



Marine Mammals : Biology and Research

If you want to join a team of knowledgeable whale researchers for two weeks and discover the largest animals on earth in breath-taking scenery, come and see us at the Mériscopie Marine Research Station (Province of Québec, Canada). Our boat trips to one of the most important feeding grounds of the great baleen whales are guided by experienced marine biologists. It is a unique way to observe marine mammals in their natural environment, to learn more about the marine ecosystem, and to support a dedicated research group at the same time.



The **Mériscopie** is situated on the north shore of the St. Lawrence estuary, about 300 km northeast of Québec City, in the middle of gorgeous coastal scenery. Our base offers a fantastic view, overlooking 2000 square kilometers of prime marine mammal habitat.



During the summer months, 5 species of baleen whales, 7 toothed whales and 3 seal species can be seen in these waters. Such a diversity of marine mammals so close to the shore is hard to find elsewhere on the Northern Hemisphere. The Mériscopie is a registered nonprofit organization in Canada. Our goal is to conduct research and outreach about marine mammals and to foster the protection of marine habitats. We are carrying out projects in cooperation with several universities in Europe and in Canada.



An unforgettable encounter with the great whales

No, we are not making any promises. We can't guarantee that you will see this or that particular whale species. That's the difference between a dolphinarium and the ocean – here, nature makes the choreography. And it does it in a marvellous, yet unpredictable way.

We will, however, do our best to make this trip a truly unforgettable experience for you. We often encounter lunging minke whales, surface-feeding blue whales, and singing belugas during our trips in the St. Lawrence estuary. Our courses are guided by an experienced team, which has been conducting innovative research on whales for 17 years.

You will not only learn more about the marine environment and the biology of marine mammals, but your participation will also help to provide funds for our research projects. You don't need any particular knowledge or skills to join us for these courses. Our staff speaks English, French, and German.

These courses include accommodation for 12 nights, all meals at the Mériscopie and at sea, 5-6 daytrips with our approved rigid-hulled zodiacs, 5-6 talks on the biology of marine mammals and two lab sessions on data collection and photo identification. Group size is limited to six participants.

Our day trips last 5-8 hours, depending on weather, sea conditions, and the range of the animals. We will provide thermo-suits for all trips at sea. We always stop for a lunch break and yes, there is a toilet on board.



Marine mammals of the St. Lawrence

The gulf and the estuary of the St. Lawrence form an extremely productive habitat, which provides food for a great variety of marine animals. Among the baleen whales, blue whales, minke and **humpback** whales are very abundant. However, we never know in advance which particular whale species we will encounter in the course of the day.



Minke and finback whales often move far up into the estuary for feeding, while blue whales tend to stay in the rich feeding area right in front of our base. For several years, humpback whales have been coming from the gulf into the estuary in increasing numbers.



Dozens of **blue whales** come to the Gulf of St. Lawrence every summer to feed on krill. Contrary to minke whales, blue whales are very selective predators, feeding exclusively on krill. The whales on the feeding grounds take advantage of the tides, the currents and the twilight in order to prey upon krill or shoaling fish close to the surface.



Among the toothed whales, the **belugas** (white whales) of the St. Lawrence are considered a threatened population, with less than 900 animals left. They are the only belugas outside arctic waters and the only cetacean species that lives in the St. Lawrence year-round. Belugas have a vast repertoire of sounds and are very active vocally – they are also called “sea canaries”.



Other toothed whales like sperm whales and **harbour porpoises** also migrate into the estuary during summer for feeding. Harbour porpoises are a threatened species in the entire North Atlantic, but the St. Lawrence population is still estimated to count more than 10'000 animals. Since they give birth on the feeding ground, we often encounter family groups and pods of 20-30 animals.



The seals in the gulf include common seals, grey seals, harp seals, and hooded seals, where the latter species is not normally present during summer. While **common seals** give birth from March to August, breeding in grey seals, harp seals and hooded seals occurs during the winter.



The St. Lawrence is not only home to many marine mammals, but also to an impressive diversity of seabirds. Razorbills, northern gannets, and eider ducks are gathering in big breeding colonies, but **common loons** and parasitic jaegers are breeding along the coast, too. Other migrating birds like Canada geese move to their breeding areas in the high arctic by the hundreds.

The Mériscope-Team



Marine biologist **Dany Zbinden** has been involved with research projects on whales of the Saint-Lawrence since 1993. As founder and director of the Mériscope since 2001, he has been promoting the development of our research base and the Mériscope team. Dany is directing the research and education program, but he is also in charge of a project aiming to develop an interactive interpretation centre about large marine ecosystems.



Jacqueline (Jackie) Egger, a high school teacher in biology from Zurich, Switzerland, with a Master degree in zoology, has drawn upon her outstanding educational background to improve exhibits in several zoos and wildlife reserves. Jacqueline joined our team in 2017 and she is involved with virtually all aspects of the education and research program. She is also constantly expanding the course program of MérisCool for primary and high schools.

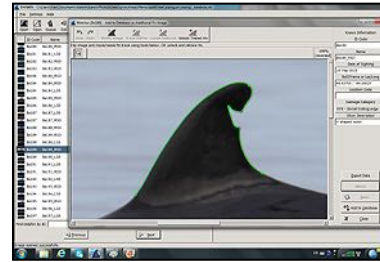


Johanne Lemieux, a retired educational advisor from Montreal, joined our team in 2013 after a “Sails & Whales” cruise. Johanne is coordinating all inputs for the minke whale photo-ID catalog, but she also manages our shop collection. In the framework of our museum project, she is contributing her organizational skills, software knowhow, and her immense educational knowledge.



Arthur Aubin, a former radar technician of the US Navy, has been involved with Mériscope projects as a volunteer since 2010. He will be supporting our team from May to September with all technical issues and particularly boat maintenance, but helps as a photographer, too. Moreover, Arthur is our favourite local supplier for the annual Mériscope pizza night.

Research projects



Our long-term **monitoring program** aims at collecting information on habitat utilization and population size of several marine mammal species. The Mériscope team manages the **minke whale catalog** of the St. Lawrence Estuary, which now contains 249 animals. We identify individual minke whales based on certain features of their dorsal fin and using special software. In other cetacean species, we are using the pigmentation pattern of the flanks (blue whales) or the underside of the fluke (humpback whales) to identify individual animals.



In 2015, we have launched a new research project aiming to investigate chemical **contamination in minke whales** and the effects of certain contaminants on DNA transcription and protein synthesis in these animals. Using a crossbow and specially designed biopsy darts, we collect small tissue samples from the whales, which are later analyzed in the framework of a PhD thesis and two master theses. This project has materialized thanks

to a broad cooperation of two universities (Université du Québec à Montréal, Univ. of Saskatchewan), two government agencies (Environment Canada, Fisheries and Oceans Canada) and two NGOs (Mériscope, GREMM).



The goal of our **bioacoustics program** is to study sounds of selected cetacean species in order to better understand the structure and biological significance of these signals. Using passive acoustic monitoring devices, we can also determine the impacts of man-made noise pollution on the marine environment and marine mammals in particular. We have been studying acoustic signals of minke whales, blue whales, harbour porpoises and belugas.

The course includes 5-6 talks on biology / acoustics of marine mammals:

1. Evolution and systematics of marine mammals
2. Marine mammals of the St. Lawrence (biology and ecology)
3. Diving physiology of marine mammals (biological adaptations)
4. Ecotoxicology in marine top predators: belugas and minke whales
5. Marine acoustics: sound propagation and noise budgets
6. Bioacoustics: sound production and reception in marine mammals
7. Lab sessions: data collection, photo identification of minke whales

Collaboration of course participants



We invite course participants to actively participate in **data collection at sea** and **data processing at the lab**, but this is not a condition for taking part in a course for the general public. For students, however, active collaboration at sea and at the lab is required to get the course certificate. There is also a possibility to help with projects related to our future interpretation centre, like developing animations or interpretive objects.



We normally do **2-3 daytrips per week**, weather permitting. Leaving from the marina of Les Escoumins, our research trips last anywhere from 5 to 8 hours, depending on weather conditions, sea state, and the location of the whales. Our staff has extensive experience with navigating around whales in the St. Lawrence Estuary. Boat captains and biologists know the marine mammals, their feeding areas and their behaviour very well. During the trip, you will get a close insight into the work of our research team and first-hand information on the biology of marine mammals and their ecosystem. When conditions are favourable, we are also doing trips at night to observe the phenomenon of **bioluminescence**.



With **bad weather or rough sea conditions**, we are not going out. We use these days for talks on marine mammals, lab sessions, and group workshops. In addition, we can benefit from a "land day" to visit the marine mammal interpretation centre in Tadoussac, to go hiking in the **Saguenay Fjord**, or to explore the picturesque coastal landscape and its birdlife. For those who are interested, we can organize a canoe trip on the river Portneuf (min. 2 participants, 50\$/person).



Accommodation



Accommodation for course participants is in a romantic, calm **cottage** and in our guest house, situated in the small village of Portneuf-sur-Mer. The little cottage offers a picturesque view of the adjacent river mouth and the sea. Sometimes, we can see whales from the deck before the daytrip even starts



There are two double rooms at the cottage and one at the guest house, all with shared bathrooms. The kitchen, dining room and laundry are located at the guest house, as is our WLAN. Course participants and team members prepare all meals together. Our groups are limited to six participants max.



The St. Lawrence Estuary is in a **subarctic climate zone** with short, warm summers and cold temperatures at sea, so make sure to bring warm clothes. For the daytrips at sea, we will provide a thermo suit, but you must bring warm shoes because the cold is creeping up from the bottom of the zodiac. You will get a detailed equipment list after registration.

Our course program for summer season 2021:

- ▶ July 19 – 31: Student course CAD 3'260 / € 2'200 taxes incl.
- ▶ Aug 16 – 28: Student course CAD 3'260 / € 2'200 taxes incl.
- ▶ Sept 13 – 25: Course for the general public CAD 4'080 / € 2'730 taxes incl.

One week is € 1'840 / CHF 2'000 incl. taxes for general public courses and € 1'470 / CHF 1'600 incl. taxes for students.

Travel preparation

Participants will have to organize the voyage to and from Portneuf-sur-Mer themselves. There are international flights to Montreal and Quebec and daily air, train and bus links from Montreal to Quebec. From Quebec, it is a 5 hrs bus trip (320 km) to Portneuf-sur-Mer, where we will pick you up at the bus stop.

If you are flying in from Europe, you have to account for an extra day to travel to Canada and another one for the return flight. We will provide you with more information on train and bus links and accommodation in Montreal and Quebec after your registration.

If you are looking for a travel agency with excellent service, we recommend:

- ▶ in Switzerland: **Kuoni/REWI Reisen**, Bahnhofstr. 143, CH-8622 Wetzikon, www.rewi.ch, Sandra Villasante, tel. 058-702 66 36, sandra.villasante@rewi.ch
Sandra Villasante, director of the travel agency, has already participated in our course program.

We will **confirm your registration** by email when we receive your down-payment. Since there are only 6 places available per group, we recommend that you book as early as possible. After registration, you will receive the course dossier, with information on transfers, hotels, bus schedules, travel information for Canada and the Province of Québec, and an equipment list.

For further information about this program or to make an online reservation, please visit our website: www.meriscope.com

If you have any questions, please don't hesitate to contact us by email: info@meriscope.com or by phone as follows:

Contact:

Mériscope
833, rue du Quai
Portneuf-sur-Mer, Qc.
G0T 1P0
Canada
Tel.: +1-581-323-1027

Costs and Registration

Switzerland/Europe:

A down-payment of CHF 900 / € 800 is required to register, by May 31st 2021 at the latest.

The balance (general public CHF 2'100 / € 1'930, students CHF 1'500 / € 1'400) is due before April 30, 2021.

Address:

Exkursionen Kanada
Daniel Zbinden
Chemin du Barrage 64
G0T 1Z0 Longue-Rive QC
CANADA

Bank:

Postfinance
CH-3030 Bern
Account: 80-164797-8
IBAN: CH72 0900 0000 8016 4797 8
Swift-Code: POFICHBE

All other countries:

A down-payment of CAD 1'200 is required to register, by May 31st 2021 at the latest.

The balance (general public CAD 2'880, students CAD 2'060) is due before June 30th 2021.

Address:

Mériscope
833, rue du Quai
Portneuf-sur-Mer, Qc.
G0T 1P0
Canada

Bank:

Caisse Desjardins du Centre de la Haute-Côte-Nord
53, 2^e Avenue
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