

To submit your observations during the season, or if you have any questions, you can contact:

***The Capelin Observers Network (CON)***

Telephone: 1-877-227-6853

Fisheries and Oceans Canada would like to thank the collaborators listed below for their support in promoting and publicizing the Network and its work of collecting observation data. Thanks to these organizations, more people are learning about the Capelin Observers Network, which is essential to its objectives.

*Comité ZIP Baie des Chaleurs*  
From Matapédia to Forillon



*Comité ZIP du Sud-de-l'Estuaire*  
From Berthier-sur-Mer to Les Méchins



*Comité ZIP de la rive nord de l'estuaire*  
From Tadoussac to Baie-trinité



*Comité ZIP Côte-Nord du Golfe*  
From Baie-Trinité to Blanc-Sablon



*Réseau d'observation de mammifères marins (ROMM)*



*Conseil régional de l'environnement Gaspésie-Îles-de-la-Madeleine (CREGIM)*



## **Gulf / Îles-de-la-Madeleine (Magdalen Islands) area**

According to local island knowledge, capelin were present in the Îles-de-la-Madeleine (Magdalen Islands) about 30 years ago. However, for the first time since the CON's establishment (2003), capelin spawning was observed on the shores of the archipelago by lobster and flounder fishers during the weeks of June 8 and 15, 2008 (Figure 7). They observed capelin rolling at only a single location, Cap de l'hôpital in Fatima (Municipality of the Îles-de-la-Madeleine). This is an interesting observation, but one that can only be interpreted in light of future observations.



**Dried capelin in the Gulf / Moyenne-Côte-Nord area. Photo: Mireille Dumond, Comité ZIP Côte-Nord du Golfe.**

Front page photo credit (modified) : Alexandr Konstantinov.

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## Gulf / Baie des Chaleurs (Chaleur Bay) area

In 2008, the capelin rolled around mid-May in Newport and in June in Pabos, Chandler and Newport (Table 6, Figure 7), all sectors of the Municipality of Chandler. According to the observers, the quantities of capelin that rolled were high, but equal to previous years. However, according to available data, the breeding season was longer, extending until June.

**Table 6. Date of capelin spawning observations between 2003 and 2008 in the Gulf / Baie des Chaleurs (Chaleur Bay) area.**

Location	2002 to 2006	2007	2008
Grande-Rivière	2006	---	---
Chandler (Pabos)*	May 2006	---	June 18
Chandler (Chandler)	June 2006	2007	June
Newport (Chandler)	May 2005, 2006 June 2006	May	May 16**, 20 June 9
Port-Daniel-Gascon (Port-Daniel)	May, June 2003	---	---
Paspébiac	May 2003, 2004, 2005	---	---
New Carlisle	May 2005, 2006	May 19 and 20	---
Maria	May 2005	---	---

Legend: \*The names in parentheses represent sectors of municipalities.  
 \*\*The days separated by commas represent individual observation days.

## The Capelin Observers Network (CON)

The Capelin Observers Network was established to gather more information about the beaches and other spawning sites in the estuary and Gulf of St. Lawrence in order to promote reproduction of this species. How many spawning sites are there? Which ones are used every year or only occasionally? Have there been any changes in capelin spawning habits? What influences the use of one beach rather than another? The CON is helping to directly answer these questions by gathering multi-year data. Knowledge about spawning sites also helps prevent disturbance of these habitats by human activities (example: shore work) during the critical fish reproduction period. It is good to know that recreational and commercial fishing activities in Quebec are not currently considered a threat to capelin since the size of the catch is small relative to the specie's abundance.

In addition, the data gathered by the Network could eventually contribute to an understanding of the impact of climate change, shoreline erosion or beach modifications on the capelin's habits and life cycle. Indirectly, this will improve our knowledge of the general functioning of the St. Lawrence ecosystem.

Efforts to monitor capelin spawning began in 2002 on the North Shore. In 2003, Fisheries and Oceans Canada (DFO), Quebec Region, and various partners, such as the ZIP (areas of prime concern) committees and coastal committees, developed a network of contacts to collect accurate data on the reproductive activity of this species in the estuary and Gulf of St. Lawrence.

The number of observers (recreational and commercial fishers, vacationers, coastal residents, scientists) has been increasing annually in Quebec's marine areas. The larger the number of observers who will join and continue to participate over the years, the greater the CON's contribution to the understanding of the capelin's life cycle and habitat requirements will be. Maintaining fish populations is part of DFO's objectives for the future of the recreational and commercial fisheries and for the health of the oceans.

## Ecological importance

Capelin is a key species in the St. Lawrence ecosystem (Figure 1). It represents a very important link in the marine food chain since it is consumed by a number of species of fish, seabirds and marine mammals including the beluga whale, the minke whale, the harbour seal, cod, salmon, the northern gannet and the razorbill. Capelin is considered the main prey of cod, which sometimes even follows capelin to the shore when it rolls onto the beaches.

In the mid-1980s, annual consumption of capelin by its main natural predators was estimated at approximately 1 million tonnes (80% of total mortality), compared to 10,000 tonnes by fishing. In the early 2000s, despite the significant decline in cod and redfish stocks, it was estimated that nearly 400,000 t of capelin were consumed by these predators.

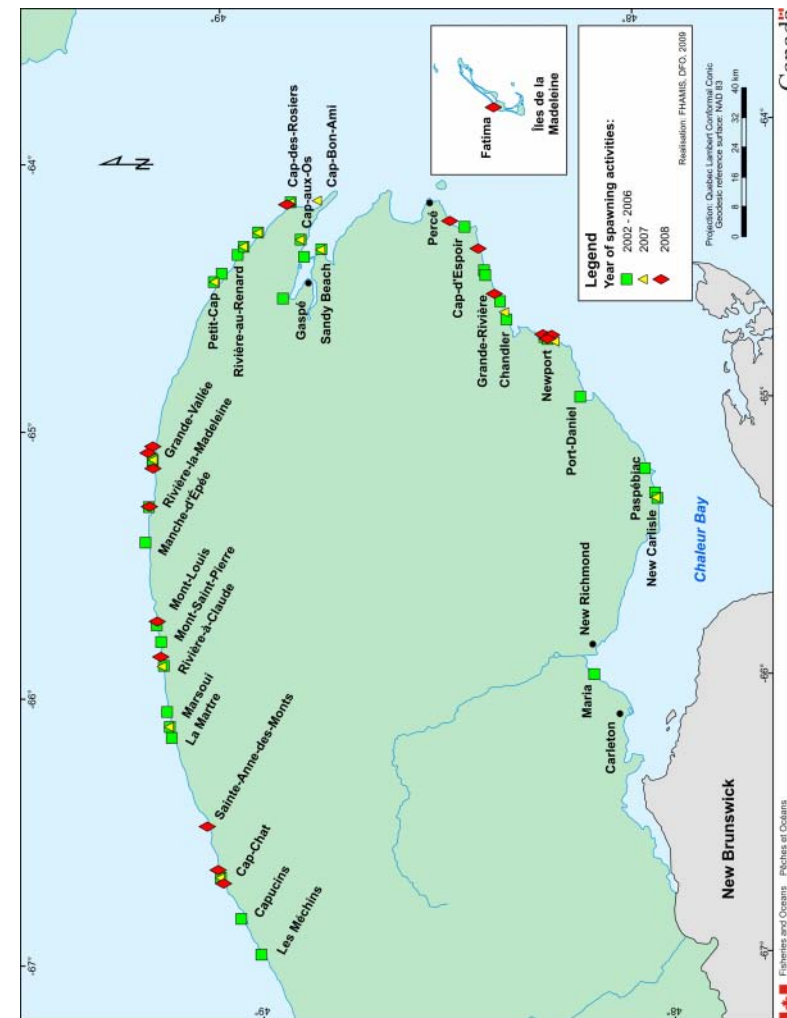


Figure 7. Date of capelin spawning observations between 2003 and 2008 in the Gulf / Gaspé Peninsula, Gulf / Baie des Chaleurs (Chaleur Bay) and Gulf / Îles-de-la-Madeleine (Magdalen Islands) area.

**Table 5 (continued).**

Location	2002 to 2006	2007	2008
Gaspé (Saint-Maurice- de-l'Échourie)	2005, 2006	2007	---
Gaspé (Rivière-au- Renard)	mid-June 2006	mid-May to mid-June	---
Gaspé (Cap-des- Rosiers)	June 2005, 2006	June 25	June 4, 14, 16
Gaspé (Cap-aux-Os)	June 2004	mid-May mid-June	to ---
Gaspé (Cap-Bon-Ami)	---	mid-May mid-June	to ---
Gaspé (Gaspé)	June 2004, 2005, 2006 July 2004	mid-May mid-June	to ---
Percé (Percé)	July 2005	June	---
Percé (Anse-à- Beaufils)	---	---	June 18
Percé (Petit cap Percé)	July, August 2005	---	---
Ste-Thérèse-de- Gaspé	---	---	May 16

Legend: \*The names in parentheses represent sectors of municipalities.  
 \*\*The days separated by commas represent individual observation days.



**Figure 1. Capelin beached on the shore. Photo: Virginie Provost, Comité ZIP Côte-Nord du Golfe.**

This small fish is the main forage species (food source) in the ecosystem of the northern Gulf of St. Lawrence.

Consequently, although the commercial fishery is not believed to significantly affect the quantity of capelin, prudence is warranted since many other species, both commercial and non-commercial, feed on this fish. The fact that the species is heavily dependent on beaches to reproduce makes it more vulnerable, since any decline in the quality and number of breeding habitats could have significant effects on the populations of capelin and its predators.

## Description of the CON observation areas

For this publication, the previous areas were reviewed and revised in order to standardize the names and geographic boundaries with the areas in DFO's Fish Habitat Management Information System (FHAMIS) (Figure 2). The following is a brief description of each of these areas.

### Upper Estuary area

The Upper Estuary area extends from Saint-Joachim to Baie-Sainte-Catherine on the north shore of the St. Lawrence, and from Montmagny to Cacouna on the south shore.

### Lower Estuary area

The Lower Estuary area extends from Tadoussac to Baie-Trinité (Pointe-des-Monts sector) on the north shore of the St. Lawrence, and from Isle-Verte to Les Méchins on the south shore.

### Gulf / Moyenne-Côte-Nord (Middle North Shore) area

The Moyenne-Côte-Nord area stretches from Baie-Trinité (Pointe-des-Monts sector) in the west to Natashquan (Pointe-Parent sector) in the east. Anticosti Island is also included in this area.

### Gulf / Basse-Côte-Nord (Lower North Shore) area

**Table 5. Date of capelin spawning observations between 2003 and 2008 in the Gulf / Gaspé Peninsula area.**

Location	2002 to 2006	2007	2008
Cap-Chat (Capucins)*	June 2004	---	---
Cap-Chat (Cap-Chat)	June 2004, 2006	May 27 to June 2	May 27 June 8
La Martre	June 2004, 2006	13 et 14 June	---
Sainte-Anne-des-Monts	---	---	May 26
Marsoui	June 2004	---	---
Rivière-à-Claude	June 2004, 2005, 2006 July 2004	one week early June	May 28 au 31 June 1 and 2, 4**, 7 to 9, 13
Mont-Saint-Pierre	July 2004	---	early June
Mont-Louis	June 2005	---	early June
Sainte-Madeleine-de-la-Rivière-Madeleine (Manche-d'Épée)	June 2004, 2005	---	---
Sainte-Madeleine-de-la-Rivière-Madeleine (Rivière-Madeleine)	June 2004	---	June
Grande-Vallée	June 2004, 2006 July 2006 August 2005	night and morning after June 24	June 14, 26 et 27

Legend: \*The names in parentheses represent sectors of municipalities.  
 \*\*The days separated by commas represent individual observation days.

## **Gulf / Gaspé Peninsula area**

The Gaspé Peninsula area ranked second in terms of number of observations (27) reported in 2008 (Table 5, Figure 7). Two new spawning sites were inventoried in the Anse-à-Beaufils sector (June 18) and in the Municipality of Sainte-Thérèse-de-Gaspé (May 16).

In this area, observers reported that the capelin seemed to roll in the evening and in the middle of the night when the waves were small. The estimates of the numbers of spawning capelin ranged from low (e.g. Grande-Vallée, Gaspé (Cap-des-Rosiers)) to high (e.g. Cap-Chat, Sainte-Thérèse-de-Gaspé, Rivière-à-Claude).

At Cap-Chat, one observer indicated that 2008 was a record year in terms of the size and quantity of capelin.

A resident of Mont-Louis observed a shift in spawning capelin from Mont-Louis to Mont-Saint-Pierre over the past several years. According to this observer, erosion in the Mont-Louis sector has reduced the quantity of sandy beaches suitable for capelin spawning.

After several years spent observing capelin spawning, one observer at Rivière-à-Claude suggested that the capelin do not use the beach to roll when it is full of large debris, such as kelp carried by high winds. The presence of seagulls would indicate that the capelin spawn offshore.

The Basse-Côte-Nord area stretches from Natashquan (Pointe du Vieux Poste sector) in the west to the Labrador border in the east.

## **Gulf / Gaspé Peninsula area**

The Gaspé Peninsula area encompasses the entire north shore of the Gaspé Peninsula. It stretches from Cap-Chat (Capucins sector) in the east to Grande-Rivière in the west.

## **Gulf / Baie des Chaleurs (Chaleur Bay) area**

The Baie des Chaleurs (Chaleur Bay) area encompasses the coastal zone south of the Gaspé Peninsula. It extends from Grande-Rivière in the east to the mouth of the Restigouche River in the west.

## **Gulf / Îles-de-la-Madeleine (Magdalen Islands) area**

**The Îles-de-la-Madeleine area takes in all the islands of the archipelago.**

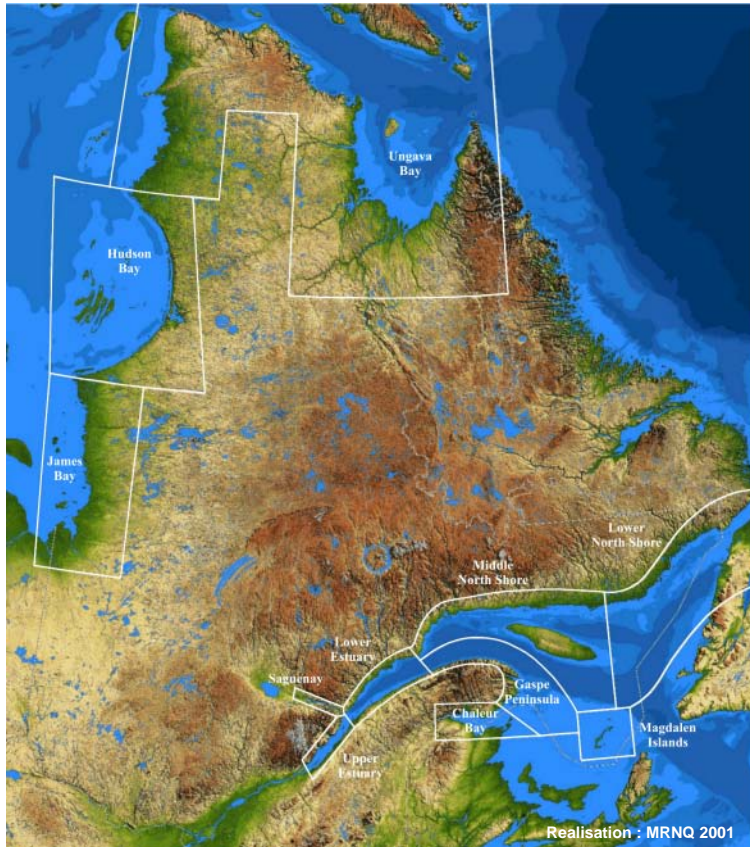


Figure 2. Map showing the various CON observation areas according to the FHAMIS classification.

## 2008 season highlights

This section presents the locations where capelin spawned during the 2008 season according to the observation areas described above. Maps of each area are provided, with the locations of last season's and previous years' observations.

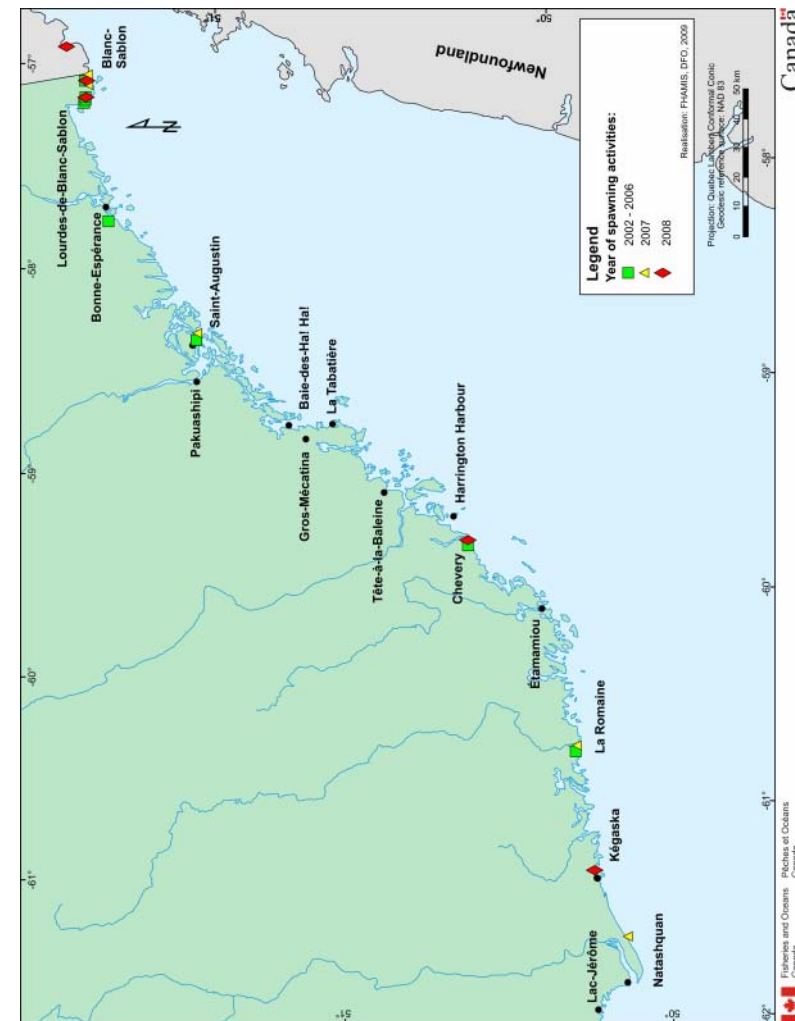


Figure 6. Date of capelin spawning observations between 2003 and 2008 in the Gulf / Basse-Côte-Nord area (Lower North Shore).

**Table 4. Date of capelin spawning observations between 2003 and 2008 in the Gulf / Basse-Côte-Nord area (Lower North Shore).**

Location	2002 to 2006	2007	2008
Côte-Nord-du-Golfe-du-Saint-Laurent (Kégaska)*	---	---	May 27
Côte-Nord-du-Golfe-du-Saint-Laurent (Chevery)	June 2004, 2005 July 2006	---	June 20
Blanc-Sablon (Lourdes-de-Blanc-Sablon)	June 2002, 2006 June, July 2004	June 24**, 27	June 29
Blanc-Sablon (Blanc-Sablon)	June 2006	June 28	June 27
Forteau in Labrador	---	---	July 1

Legend: \*The names in parentheses represent sectors of municipalities.  
 \*\*The days separated by commas represent individual observation days.

The summary tables indicate the dates of these observations by municipality. The site names were standardized according to the *Commission de toponymie du Québec*, taking into account the effect of municipal mergers that resulted in the creation of sectors. For example, Gallix is now a sector of the Municipality of Sept-Îles.

In total, 198 observations spread over 41 municipalities and sectors were recorded in the seven observation areas in 2008. The Gulf / Moyenne-Côte-Nord (Middle North Shore) area has had the highest number of observations (61.6%), followed by the Gulf / Gaspé Peninsula area (13.6%) and the Lower Estuary area (12.%).

Although the CON has been in existence for seven years, 11 new sites (in total) were inventoried in 2008 in five of the seven areas. It is interesting to note that a first record was reported for the Îles-de-la-Madeleine (Magdalen Islands).

A large body of data on capelin spawning habits has been compiled since the CON was first established. These data generally confirm that capelin spawns on sandy or fine gravel beaches. Most spawning observations were made between sundown and sunrise with wave heights of less than five feet (1.5 metres). The spawning period begins earlier in the western part of the Upper Estuary (April to mid-June), later extending to the east, in the Gulf / Basse-Côte-Nord (Lower North Shore, from June to early July).

In 2008, several participants reported that the capelin had stopped rolling for a certain number of years in

their area. Some pointed out that the beaches had been altered (e.g. riprap) or had been significantly eroded, resulting in the complete or partial disappearance of sand and/or fine gravel.

### Upper Estuary area

As has been the case every year since the establishment of the CON, weir fishers from Saint-Irénée observed capelin spawning in their fishing area. In 2008, spawning in this location was reported from mid-May to mid-June (Table 1, Figure 3). Other spawning observations were reported for Batture-aux-loups-marins upstream of Île-aux-Coudres, at the southwestern tip of the island, as well as on the northwestern tip in the coastal area of Les Éboulements. For this part of the area, the capelin spawning period in 2008 ran from April to early June. The Atlantic sturgeon fishers who fish in the Batture-aux-loups-marins reported that they found large quantities of capelin in sturgeon stomachs.

**Table 1. Date of capelin spawning observations between 2003 and 2008 in the Upper Estuary area.**

Location	2003 to 2006	2007	2008
Saint-Irénée	April, May 2003		
	May, June 2004, 2006	May 21 to mid-June	May 13 to June 18
La Malbaie (Port-au-Saumon)*	May, June, July 2005		
	June 2005	---	---
Île-aux-Coudres	---	June 4 to 6	April to early June

Legend: \*The names in parentheses represent sectors of municipalities.

### Gulf / Basse-Côte-Nord area (Lower North Shore)

In 2008, two new sectors were added to the list of spawning sites where capelin were observed on the Basse-Côte-Nord (Lower North Shore), i.e. Kégaska (Municipality of Côte-Nord-du-Golfe-du-Saint Laurent) and Forteau in Labrador (Table 4, Figure 6). It was at these two new sites that the first observation (in May) and the last observation (in July) were made. The other observations were made in the last week of June in the Chevery sector (eastern beach of the Nétagamiou River) and the Lourdes-de-Blanc-Sablon sector (Anse-aux-Dunes) as well as in the Municipality of Blanc-Sablon.

According to one resident of the Blanc-Sablon sector, the quantity of capelin that spawn at this location is about 90% lower than it was 50 years ago.



**Pêche récréative de capelan dans l'estuaire maritime.  
Photo : Louise Proulx.**

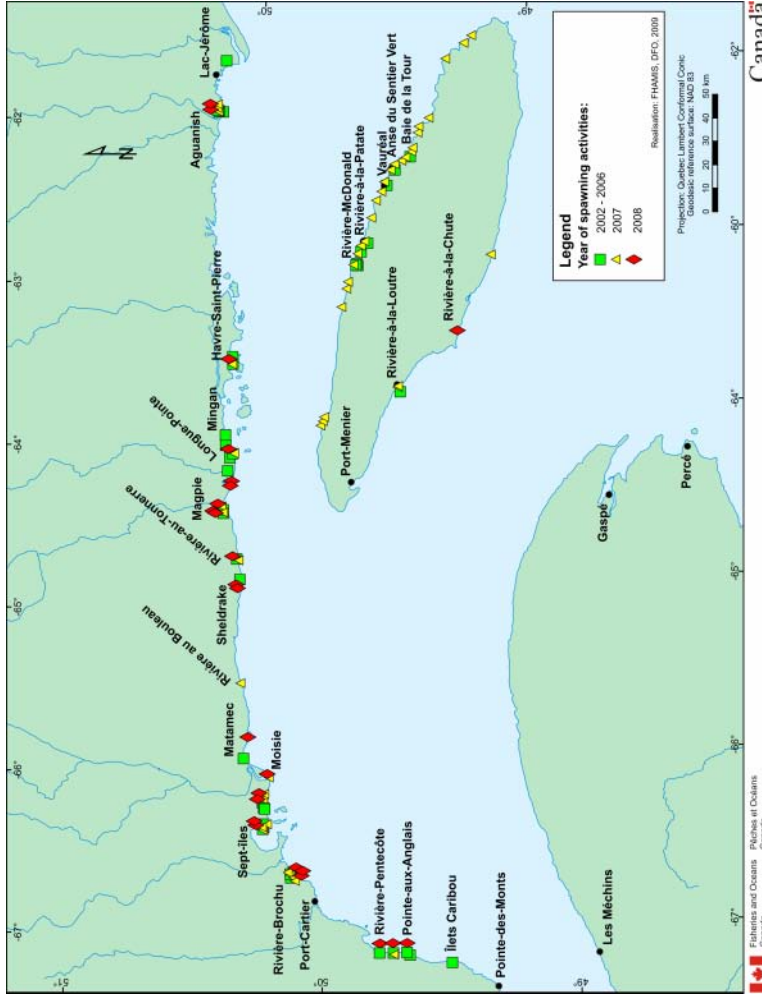


Figure 5. Date of capelin spawning observations between 2003 and 2008 in the Gulf / Moyenne-Côte-Nord area (Middle North Shore).

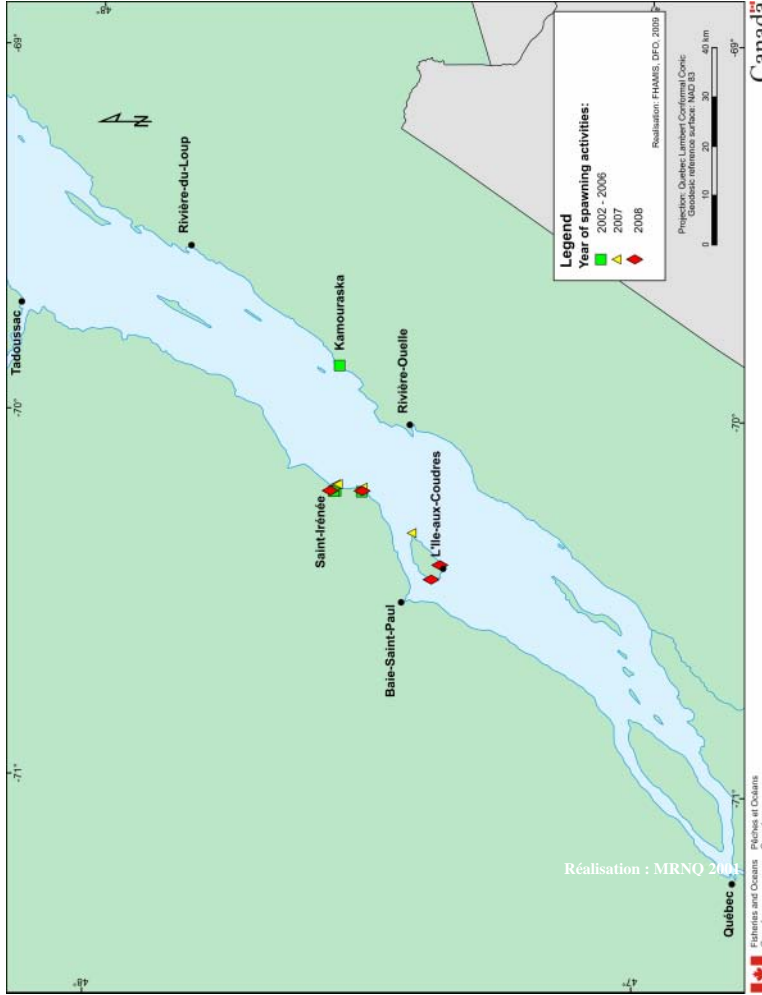


Figure 3. Date of capelin spawning observations between 2003 and 2008 in the Upper Estuary area.

## Lower Estuary area

On the north shore of the lower estuary, spawning was observed only at Portneuf-sur-Mer in May (Table 2, Figure 4).

However, on the south shore of this area, observers reported considerably more activity. In fact, there were numerous records of capelin spawning in 2008 and four new municipalities are on the list of breeding sites for this species (Rimouski, Sainte-Flavie, Métis-sur-Mer and Matane). The records of spawning activity on the south shore of this area in 2008 extended from mid-May to early July.

One unusual observation was made at the mouth of the Rimouski River, when schools containing thousands of fish (identified as capelin by the observer) were observed at low tide. It will be interesting to verify whether this type of observation is repeated in 2009 at this site and whether this actually involved spawning activity.

At Saint-Fabien-sur-Mer, one observer reported that such large numbers of capelin rolled one evening in June 2008 that 3-foot (1-metre) waves were full of capelin.

Table 3 (continued).

Location	2002 to 2006	2007	2008
Rivière-au-Tonnerre (Rivière-au-Tonnerre)	June 2004 May 2005, 2006	June 8, 27, 30	May 18 to 27 July 6
Rivière-Saint-Jean (Magpie)	May 2006 June 2004, 2005, 2006 July 2006	May 24 to 29, 31 June 1, 3, 5, 6	23 to 30 May June 3 and 4, 11 et 12
Rivière-Saint-Jean (Rivière-Saint-Jean)	---	---	July 16
Longue-Pointe-de-Mingan (Longue-Pointe-de-Mingan)	May 2005, 2006 June 2002, 2004, 2005 July 2006	May 27	May 21 June 5 July 19
Longue-Pointe-de-Mingan (Mingan)	mid-May to mid-June 2006 June 2002	mid-May to mid-June	---
Rivière-au-Tonnerre (Rivière-au-Tonnerre)	June 2004 May 2005, 2006	June 8, 27, 30	May 18 to 27 July 6
Havre-St-Pierre	June 2002, 2004 May, June 2005	May 31	mid-May to end of May
Aguanish	June 2002 May 2003 May, June 2004, 2005, 2006	May 29 to 31 1 to 5, 8, 12, 15 June	May 24 and 25 June 11 to 25 July 17
Natashquan	June and July 2006	June	---
Anticosti Island	June 2006 June, July 2004 July 2005	June 21 to 26, 30 July 1, 2, 4, 5, 9 and 10	June 14

Legend: \*The names in parentheses represent sectors of municipalities.  
 \*\*The days separated by commas represent individual observation days.

being propelled out of the water by a fin whale as it fed on them.

On Anticosti Island, spawning activity was reported on the night of June 13 to 14 in the Rivière à la Chute sector (south slope of the island, west side). Dead but still fresh capelin were found on the morning of June 14.

**Table 3. Date of capelin spawning observations between 2003 and 2008 in the Gulf / Moyenne-Côte-Nord area (Middle North Shore).**

Location	2002 to 2006	2007	2008
Îlets-Caribou	May 2005, 2006 June 2006	---	---
Port-Cartier (Pointe-aux-Anglais)*	May 2002, 2004, 2005, 2006 June 2006	May 17**, 24 June 1, 2	May 12
Port-Cartier (Rivière-Pentecôte)	May 2004, 2005	---	May 16 and 17, 28 et 29 June 6, 29
Sept-Îles (Gallix)	May, June 2003, 2005, 2006 June, July 2004	May 5 to 9, 12 to 15 June 9, 11	May 10 to 27 June 5, 13
Sept-Îles (Sept-Îles)	April, May, June 2002 May, June 2004, 2005 May 2006	April 9 May 14, 15, 24, 29 June 7	May 21 au 30 June 1, 4, 7
Sept-Îles (Moisie)	---	May 26	May 17
Sept-Îles (Matamec)	---	---	July 1

Legend: \*The names in parentheses represent sectors of municipalities.  
 \*\*The days separated by commas represent individual observation days.

**Table 2. Date of capelin spawning observations between 2003 and 2008 in the Lower Estuary area.**

Location	2003 to 2006	2007	2008
<u>North Shore</u>			
Les Escoumins	April 2003	---	---
Portneuf-sur-Mer	May 2003 May, June 2004, 2005, 2006	May 23	week of May 5, May 22
Colombier	May, June 2005	May 25	---
<u>South Shore</u>			
Kamouraska	June 2003	---	---
St-Simon (St-Simon-sur-Mer)*	June 2003	---	---
St-Fabien (St-Fabien-sur-Mer)	May, 2006 June 2003, 2004, 2005	---	June 16 to 23
Le Bic	---	early June	---
Rimouski (Rimouski)	---	---	June 9**
Rimouski (Pointe-au-Père)	---	---	May 19 and 20 June 2***, 9 and 21
Ste-Luce	June 2003	---	June 8 and 9
Ste-Flavie	---	---	June 18
Métis-sur-Mer	---	---	June 18
Matane	---	---	July 2
Les Méchins	June 2004, 2006	---	---

Legend: \*The names in parentheses represent sectors of municipalities.  
 \*\*Spawning activity to be validated.  
 \*\*\*The days separated by commas represent individual observation days.

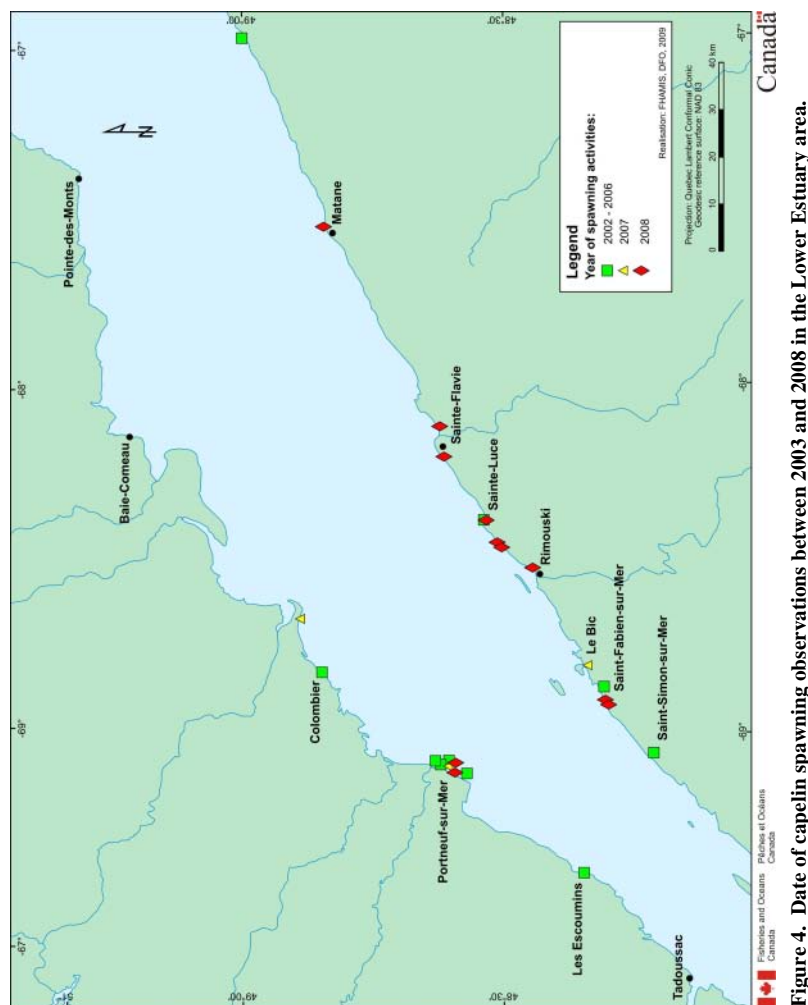


Figure 4. Date of capelin spawning observations between 2003 and 2008 in the Lower Estuary area.

## Gulf / Moyenne-Côte-Nord area (Middle North Shore)

The Moyenne-Côte-Nord (Middle North Shore) appears to be the area most heavily used by capelin during the spawning period, based on the number of observations: 122 for 2008 alone (Table 3, Figure 5). Most of the observations were made in the vicinity of the beaches of Sept-Îles (Sept-Îles and Gallix sectors), Rivière-au-Tonnerre, Rivière-Saint-Jean (Rivière-Saint-Jean and Magpie sectors) and Aguanish. The Matamec (Municipality of Sept-Îles) and Rivière-Saint-Jean sectors (Municipality of Rivière-Saint-Jean) were reported as new locations where capelin spawning was observed in 2008.

The data collected indicate that large numbers of capelin rolled in the evening under clear skies with low wave heights. On the Moyenne-Côte-Nord (Middle North Shore), observers reported that spawning on sandy beaches could extend for kilometres. In 2008, the spawning observation period ran from May 10 to July 19.

Several interesting observations were reported. On June 25, 2008, in Aguanish, a cod was seen feeding in the midst of the mass of capelin. At Longue-Pointe-de-Mingan, observers reported grey seals, seagulls, cormorants and minke whale feeding on capelin. According to one observer from this municipality, the minke whale herded the capelin to the shore to trap them. This observer also observed a humpback whale feeding on capelin 300 metres from shore. In Aguanish, another observer reported seeing capelin