SAIL·VOILE CANADA

World Sailing

Topic 3

Navigating Wildlife & Biodiversity

World Sailing Sustainability Education Programme

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Welcome to the World Sailing Sustainability Education Programme!

World Sailing started in 1907 in Paris and is the world governing body for the sport of sailing. The organisation promotes sailing internationally, manages the sailing at the Olympics and Paralympics, develops the racing rules of sailing, and supports sailors from all over the world.

World Sailing is formed of national authorities in 145 countries as well as 115 classes of boat. World Sailing wants its sailors to share their love of sailing, while working together to protect the waters of the world. Sailing is part of a global movement to create change and positive impact, and you can be a part of this through your actions, on and off the water.

To help sailors do this, there is a plan, called World Sailing's Sustainability Agenda 2030. This plan describes changes within sailing that will help achieve the United Nations Sustainable Development Goals and maximise the positive effect that sailors can have on the environment.

What are the Sustainable Development Goals?

The United Nations Sustainable Development Goals were published in 2015 to end extreme poverty, fight inequality and injustice and combat climate change by 2030. There are 17 goals that 193 countries have committed to. In Topic 3: Navigating Wildlife & Biodiversity, you will work with the following goals:

You can access World Sailing's Sustainability Agenda 2030 at the following link: bit.ly/2sjGrKZ

World Sailing's Sustainability Agenda 2030 is aligned with the 5 focus areas of the IOC's Sustainability Strategy

Infrastructure and natural sites

Sourcing and resource management

Workforce

Mobility

Climate

Topics

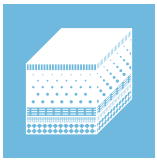
In Topic 3, you will be introduced to:

- **Cetaceans**
- **Aquatic plants**
- **Navigating wildlife and plants while sailing:**
  - **-Boat speeds**
  - **-Boat distances**
  - **-Sailing behaviour**

Check out the other topics in The World Sailing Sustainability Education Programme to become a top sustainable sailor!

Topic 1	Race with World Sailing!
Topic 2	Resources & Climate Change
Topic 3	Navigating Wildlife & Biodiversity
Topic 4	Reducing Waste
Topic 5	Oil & Fuel
Topic 6	Boat Cleaning & Maintenance

Glossary

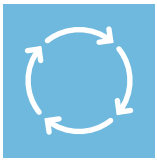


Blubber

The fat of sea mammals.

Vessel

A ship or boat.



Gyre

A circular pattern of currents in an ocean basin.

Steward

Someone who supervises or takes care of something.

Juvenile

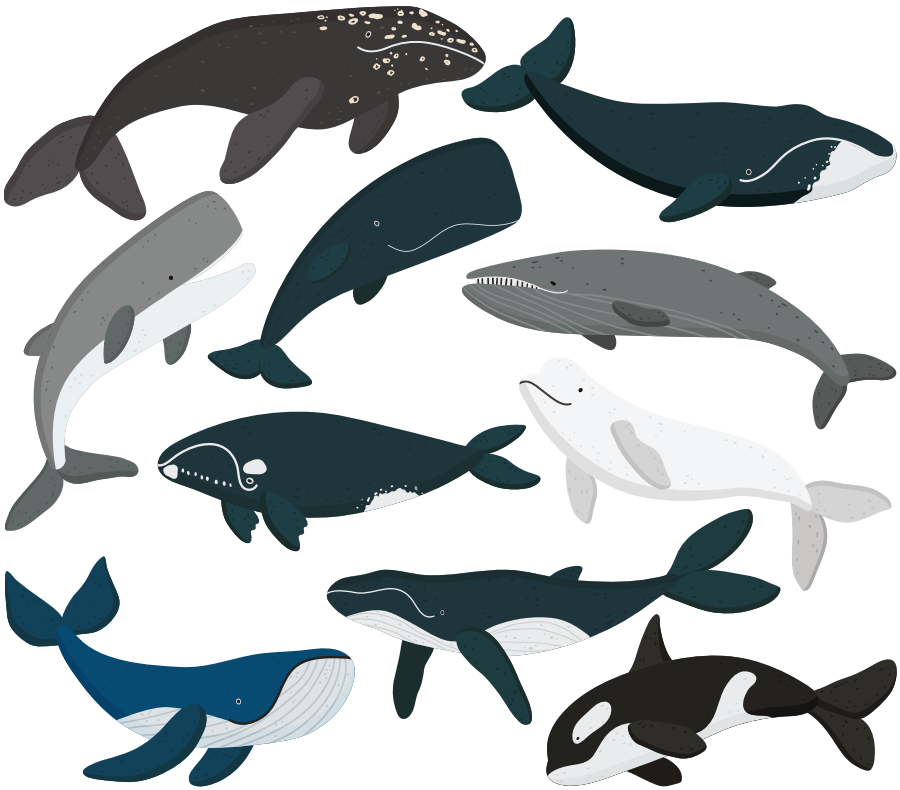
A baby/young animal.

Antifouling

The treatment of a boat's hull with a paint or similar substance designed to prevent organisms growing on it.

Let's get under way!

Marine mammals



What are mammals? Mammals are animals that breathe oxygen, are warm-blooded, have a backbone and grow hair at some point during their life. Female mammals have glands that can produce milk to feed their babies. Marine mammals share all these characteristics, but have adapted to aquatic environments. They have streamlined bodies to help them move fast in the water, specially-designed lungs to store oxygen and thick fat to keep warm.

There are similarities and differences between mammals, reptiles and fish.

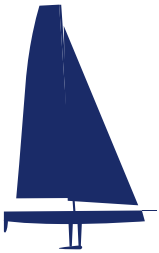
Mammals	Reptiles	Fish
Get oxygen from air	Get oxygen from air and water	Get oxygen from water
Warm-blooded	Cold-blooded	Mostly cold-blooded
Have a backbone	Have a backbone	Have a backbone
Have fur or hair (even only a tiny bit!)	Have scales	Babies look after themselves
Babies drink milk from their mother	Babies look after themselves	The ocean sunfish loves to sunbathe and spends a lot of time at the surface of the water
Cetaceans live in all of the oceans and some of the major rivers of the world	Sea turtles spend their entire lives at sea, except when the females come to the shore to lay eggs	

Cetaceans are marine mammals which include whales, dolphins and porpoises. They have tails (rather than hind limbs), flippers (instead of forearms), are nearly hairless and are kept warm in cooler water by a thick layer of blubber. Cetaceans breathe air, coming to the surface of the water for a fresh supply of oxygen. They use sounds like groans, moans, whistles, clicks and even 'singing' to communicate with each other.

Blue whale
24-25 m

Leatherback Sea Turtle
2.5 m

Ocean sunfish
1.8 m



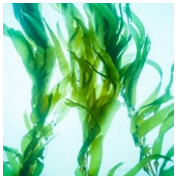
VO65
20.4 m

F50 Catamaran
15 m

Nacra 17
5.18 m

Plants under the sea

Did you know that 85% of plant-type life is found in the ocean?
This includes seaweeds that are a type of alga and rooted plants.
Here are some examples of common marine plants and algae:



Kelp

You usually find kelp beds in colder ocean waters, growing along rocky coastlines. Kelp attaches to rocks with a root-like structure called a 'holdfast'. It loves sunlight and is the largest marine algae in the world. Did you know kelp can grow up to 80 metres in length? That is over three times the length of a blue whale!

Red algae

Red algae is a seaweed. It is found in warm, tropical and temperate waters, and a few types are in freshwater. Nori, a type of red algae, is used to make sushi, and you might find a component of red algae in some common products - like shampoo and ice cream!

Seagrass

If you look in the shallow waters, you might see the rooted plant, called seagrass. It helps oxygenate the ocean. It's a safe habitat for small animals and is a tasty food source for fish, crabs and lobsters too!

Sargassum

You might know this plant as gulfweed or sea holly; it floats in the ocean because it has berry-like, gas-filled bladders. These bladders keep it floating at the surface of the water so it is close to the sun, where its gets its energy, like plants on land! Sea turtles can use it as food or shelter on their way back home to the shore. There is so much sargassum in an ocean gyre in the North Atlantic, a sea has been named after it - The Sargasso Sea!

What is non-native and invasive?

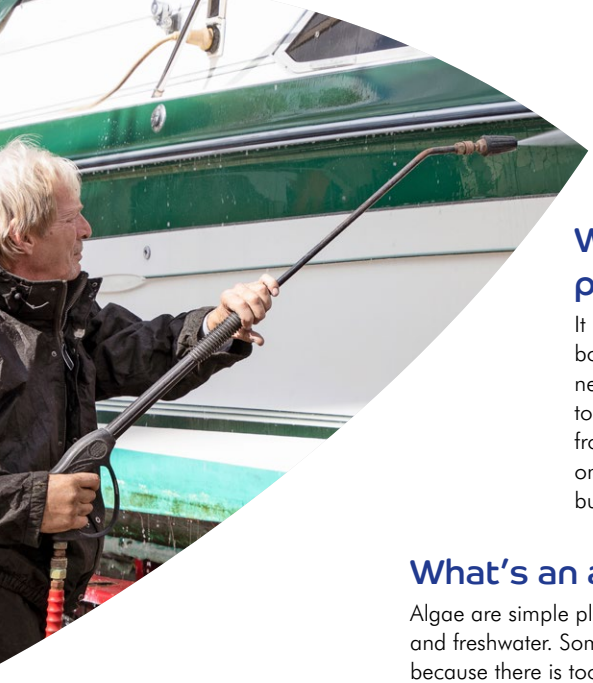
A plant or creature is called non-native when it has been introduced to a place it did not live previously. Invasive species are those that have been introduced to a new place and have a negative impact. This can be because they take all the food that another creature normally eats or they might be poisonous to the animals eating them.

What's the problem with non-native and invasive species?

Invasive species change the balance of an ecosystem and this is not good for nature. The variety of different types of plants and animals is called biodiversity and it is important that this stays varied to keep nature healthy.

Can sailors affect biodiversity?

Sailors can accidently move small creatures or eggs, as well as plants, by letting them hitch a ride on boats or equipment. There are lots of examples where something has been growing on the bottom of a boat and once that boat moves to a new area, the plant is introduced to a new place it has not lived in before. This can be bad for the local environment as it might stop other plants from growing there and be harmful to animals living there.



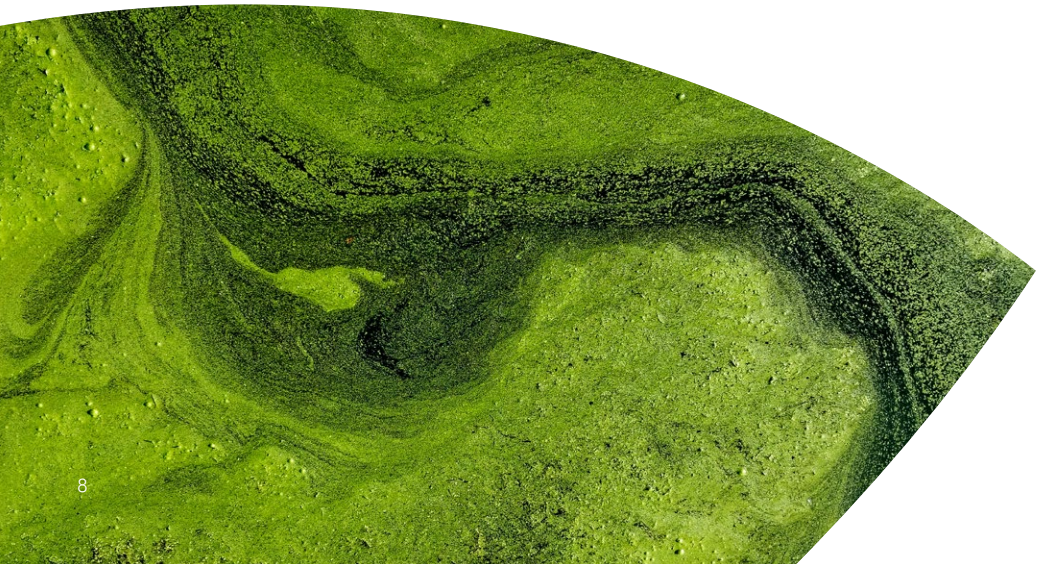
What can sailors do to protect biodiversity?

It is very important that sailors clean their boats and equipment before travelling to a new place, like a big sailing event. It is best to always clean a boat after use, especially from saltwater. If you are sailing around in one place (like a lake) it isn't as important, but it is always good to keep your boat clean!

What's an algal bloom?

Algae are simple plant-like organisms that live in the sea and freshwater. Sometimes, they can grow out of control because there is too much pollution in the water. Algal blooms can be toxic and cause harmful effects to other plants, animals and humans as they use up the oxygen up in the water. Nutrient pollution from runoff such as fertiliser used on farms and gardens can contribute to algal blooms.

A month before the 2008 Olympic Games in Beijing, China, more than 10,000 workers had to remove algal bloom that had covered the Olympic sailing venue. Covering 13,000 square kilometres (that's larger than the area of Jamaica!), the algae had blocked practice routes and covered almost one-third of the competition area.



Being top sustainable sailors

...and responsible too!

As a sailor, you are a steward for the ocean and are responsible for keeping it healthy. Being a steward for the ocean means you navigate and interact with marine animals and plants in a respectful and positive way. World Sailing's Code of Environmentally-Friendly Behaviour sets out a list of guidelines to follow to protect our seas, lakes and waterways. These are aligned with international best practice so no matter where you are sailing, you know the rules to follow!

Let's take a look at how we should navigate wildlife while we are sailing or in a support boat with an engine.

Keep the speed down!

- If motoring on a boat, when your boat is getting close to a cetacean, don't go faster than the speed they are traveling
- Avoid sudden changes in your speed or direction
- Drop your speed to the minimum when 100m away from cetaceans
- Boats should maintain a speed of 6 knots or less
- Don't sail through shallow areas like seagrass beds; sea turtles typically spend much of their time feeding here

Mind your distance!

- Maintain a distance of at least 100m from cetaceans
- If you see a group of cetaceans, don't sail after them or circle them as this might cause them to separate
- Be very careful to keep a distance from a mother and her calf, or calves/juveniles who are alone
- Do not make the first contact with any of the animals. Welcome their friendly behaviour, but only if they make friends first!
- Some boats with engines might produce sounds that are very disturbing to some cetaceans so you shouldn't get too close
- Limit your time to 30 minutes with cetaceans
- Do not swim with cetaceans and make sure you don't touch them

Watch your waste!

- Collect any waste on board your boat and dispose of it responsibly when you get to shore
- Never throw any waste into the water, marine animals can mistake things like plastic for food
- Use reef-safe sunscreen to avoid contaminating the already threatened reefs with harmful chemicals
- If you see any waste in the water and it is safe to do so, pick it up and dispose of it onshore

Navigating plant life

We think a lot about taking care with the animals we might see while out sailing, but sometimes we don't consider the plants too. Aquatic plants and algae provide food and shelter to fish and other marine life, but they are not just important to aquatic ecosystems; they provide about 70%-80% of the oxygen on Earth, making them extremely important in our everyday lives as well!

Let's take a look at how we should navigate plant life while we are sailing or in a support boat with an engine.

- **Launch and recover your boat from appropriate sites to avoid damaging sensitive habitats and plant life**
- **Take care when anchoring to avoid damaging the seabed**

Non-native & invasive species

Simple steps to remember = Check + Clean + Dry

Check: for anything attached to the boat or equipment

Clean: the boat and equipment

Dry: allow to dry before moving the boat (sometimes eggs can live for several weeks if they are damp!)

- **If you are using a large boat with your family, make sure that effective antifouling or foul-release systems are maintained on the bottom of the boat to help reduce the spread of invasive species and non-native species**
- **Plastic pollution is a carrier of invasive species - watch your waste!**

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Photos

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WORLD SAILING TRUST

World Sailing
20 Eastbourne Terrace
London W2 6LG

Tel: +44 (0)2039 404 888

www.sailing.org