



Activity guide

Mission : Protecting the Banc-des-Américains marine protected area Grade 5 and 6

Traduction à partir de la version FR_V3: 2026-02-27

Written by:

Élizabeth Simard, Marie Bégin-Paré, Léa Roy Bernatchez

Comité ZIP Gaspésie

506, route 132 Est

Bonaventure, Québec, Canada

G0C 1E0

Telephone : 418-534-2121

<https://zipgaspesie.org/>

Table of contents

Presentation and objectives.....	3
Support material	3
Theme	3
General objective.....	3
Specific objectives.....	3
Preparation	4
Script	5
Introduction	5
The Banc-des-Américains marine protected area.....	5
What is a marine protected area?	5
Why we protect?	5
Where is it?	6
A marine pantry	6
Biodiversity and interactions.....	6
Ecological balance.....	9
What about human beings.....	10
Fishing.....	10
Transportation	10
Pollution	10
Climate change	11
Activity : Problem-solving	11
Objective	11
Activity outline	11
Conclusion.....	12
Appendix.....	13

Presentation and objectives

Length: 45 to 60 minutes

Location: In-class

Grades : 5 and 6

Support material

- [Underwater neighbours](#) comic book
- [PDF presentation for grade 5 and 6](#)
- [Activity sheets: Situation 1 to 4 \(to print\)](#)

Theme

This workshop explores the coexistence between human activities and marine life in the Banc-des-Américains marine protected area, in order to better understand the connections between species, their habitats, and human actions.

General objective

Help students understand the importance of protecting marine ecosystems and reflect on solutions to better balance nature conservation with human activities.

Specific objectives

At the end of the workshop, students will be able to:

- Identify the characteristics of the Banc-des-Américains marine protected area (location, ecosystems, species, natural phenomenon such as marine currents).
- Understand the relationships between species (food chains and webs, interactions, ecological balance).
- Recognize the possible impacts of human activities (fishing, boating, tourism, scientific research).
- Propose concrete and realistic solutions to reduce these impacts while allowing some human activities.
- Collaborate and argue as a team to defend your ideas.

Preparation

1. Download documents (Comic book, PDF presentation and *Guess who!*)
2. Read comic book in-class or at home.
3. Project the presentation onto the screen or the interactive whiteboard (IWB).
4. Print the 4 situations.
 - a. Invasive species
 - b. Whale watching
 - c. Marine transportation
 - d. Research

Script

Introduction

Slides 1 to 3

Today, we are going to discover a special place in Gaspésie called the Banc-des-Américains marine protected area. It is a marine environment riched with different marine species and different habitats.

Before we begin, a few words about the Comité ZIP Gaspésie. It's a team that works to protect the sea and all its inhabitants. Today, thanks to their comic book and workshop, we are going to discover new animals and their habitats!

Before we dive in, here's a few questions for you:

- Who has ever done snorkeling or scuba diving?
- Have you seen marine animals? Which ones?
- Did you read the comic book *Underwater Neighbours*?

(Take a moment to discuss with students.)

Now, let's dive into a very special place in Gaspésie, the Banc-des-Américains marine protected area.

The Banc-des-Américains marine protected area

Slides 4 and 5

What is a marine protected area?

A marine protected area is an area in the ocean or marine environment that is protected to help animals and their habitats.

Why we protect?

(Slide 5)

The area is home to a wide variety of species. Numerous fish, invertebrates, algae, and seabirds can be found there. Underwater, there is a ridge, a sort of underwater mountain that extends from the tip of Forillon. On each side of the ridge, there are deeper sandy plains and a cliff in present at the end of the ridge. These formations, combined with ocean currents, carry nutrients and plankton, which serve as food for many animals.

Where is it?

The Banc-des-Américains marine protected area is located off the Gaspé Peninsula. It starts at the tip of Forillon National Park and extends to Bonaventure Island, near Percé. Although you can't see it from the surface, this protected area forms a vast marine territory that you have to imagine underwater.

A marine pantry

Slide 6

In the Banc-des-Américains marine protected area, there is a current called the Gaspé current. It brings water riched in nutrients and plankton. Because of the current and the special shape of the seafloor at the Banc-des-Américains, a lot of plankton can be found in this area.

Plankton is very important because it is at the base of the marine food chain. It serves as food for small fish, which are then eaten by larger fish, and so on.

This is also why many species of whales travel thousands of kilometers every year. They come to places like the Banc-des-Américains to feed. This place offers them an ideal meal and allows them to regain strength before winter, when they head south to give birth to their young.

In summary, the combination of the unique rock formation and the ocean currents gathers plankton, which attracts many marine animals, including whales.

Biodiversity and interactions

Slide 7

All the different species that live and feed in an area contribute to what is called biodiversity.

But what does that actually mean? "Bio" means living, so biodiversity is the diversity of all living things.

And in the Banc-des-Américains marine protected area, there is a high biodiversity! You can find there:

- Fishes like capelin, cod, and the Atlantic wolffish, a threatened species.
- Seabirds, such as the northern gannet, that come there to feed.
- Invertebrates, such as the common crab, the frilled anemone, the sea cucumber, and the green sea urchin.
- Marine mammals, such as whales!

- Sometimes, in the summer, the leatherback turtle, the largest turtle in the world, may visit.

(Related to slide 7) According to you, which image has the highest biodiversity? (Discuss answer with the students)

Let's take a close look at some of the species we find in the Banc-des-Américains marine protected area:

Slide 8

Plaice	<ul style="list-style-type: none"> - Flatfish - Bottom-dwelling fish - Prey: mollusks, small crustaceans - Fun fact: At birth, the flounder has an eye on each side, but after a while, both eyes end up on the right side, which allows it to lie flat on the sea floor.
Cod	<ul style="list-style-type: none"> - Bottom-dwelling fish - Prey: mollusks, crabs, fish (herring, capelin, sand eel, redfish) - Fun fact: The line on its side, called the lateral line, allows it to detect movements in the water caused by other animals, even when it cannot see them.
Atlantic wolffish	<ul style="list-style-type: none"> - Bottom-dwelling fish - Lives in crevices or caves - Prey: sea urchins, crustaceans, fish - Anecdote: When the wolffish stops using energy to swim, it sinks to the bottom "like a rock," because it doesn't have a swim bladder (a sort of air sac) that allows it to stabilize itself in the water column.

Slide 9

Starfish	<ul style="list-style-type: none">- Echinoderm- Lives on rocky bottoms- Prey: mollusks, such as mussels or whelks- Anecdote: To eat, it grabs the mollusks with its sticky feet, then the starfish has to extend its stomach out of its mouth to digest its prey inside the shell.
Hermit crab	<ul style="list-style-type: none">- Lives on sandy, muddy, or rocky bottoms- It is a detritivore-omnivore and feeds mainly on dead animals.- Fun fact: The hermit crab protects itself by living in empty shells. Its soft, curved abdomen allows it to slip in perfectly.
Sponge	<ul style="list-style-type: none">- Lives on the sea floor- It is indeed an animal- Filter-feeding organism that feeds on suspended organisms in the water

Slide 10

Frilled anemone	<ul style="list-style-type: none">- Lives on rocky bottoms- Attaches to rocks using its suction foot- Prey: small crustaceans, zooplankton, worms- It uses its stinging (paralyzing) tentacles to capture its prey- Fun fact: To defend against predators, anemones can retract into themselves and thus resemble a rock
Sea cucumber	<ul style="list-style-type: none">- Echinoderm- Lives on the sea floor- Prey: various types of plankton- Its sticky tentacles allow it to capture prey; it must "lick" its tentacles one by one to eat.- Fun fact: It breathes through its anus. And it has sticky feet like a starfish to move around and cling to the ground.
Green sea urchin	<ul style="list-style-type: none">- Echinoderm- Lives on rocky bottoms where kelp grows (a seaweed also called sea lasagna)- Prey: Mainly algae; its green coloration actually comes from its diet.- Fun fact: It has 5 teeth that can move independently of each other.

Slide 11

Phytoplankton	- Lives suspended in water - It is a microalgae - Performs photosynthesis to survive - It is at the base of the food chain - It is microscopic
Northern gannet	- Seabird - Prey: small fish (capelin, herring, sand eels, etc.) - Can reach up to 1 meter from wingtip to wingtip when spread. - Fun fact: It dives from high in the air to catch the fish it eats.
Humpback whale	- Lives in open water (water column) - Prey: Krill and small fish (capelin, herring, sand lance, etc.) - Can grow up to 17 meters in length and weigh up to 40 tons - Dives usually last between 5 and 10 minutes but can last up to 30 minutes.

Ecological balance

Slide 13

Biodiversity is not just a list of species. It is the variety of all living beings that coexist and interact in an environment.

In the Banc-des-Américains marine protected area, many species live together and interact with each other:

- Some feed on others.
- Some hide to protect themselves.
- Some cooperate or take part in cleaning the environment and recycling nutrients.

These interactions form a living network, where each species plays a vital role in maintaining a balance. For example:

- Plankton feeds several small fish, such as capelin and herring.
- These fish become the meal of predators like cod, seals, or certain whales.
- Crabs, hermit crabs, and whelks eat the remains of dead animals and recycle nutrients back into the ecosystem.
- Some species cooperate with each other, for example when fish group together to protect themselves from predators.

All species depend on at least one other species. When all these interactions are in harmony, it is said that there is ecological balance. However, this balance is fragile! If a species becomes too numerous or decreases too much, it can disrupt the whole system. For example:

- If the capelin population decreases, the cod that feed on them have less to eat.
- Then, the cod population decreases, which affects seals, certain whales, and so on.

It's like a game of dominoes; if you knock over one domino, the rest could fall because everything is connected!

What about human beings

Slides 13 to 16

And we humans, are we part of marine ecosystems?

Of course! Even though we live on land, we are part of the marine environment. Our choices and activities have a direct impact on the ocean, sometimes positive, sometimes negative.

Fishing

Fishing is essential for coastal communities and has been practiced for a very long time. But overfishing or using techniques that damage the seabed can prevent certain species from reproducing and disrupt the entire food web.

What happens if a fish species is overfished?

Expected answer: there will not be enough food for predators.

This is why fishing is monitored and regulated.

Transportation

Boats are important for transporting goods and getting around, but engine noise disrupts marine animals, such as whales, which rely on sound to communicate, navigate, and hunt.

Pollution

There are several types of pollution:

Waste that ends up in the sea can hurt animals or be ingested.

Microplastics, tiny pieces of plastic, accumulate in animals' bodies and can also affect our health.

The noise from engines, known as noise pollution, disrupts marine mammals such as whales and seals.

Climate change

When the planet warms, seawater becomes warmer and contains less oxygen. Some species need to find a new habitat. But if the change is too rapid, they risk disappearing, and the entire food chain is affected.

In a marine protected area:

- Some activities are prohibited if they can destroy marine habitats.
- Other activities may be permitted, as long as they are compatible with the protection of marine animals and their habitats.

These rules are not there to stop people from enjoying the sea. They are meant to ensure that everyone, humans and animals, can coexist in a sustainable way.

Activity : Problem-solving

Slides 17 to 19

Objective

Identify threats to marine environments and propose concrete solutions to protect animals and their habitats, particularly in the Banc-des-Américains marine protected area.

Activity outline

1. Form teams of 3 to 5
2. Give one situation to each team.
Each team receives one different situation to analyze:
 - Situation 1: Invasive species
 - Situation 2: Whale watching
 - Situation 3: Marine transportation
 - Situation 4: Research
3. Team discussion
Students should:
 - Identify potential issues related to the situation.
 - Think of possible impacts on animals and their habitats.
 - Propose solutions to reduce impacts on marine animals while still allowing some human activities.
4. Class discussion
Each team presents briefly to the rest of the class:

- The problem identified
- Proposed solutions

Conclusion

Slides 20 to 22

Congratulations to everyone! You have played an important role, in thinking about how to protect nature while allowing humans to live and work in it.

What we notice together is that there isn't always a single correct answer. Every decision has consequences; if we protect a place too much, certain activities become too difficult... but if we protect too little, an entire ecosystem could be threatened.

It is important is finding a balance between our needs and those of the marine environment. Marine protected areas help us do that. Regulations are put in place to help humans coexist more sustainably with marine species.

Thank you for taking part in the exercise. What you should take away is that protecting an ecosystem means protecting a balance. When we understand how everything is connected, we can act in a smarter and more respectful way.

In collaboration with:



Situation 1: Invasive species



New marine species from other parts of the world have been appearing in the Gulf of St. Lawrence. Some of these can become invasive species. They reproduce quickly and take up space, which can harm local species and their habitats.

In the comic book, for example, readers meet the vase tunicate, the European green crab, and the Japanese skeleton shrimp, three species that can cause problems when they establish themselves in a new environment.



Problem to solve:

How can the arrival of invasive species threaten marine ecosystems, and what can be done to limit their spread?

Missions:

- Identify possible impacts of invasive species on marine species and habitats.
- Suggest actions to prevent their introduction and protect marine environments.

Questions to help guide your reflection:

1. What could happen to local plants and animals if new species move in the area?
2. In your opinion, which parts of the environment (species, habitats, food sources) could be affected the most, and why?
3. How can we tell if a new species is settling in an area?
4. What could humans do to limit the spread of invasive species and protect marine environments?



In collaboration with:

Canada Québec

Situation 2: Whale watching

- Each summer, many visitors come to the Banc-des-Américains to watch whales. This is an important activity for the region. To get there, many boats travel through the area. However, boat noise and getting too close can disturb whales and other marine animals that use this place to feed, rest, and communicate.



Problem to solve:

How can we watch whales while keeping them safe and protecting their habitat?

Missions:

- Find possible impacts of boats on whales and other marine species.
- Suggest ways people can watch whales while keeping them and other marine mammals safe.



Questions to guide your reflection:

1. What could happen to whales if they cannot communicate with each other.
2. Are there other animals that could be affected by moving boats?
3. How does the presence of boats and noise affect whale activities?
4. What can people do to watch whales while keeping them safe?
5. Are there ways to navigate or travel by boat that are less disturbing for animals?



In collaboration with:

Canada Québec

Situation 3: Marine transportation

Each year, many ships pass through the Banc-des-Américains Marine Protected Area to deliver goods between cities. These boats produce underwater noise, which can disturb some marine species.

Problem to solve:

How can vessel traffic be maintained while reducing its noise impact on marine life?

Missions:

- Identify which animals and ecosystem interactions could be disturbed by noise.
- Think about how noise can spread and affect different habitats.
- Propose solutions to reduce noise stress on animals while allowing marine transportation to continue.

Questions to guide your reflection:

1. Which marine species are more sensitive to noises from boats?
2. In your opinion, how can noise affect behaviour and interactions between marine animals?
3. Are there solutions that would allow boats to navigate while reducing impact on marine animals?
4. What rules, practices, or human behaviors could help reduce noise pollution?



In collaboration with:

Canada Québec

Situation 4: Research

Scientists study species and their habitats in the Banc-des-Américains Marine Protected Area. Their work helps us understand marine life and protect it. However, some research methods can temporarily disturb animals or change their environment if not done carefully.



Problem to solve:

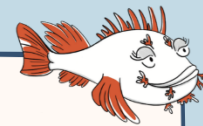
How can researchers learn more about the marine environment while making sure their activities do not harm marine species or their habitats?

Missions:

- Identify the possible risks associated with research activities.
- Think about how research helps protect the Banc-des-Américains Marine Protected Area.
- Find ways scientific research can continue while keeping marine animals and their habitats safe.

Questions to guide your reflection:

1. Why is it important that scientists study marine animals?
2. How can researchers reduce their impact while being able to gather data?
3. What rules or behaviours could be established to ensure research is safe for the environment?



Z COMITÉ
ZIPGASPÉSIE

In collaboration with:

Canada Québec