anticosti)
9	Ouest de Baie des Moutons
15	Baie Plaisance
16	St-Georges-de-Malbaie
30	Bonaventure
31	Maria-Carleton*
32	Carleton-St-Omer*
33	St-Omer-Miguasha
34	Grande-Rivière
35	Anse-au-Griffon
36	St-Maurice-de-l'Échouerie
37	Petit-Cap
38	Cap-des-Rosiers
39	Anse-à-Brillant
40	Rivière-au-Renard
41	Saint-Godefroi
42	Sainte-Thérèse-de-Gaspé
43	Chandler

Type of measurement for Rock Crab sampling.

ROCK CRAB

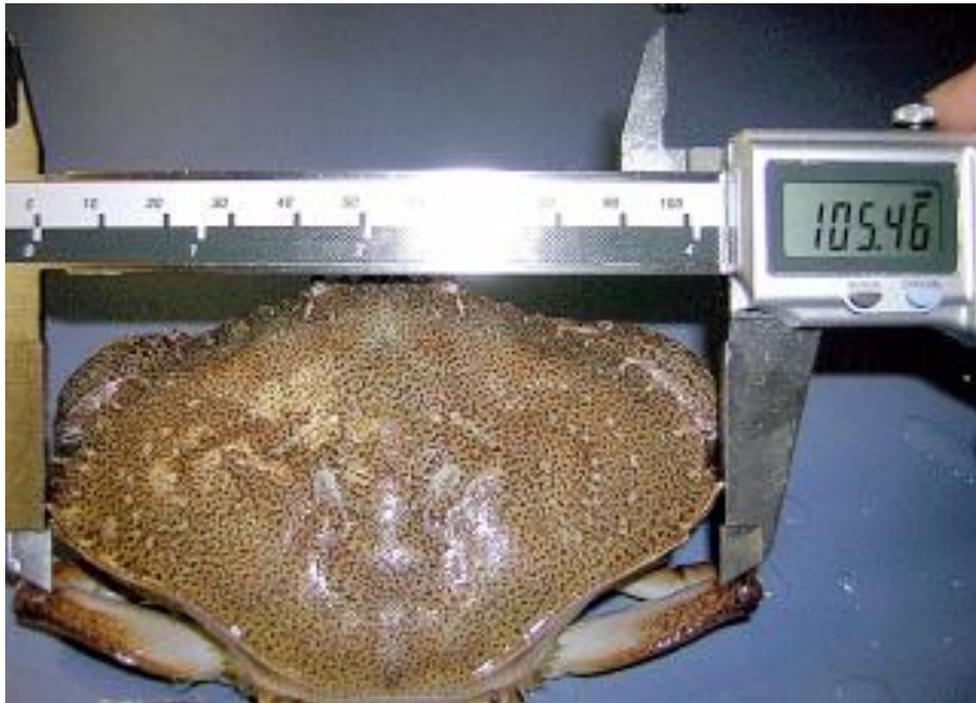


Photo: S. Hurtubise

SNOW CRAB

CODE: 2526



Photo: I. Bérubé

Fishing zone:

[12A to 17](#)

Sampling protocol:

at-sea

PROCEDURES

USE:

at-sea:

Complete the [form](#) according to the related [directives](#).
Change form after each sampled pot.

SELECT:

at-sea:

All the crabs from a pot for as many pots as possible per trip.

SEX:

at-sea:

Yes.

MEASURE:

at-sea:

1. the carapace maximal [width](#) for males and females and round to the nearest 1.0 mm.
2. the right claw maximal [height](#) for males only and round to the nearest 0.1 mm.

If the right claw is missing, use the left claw.

COLLECT:

No.

PRESERVE:

No.

SNOW CRAB

CODE: 2526



Photo: I. Bérubé

Fishing zone: [12A to 17](#)
Sampling protocol: **port**

PROCEDURES

USE: port:	Complete the form according to the related directives .
SELECT: port:	Select randomly around 150 crabs from the overall catch. If the landing is categorized according to commercial criteria, all categories must be sampled. The number of crabs to sample by category is defined by the following rule: $150 \text{ crabs} \div \text{by the number of categories} = \text{the number of crabs to measure by category.}$
SEX: port:	No.
MEASURE: port:	<ol style="list-style-type: none">1. the weight of each male only and round to the nearest 1.0 g.2. the carapace maximal width for males only and round to the nearest 1.0 mm.3. the right claw maximal height for males only and round to the nearest 1.0 mm. If the right claw is missing, use the left claw.
COLLECT:	No.
PRESERVE:	No.

SNOW CRAB

CODE: 2526



Photo: I. Bérubé

Fishing zone:

12

Sampling protocol:

at-sea

PROCEDURES

USE:

at-sea:

Complete the [form](#) according to the related [directives](#).
Change form after each sampled pot.

SELECT:

at-sea:

A total of 40 males and 10 females by pot for as many pots as possible per trip.

SEX:

at-sea:

Yes.

MEASURE:

at-sea:

1. the carapace maximal [width](#) for males and females using a modified vernier caliper (with plates). Round to the nearest 1.0 mm.
2. the right claw maximal [height](#) for males only using a modified vernier caliper (with plates). Round to the nearest 0.1 mm.

If the right claw is missing, use the left claw.

COLLECT:

No.

PRESERVE:

No.

SNOW CRAB

CODE: 2526



Photo: I. Bérubé

Fishing zone:

12

Sampling protocol:

port

PROCEDURES

USE:

port:

Complete the [form](#) according to the related [directives](#).

SELECT:

port:

Select randomly around 250 crabs from the overall catch. If the landing is categorized according to commercial criteria, all categories must be sampled. The number of crabs to sample by category is defined by the following rule:

$250 \text{ crabs} \div \text{by the number of categories} = \text{the number of crabs to measure by category.}$

SEX:

port:

No.

MEASURE:

port:

1. the weight of each male only and round to the nearest 1.0 g.
2. the carapace maximal [width](#) for males only using a modified vernier caliper (with plates). Round to the nearest 0.1 mm.
3. the right claw maximal [height](#) for males only using a modified vernier caliper (with plates). Round to the nearest 0.1 mm.

If the right claw is missing, use the left claw.

COLLECT:

No.

PRESERVE:

No.

Directives related to the form – Snow Crab (at-sea sampling).

Coded by:	first cell:	M = DFO, sea O = Observer, sea
	following two cells:	sampled region code. CN = North Shore ES = Estuary GN = North Gaspé GS = South Gaspé IM = Magdalen Islands
	last three cells:	first sampler initials.
Species:	sampled species code according to the data sheets.	
Sample no.:	each sampler gives a unique number to each sample by species, regardless of the fishing location.	
Date:	sampling date (DD MM YY).	
Vessel name:	name of the fishing vessel that caught the sampled species.	
CFV no.:	commercial fishing vessel number (999999 for combined vessels, no vessel or when number not available).	
Landing district:	code of the district where the sampled species was landed.	
Fishing zone and ground:	the fishing zone in the first three cells. The fishing ground is noted in in the last four cells.	
Landed weight:	total weight, in kilograms, of the sampled species commercial landing. Notice : Landing = catch - discard.	
Gear:	code of the type of pot used by the fisher.	
Mesh size:	size, in millimeters, of the stretched mesh of the pot.	
Seq. no. of the pot	sequential number of the pot haul, as determined by the fisher.	
Depth:	depth, in meters, of the fishing site where the pot was soaked.	
Soaking time	number of days, at the nearest 0.1 day, during which the pot was soaked.	
Fishing site:	position of the sampled pot: latitude and longitude (ddmm.mm) or Loran-C coordinates if latitude and longitude are not available.	

Count: total number of males present in the pot less the number of measured males.

NB this section applies only to zone 12.

Sex: [sex](#) of the measured crabs. Note the sex in the following way:

M: male F: female

Carapace width [carapace maximal width](#) measured according to the [procedures](#).

Claw height [claw maximal height](#) measured according to the [procedures](#).

- Carapace condition:
- (1) Clean and soft: soft and immaculated exoskeleton, carapace with no epibiont, iridescent claws. Approximate age of the carapace if in terminal molt, 0 - 5 months.
 - (2) Clean and hard: hard and immaculated exoskeleton, carapace with no epibiont, iridescent claws. Approximate age of the carapace if in terminal molt, 5 months - 1 year.
 - (3) Intermediate: hard exoskeleton slightly marked with scars, presence of small epibionts on the carapace, claws more or less iridescent. Approximate age of the carapace if in terminal molt, 8 months - 3 years.
 - (4) Dirty and hard: exoskeleton hard, dirty, marked with scars, important presence of bryozoans and/or epibionts on the carapace, drab claws. Approximate age of the carapace if in terminal molt, 2 - 5 years.
 - (5) Dirty and soft: soft exoskeleton, dirty, marked with scars, important presence of bryozoans and/or epibionts on the carapace, drab claws. Approximate age of the carapace if in terminal molt, 4 - 6 years.

Durometer: [reading](#) of the durometer used on the right claw of the males only.

Missing legs: status of legs according to the codification presented below with respect to the [sequence](#).

NB leave blank if no leg is missing, regenerated or broken by handling.

M: missing R: regenerated C: broken by handling

Maturity stages [maturity stage](#) of females, [eggs development](#) as well as [clutch status](#).

Notes: space provided for comments.

Directives related to the form – Snow Crab (port sampling).

Coded by:	first cell:	Q = DFO, port
	following two cells:	sampled region code. CN = North Shore ES = Estuary GN = North Gaspé GS = South Gaspé IM = Magdalen Islands
	last three cells:	first sampler initials.
Species:	sampled species code according to the data sheets.	
Sample no.:	each sampler gives a unique number to each sample by species, regardless of the fishing location.	
Date:	sampling date (DD MM YY).	
Vessel name:	name of the fishing vessel that caught the sampled species.	
CFV no.:	commercial fishing vessel number (999999 for combined vessels, no vessel or when number not available).	
Landing district:	code of the district where the sampled species was landed.	
Fishing zone and ground:	the fishing zone in the first three cells. The remaining cells are left blank	
Landed weight:	total weight, in kilograms, of the sampled species commercial landing. Notice: Landing = catch - discard.	
Community code	code of the community where the crab was landed.	
Gear:	code of the gear used by the fisher.	
Mesh size:	average size, in millimeters, of the stretched mesh for the sampled pots.	
Depth:	average depth, in meters, of all the fishing sites where the pots were soaked.	
No. of cat.:	total number of categories recorded in the landing (when applicable). NB the category is designating a bunch of crabs selected from the catch according exclusively to commercial criteria.	

Sampled cat.: code of the commercial category sampled:

unsorted: 0

very small: 1

small: 2

medium: 3

large: 4

very large: 5

others (to be described
in the notes): 9

Cat. weight: total weight, in kilograms, of the category from which the sampled crabs have been selected.

Weight: weight, in grams, for each male only.

Carapace width [carapace maximal width](#) measured according to the [procedures](#).

Claw height [claw maximal height](#) measured according to the [procedures](#).

Carapace condition:

- (1) Clean and soft: soft and immaculated exoskeleton, carapace with no epibiont, iridescent claws. Approximate age of the carapace if in terminal molt, 0 - 5 months.
- (2) Clean and hard: hard and immaculated exoskeleton, carapace with no epibiont, iridescent claws. Approximate age of the carapace if in terminal molt, 5 months - 1 year.
- (3) Intermediate: hard exoskeleton slightly marked with scars, presence of small epibionts on the carapace, claws more or less iridescent. Approximate age of the carapace if in terminal molt, 8 months - 3 years.
- (4) Dirty and hard: exoskeleton hard, dirty, marked with scars, important presence of bryozoans and/or epibionts on the carapace, drab claws. Approximate age of the carapace if in terminal molt, 2 - 5 years.
- (5) Dirty and soft: soft exoskeleton, dirty, marked with scars, important presence of bryozoans and/or epibionts on the carapace, drab claws. Approximate age of the carapace if in terminal molt, 4 - 6 years.

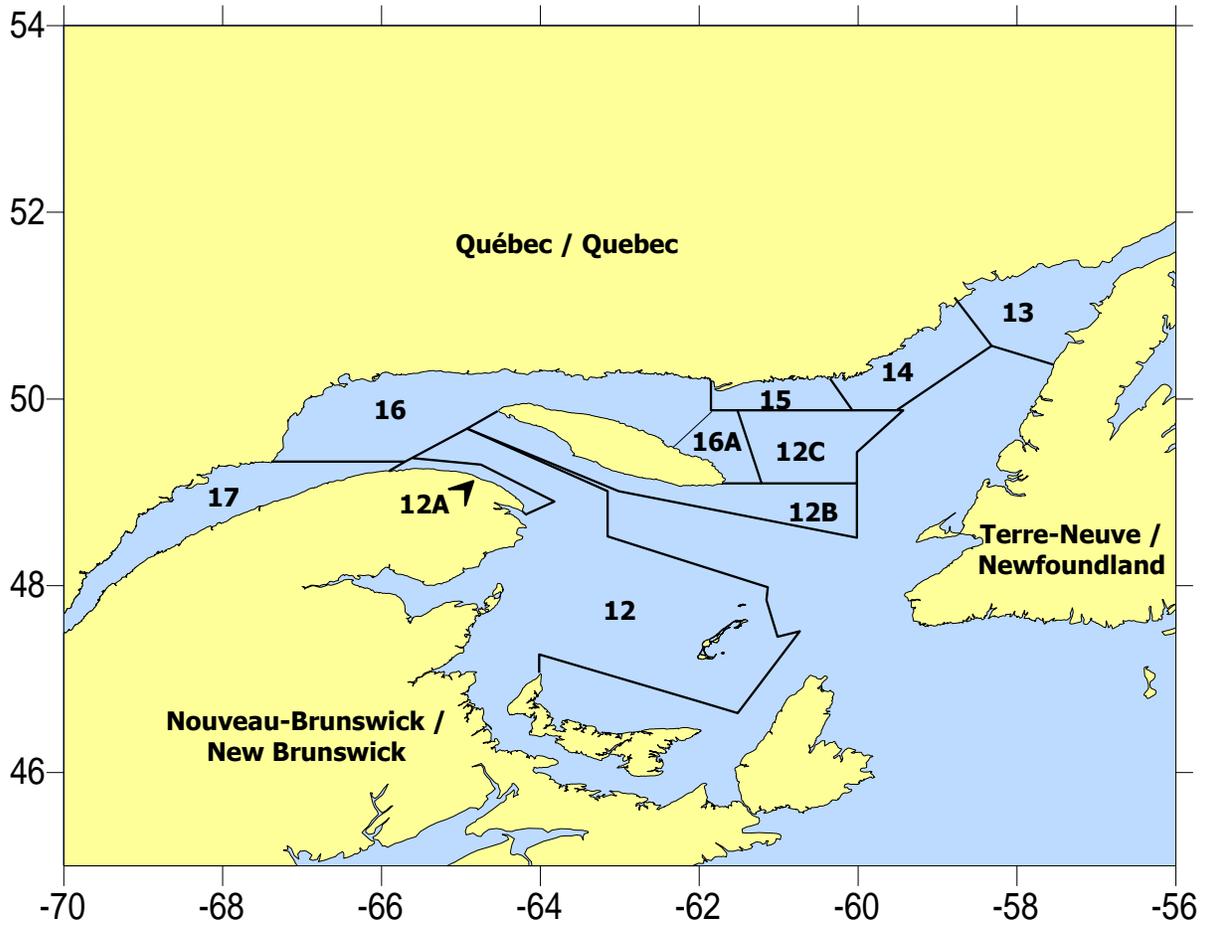
Durometer: [reading](#) of the durometer used on the right claw of the males only.
Missing legs: status of legs according to the codification presented below with respect to the [sequence](#).

NB leave blank if no leg is missing, regenerated or broken by handling.

M: missing R: regenerated C: broken by handling

Notes: space provided for comments.

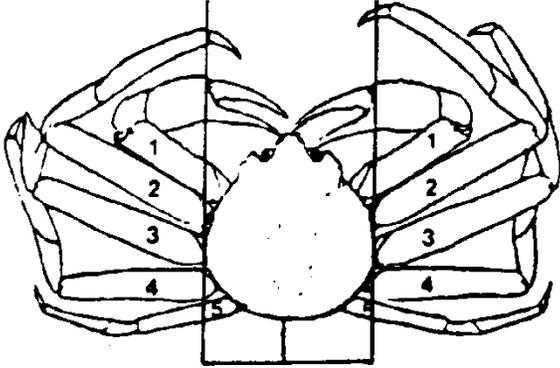
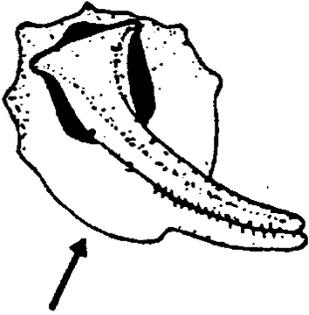
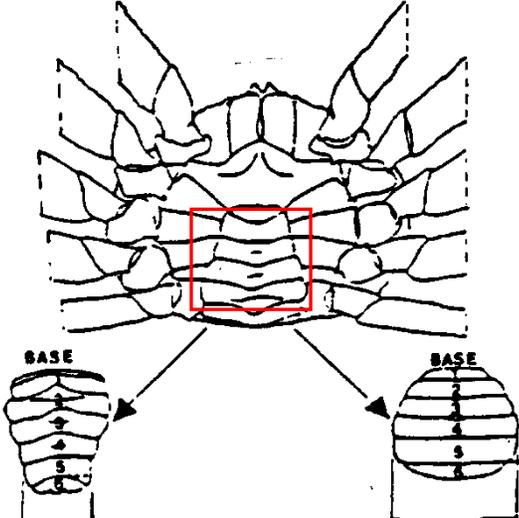
Snow Crab fishing zones.



Pot codes, Hyas Crab or Snow Crab.

CODE	POTS
FPO	Unspecified
FPOA	Pyramidal 6', 2 cones
FPOB	Pyramidal 6', 4 cones
FPOC	Conical 6', 2 cones
FPOD	Conical 6', 4 cones
FPOE	Conical 8', 2 cones
FPOF	Conical 8', 4 cones
FPOG	Japanese 4'
FPOH	Rectangular 5'x 5'
FPOI	Rectangular 6'x 6'
FPOJ	Nordik 99
FPOK	Conical 5'
FPOL	Conical 6'
FPOM	Conical 7', 1 cone
FPON	Conical 7', 2 cones
FPOO	Igloo 6'
FPOP	Conical (high-cone) D=105 cm, d=81 cm H=86.4 cm
FPOQ	Conical 6.5', 1 cone
FPOR	Conical 6.5', 2 cones
FPOS	Conical 6.5', 4 cones
FPOT	Conical 4'
FPOU	Conical 8', 1 cone
FPOZ	Mixed and others

Parameters used for Hyas Crab or Snow Crab sampling.

CARAPACE WIDTH	DUROMETER (front view of the claw)
 <p>left right</p> <p>Sequence to follow for missing and/or regenerated legs</p>	 <p>Pressure point</p>
ABDOMEN ILLUSTRATION OF THE MALE AND THE FEMALE	HEIGHT OF THE RIGHT CLAW
 <p>BASE BASE</p> <p>male female</p>	 <p>Photo: A. Chevrier</p>

Maternity stages for females, Hyas Crab or Snow Crab.

MATURITY FOR FEMALES	EGG DEVELOPMENT	CLUTCH STATUS
1: immature 2: mature (Hyas) 2: primiparous (Snow crab) 3: multiparous (Snow crab)	1: light orange 2: dark orange (rust, begins to brown) 3: black 4: empty case 0: no egg	C: complete I: incomplete (evidence of missing eggs to the naked eye)
<p>IMMATURE: Small female with no egg. The abdomen is not covering the entire legs' area. The gonopores (2 openings below the abdomen leading to the sperm pores) are closed.</p> <p>PRIMIPAROUS: Female to her first clutch. Female with eggs or empty case. The carapace is smooth, without organism. No traces of wear or grasp on the carapace.</p> <p>MULTIPAROUS: Female having carried out more than one clutch, with eggs or empty case and having a worn carapace and traces of grasp.</p>		

NORTHERN SHRIMP

CODE: 2210



Photo: S. Hurtubise

Fishing zone:

8 to 12

Sampling protocol:

at-sea or port sampling

PROCEDURES

USE:

at-sea:

Complete the [form](#) according to the related [directives](#). Change form after each sampled tow.

port:

Complete the [label](#) according to the related [directives](#). Each label in two copies, one inside the waxed carton and the other kept for ends of compilation.

SELECT:

at-sea:

A maximum of 250 shrimps by tow for as many tows as possible per trip.

port:

3 kg of shrimps from the last tow of the trip.

SEX:

at-sea:

Yes.

port:

No.

MEASURE:

at-sea:

The [maximal length](#) of the cephalothorax and round to the nearest 0.1 mm.

port:

No.

COLLECT:

at-sea:

No.

port:

3 kg of shrimps from the last tow of the trip.

PRESERVE:

at-sea:

No.

port:

3 kg of shrimps frozen in waxed cartons labeled according to the [instructions](#).

Directives related to the form – Northern Shrimp (at-sea sampling).

Coded by:	first cell:	M = DFO, sea O = Observer, sea
	following two cells:	sampled region code. CN = North Shore ES = Estuary GN = North Gaspé GS = South Gaspé IM = Magdalen Islands
	last three cells:	first sampler initials.
Species:	sampled species code according to the data sheets.	
Sample no.:	each sampler gives a unique number to each sample by species, regardless of the fishing location.	
Date:	sampling date (DD MM YY).	
Vessel name:	name of the fishing vessel that caught the sampled species.	
CFV no.:	commercial fishing vessel number (999999 for combined vessels, no vessel or when number not available).	
Landing district:	code of the district where the sampled species was landed.	
Fishing zone and ground:	the fishing zone in the first three cells. The fishing ground is noted in in the last four cells.	
Landed weight:	total weight, in kilograms, of the sampled species commercial landing. Notice : Landing = catch - discard.	
Gear:	code of the gear used by the fisher.	
Mesh size:	size, in millimeters, of the net or codend stretched mesh according to the case.	
Seq. no. of the tow:	sequential number of the tow, as determined by the fisher.	
Depth:	depth, in meters, of the site where the gear has been fishing.	
Fishing effort:	effort according to the gear used. Example: Shrimp trawl (TXS): number of hours during which the trawl was effectively fishing for the sampled tow.	
Catch weight:	total weight, in kilograms, of the sampled species catch (before discarding).	
Sample weight:	total weight, to the nearest 0.1 kilogram, of all the measured shrimps noted on the form. This value can be exact or estimated.	

Fishing site: position of the sampled tow: latitude and longitude (ddmm.mm) or Loran-C coordinates if latitude and longitude are not available.

Length: the [maximal cephalothorax length](#) measured according to the [procedures](#).

Count/Sex: for each measured shrimp, draw a vertical line (|) in the space corresponding to the cephalothorax length and to the [sex](#). Note the sex in the following way:

M: male F: female

Total: total number of measured shrimps for each length-class, per sex.

No. measured shrimp: total number of measured shrimps noted on the form.

Notes: space provided for comments.

Directives related to the label – Northern Shrimp (port sampling).

Coded by:	first cell:	Q = DFO, port
	following two cells:	sampled region code. CN = North Shore ES = Estuary GN = North Gaspé GS = South Gaspé IM = Magdalen Islands
	last three cells:	first sampler initials.
Species:	sampled species code according to the data sheets.	
Sample no.:	each sampler gives a unique number to each sample by species, regardless of the fishing location.	
Date:	sampling date (DD MM YY).	
Vessel name:	name of the fishing vessel that caught the sampled species.	
CFV no.:	commercial fishing vessel number (999999 for combined vessels, no vessel or when number not available).	
Landing district:	code of the district where the sampled species was landed.	
Fishing zone and ground	the fishing zone in the first two cells. The fishing ground of the last tow is noted in the last four cells, when possible.	
Landed weight:	total weight, in kilograms, of the sampled species commercial landing. Notice: Landing = catch - discard.	
Gear:	code of the gear used by the fisher.	
Mesh size:	size, in millimeters, of the codend stretched mesh.	
Depth:	depth, in meters, of the last site where the gear has been fishing.	
No. of cat.:	total number of categories recorded in the landing (when applicable). NB the category refers to a quantity of shrimps selected from the catch according exclusively to commercial criteria.	

Sampled cat.: code of the commercial category sampled:

unsorted: 0

very small: 1

small: 2

medium: 3

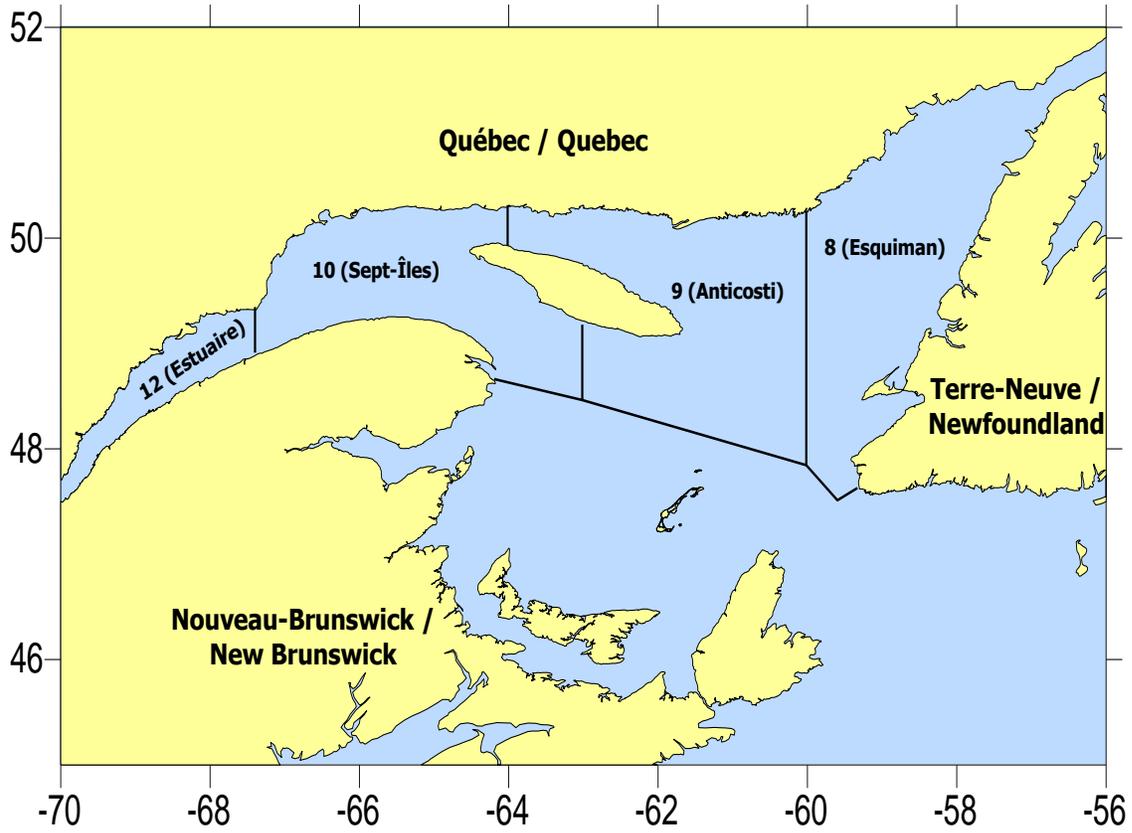
large: 4

very large: 5

others (to be described
in the notes): 9

Cat. weight: total weight, in kilograms, of the category from which the sampled shrimps have been selected.

Northern Shrimp fishing zones.



Type of measurement used for Northern Shrimp sampling.

NORTHERN SHRIMP

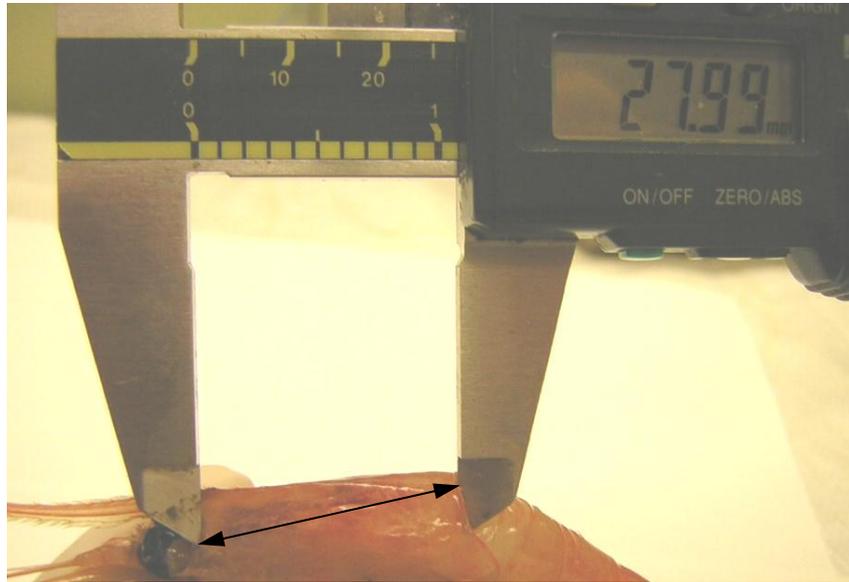
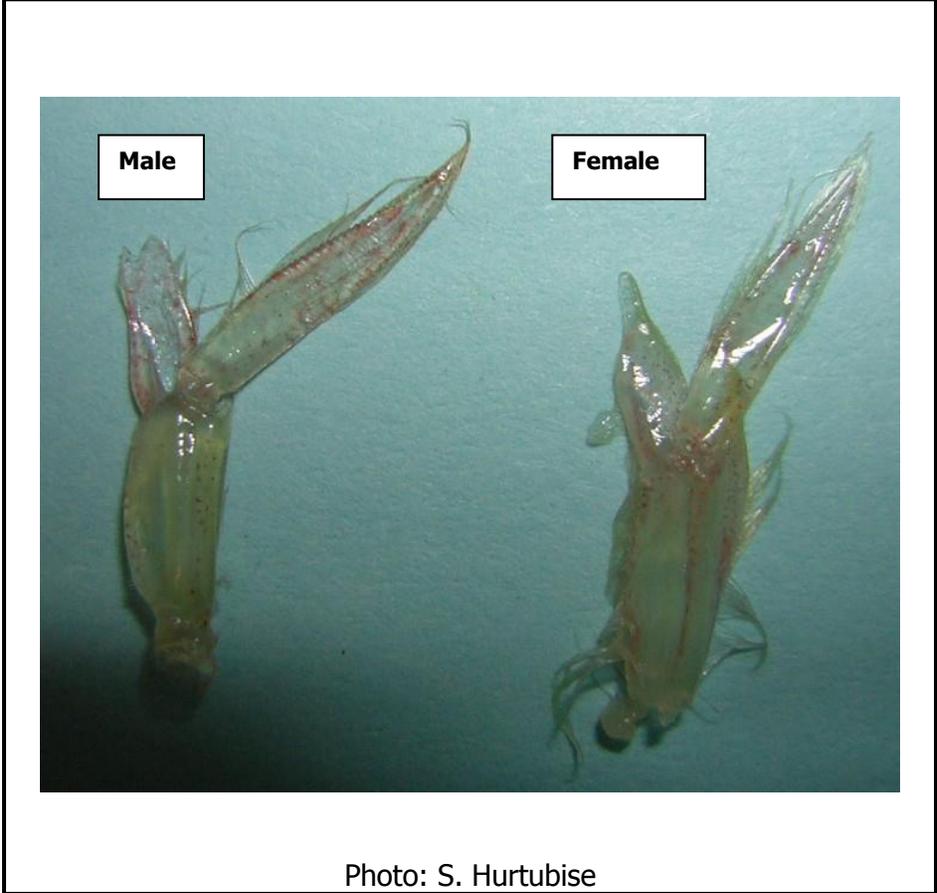
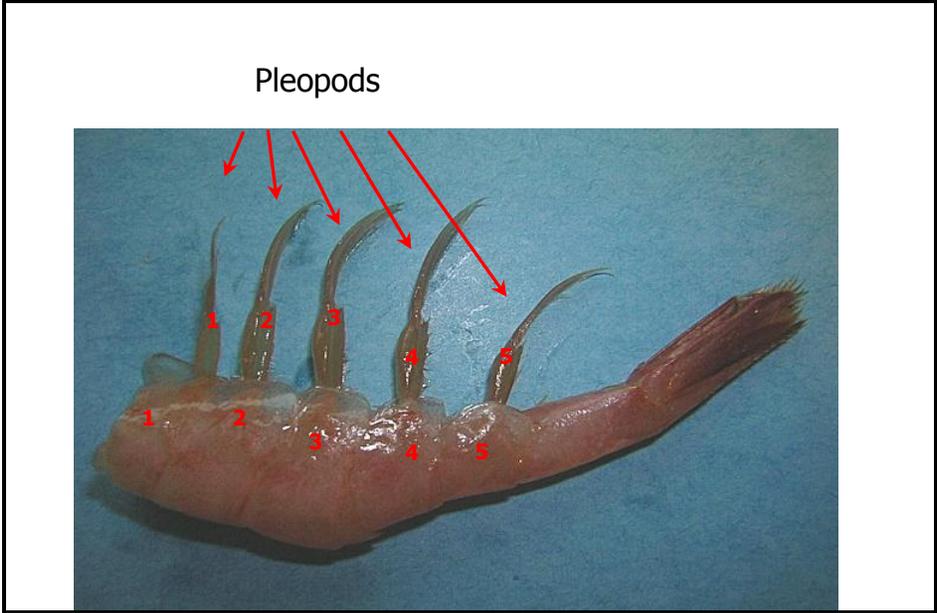


Photo: S. Hurtubise

Oblique cephalothorax length:

From the posterior part of the orbit eye to the posterior middorsal margin of the cephalothorax.

Illustrations of the Northern Shrimp sexual characteristics.



AMERICAN LOBSTER

CODE: 2550



Photo: R. Morneau

Fishing zone:

[15A to 22](#)

Sampling protocol:

at-sea or port sampling

PROCEDURES

USE:

at-sea:

Complete the [form](#) according to the related [directives](#). Change form after each sampled sling.

port:

Complete the [form](#) according to the related [directives](#).

SELECT:

at-sea:

All the lobsters from a pot for as many pots as possible per trip.

port:

Select randomly around 250 lobsters from the overall catch. If the landing is categorized according to commercial criteria, all categories must be sampled. The number of lobsters to sample by category is defined by the following rule:

$250 \text{ lobsters} \div \text{by the number of categories} = \text{the number of lobsters to measure by category.}$

SEX:

[Yes.](#)

MEASURE:

The [cephalothorax maximal length](#) of the males and females and round to the nearest 1.0 mm.

COLLECT:

No.

PRESERVE:

No.

Directives related to the form – American Lobster (at-sea sampling).

Coded by:	first cell:	M = DFO, sea O = Observer, sea
	following two cells:	sampled region code. CN = North Shore ES = Estuary GN = North Gaspé GS = South Gaspé IM = Magdalen Islands
	last three cells:	first sampler initials.
Species:	sampled species code according to the data sheets.	
Sample no.:	each sampler gives a unique number to each sample by species, regardless of the fishing location.	
Date:	sampling date (DD MM YY).	
Vessel name:	name of the fishing vessel that caught the sampled species.	
CFV no.:	commercial fishing vessel number (999999 for combined vessels, no vessel or when number not available).	
Landing district:	code of the district where the sampled species was landed.	
Fishing zone and ground:	Gaspé and North Shore: zone in the first three cells. The fishing ground is noted in the last four cells. Magdalen Islands: zone in the first two cells. The fishing ground is noted in the last four cells.	
Landed weight:	total weight, in kilograms, of the sampled species commercial landing. Notice: Landing = catch - discard.	
Community code	code of the community where the lobster was landed.	
Period:	code for the period of the fishing season: D: start M: middle F: end	

Sling seq. no. sequential number of the sling, as determined by the fisher.

or

Fishing area no. note the [fishing area code](#) associated with the sampled site.

NB The fishing area number is used for all the catching techniques other than the sling.

Soaking time number of days during which the pot was soaked.

Fishing site: position of the sampled pot: latitude and longitude (ddmm.mm) or Loran-C coordinates if latitude and longitude are not available.

Pot no.: sequential number of the pot, as determined by the fisher.

Pot type: code for the type of pot:

- (1) standard wooden pot of which the length, the width and the height are respectively of 92 cm x 71 cm x 50 cm.
- (2) standard metal pot of which the length, the width and the height are respectively of 92 cm x 71 cm x 50 cm.
- (3) standard plasticized composite pot of which the length, the width and the height are respectively of 92 cm x 71 cm x 50 cm.
- (4) conical pot, rock crab.
- (5) wooden pot of which the length, the width and the height are respectively of 92 cm x 71 cm x 42 cm.
- (6) wooden pot of which the length, the width and the height are respectively of 124 cm x 92 cm x 50 cm. This pot is characterized by the presence of two parlours.
- (9) others (to be described in the notes).

Activity code

C / H: for each hauled pot (C) and each measured lobster (H), note:

C:

S: standard pot (with no anomaly).

P: lost pot.

B: blocked pot.

D: defective pot.

H:

M: lobsters present in the pot and measured.

N: lobsters present in the pot but not measured.

A: no lobster in the pot.

Length: the [cephalothorax maximal length](#) measured according to the [procedures](#).

Sex: [sex](#) of the measured lobsters. Note the sex in the following way:

M: male

F: female

Mat.: [maturity stage](#) of the eggs.

V-notch: the V-notch is a "V" shaped mark that fishers (in Gaspé only) do on the uropod of the egg-bearing females in order to identify these more easily the following year and to put back those lobsters again to water. This measurement aims at protecting the females that one knows as reproductive, to increase the quantity of eggs released in the environment. The presence of a V-notch is noted with the code 1.

No. measured lobsters: total number of measured lobsters noted on the form.

Notes: space provided for comments.

Directives related to the form – American Lobster (port sampling).

Coded by:	first cell:	Q = DFO, port
	following two cells:	sampled region code. CN = North Shore ES = Estuary GN = North Gaspé GS = South Gaspé IM = Magdalen Islands
	last three cells:	first sampler initials.
Species:	sampled species code according to the data sheets.	
Sample no.:	each sampler gives a unique number to each sample by species, regardless of the fishing location.	
Date:	sampling date (DD MM YY).	
Vessel name:	name of the fishing vessel that caught the sampled species.	
CFV no.:	commercial fishing vessel number (999999 for combined vessels, no vessel or when number not available).	
Landing district:	code of the district where the sampled species was landed.	
Fishing zone and ground:	the fishing zone in the first three cells. The remaining cells are left blank	
Landed weight:	total weight, in kilograms, of the sampled species commercial landing. Notice: Landing = catch - discard.	
Community code	code of the community where the lobster was landed.	
Gear:	code of the fishing gear used by the fisher.	
Total no. of pots	approximation of the total number of hauled pots corresponding to the landing.	
No. of pots per sling/area:	average number of pots by sling or by fishing area.	
Soaking time	average number of days during which all the pots were soaked.	

No. of cat.: total number of categories recorded in the landing (when applicable).
NB the category is designating a bunch of lobsters selected from the catch according exclusively to commercial criteria.

Sampled cat.: code of the commercial category sampled:

unsorted:	0
very small:	1
canner:	2
market:	3
jumbo:	4
very large:	5
others (to be described in the notes):	9

Cat. weight: total weight, in kilograms, of the category from which the sampled lobsters have been selected.

Sample weight: total weight, in kilograms, of all the measured lobsters noted on the form. The value can be exact or estimated.

Length: the [cephalothorax maximal length](#) measured according to the [procedures](#).

Count/Sex for each measured lobster, draw a vertical line (|) in the space corresponding to the cephalothorax length and to the [sex](#). Note the sex in the following way:

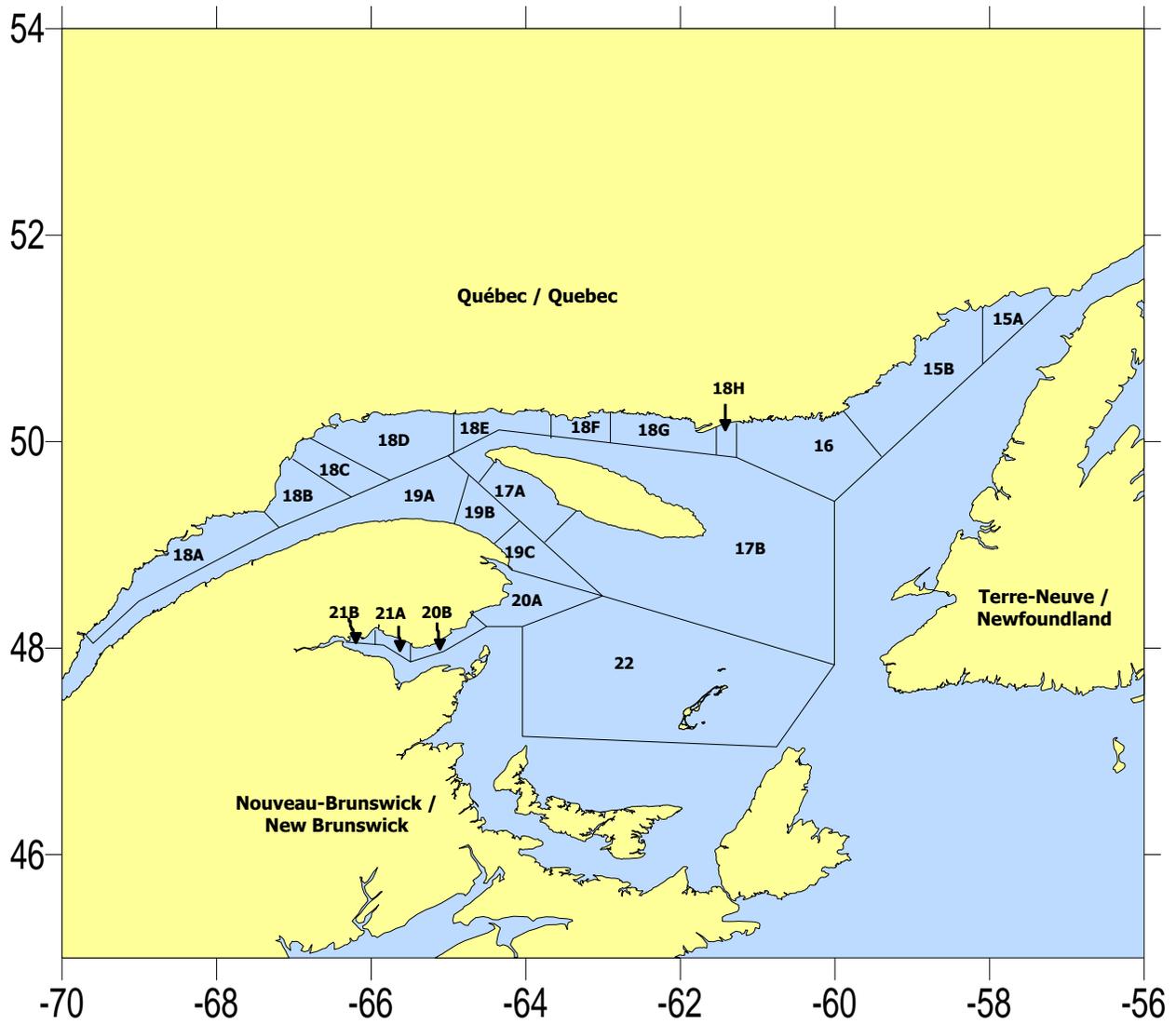
M: male F: female

Total: total number of measured lobsters for each length-class, per sex.

No. measured lobsters: total number of measured lobsters noted on the form.

Notes: space provided for comments.

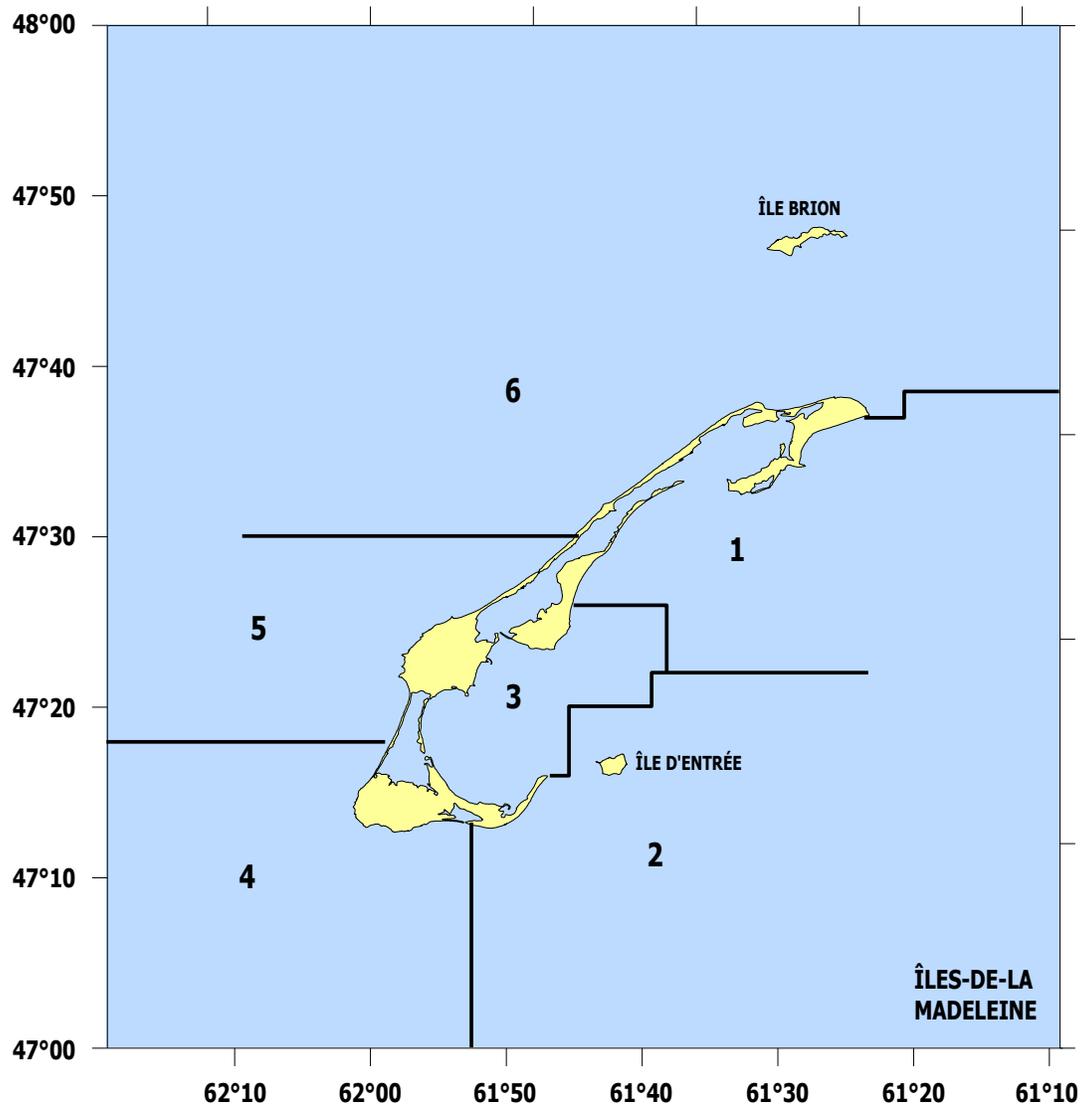
American Lobster fishing zones.



Description of the American Lobster fishing grounds (Gaspé).

FISHING GROUND	DESCRIPTION
17 A 17 B	From Port Menier wharf to Brick river (exploratory). * From Brick river to the east and skirting Anticosti Island north shore up to Port Menier wharf.
19 A 19 B 19 C	From the east point of Orléans Island to Cap Blanc. * From Cap Blanc to Cap Nord-Est. * From Cap Nord-Est to Cap Gaspé.
20 A 1 20 A 2 20 A 3 20 A 3a	* From Cap Gaspé to the Gaspé's museum point. * From the Gaspé's museum point to Barachois river. * From Barachois river to Percé Rock's obelisk. From the point of Cap Blanc to Cap Barré including Bonaventure Island.
20 A 4 20 A 5 20 A 6 20 A 7 20 A 8 20 A 9	* From Percé Rock's obelisk to Bilodeau road. * From Bilodeau road to Anse-à-Beaufils wharf. * From Anse-à-Beaufils wharf to Legriec brook. * From Legriec brook to Ste-Thérèse wharf. * From Ste-Thérèse wharf to the western bound of Ste-Thérèse. From the eastern bound of Grande-Rivière to Grande-Rivière old wharf.
20 A 9a 20 A 10	* From Grande-Rivière old wharf to Ste-Adélaïde bridge. * From Ste-Adélaïde bridge to Chandler bridge.
20 B 1 20 B 2 20 B 3 20 B 4 20 B 5	* From Chandler bridge to Pointe-à-Maquereau. * From Pointe-à-Maquereau to Chapados brook. * From Chapados brook to iron old wharf road. * From iron old wharf road to point aux loups marins (Assels wharf road). * From point aux loups marins (Assels wharf) to Robinson silo (Shigawake).
20 B 6 20 B 7 20 B 8	From Shigawake municipal dump road to Debbie Hall's house. From Medar Chapados house to New-Carlisle iron wharf. * From New-Carlisle iron wharf to Bonaventure wharf.
21 A 21 B	* From Bonaventure wharf to Cascapédia river bridge. * From Cascapédia river bridge to Pointe-à-la-Garde church (Harrisson brook). * Location included in the ground's limit.

American Lobster fishing grounds (Magdalen Islands).



Type of measurement used for American Lobster sampling.



Photo: R. Morneau

— middorsal line

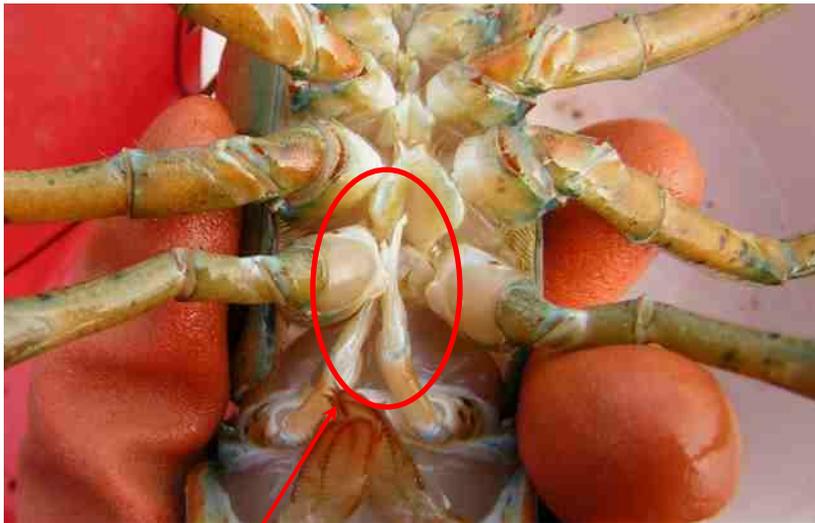
Cephalothorax length:

always measure the same side, from the eye socket to the posterior edge of the cephalothorax, parallel to the middorsal line.

Illustrations of the American Lobster sexual characteristics.

MALE

larger claw and narrow tail



1st swimming
hard legs

Photo: Y. Dufresne

FEMALE

narrower claw and large tail

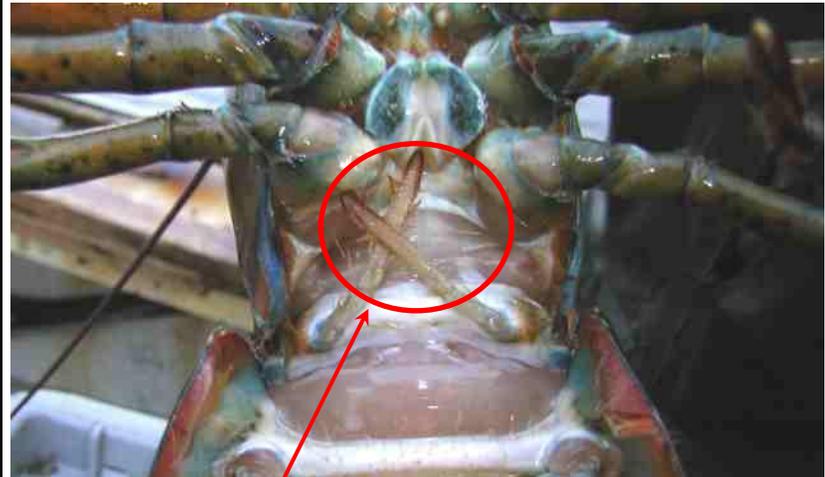


Photo: Y. Dufresne

1st swimming
soft legs

American Lobster egg maturity stages.

STAGE	DESCRIPTION
0	No egg.
<u>1</u>	The eggs are uniform and spherical, with an average diameter of 1.0 to 1.5 mm. Their colouring is black coal. They just have been laid.
<u>2</u>	The eggs are spherical or slightly ovoid with an average diameter of 1.5 mm by 1.7 mm. Their colouring varies from olive green to dark green. Towards the end of stage 2, the embryo becomes visible as is the milky green-blue disk at the animal pole.
<u>3</u>	The eggs are now ovoid with an average diameter of 2.0 mm by 2.3 mm. Their colouring is lighter than the other stages (beige, pink, orange, yellow). The embryo completely fills the egg and the eyes are visible. At the appearance of the criteria of stages 2 and 3, you mentally fix a limit which you will respect thereafter. It is not important to differentiate precisely the stages 2 and 3, it is a subjective data. On the other hand, the stage 1 is definitely distinguishable.
9	Undefined.

SURF CLAM SP

CODE:

Atlantic
4317

Stimpson
4355



Atlantic

Stimpson

Photo: S. Hurtubise

PROCEDURES

USE:

at-sea:

Complete the [form](#) according to the related [directives](#). Change form after each sampled tow.

port:

Complete the [form](#) according to the related [directives](#).

SELECT:

at-sea:

A maximum of 150 clams by tow for as many tows as possible per trip.

port:

Select randomly around 150 clams from the overall catch. If the landing is categorized according to commercial criteria, all categories must be sampled. The number of clams to sample by category is defined by the following rule:

$150 \text{ clams} \div \text{by the number of categories} = \text{the number of clams to measure by category.}$

SEX:

No.

MEASURE:

The shell [maximal anteroposterior length](#) and round to the nearest 1.0 mm.

COLLECT:

No.

PRESERVE:

No.

Fishing site: position of the sampled tow: latitude and longitude (ddmm.mm) or Loran-C coordinates if latitude and longitude are not available.

Length: [shell anteroposterior length](#) measured according to the [procedures](#).

Count: for each measured clam, draw a vertical line (|) in the space corresponding to the length of the shell.

Total: total number of shells measured for each length-class.

No. measured clams: total number of measured clams noted on the form.

No. smashed clams: total number of smashed clams in the sample that could not be measured.

Notes: space provided for comments.

Directives related to the form – Surf Clam sp. (port sampling).

- Coded by: first cell: Q = DFO, port
- following two cells: sampled region code.
CN = North Shore
ES = Estuary
GN = North Gaspé
GS = South Gaspé
IM = Magdalen Islands
- last three cells: first sampler initials.
- Species: sampled species code according to the data sheets.
- Sample no.: each sampler gives a unique number to each sample by species, regardless of the fishing location.
- Date: sampling date (DD MM YY).
- Vessel name: name of the fishing vessel that caught the sampled species.
- CFV no.: commercial fishing vessel number (999999 for combined vessels, no vessel or when number not available).
- Landing district: [code of the district](#) where the sampled species was landed.
- Fishing zone and ground: the [fishing zone](#) in the first three cells. The remaining cells are left blank.
- Landed weight: total weight, in kilograms, of the sampled species commercial landing. Notice: Landing = catch - discard.
- Gear: note the gear code according to the following description:
manually picked CMA
hydraulic dredge DHY
- Total no. of tows: total number of tows corresponding to the landing.
- No. of cat.: total number of categories recorded in the landing (when applicable).
NB the category is designating a bunch of clams selected from the catch according exclusively to commercial criteria.

Sampled cat.: code of the commercial category sampled:

unsorted: 0

very small: 1

small: 2

medium: 3

large: 4

very large: 5

others (to be described
in the notes): 9

Cat. Weight: total weight, in kilograms, of the category from which the sampled clams have been selected.

Sample weight: total weight, to the nearest 0.1 kilogram, of all the measured clams noted on the form. The value can be exact or estimated.

Length: [shell anteroposterior length](#) measured according to the [procedures](#).

Count: for each measured clam, draw a vertical line (|) in the space corresponding to the length of the shell.

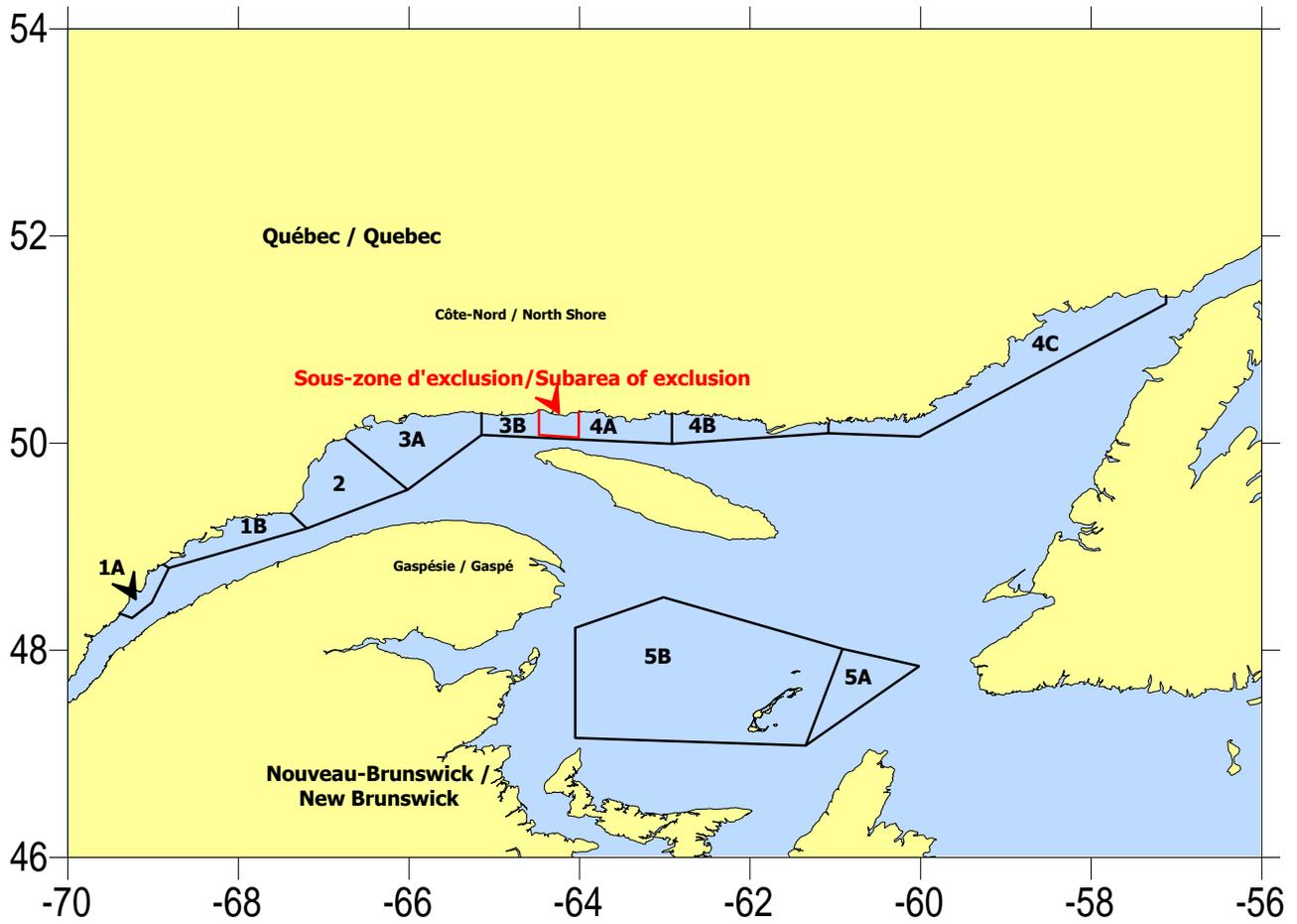
Total: total number of shells measured for each length-class.

No. measured clams: total number of measured clams noted on the form.

No. smashed clams: total number of smashed clams in the sample that could not be measured.

Notes: space provided for comments.

Surf Clam sp. fishing zones



Type of measurement used for Surf Clam sp. sampling.

SURF CLAM SP.



Photo: S. Hurtubise

maximal anteroposterior length

SOFT SHELL CLAM

CODE: 4318



Photo: S. Hurtubise

Fishing zone:

1 to 3

Sampling protocol:

at-sea or port sampling

PROCEDURES

USE:

at-sea or manually pick:

Complete the [form](#) according to the related [directives](#). Change form after each sampled haul.

port:

Complete the [form](#) according to the related [directives](#).

SELECT:

at-sea or manually pick:

A maximum of 150 clams by haul/pan for as many hauls/pans as possible per trip.

port:

Select randomly around 150 clams from the overall catch. If the landing is categorized according to commercial criteria, all categories must be sampled. The number of clams to sample by category is defined by the following rule:

$150 \text{ clams} \div \text{by the number of categories} = \text{the number of clams to measure by category.}$

SEX:

No.

MEASURE:

The shell [maximal anteroposterior length](#) and round to the nearest 1.0 mm.

COLLECT:

No.

PRESERVE:

No.

Directives related to the form – Soft Shell Clam (at-sea sampling).

Coded by:	first cell:	M = DFO, sea O = Observer, sea
	following two cells:	sampled region code. CN = North Shore ES = Estuary GN = North Gaspé GS = South Gaspé IM = Magdalen Islands
	last three cells:	first sampler initials.
Species:	sampled species code according to the data sheets.	
Sample no.:	each sampler gives a unique number to each sample by species, regardless of the fishing location.	
Date:	sampling date (DD MM YY).	
Vessel name:	name of the fishing vessel that caught the sampled species.	
CFV no.:	commercial fishing vessel number (999999 for combined vessels, no vessel or when number not available).	
Landing district:	code of the district where the sampled species was landed.	
Fishing zone and ground:	the eleven first cells according to the map of shellfish areas . The fishing ground is noted in the last four cells.	
Landed weight:	total weight, in kilograms, of the sampled species commercial landing. Notice : Landing = catch - discard.	
Gear:	note the gear code according to the following description:	
	standard dredge (boat)	DRB
	hydraulic dredge (with no conveyor)	DHY
	hydraulic dredge (with a conveyor)	DHYC
	hydraulic rake	RHY
	manually picked	CMA

Total no. of tows/pans: total number of tows or of collected pans at the time of picking, corresponding to the landing.

Total width of the dredge: total width of a dredge multiplied by the total number of used dredges and round to the nearest 0.1 m.

Seq. no. of tow/pan: sequential number of the tow or of pan filling, as determined by the fisher.

Depth: depth, in meters, of the site where the gear has been fishing.

Tow/pick duration: number of minutes during which the sampled dredge was fishing or number of minutes spent by the harvester to fill the sampled pan.

Tow/pan weight: total weight, in kilograms, of the tow/pan (before discarding) for the sampled species.

Sampled fraction of tow/pan: sampled fraction, in percent, of the tow/pan.
Notice: A tow may be done with more than one dredge.

Fishing site: position of the sampled tow: latitude and longitude (ddmm.mm) or Loran-C coordinates if latitude and longitude are not available.

Length: [shell anteroposterior length](#) measured according to the [procedures](#).

Count: for each measured clam, draw a vertical line (|) in the space corresponding to the length of the shell.

Total: total number of shells measured for each length-class.

No. measured clams: total number of measured clams noted on the form.

No. smashed clams: total number of smashed clams in the sample that could not be measured.

Notes: space provided for comments.

Directives related to the form – Soft Shell Clam (port sampling).

Coded by:	first cell:	Q = DFO, port
	following two cells:	sampled region code. CN = North Shore ES = Estuary GN = North Gaspé GS = South Gaspé IM = Magdalen Islands
	last three cells:	first sampler initials.
Species:	sampled species code according to the data sheets.	
Sample no.:	each sampler gives a unique number to each sample by species, regardless of the fishing location.	
Date:	sampling date (DD MM YY).	
Vessel name:	name of the fishing vessel that caught the sampled species.	
CFV no.:	commercial fishing vessel number (999999 for combined vessels, no vessel or when number not available).	
Landing district:	code of the district where the sampled species was landed.	
Fishing zone and ground:	the eleven first cells according to the map of shellfish areas . The remaining cells are left blank.	
Landed weight:	total weight, in kilograms, of the sampled species commercial landing. Notice : Landing = catch - discard.	
Gear:	note the gear code according to the following description:	
	standard dredge (boat)	DRB
	hydraulic dredge (with no conveyor)	DHY
	hydraulic dredge (with a conveyor)	DHYC
	hydraulic rake	RHY
	manually picked	CMA

Total no. of tows/pans: total number of tows or of collected pans at the time of picking, corresponding to the landing.

No. of cat.: total number of categories recorded in the landing (when applicable).
NB the category is designating a bunch of clams selected from the catch according exclusively to commercial criteria.

Sampled cat.: code of the commercial category sampled:

unsorted:	0
very small:	1
small:	2
medium:	3
large:	4
very large:	5
others (to be described in the notes):	9

Cat. weight: total weight, in kilograms, of the category from which the sampled clams have been selected.

Sample weight: total weight, at the nearest 0.1 kilogram, of all the measured clams noted on the form. The value can be exact or estimated.

Length: [shell anteroposterior length](#) measured according to the [procedures](#).

Count: for each measured clam, draw a vertical line (|) in the space corresponding to the length of the shell.

Total: total number of shells measured for each length-class.

No. measured clams: total number of measured clams noted on the form.

No. smashed clams: total number of smashed clams in the sample that could not be measured.

Notes: space provided for comments.

Description of the soft shell clam's shellfish areas in Québec.

Region	Fishing zone	Area's number	Area's name
Îles-de-la-Madeleine		A-01	Île d'Entrée
Îles-de-la-Madeleine		A-02	Plage Sandy Hook
Îles-de-la-Madeleine		A-03.1	Baie du Bassin
Îles-de-la-Madeleine		A-04	Bassin/Étang-des-Caps
Îles-de-la-Madeleine		A-05	Plage de l'Ouest
Îles-de-la-Madeleine		A-06	Caps de l'Étang-du-Nord et de Fatima
Îles-de-la-Madeleine		A-07	Dune du Nord (extérieur)
Îles-de-la-Madeleine		A-08.1	Plage de la Pointe de l'Est
Îles-de-la-Madeleine		A-08.2	Île Boudreau
Îles-de-la-Madeleine		A-08.3.1	L'intérieur du Bassin aux Huîtres
Îles-de-la-Madeleine		A-08.3.2	La Bluff
Îles-de-la-Madeleine		A-08.4	Île de la Grande Entrée, ouest
Îles-de-la-Madeleine		A-09.1	Île de la Grande Entrée, nord
Îles-de-la-Madeleine		A-09.2	Baie Clarke
Îles-de-la-Madeleine		A-09.3	Anse au Sable
Îles-de-la-Madeleine		A-09.4	Baie de la Grosse Île
Îles-de-la-Madeleine		A-09.5	Centre de la lagune de Grande Entrée
Îles-de-la-Madeleine		A-10.1.1	Pointe Keating
Îles-de-la-Madeleine		A-10.1.2	Sud du Grand Étang
Îles-de-la-Madeleine		A-10.1.3	Est de Pointe-aux-Loups
Îles-de-la-Madeleine		A-10.1.4	Pointe-aux-Loups
Îles-de-la-Madeleine		A-10.2	Dune du Nord (intérieur)
Îles-de-la-Madeleine		A-11	Lagune de la Grande Entrée, sud
Îles-de-la-Madeleine		A-12.1	Plage de la Dune du Sud
Îles-de-la-Madeleine		A-12.2	Buttes Pelées
Îles-de-la-Madeleine		A-13	Pointe-Basse
Îles-de-la-Madeleine		A-14.1	La Petite Baie
Îles-de-la-Madeleine		A-14.2	Lagune du Havre aux Maisons, sud
Îles-de-la-Madeleine		A-14.3	Centre de la lagune du Havre aux Maisons
Îles-de-la-Madeleine		A-15.1.1	Cap Vert
Îles-de-la-Madeleine		A-15.1.2	Lagune du Havre aux Maisons, nord
Îles-de-la-Madeleine		A-15.1.3	Lagune du Havre aux Maisons, nord-est
Îles-de-la-Madeleine		A-15.2	Baie du Cap Vert
Îles-de-la-Madeleine		A-15.3	Baie du Sud (pédalo)
Îles-de-la-Madeleine		A-16.1.1	Pointe du Havre aux Maisons
Îles-de-la-Madeleine		A-16.1.2	Chenal du Havre aux Maisons
Îles-de-la-Madeleine		A-16.2.1.1	Camping du Gros-Cap
Îles-de-la-Madeleine		A-16.2.1.2	Plage des chalets
Îles-de-la-Madeleine		A-16.2.2	Plage du Gros Cap
Îles-de-la-Madeleine		A-17.1	Plage de La Martinique
Îles-de-la-Madeleine		A-17.2	Anse Painchaud
Îles-de-la-Madeleine		A-17.3	Anse à Cadet
Îles-de-la-Madeleine		A-17.4	Dune Sandy Hook
Îles-de-la-Madeleine		A-18.1	Pointe des Canots
Îles-de-la-Madeleine		A-18.2	Baie du Havre aux Basques
Bas-Saint-Laurent		K-01	Kamouraska
Bas-Saint-Laurent		K-02	Anse Sainte-Anne
Bas-Saint-Laurent		B-01.1	Anse du Portage
Bas-Saint-Laurent		B-01.2	Saint-Patrice
Bas-Saint-Laurent		B-01.3	Anse au Persil

Region	Fishing zone	Area's number	Area's name
Bas-Saint-Laurent		B-01.4	Saint-Georges-de-Cacouna
Bas-Saint-Laurent		B-02.1	Presqu'île Le Gros Cacouna
Bas-Saint-Laurent		B-02.2	Cacouna-Sud
Bas-Saint-Laurent		B-02.3	Cacouna-Est
Bas-Saint-Laurent		B-02.4	Île Verte
Bas-Saint-Laurent		B-02.5	Îlet du Chasseur/Îlet de l'Habenaria
Bas-Saint-Laurent		B-02.6	Anse Verte
Bas-Saint-Laurent		B-02.7	Anse de l'Isle Verte/Isle-Verte (village)
Bas-Saint-Laurent		B-02.8	Saint-Éloi-Station/Ile aux Pommes
Bas-Saint-Laurent		B-02.9	Batture de Tobin
Bas-Saint-Laurent		B-02.10	Île aux Basques
Bas-Saint-Laurent		B-03.1	Îlets D'Amours
Bas-Saint-Laurent		B-03.2	Pointe des Riou
Bas-Saint-Laurent		B-03.3	Cap à l'Aigle
Bas-Saint-Laurent		B-03.4	Île du Bic
Bas-Saint-Laurent		B-03.5	Baie du Ha! Ha!
Bas-Saint-Laurent		B-03.6	Anse à l'Original
Bas-Saint-Laurent		B-03.7	Havre du Bic
Bas-Saint-Laurent		B-03.8	Cap du Corbeau
Bas-Saint-Laurent		B-04.1	L'Anse-au-Sable/Île Saint-Barnabé
Bas-Saint-Laurent		B-04.2	Rimouski-Est
Bas-Saint-Laurent		B-05.1	Sainte-Anne-de-la-Pointe-au-Père
Bas-Saint-Laurent		B-05.2	Anse au Lard/Sainte-Luce
Bas-Saint-Laurent		B-05.3	Anse au Coques
Bas-Saint-Laurent		B-05.4	Ruisseau Lechasseur-Vaillancourt
Bas-Saint-Laurent		B-05.5	Sainte-Flavie, ouest
Bas-Saint-Laurent		B-06.1	Sainte-Flavie, est
Bas-Saint-Laurent		B-06.2	Baie Mitis
Bas-Saint-Laurent		B-06.3	Anse du Petit Mitis
Bas-Saint-Laurent		B-07	Saint-Ulric/La Grande Anse
Bas-Saint-Laurent		B-08.1	Matane/Petit-Matane
Bas-Saint-Laurent		B-08.2	Cap à la Baleine
Bas-Saint-Laurent		B-09.1	Anse du Crapaud
Bas-Saint-Laurent		B-09.2	Petits-Méchins
Gaspésie-rive Nord		B-10.1	Capucins
Gaspésie-rive Nord		B-10.2	Petits-Capucins
Gaspésie-rive Nord		B-10.3	Le Cap
Gaspésie-rive Nord		B-10.4	Cap-Chat, ouest
Gaspésie-rive Nord		B-10.5	Cap-Chat-Est/Pointe Sainte-Anne
Gaspésie-rive Nord		B-11.1	Anse de Sainte-Anne-des-Monts
Gaspésie-rive Nord		B-11.2	Tourelle
Gaspésie-rive Nord		B-11.3	Cap-au-Renard
Gaspésie-rive Nord		B-11.4	Pointe Bourdage
Gaspésie-rive Nord		B-11.5	Ruisseau-à-Rebours
Gaspésie-rive Nord		B-12.1	Rivière-à-Claude
Gaspésie-rive Nord		B-12.2	Mont-Saint-Pierre
Gaspésie-rive Nord		B-12.3	Mont-Louis
Gaspésie-rive Nord		B-12.4	L'Anse-Pleureuse
Gaspésie-rive Nord		B-13.1	Gros-Morne
Gaspésie-rive Nord		B-13.2	Manche-d'Épée
Gaspésie-rive Nord		B-13.3	Madeleine-Centre
Gaspésie-rive Nord		B-13.4	Rivière-la-Madeleine

Region	Fishing zone	Area's number	Area's name
Gaspésie-rive Nord		B-14.1	L'Anse-à-Mercier
Gaspésie-rive Nord		B-14.2	Petite-Vallée
Gaspésie-rive Nord		B-14.3	Pointe-à-La-Frégate
Gaspésie-rive Nord		B-14.4	Baie de Cloridorme
Gaspésie-rive Nord		B-14.5	Cloridorme
Gaspésie-rive Nord		B-14.6	Saint-Yvon
Gaspésie-rive Nord		B-15.1	Portage-Saint-Héliér
Gaspésie-rive Nord		B-15.2	Pointe-Jaune (village)
Gaspésie-rive Nord		B-15.3	Petit-Cap, ouest
Gaspésie-rive Nord		B-16.1	Rivière-au-Renard-Ouest
Gaspésie-rive Nord		B-16.2	L'Anse-à-Fugère
Gaspésie-rive Nord		B-16.3	L'Anse-au-Griffon-Nord
Gaspésie-rive Nord		B-16.4	L'Anse-au-Griffon
Gaspésie-rive Nord		B-16.5	Jersey Cove
Gaspésie-rive Nord		B-16.6	Cap-des-Rosiers
Gaspésie-rive Nord		B-16.7	Cap Bon Ami
Gaspésie-Baie-des-Chaleurs		C-01	Cap à la Baleine
Gaspésie-Baie-des-Chaleurs		C-02	Anse de l'Église
Gaspésie-Baie-des-Chaleurs		C-03	Le Havre
Gaspésie-Baie-des-Chaleurs		G-01.1	Restigouche
Gaspésie-Baie-des-Chaleurs		G-01.2	Oak Bay
Gaspésie-Baie-des-Chaleurs		G-01.3	Pointe à la Garde
Gaspésie-Baie-des-Chaleurs		G-01.4	Fleurant
Gaspésie-Baie-des-Chaleurs		G-01.5	Miguasha Ouest
Gaspésie-Baie-des-Chaleurs		G-02.1	Miguasha
Gaspésie-Baie-des-Chaleurs		G-02.2	Bassin Rivière Nouvelle
Gaspésie-Baie-des-Chaleurs		G-02.3	Île aux Groseilles
Gaspésie-Baie-des-Chaleurs		G-02.4	Robitaille
Gaspésie-Baie-des-Chaleurs		G-02.5	Île Laviolette
Gaspésie-Baie-des-Chaleurs		G-02.6	Havre de Carleton
Gaspésie-Baie-des-Chaleurs		G-03.1	Carleton Centre
Gaspésie-Baie-des-Chaleurs		G-03.2	Carleton
Gaspésie-Baie-des-Chaleurs		G-04.1	Caps de Maria
Gaspésie-Baie-des-Chaleurs		G-04.2	Clapperton
Gaspésie-Baie-des-Chaleurs		G-05	Maria
Gaspésie-Baie-des-Chaleurs		G-06.1	Pointe Verte (Maria)
Gaspésie-Baie-des-Chaleurs		G-06.2	Pointe Kilmore
Gaspésie-Baie-des-Chaleurs		G-06.3	Gagné
Gaspésie-Baie-des-Chaleurs		G-07.1	Rivière Cascapédia
Gaspésie-Baie-des-Chaleurs		G-07.2	New Richmond
Gaspésie-Baie-des-Chaleurs		G-08	Black Cape
Gaspésie-Baie-des-Chaleurs		G-09.1	Rivière Caplan
Gaspésie-Baie-des-Chaleurs		G-09.2	Caplan
Gaspésie-Baie-des-Chaleurs		G-09.3	Ruisseau Leblanc
Gaspésie-Baie-des-Chaleurs		G-10.1	Saint-Siméon-Ouest
Gaspésie-Baie-des-Chaleurs		G-10.2	Saint-Siméon-de-Bonaventure
Gaspésie-Baie-des-Chaleurs		G-10.3	Saint-Siméon-Est
Gaspésie-Baie-des-Chaleurs		G-10.4.1	Pointe de l'Ile St-Siméon
Gaspésie-Baie-des-Chaleurs		G-10.4.2	Bonaventure Ouest
Gaspésie-Baie-des-Chaleurs		G-10.4.3	Bonaventure
Gaspésie-Baie-des-Chaleurs		G-11.1	Havre de Beauséjour
Gaspésie-Baie-des-Chaleurs		G-11.2	Bonaventure-Est

Region	Fishing zone	Area's number	Area's name
Gaspésie-Baie-des-Chaleurs		G-12	New-Carlisle West
Gaspésie-Baie-des-Chaleurs		G-13	Paspébiac-Ouest
Gaspésie-Baie-des-Chaleurs		G-14.1	Paspébiac
Gaspésie-Baie-des-Chaleurs		G-14.2	Hope-Town
Gaspésie-Baie-des-Chaleurs		G-14.3	Gignac
Gaspésie-Baie-des-Chaleurs		G-15	Pointe Trachy
Gaspésie-Baie-des-Chaleurs		G-16	Saint-Godefroi
Gaspésie-Baie-des-Chaleurs		G-17	Anse Shigawake
Gaspésie-Baie-des-Chaleurs		G-18	Anse Sullivan
Gaspésie-Baie-des-Chaleurs		G-19	Port-Daniel-Ouest
Gaspésie-Baie-des-Chaleurs		G-20.1	Baie de Port-Daniel
Gaspésie-Baie-des-Chaleurs		G-20.2	Barachois de Port-Daniel
Gaspésie-Baie-des-Chaleurs		G-20.3	L'Anse McInnes
Gaspésie-Baie-des-Chaleurs		G-20.4	Gascons
Gaspésie-Baie-des-Chaleurs		G-21.1	Newport
Gaspésie-Baie-des-Chaleurs		G-21.2	Baie du Grand Pabos
Gaspésie-Baie-des-Chaleurs		G-21.3	Baie du Petit Pabos
Gaspésie-Baie-des-Chaleurs		G-21.4	Sainte-Thérèse de Gaspé
Gaspésie-Baie-des-Chaleurs		G-22.1	Anse à Beaufile
Gaspésie-Baie-des-Chaleurs		G-22.2	Percé
Gaspésie-Baie-des-Chaleurs		G-22.3	Île Bonaventure
Gaspésie-Baie-des-Chaleurs		G-22.4	Coin du Banc
Gaspésie-Baie-des-Chaleurs		G-22.5	L'estuaire de la rivière du Portage
Gaspésie-Baie-des-Chaleurs		G-22.6	L'estuaire de la rivière Malbaie
Gaspésie-Baie-des-Chaleurs		G-22.7	Ruisseau Laflamme
Gaspésie-Baie-des-Chaleurs		G-22.8	Mal-Bay
Gaspésie-Baie-des-Chaleurs		G-22.9	Pointe Saint-Pierre
Gaspésie-Baie-des-Chaleurs		G-22.10	Île Plate
Gaspésie-Baie-des-Chaleurs		G-23.1	Ruisseau Duguay
Gaspésie-Baie-des-Chaleurs		G-23.2	Prével
Gaspésie-Baie-des-Chaleurs		G-23.3	Anse Brillant
Gaspésie-Baie-des-Chaleurs		G-24.1	Plage Haldimand
Gaspésie-Baie-des-Chaleurs		G-24.2.1	Estuaire de la rivière Saint-Jean Ouest
Gaspésie-Baie-des-Chaleurs		G-24.2.2	Estuaire de la rivière St-Jean Est
Gaspésie-Baie-des-Chaleurs		G-24.3	Barre de Sandy Beach
Gaspésie-Baie-des-Chaleurs		G-24.4	L'est du chantier naval
Gaspésie-Baie-des-Chaleurs		G-25.1	Havre de Gaspé
Gaspésie-Baie-des-Chaleurs		G-25.2	Bassin du Sud-Ouest de Gaspé
Gaspésie-Baie-des-Chaleurs		G-26.1	Anse aux Cousins
Gaspésie-Baie-des-Chaleurs		G-26.2	Cortéreal
Gaspésie-Baie-des-Chaleurs		G-26.3	Estuaire de la rivière Darmouth
Gaspésie-Baie-des-Chaleurs		G-27.1	Fontenelle
Gaspésie-Baie-des-Chaleurs		G-27.2	Penouille
Gaspésie-Baie-des-Chaleurs		G-27.3	Presqu'île Penouille
Gaspésie-Baie-des-Chaleurs		G-28	Forillon, ouest
Saguenay		S	Saguenay
Côte-Nord		P-04	Baie-Saint-Paul/Saint-Irénée
Côte-Nord	1A	P-03	La Malbaie
Côte-Nord	1A	P-02.3	Anse d'Herbe/Saint-Fidèle
Côte-Nord	1A	P-02.2	Port au Saumon
Côte-Nord	1A	P-02.1	Port au Persil
Côte-Nord	1A	P-01.6	Rivière-Noire/Pointe aux Quilles

Region	Fishing zone	Area's number	Area's name
Côte-Nord	1A	P-01.5	Baie des Rochers
Côte-Nord	1A	P-01.4.2	Anse du Chauffaud aux Basques
Côte-Nord	1A	P-01.4.1	La Petite Crique
Côte-Nord	1A	P-01.3	La batture aux Alouettes
Côte-Nord	1A	P-01.2	Pointe-au-Bouleau/Pointe aux Alouettes
Côte-Nord	1A	P-01.1	Baie Sainte-Catherine
Côte-Nord	1A	N-01.1.1	Baie de Tadoussac
Côte-Nord	1A	N-01.1.2	Pointe aux Vaches
Côte-Nord	1A	N-01.1.3	Baie du Moulin à Baude
Côte-Nord	1A	N-01.1.4	Baie des Petites Bergeronnes
Côte-Nord	1A	N-01.2.1	Baie des Grandes Bergeronnes
Côte-Nord	1A	N-01.2.2	Batture à Théophile (Batture de Bon-Désir)
Côte-Nord	1A	N-01.3	Baie de Bon-Désir (Cran Noir)
Côte-Nord	1A	N-02.1	Baie des Escoumins
Côte-Nord	1A	N-02.2	Îles Penchées
Côte-Nord	1A	N-02.3	Baie des Bacon
Côte-Nord	1A	N-03.1.1	Saint-Paul-du-Nord
Côte-Nord	1A	N-03.1.2	Pointe à Émile
Côte-Nord	1A	N-03.2.1	Pointe à Boisvert
Côte-Nord	1A	N-03.2.2	Pointe de Mille-Vaches
Côte-Nord	1A	N-03.2.3	La Grande Savane
Côte-Nord	1A	N-03.2.4	Portneuf-sur-Mer
Côte-Nord	1A	N-03.2.5	Sainte-Anne-de-Portneuf
Côte-Nord	1A	N-03.2.6	Banc (Barre) de Portneuf
Côte-Nord	1A	N-03.3	Forestville
Côte-Nord	1A	N-04.1.1.1	Baie des Chevaux
Côte-Nord	1A	N-04.1.1.2	Embouchures de la rivière Laval et du ruisseau Jean Raymond
Côte-Nord	1A	N-04.1.2.1	Banc Marie-Marthe (Île Laval)
Côte-Nord	1A	N-04.1.2.4	Île Laval
Côte-Nord	1A	N-04.1.2.2	Baie Didier Sud
Côte-Nord	1A	N-04.1.2.3	Baie Didier Nord
Côte-Nord	1A	N-04.1.3	Baie des Plongeurs
Côte-Nord	1A	N-04.2.1	Battures aux Gibiers
Côte-Nord	1A	N-04.2.2	Cran à Gagnon
Côte-Nord	1A	N-04.3	Rivière Blanche
Côte-Nord	1A	N-04.4.1	Anse du Colombier
Côte-Nord	1A	N-04.4.2	Anse à Norbert
Côte-Nord	1A	N-04.5.1	Anse Noire
Côte-Nord	1A	N-04.5.2	Îlets Jérémie
Côte-Nord	1A	N-04.6	Pointe à Michel
Côte-Nord	1A	N-05.1.1	Banc des Blancs (Banc des Canadiens)
Côte-Nord	1A	N-05.1.2	Pointe de Pessamit
Côte-Nord	1C	N-05.1.3.1	Réserve Pessamit Sud (Bersimis)
Côte-Nord	1C	N-05.1.3.2	Réserve Pessamit Nord (Bersimis)
Côte-Nord	1C	N-05.2.1	Ragueneau Ouest
Côte-Nord	1B	N-05.2.2	Ragueneau Est
Côte-Nord	1B	N-06.1.1	Pointe-aux-Outardes (ouest)
Côte-Nord	1B	N-06.1.2	Pointe-aux-Outardes (est)
Côte-Nord	1B	N-06.2.1	La Grosse Pointe
Côte-Nord	1B	N-06.2.2	Battures de Manicouagan
Côte-Nord	1B	N-06.3	Pointe Paradis
Côte-Nord	1B	N-07	Rivière Manicouagan

Region	Fishing zone	Area's number	Area's name
Côte-Nord	1B	N-08.1.1	Baie des Anglais
Côte-Nord	1B	N-08.1.2	Anse Saint-Pancrace
Côte-Nord	1B	N-08.1.3	Rivière Mistassini
Côte-Nord	1B	N-08.2.1	Franquelin
Côte-Nord	1B	N-08.2.2	Anses à Frigault
Côte-Nord	1B	N-08.3	Baie Saint-Nicolas
Côte-Nord	1B	N-09.1.1	Baie des Molson
Côte-Nord	1B	N-09.1.2	Godbout
Côte-Nord	1B	N-09.1.3	Pointe-des-Monts
Côte-Nord	2	N-09.2	Pointe-à-Poulin
Côte-Nord	2	N-10.1.1	Baie-Trinité
Côte-Nord	2	N-10.1.2	Pointe aux Morts
Côte-Nord	2	N-10.2	Anse des Îlets Caribou
Côte-Nord	2	N-11.1.1	Pointe-aux-Anglais
Côte-Nord	2	N-11.1.2	Rivière-Pentecôte, ouest
Côte-Nord	2	N-11.1.3.1	Rivière-Pentecôte, est
Côte-Nord	2	N-11.1.3.2	Anse Chouinard
Côte-Nord	2	N-11.1.4	Baie des Homards
Côte-Nord	2	N-11.2	Baie des Sables
Côte-Nord	2	N-11.3	Baie des Îles de Mai
Côte-Nord	2	N-12.1	Baie à Lévesque
Côte-Nord	2	N-12.2	Port-Cartier
Côte-Nord	2	N-12.3	Baie Sainte-Marguerite, ouest
Côte-Nord	2	N-12.4	Baie Sainte-Marguerite, au large
Côte-Nord	2	N-13.1.1	Rivière-Sainte-Marguerite
Côte-Nord	2	N-13.1.2	Plage Sainte-Marguerite
Côte-Nord	2	N-13.2	Baie des Sept Îles
Côte-Nord	2	N-14.1	Baie de la Boule
Côte-Nord	2	N-14.2	Les Îles Corossol, Manowin et Dequen
Côte-Nord	2	N-14.3	Les Îles Grande et Petite Basque
Côte-Nord	2	N-14.4.1	Les Îles Grosse et Petite Boule
Côte-Nord	2	N-14.5	Les Cayes de l'Est
Côte-Nord	2	N-15.1.1	Baie des Forges
Côte-Nord	2	N-15.1.2	Rivière Moisie
Côte-Nord	2	N-15.2	Rivière aux Loups Marins
Côte-Nord	2	N-15.3	Baie de Moisie, au large
Côte-Nord	2	N-16.1	Rivière Pigou
Côte-Nord	2	N-16.2	Rivière à la Chaloupe
Côte-Nord	2	N-16.3	Banc Manitou
Côte-Nord	2	N-16.4	Rivière au Bouleau
Côte-Nord	2	N-17.1.1	Sheldrake
Côte-Nord	2	N-17.1.2	Rivière Sheldrake
Côte-Nord	2	N-17.2	Jupitagon
Côte-Nord	2	N-17.3	Banc Magpie
Côte-Nord	2	N-18.1	Rivière Saint-Jean
Côte-Nord	2	N-18.2	Baie de Mingan
Côte-Nord	2	N-18.3.1	Mingan
Côte-Nord	2	N-18.3.2	Embouchure de la rivière Mingan
Côte-Nord	2	N-18.3.3	Estuaire de la rivière Mingan
Côte-Nord	2.1	N-18.4	Rivière Mingan
Côte-Nord	2.1 et 2.2	N-18.5.1	Anse à Butler
Côte-Nord	2.2	N-18.5.2	Rivière Romaine

Region	Fishing zone	Area's number	Area's name
Côte-Nord	2.3	N-19.1	Pointe aux Morts
Côte-Nord	2	N-19.2	Anse à Nadeau
Côte-Nord	2	N-19.3.1	Île du Havre, ouest
Côte-Nord	2	N-19.3.2	Île du Havre, est
Côte-Nord	2	N-19.4	Pointe aux Esquimaux
Côte-Nord	2	N-20.1.1	Havre-Saint-Pierre
Côte-Nord	2	N-20.1.2	Caps Blancs
Côte-Nord	2	N-20.1.3	La Grande Rivière
Côte-Nord	2	N-20.1.4	Cap Ferré
Côte-Nord	2.4 (partie de N-20.2)	N-20.2	Île Saint-Charles
Côte-Nord	2	N-20.3.1	Île à la Chasse
Côte-Nord	2	N-20.3.2	Baie Nickerson
Côte-Nord	2	N-20.4	Baie de la Grande Hermine
Côte-Nord	2	N-20.5	Pointe Tanguay, ouest
Côte-Nord	2	N-21.1	Baie Quetachou
Côte-Nord	2	N-21.2	Baie Jalobert
Côte-Nord	2	N-22.1.1	Petites Rivières
Côte-Nord	2	N-22.1.2	Aguanish
Côte-Nord	2	N-22.2.1	Île Michon Ouest
Côte-Nord	2	N-22.2.2	Île Michon Est
Côte-Nord	2	N-22.3	Rivière Natashquan
Côte-Nord	2	N-22.4	Pointe de Natashquan
Côte-Nord	3	N-23.1	Havre de Kegaska
Côte-Nord	3	N-23.2	Baie aux Huîtres
Côte-Nord	3	N-23.3	Baie de Kegaska
Côte-Nord	3	N-24.1	La Romaine
Côte-Nord	3	N-24.2	Île Kaminahkunakahit
Côte-Nord	3	N-25	Chevery
Côte-Nord	3	N-26	Tête-à-la-Baleine
Côte-Nord	3	N-27	Mutton Bay
Côte-Nord	3	N-27.1	Havre de l'Aigle
Côte-Nord	3	N-28	Saint-Augustin
Côte-Nord	3	N-29	Vieux-Fort
Côte-Nord	3	N-30	Baie Salmon
Côte-Nord	3	N-30.3	Baie des Cinq Lieues
Côte-Nord	3	N-31	Middle Bay
Côte-Nord	3	N-31.1	Baie des Belles Amours
Côte-Nord	3	N-32	Anse Deep Cove
Côte-Nord	3	N-33	Île du Bassin
Côte-Nord	3	N-34	Blanc-Sablon
Anticosti		T-01	Port-Menier
Anticosti		T-02	Baie Sainte-Claire

Type of measurement used for Soft Shell Clam sampling.

SOFT SHELL CLAM



Photo: S. Hurtubise

maximal anteroposterior length

GREEN SEA URCHIN

CODE: 6411

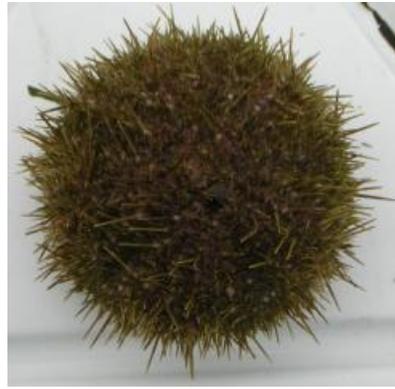


Photo: M. Beaudoin

Fishing zone:

1 to 15

Sampling protocol:

at-sea or port sampling

PROCEDURES

USE:

at-sea or manually pick:

Complete the [form](#) according to the related [directives](#). Change form after each sampled haul.

port:

Complete the [form](#) according to the related [directives](#).

SELECT:

at-sea or manually pick:

A maximum of 150 urchins by haul/dive for as many hauls/dives as possible per trip.

port:

Select randomly around 150 urchins from the overall catch. If the landing is categorized according to commercial criteria, all categories must be sampled. The number of urchins to sample by category is defined by the following rule:

$150 \text{ urchins} \div \text{by the number of categories} = \text{the number of urchins to measure by category.}$

SEX:

No.

MEASURE:

The shell maximal [width](#) (diameter) and round to the nearest 1.0 mm.

COLLECT:

No.

PRESERVE:

No.

Directives related to the form – Green Sea Urchin (at-sea sampling).

Coded by:	first cell:	M = DFO, sea O = Observer, sea
	following two cells:	sampled region code. CN = North Shore ES = Estuary GN = North Gaspé GS = South Gaspé IM = Magdalen Islands
	last three cells:	first sampler initials.
Species:	sampled species code according to the data sheets.	
Sample no.:	each sampler gives a unique number to each sample by species, regardless of the fishing location.	
Date:	sampling date (DD MM YY).	
Vessel name:	name of the fishing vessel that caught the sampled species.	
CFV no.:	commercial fishing vessel number (999999 for combined vessels, no vessel or when number not available).	
Landing district:	code of the district where the sampled species was landed.	
Fishing zone and ground:	the fishing zone in the first three cells. The fishing ground is noted in in the last four cells.	
Landed weight:	total weight, in kilograms, of the sampled species commercial landing. Notice : Landing = catch - discard.	
Gear:	note the gear code according to the following description:	
	pots	FPO
	swab	DMO
	diving	PLO
	others (to be described in the notes)	AUT
Total no. of pots/tows/dives:	total number of pots, of tows or of dives (all divers combined) corresponding to the landing.	
Total width of the dredge:	total width of a dredge multiplied by the total number of used dredges and round to the nearest 0.1 m.	
Seq. no. of pot/tow/dive:	sequential number of the pot, of the tow or of the dive (all divers combined), as determined by the fisher.	
Depth:	depth, in meters, of the site where the gear has been fishing.	
Soaking time of pot/tow/dive:	number of minutes during which the sampled pot or dredge was effective or number of minutes spent by the diver to fill the sampled pan.	

Catch weight pot/tow/dive total weight, in kilograms, of the pot or of the tow (before discarding) or of the harvest of the sampled species by diving.

Fraction of sampled pot/tow/dive: sampled fraction, in percent, of the pot, tow or harvest by diving.

Notice: A tow may be done with more than one dredge.

Fishing site: position of the sampled tow: latitude and longitude (ddmm.mm) or Loran-C coordinates if latitude and longitude are not available.

Width: [shell maximal width](#) measured according to the [procedures](#).

Count: for each measured urchin, draw a vertical line (|) in the space corresponding to the width of the shell.

Total: total number of urchins measured for each width-class.

No. measured urchins: total number of measured urchins noted on the form.

Notes: space provided for comments.

Directives related to the form – Green Sea Urchin (port sampling).

Coded by:	first cell:	Q = DFO, port
	following two cells:	sampled region code. CN = North Shore ES = Estuary GN = North Gaspé GS = South Gaspé IM = Magdalen Islands
	last three cells:	first sampler initials.
Species:	sampled species code according to the data sheets.	
Sample no.:	each sampler gives a unique number to each sample by species, regardless of the fishing location.	
Date:	sampling date (DD MM YY).	
Vessel name:	name of the fishing vessel that caught the sampled species.	
CFV no.:	commercial fishing vessel number (999999 for combined vessels, no vessel or when number not available).	
Landing district:	code of the district where the sampled species was landed.	
Fishing zone and ground:	the fishing zone in the first three cells. The remaining cells are left blank.	
Landed weight:	total weight, in kilograms, of the sampled species commercial landing. Notice: Landing = catch - discard.	
Gear:	note the gear code according to the following description:	
	pots	FPO
	swab	DMO
	diving	PLO
	others (to be described in the notes)	AUT
Total no. of pots/tows/dives:	total number of pots, of tows or of dives (all divers combined) corresponding to the landing.	
No. of cat.:	total number of categories recorded in the landing (when applicable). NB the category is designating a bunch of urchins selected from the catch according exclusively to commercial criteria.	

Sampled cat.: code of the commercial category sampled:

unsorted: 0

very small: 1

small: 2

medium: 3

large: 4

very large: 5

others (to be described
in the notes): 9

Cat. weight: total weight, in kilograms, of the category from which the sampled urchins have been selected.

Sample weight: total weight, at the nearest 0.1 kilogram, of all the measured urchins noted on the form. The value can be exact or estimated.

Width: [shell maximal width](#) measured according to the [procedures](#).

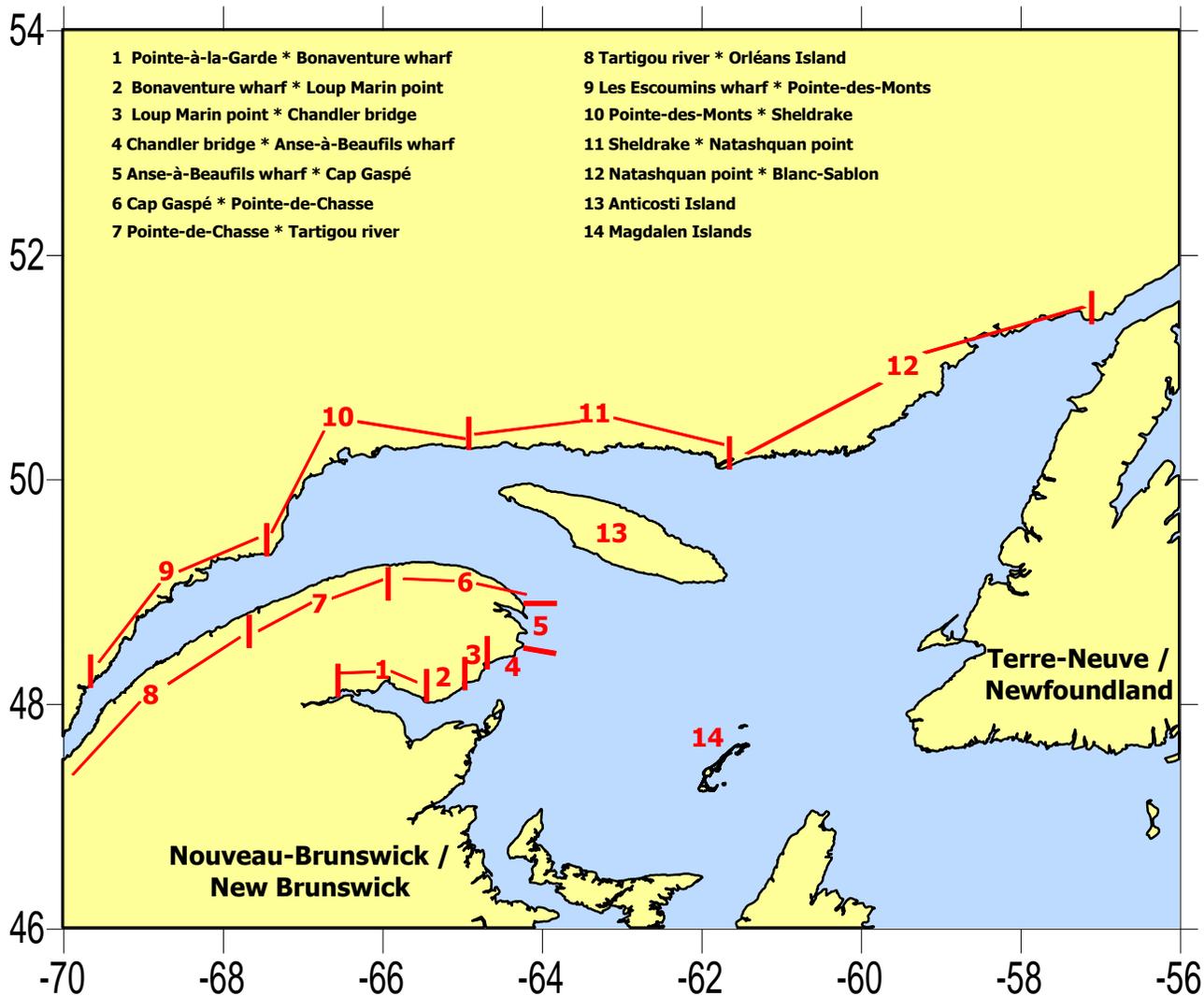
Count: for each measured urchin, draw a vertical line (|) in the space corresponding to the width of the shell.

Total: total number of urchins measured for each width-class.

No. measured urchins: total number of measured urchins noted on the form.

Notes: space provided for comments.

Green Sea Urchin fishing zones.



Type of measurement used for Green Sea Urchin sampling.

GREEN SEA URCHIN



Photo: M. Beaudoin

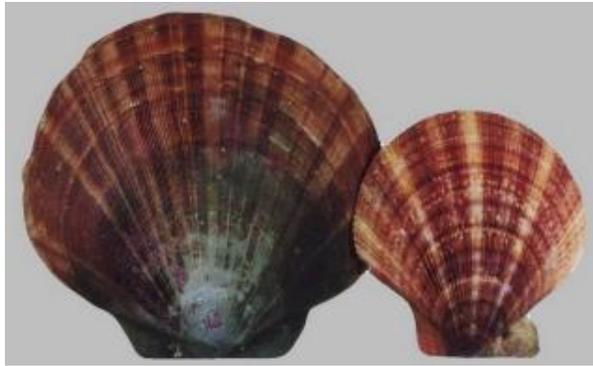
Shell maximal width

SCALLOP SP

CODE:

Giant
4321

Iceland
4322



Giant Iceland
Photo: H. Bourdages

Fishing zone: [15 to 20](#)

Sampling protocol: **at-sea sampling**

PROCEDURES

USE:

at-sea:

Complete the [form](#) according to the related [directives](#).
Change form after each sampled tow.

SELECT:

at-sea:

A maximum of scallops by tow for as many tows as possible
per trip.

SEX:

at-sea:

No.

MEASURE:

at-sea:

The shell maximal [height](#), from the hinge to the opposite end
and round to the nearest 1.0 mm.

COLLECT:

at-sea:

2 top shells per 1.0 mm height-class per species, excluding
the shells of dead scallops.

PRESERVE:

at-sea:

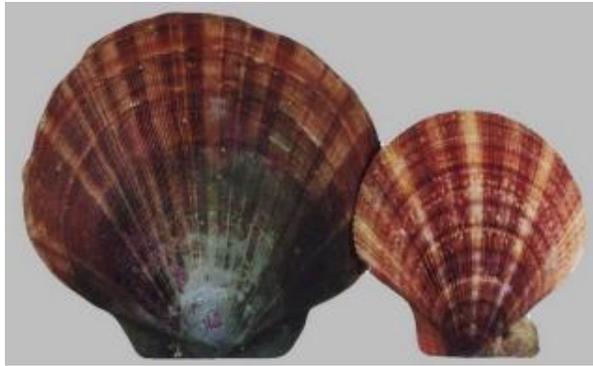
The washed shells frozen in waxed cartons labeled according
to the [instructions](#).

SCALLOP SP

CODE:

Giant
4321

Iceland
4322



Giant Iceland
Photo: H. Bourdages

Fishing zone: **15 to 20**

Sampling protocol: **port sampling**

PROCEDURES

USE: The [form](#) according to the related [directives](#).

SELECT: **muscles:**
Select randomly around 150 muscles from the overall catch. If the landing is categorized according to commercial criteria, all categories must be sampled. The number of muscles to sample by category is defined by the following rule:
 $150 \text{ muscles} \div \text{by the number of categories} = \text{the number of muscles to weigh by category.}$

shells:
Select randomly around 150 shells from the overall catch. If the landing is categorized according to commercial criteria, all categories must be sampled. The number of shells to sample by category is defined by the following rule:
 $150 \text{ shells} \div \text{by the number of categories} = \text{the number of shells to measure by category.}$

SEX: No.

MEASURE: **muscles:**
The weight of each muscle and round to the nearest 1.0 g.

shells:
The shell maximal [height](#), from the hinge to the opposite end and round to the nearest 1.0 mm.

COLLECT: No.

PRESERVE: No.

Directives related to the form - Scallop sp. (at-sea sampling).

Coded by:	first cell:	M = DFO, sea O = Observer, sea
	following two cells:	sampled region code. CN = North Shore ES = Estuary GN = North Gaspé GS = South Gaspé IM = Magdalen Islands
	last three cells:	first sampler initials.
Species:	sampled species code according to the data sheets.	
Sample no.:	each sampler gives a unique number to each sample by species, regardless of the fishing location.	
Date:	sampling date (DD MM YY).	
Vessel name:	name of the fishing vessel that caught the sampled species.	
CFV no.:	commercial fishing vessel number (999999 for combined vessels, no vessel or when number not available).	
Landing district:	code of the district where the sampled species was landed	
Fishing zone and ground:	the fishing zone in the first three cells. The fishing ground is noted in in the last four cells.	
Landed weight:	total weight of the sampled species commercial landing. This value may be related to scallops in the shell and will be noted in kilograms or can be associated to shucked meats and will be noted to the nearest 0.1 kilogram. Notice: Landing = catch - discard.	
Gear:	code of the gear used by the fisher.	
Total no. of tows:	total number of tows corresponding to the landing.	
Total width of the dredge:	total width of a dredge multiplied by the total number of used dredges and round to the nearest 0.1 m.	
Seq. no. of tow:	sequential number of the tow, as determined by the fisher.	
Depth:	depth, in meters, of the site where the gear has been fishing.	
Tow duration:	number of minutes during which the sampled dredge was effective.	
Speed:	speed, in knots, at which the dredge was towed for the sampled tow.	

Catch weight: total tow weight (before discarding) for the sampled species. This value may be related to scallops in the shell and will be noted in kilograms or can be associated to shucked meats and will be noted to the nearest 0.1 kilogram.

Fraction of sampled tow: sampled fraction, in percent, of the tow.
Notice: A tow may be done with more than one dredge.

Fishing site: position of the sampled tow: latitude and longitude (ddmm.mm) or Loran-C coordinates if latitude and longitude are not available.

Height: [shell maximal height](#) measured according to the [procedures](#).

Count: for each measured scallop, draw a line (/) if alive or a plus (+) if dead, in the space corresponding to the height-class. Dead scallops are only those empty of their contents whose two shells are still connected at the base by their ligament. The scallop remains open when held in our hands. It will reopen itself if closed (as castanets). The inside of the shell is clean as the epibionts have not yet had the time to settle. Moreover, the ligament holding both shells is almost not damaged. The simple shells (one valve only) must not be measured nor counted. Dead scallops are used to estimate the natural mortality that has occurred during the previous year.

Total :

Alive (/) - Dead (+): total number of measured scallops for each height-class by separately counting the alive and dead scallops.

No. measured: total number of measured scallops noted on the form.

No. frozen: total number of frozen shells according to the [procedures](#).

Notes: space provided for comments.

Directives related to the form - Scallop sp. (port sampling).

Coded by:	first cell:	Q = DFO, port
	following two cells:	sampled region code. CN = North Shore ES = Estuary GN = North Gaspé GS = South Gaspé IM = Magdalen Islands
	last three cells:	first sampler initials.
Species:	sampled species code according to the data sheets.	
Sample no.:	each sampler gives a unique number to each sample by species, regardless of the fishing location.	
Date:	sampling date (DD MM YY).	
Vessel name:	name of the fishing vessel that caught the sampled species.	
CFV no.:	commercial fishing vessel number (999999 for combined vessels, no vessel or when number not available).	
Landing district:	code of the district where the sampled species was landed.	
Fishing zone and ground:	the fishing zone in the first three cells. The remaining cells are left blank.	
Landed weight:	total weight of the sampled species commercial landing. This value maybe related to scallops in the shell and will be noted in kilograms or can be associated to shucked meats and will be noted to the nearest 0.1 kilogram. Notice: Landing = catch - discard.	
Community code:	code of the community where the scallop was landed.	
Gear:	code of the gear used by the fisher.	
Total no. of tows:	total number of tows corresponding to the landing.	
No. of cat.:	total number of categories recorded in the landing (when applicable). Notice: The category is designating a bunch of scallops selected from the catch according exclusively to commercial criteria.	

Sampled cat.: code of the commercial category sampled:

unsorted:	0
very small:	1
small:	2
medium:	3
large:	4
very large:	5
others (to be described in the notes):	9

Cat. weight: total weight of the category from which the sampled scallops have been selected. This value may be related to scallops in the shell and will be noted in kilograms or can be associated to shucked meats and will be noted to the nearest 0.1 kilogram.

Sample weight: total weight, at the nearest 0.1 kilogram, of all the measured scallops noted on the form. The value, accurate or estimated, is associated only with scallops in the shell.

Type of measure: the type of measurement can be expressed as follows:

weight:	P
height:	T

Weight/Height: weight of the muscle or shell maximal [height](#) measured according to the [procedures](#).

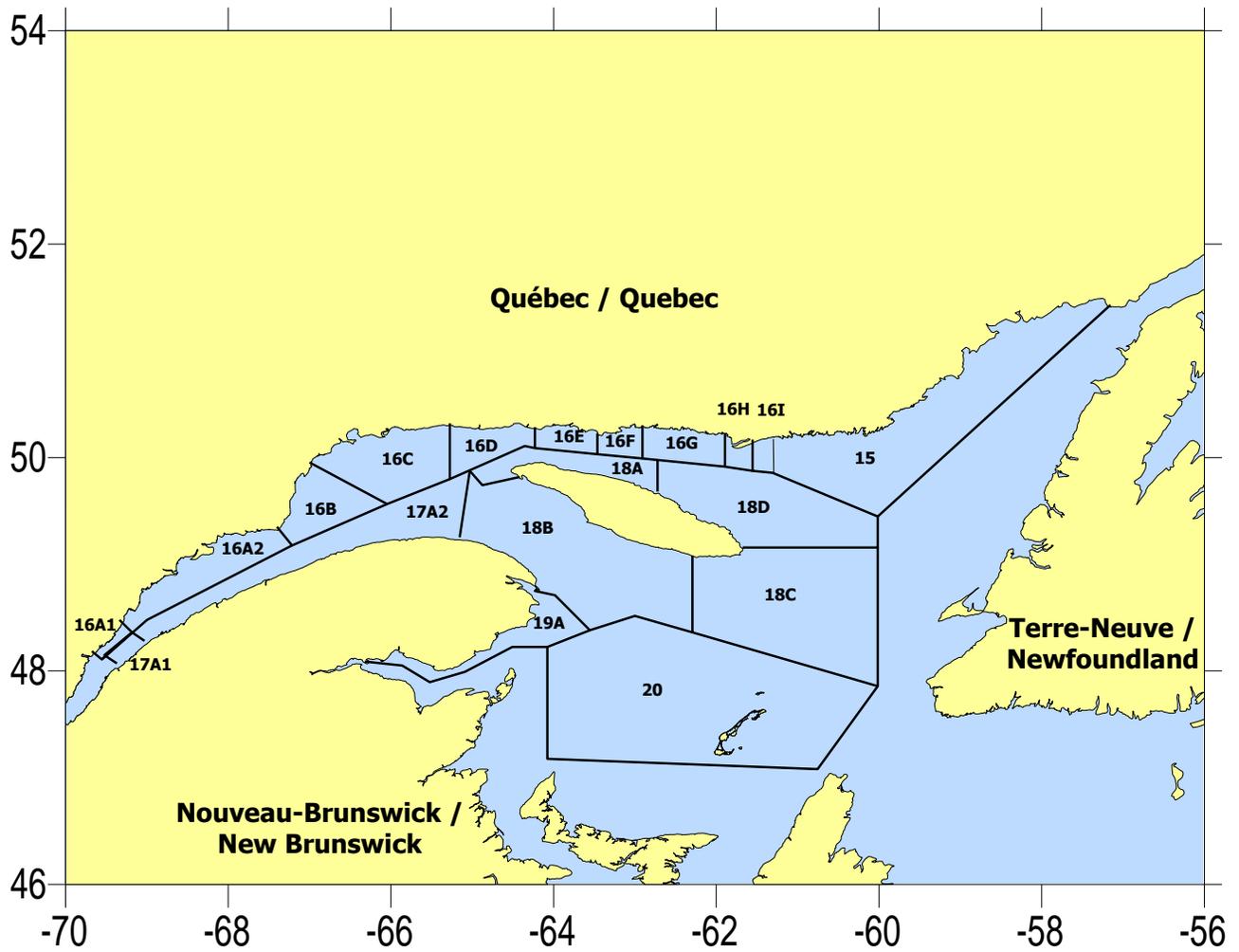
Count: for each measured scallop, draw a vertical line (|) in the space corresponding to the weight-class or the height-class.

Total: total number of weighed muscles or measured shells for each weight-class or height-class.

No. measured: total number of weighed muscles or measured shells noted on the form.

Notes: space provided for comments.

Scallop sp. fishing zones.



Type of measurement used for Scallop sp. sampling

SCALLOP SP.



Photo: S. Hurtubise

Scallop shell maximal height, from the hinge to the opposite end.

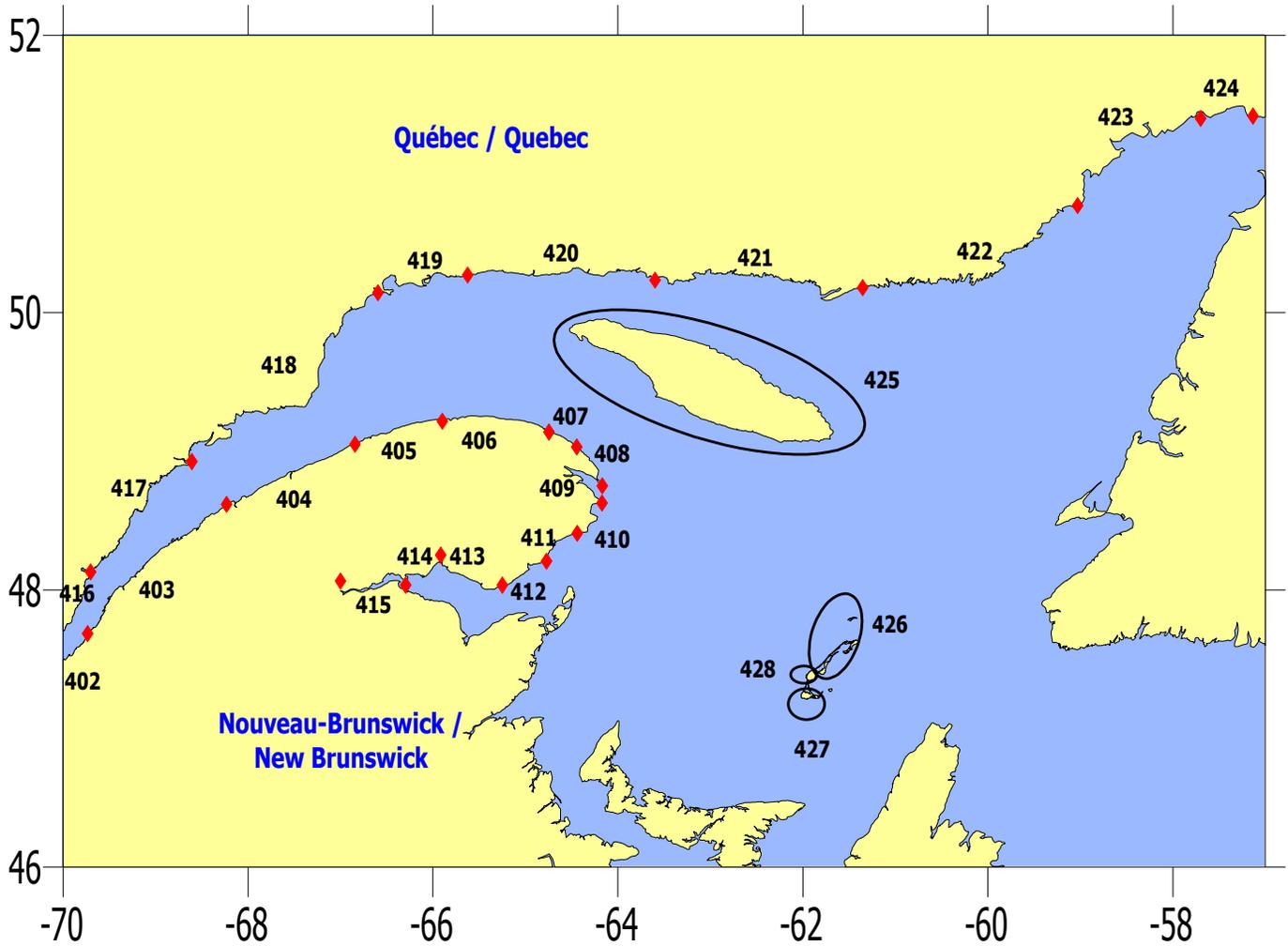
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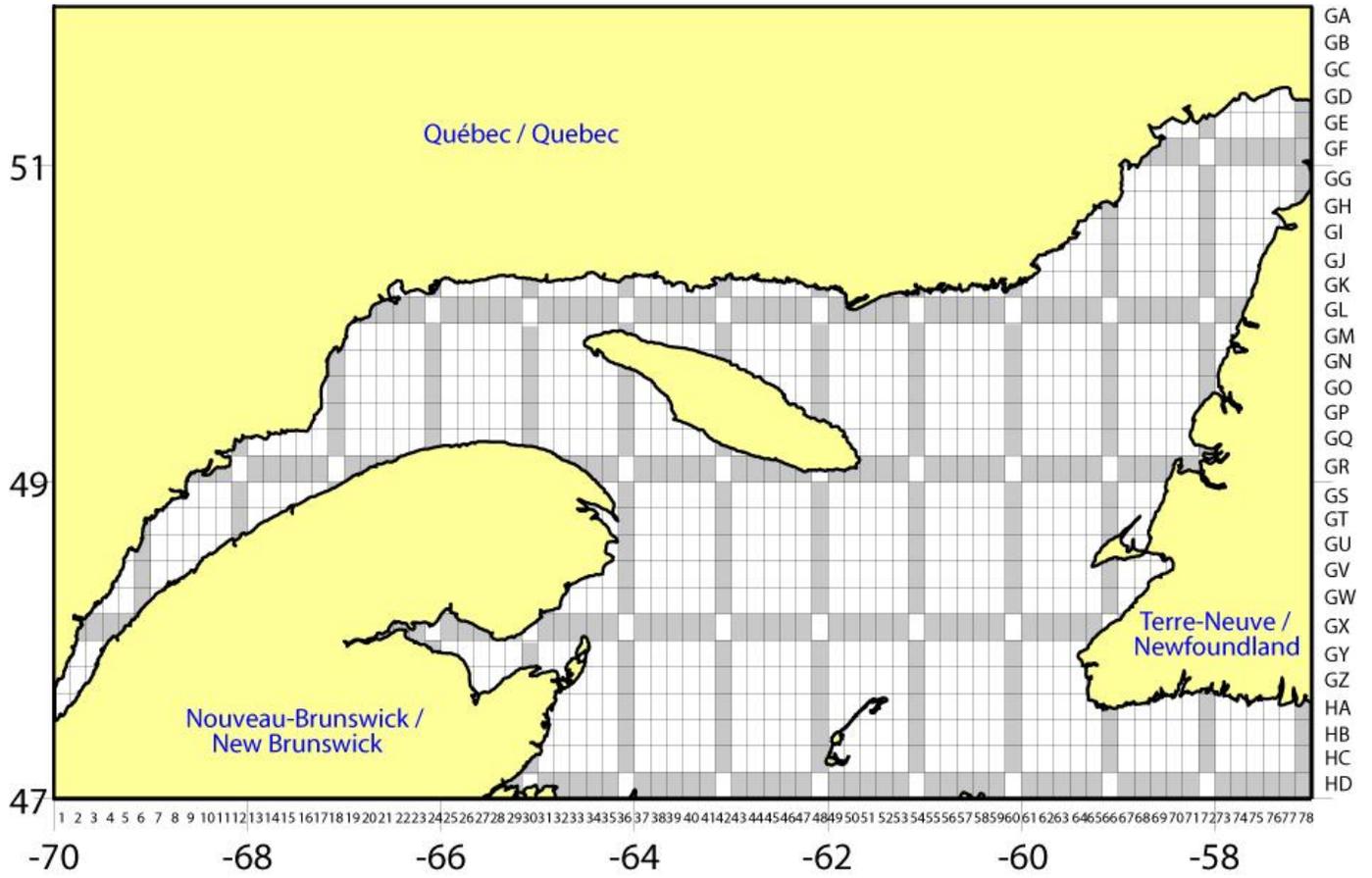
Description of the Quebec landing districts (DFO 1984) [See the map.](#)

DISTRICT	CODE	DESCRIPTION
L'ISLET	401	Anse-à-Gilles to Pointe-Rouge
KAMOURASKA	402	*Pointe-Rouge to Saint-André
RIVIÈRE-DU-LOUP /RIMOUSKI	403	Notre-Dame-du-Portage to Sainte-Flavie
MATANE	404	*Sainte-Flavie to Capucins
GASPÉ-NORD	405 406 407	Cap-Chat to Rivière-à-Claude *Rivière-à-Claude to Saint-Hélier Pointe-à-la-Renommée to Petit-Cap
GASPÉ-SUD	408 409 410 411	Petite-Rivière-au-Renard to Cap-Gaspé *Cap-Gaspé to Pointe-Saint-Pierre *Pointe-Saint-Pierre to Brèche-à-Manon river *Brèche-à-Manon river to Pointe au Maquereau
BONAVENTURE	412 413 414 415	*Pointe au Maquereau to Paspébiac New Carlisle to Grande-Cascapédia *Grande-Cascapédia to Pointe de Miguasha *Pointe de Miguasha to rivière Restigouche
CHARLEVOIX	416	Cap-Tourmente to Saguenay river
SAGUENAY	417 418	*Saguenay river to Betsiamites river *Betsiamites river to Sainte-Marguerite river
DUPLESSIS	419 420 421 422 423 424 425	*Sainte-Marguerite river to Pigou river *Pigou river to Havre-Saint-Pierre *Havre-Saint-Pierre to Kegaska river *Kegaska river to Baie-des-Moutons *Baie-des-Moutons to Saint-Paul river *Saint-Paul river to Blanc-Sablon Anticosti Island
ÎLES-DE-LA MADELEINE	426 427 428	Havre-aux-Maisons Island, Grande Entrée Island, Grosse Île, Brion Island, East Island, Shag Island Havre-Aubert Island, Entrée Island Cap-aux-Meules Island
* Location included in the district.		

Location of landing districts in Quebec.



Fishing ground grid and coding (Adapted from DFO 1997b).



Fishing gear codes (DFO 1984).

CATEGORY	CODE	GEAR TYPE
TRAWL	TBB OTB OTB1 OTB2 GRL1 GRL2 PTB OTM OTM1 OTM2 PTM TXS	Beam trawl Bottom otter trawl (unspecified) Bottom otter trawl (side) Bottom otter trawl (stern) Bottom otter trawl (side with grid) Bottom otter trawl (stern with grid) Bottom pair trawl Midwater trawl (unspecified) Midwater trawl (side) Midwater trawl (stern) Midwater pair trawl Shrimp trawl
SEINE NETS	SDN SSC SPR PS SB LA	Danish seine Scottish seine Pair seine Purse seine Beach seine Lampara
GILLNETS	GN GNS GND	Gillnet (unspecified) Gillnet (set or fixed) Gillnet (drift)
HOOKS AND LINES	LL LLS LLD LLG LHP LHM LX	Longline (unspecified) Longline (set or fixed) Longline (drift) Handline Manual jigger Mechanical jigger Hook and line (unspecified)
TRAP AND LIFT NETS	FIX FPN FPO FYK FWR	Trap (unspecified) Open trap (cod, herring) Pot (crab and lobster) Hoop net Weir
DREDGES	DRB DRH	Dredge (boat) Dredge (hand)
OTHER GEARS	HAR MIS NK	Harpoon Miscellaneous Unknown

Identification of samples

1. VIAL: (identification label)

- a) sample number
- b) vessel name
- c) date
- d) species
- e) district
- f) gear
- g) fishing zone
- h) sex
- i) length
- j) otolith number

front		back	
a)	001	h)	M
b)	Olympic	i)	42 cm
c)	20-11-94	j)	#23
d)	0040		
e)	408		
f)	LLS		
g)	4Sy		

2. OTOLITH ENVELOPE:

- a) sample number
- b) date
- c) species, district, gear, fishing zone
- d) vessel name (or fisher)
- e) sex
- f) maturity (when applicable)
- g) fish length
- h) otolith number

a)	#47	b)	20-11-94	
				c)
			0010 406 LLS 4Sv	
			Pastel M 59 cm (3)	
	d)	e)	f)	g)
				h)

3. WAXED CARTON: (For frozen specimens)

PÊCHES ET OCÉANS CANADA	
INSTITUT MAURICE-LAMONTAGNE	
850 ROUTE DE LA MER	
MONT-JOLI, QUEBEC	
ESPÈCE / SPECIES: <u>Maquereau</u>	
LIEU DE DÉBARQUEMENT / CROISIÈRE: <u>Grande-Entrée</u>	
LANDING PORT / CRUISE:	
NOM DU BATEAU: <u>Nordik</u>	ENGIN: <u>GNS</u>
SHIP NAME:	GEAR:
LIEU DE PÊCHE: <u>4Tf</u>	
FISHING LOCATION:	
NO. ÉCHANTILLON: <u>002</u> TRAIT: _____	NOMBRE DE BOÎTES: <u>1</u> DE: <u>3</u>
SAMPLE NUMBER: _____	SET: _____
DATE HEURE: <u>10-10-91</u>	ÉCHANTILLONNEUR: <u>C Turbide</u>
DATE TIME: _____	SAMPLE BY: _____
NOTES:	

The specimens must be frozen as soon as possible.

FRENCH NAME	SCIENTIFIC NAME	ENGLISH NAME	OTHER NAMES USED
Aiguillat commun	<i>Squalus acanthias</i>	Spiny Dogfish	Chien de mer
Flétan de l'Atlantique	<i>Hippoglossus hippoglossus</i>	Atlantic Halibut	Halibut
Flétan noir	<i>Reinhardtius hippoglossoides</i>	Greenland Halibut	Turbot
Limande to queue jaune	<i>Limanda ferruginea</i>	Yellowtail Flounder	Queue jaune, Sole
Merluche blanche	<i>Urophycis tenuis</i>	White Hake	Merluche, Barbue
Morue franche	<i>Gadus morhua</i>	Atlantic Cod	Cabillaud, Codfish
Plie canadienne	<i>Hippoglossoides platessoides</i>	American Plaice	Sole
Plie grise	<i>Glyptocephalus cynoglossus</i>	Witch Flounder	Grey sole
Plie rouge	<i>Pleuronectes americanus</i>	Winter Flounder	Black back
Sébaste	<i>Sebastes sp.</i>	Redfish	Poisson rouge Perche
Capelan	<i>Mallotus villosus</i>	Capelin	Caplin
Hareng de l'Atlantique	<i>Clupea harengus harengus</i>	Atlantic Herring	Hareng, Sardine
Maquereau bleu	<i>Scomber scombrus</i>	Atlantic Mackerel	Maquereau

 Groundfish

 Pelagics

FRENCH NAME	SCIENTIFIC NAME	ENGLISH NAME	OTHER NAMES USED
Crabe Hyas	<i>Hyas araneus</i> <i>Hyas coarctatus</i>	Atlantic Lyre Crab Arctic Lyre Crab	Crabe araignée Crabe violon
Crabe commun	<i>Cancer irroratus</i>	Atlantic Rock Crab	Crabe de roche, Tourteau
Crabe des neiges	<i>Chionoecetes opilio</i>	Snow Crab	Crabe
Crevette nordique	<i>Pandalus borealis</i>	Northern Shrimp	Crevette
Homard d'Amérique	<i>Homarus americanus</i>	American Lobster	Homard
Buccin commun	<i>Buccinum undatum</i>	Waved Whelk	Bourgot, Buccin
Couteau de l'Atlantique	<i>Ensis directus</i>	Atlantic Jackknife Clam	Couteau, rasoir
Mactre de l'Atlantique	<i>Spisula solidissima</i>	Atlantic Surf Clam	Palourde commune
Mactre de Stimpson	<i>Mactromeris polynyma</i>	Arctic Surf Clam	Palourde de Stimpson
Mye commune	<i>Mya arenaria</i>	Soft Shell Clam	Coque, Mye
Pétoncle géant	<i>Placopecten magellanicus</i>	Sea Scallop	Coquille St-Jacques
Pétoncle d'Islande	<i>Chlamys islandica</i>	Iceland Scallop	Pétoncle
Concombre de mer	<i>Cucumaria frondosa</i>	Sea cucumber	Holothurie
Oursin vert	<i>Strongylocentrotus droebachiensis</i>	Green Sea Urchin	Oursin

 Crustaceans

 Shellfish

 Echinoderms

Summary of the fish sampling protocols.

SPECIES	CODE	LENGTH	ACCURACY	SEX	OTOLITHS	FISH SAMPLE
SPINY DOGFISH	0220	total	1.0 cm	yes	1 spine by 1.0 cm per sex	no
CAPELIN	0064	total	1.0 mm	yes	at the laboratory	1 per 5.0 mm per sex
ATLANTIC HALIBUT	0030	fork	1.0 cm	yes	3 oto. by 1.0 cm per sex	no
GREENLAND HALIBUT	0031	fork	1.0 cm	yes	1 oto. by 1.0 cm per sex	no
ATLANTIC HERRING	0060	total	0.5 cm	no	at the laboratory	4T: 2 by 0.5 cm 4RS: 55 randomly
YELLOWTAIL FLOUNDER	0042	total	1.0 cm	yes	1 oto. by 1.0 cm per sex	no
ATLANTIC MACKEREL	0070	fork	0.5 cm	no	at the laboratory	2 by 0.5 cm
WHITE HAKE	0012	total	1.0 cm	no	1 oto. by 1.0 cm	no
ATLANTIC COD	0010	fork	1.0 cm	no	4T: 1 oto. by 1.0 cm 4RS, 3PN: 3 oto. by 3.0 cm	no
AMERICAN PLAICE	0040	total	1.0 cm	yes	1 oto. by 1.0 cm per sex	no
WITCH FLOUNDER	0041	total	1.0 cm	yes	1 oto. by 1.0 cm per sex	no
WINTER FLOUNDER	0043	total	1.0 cm	yes	no	no
REDFISH SP.	0023	fork	1.0 cm	yes	no	no

Summary of the invertebrates sampling protocols.

SPECIES	CODE	LENGTH/WEIGHT	ACCURACY	SEX	MATURITY	SPECIMEN SAMPLE
HYAS CRAB	2521 or 2527	-carapace maximal width -right claw maximal height -weight	1.0 mm 0.1 mm 1.0 g	yes	-carapace condition -eggs	no
ROCK CRAB	2513	carapace maximal width	1.0 mm	yes	-carapace condition -eggs	no
SNOW CRAB	2526	-carapace maximal width -right claw maximal height -weight	1.0 mm 0.1 mm 1.0 g	yes	-carapace condition -eggs	no
NORTHERN SHRIMP	2210	no	no	no	no	~ 3 kg from the last tow of the trip.
AMERICAN LOBSTER	2550	cephalothorax maximal length	1.0 mm	yes	eggs	no
WAVED WHELK	4211	shell maximal height	1.0 mm	yes	no	no
ATLANTIC JACKKNIFE CLAM	4301	maximal anteroposterior length	1.0 mm	no	no	no
ATLANTIC SURF CLAM	4317	maximal anteroposterior length	1.0 mm	no	no	no
STIMPSON SURF CLAM	4355	maximal anteroposterior length	1.0 mm	no	no	no
SOFT SHELL CLAM	4318	maximal anteroposterior length	1.0 mm	no	no	no
GIANT SCALLOP	4321	-shell maximal height -weight	1.0 mm 1.0 g	no	no	2 by 1.0 mm
ICELAND SCALLOP	4322	-shell maximal height -weight	1.0 mm 1.0 g	no	no	2 by 1.0 mm
SEA CUCUMBER	6611	maximal length	5.0 mm	no	no	no
GREEN SEA URCHIN	6411	shell maximal width	1.0 mm	no	no	no

Sampling and assessment responsibilities by species in the Gulf of St. Lawrence.

Species/NAFO Division(s) or Location	Sampled by the region of:	Assessment responsibility assigned to the region of:
American Plaice, 4T	Quebec/Gulf	Gulf
Atlantic Cod, 3Pn4RS	Quebec/Newfoundland	Quebec
Atlantic Cod, 4T	Quebec/Gulf	Gulf
Atlantic Halibut, 4RST	Quebec/Gulf/Newfoundland	Quebec
Atlantic Herring, 4RS	Quebec/Newfoundland	Quebec
Atlantic Herring, 4T	Quebec/Gulf	Gulf
Atlantic Mackerel, Northwest Atlantic	Quebec/Gulf/Newfoundland/ Maritimes	Quebec
Capelin, 4RST	Quebec/Newfoundland	Quebec
Greenland Halibut, 4RST	Quebec/Gulf/Newfoundland	Quebec
Redfish sp., unit 1	Quebec/Gulf/Newfoundland	Quebec
Spiny Dogfish, 4RST	Quebec/Gulf/Newfoundland	Maritimes
White Hake, 4T	Quebec/Gulf	Gulf
Witch Flounder, 4RST	Quebec/Gulf/Newfoundland	Gulf
Winter Flounder, 4T	Quebec/Gulf	Gulf
Yellowtail Flounder, 4T	Quebec/Gulf	Gulf
American Lobster, Quebec	Quebec	Quebec
Common Razor Clam, Quebec	Quebec	Quebec
Green Sea Urchin, Quebec	Quebec	Quebec
Hyas crabs sp., Quebec	Quebec	Quebec
Northern Shrimp, Gulf	Quebec/Gulf/Newfoundland	Quebec
Rock Crab, Quebec	Quebec	Quebec
Scallop sp., Quebec	Quebec	Quebec
Sea cucumber, Quebec	Quebec	Quebec
Snow Crab, Quebec inshore	Quebec	Quebec
Snow Crab, Southern Gulf	Quebec/Gulf	Gulf
Soft Shell Clam, Quebec	Quebec	Quebec
Surf Clam sp., Quebec	Quebec	Quebec
Waved Whelk, Quebec	Quebec	Quebec

 Fish

 Invertebrates

NAFO: Northwest Atlantic Fisheries Organization.