

# Biodiversity Fact File



## Biodiversity

**Biodiversity** is a broad term meaning the variety of plant and animal life found in the world or a particular habitat. Biodiversity refers to diversity within species, between species and within an ecosystem.

The ocean covers over 70% of the earth's surface, and is home to an incredible diversity of life. An incredible 50-80% of all life on Earth can be found in the ocean, and the majority of this diversity is found in productive shallow seas.



© Silas Baisch  
via Unsplash



Basking shark  
© Pixabay

The UK is an island nation surrounded by the sea. We define the word 'coast' as the area where land meets the sea. The UK has around 7,723 miles of coastline, with sandy bays, rugged shores, caves and cliffs. Beneath the waves are varied landscapes of undersea cliffs, caves, plains and dunes.

Our corner of the ocean - the North East Atlantic - is home to some of the most colourful, fascinating and beautiful marine life in the world. Our coastal seas host a range of habitats, like colourful reefs, kelp beds, rockpools and seagrass meadows, which provide sanctuary to thousands of plants and animals.

The biodiversity of species in our seas is extraordinary, from microscopic bacteria to enormous whales. Several giants of the underwater world are found in UK waters, including leatherback turtles and the world's second-largest fish, the basking shark.

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## UK seas



**England** is surrounded by four seas: the North East corner of the Atlantic Ocean, the Irish Sea, the English Channel and the North Sea.

**Welsh** seas support internationally-important populations of seals and dolphins, and the many cliffs and islands along the coastline are home to globally-important seabird colonies.

**Scotland** has an astonishing 13% of Europe's seas and 62% of the UK's.



## Definitions

**Biome** – An area of our planet with similar climates, landscapes, animals and plants. In the ocean we have five main biomes: Atlantic Ocean, Pacific Ocean, Indian Ocean, Southern Ocean, and the Arctic Ocean.

**Ecosystems** – A natural environment in which plants and animals interact and interconnect. Ecosystems are influenced by biotic factors, like the plants and animals living there, and by abiotic factors, including climate, sediment and water.

The term 'ecosystem' is used broadly to describe these interactions between biotic and abiotic factors in an environment. A small pond and the whole ocean are both examples of ecosystems.

**Habitat** – The natural home or environment in which an animal, plant or organism lives. A habitat contains all an organism needs to survive such as food and shelter. A microhabitat is a small area within a larger habitat which is home to a species.

**Species** – A group of living organisms consisting of similar individuals that share common characteristics and are capable of interbreeding.

**Population** – A group of individuals belonging to the same species living in a geographical area.

**Adaptation** – The process of evolutionary change in which an organism becomes suited to its environment.

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## Context examples

Biodiversity is important for ecosystem health. An ecosystem with greater diversity is much more likely to recover from damage from external factors, compared to an ecosystem with little diversity.

To put all of this into context, let's take the coast of Wales as an example.



North Atlantic Ocean

The **ocean biome** would be the North Atlantic. You can see the British Isles on the right side of this image.



Welsh coastline

Along the west coast of Wales is a large area called Cardigan Bay.



Dyfi Estuary

Within the bay are a diverse range of **ecosystems**. The Dyfi Estuary is an example of one of the ecosystems.



Saltmarsh habitat

Within the estuary ecosystem are several **habitats** including saltmarsh, intertidal mud flats, and underwater mud.

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Lugworm casts

It's possible to go further still and refer to smaller **microhabitats**. In a saltmarsh, for example, the microhabitat for a marine worm would be its burrow, whereas the microhabitat for a coastal bird would be its nest at the top of the saltmarsh.



Lugworm

In the UK there are several **species** of worms that live in saltmarsh mud, including sand mason worms and species of lugworms and ragworms.



Ragworm

The ragworm *Hediste diversicolor* is well **adapted** to estuaries and can tolerate ranging salinities. It has adapted to this muddy environment by living in a burrow to hide from predators. It has adapted to feed without having to leave its burrow and be spotted by predators. The ragworm spins a mucus web that sits at the entrance to their burrow and traps small plants and animals, and it then consumes the whole web. In winter, it digs deeper into the mud to escape cooling temperatures.

## Habitats and species in the UK

Please see the [Biodiversity PowerPoint](#) for information and images of the key habitats and species found in the UK. Information for each image can be found in the notes section of the PowerPoint.