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A Life on
Our Planet
Revive Our Oceans

Sir David Attenborough

Sir David Attenborough is a very well-known English broadcaster and natural historian. He was born on the 8th of May 1926, in London. He studied natural sciences at Cambridge University and joined the BBC in 1952.

Sir David Attenborough has produced, written and narrated over 100 groundbreaking natural history documentaries.

Have you seen any of these?

- Life On Earth (1979)
- The Private Life of Plants (1995)
- Blue Planet (2001)
- Planet Earth (2006)
- Blue Planet II (2017)

Sir David Attenborough

Did You Know...?

Sir David has visited every continent on earth. He is thought to be the most-travelled human in history!

'David Attenborough: A Life on Our Planet' is a culmination of his extraordinary experiences and a reflection on the changes he has witnessed during more than 90 years on earth.

A life on Our Planet

'David Attenborough: A Life on Our Planet' is a powerful first-hand account of the impact humanity has had on nature and a message of hope for future generations.

Over his lifetime, David has witnessed a serious decline in the living world.

Did You Know...?

In 2014, the WWF calculated that populations of wild animals had reduced by more than half since 1970.

A life on Our Planet

He is dedicated to trying to stop this human-made devastation and believes, if we can change to live in a more sustainable way, we can reverse the damage.

Every single one of us has a responsibility to look after earth - for ourselves and future generations.

We can all play a part, however small, in repairing the destruction.

What Do We Need to Do?

In 'A Life on Our Planet', David Attenborough tells us how to build a new kind of life on earth.

The Four Imperatives

In ‘A Life on Our Planet’, four **imperatives** will be covered. They are:

Use Less Space

What can we do to reduce deforestation?

Eliminate Waste

How can we reduce, reuse and recycle waste?

Go Carbon Net Zero

How can we generate and use renewable energy?

Revive Our Oceans

How can we look after our oceans?

In this presentation, we will be looking at ‘Revive Our Oceans’.

Imperatives are important issues that need urgent attention or action.

Revive Our Oceans

What Does This Mean?

'Revive Our Oceans' is concerned with the declining numbers of fish in our oceans and finding a solution to this problem.

To understand this, first we need to understand ocean ecosystems and the importance of them to all life on the planet.

Then, we will explore some modern industrial fishing methods, the impact of this on our oceans and how, through the use of marine reserves, we can solve the problem.

Netflix / David Attenborough: A Life On Our Planet

What Is an Ocean Ecosystem?

An ocean ecosystem is a salt water-based environment that contains a community of organisms (plants and animals) living within it. These organisms are all connected and reliant on each other and the area or place in which they live.

Our oceans consist of some of the largest ecosystems on earth. While there is some debate between scientists over what exactly these ecosystems are, commonly agreed ones include estuaries, salt marshes, mangrove forests, coral reefs, the open ocean and the deep-sea ocean.

What Is an Ocean Ecosystem?

These ocean ecosystems are home to some of the world's smallest organisms – like plankton – and some of the world's largest – like the blue whale.

Phytoplankton

These are tiny organisms found in our oceans and seas similar to plants.

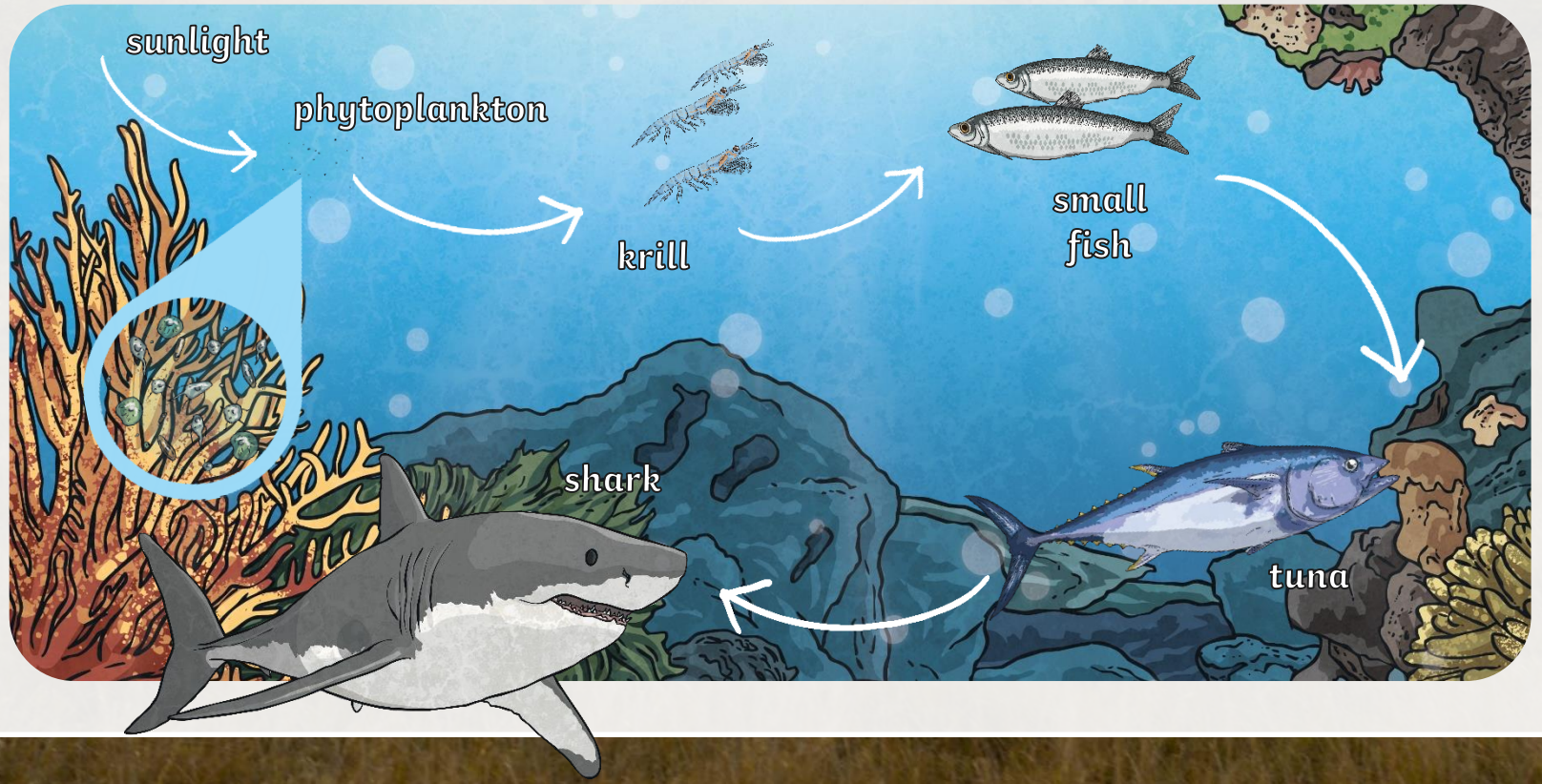
Blue Whale

Did You Know...?

There is a greater variety of life in the world's oceans than anywhere on land.

How Are Species Important to the Ecosystem They Belong to?

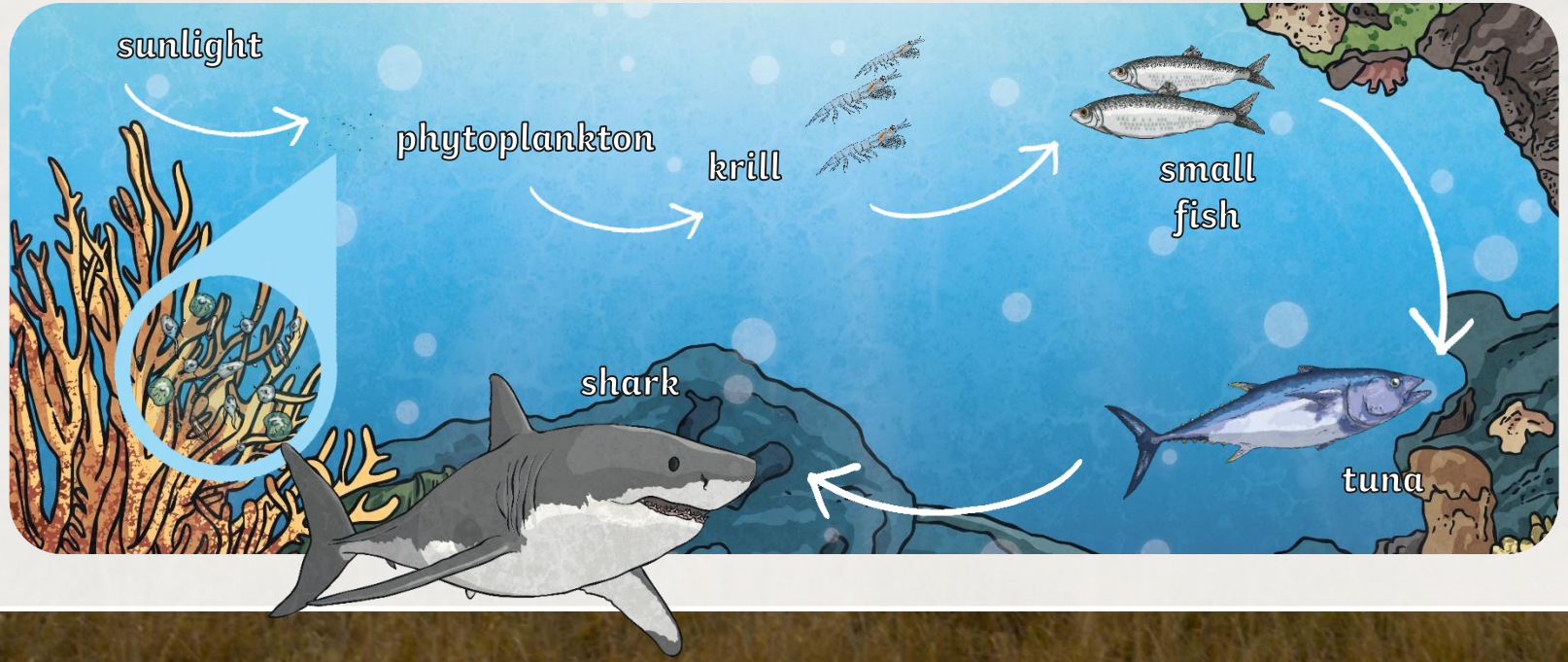
Ocean ecosystems contain a variety of food webs and food chains, where each element relies on another. They are in balance. Here is an example ocean food chain.



How Are Species Important to the Ecosystem They Belong to?

Apart from the producers (phytoplankton), which use sunlight to make their own food, each species of animal relies on another for survival.

What do you think would happen if all the tuna were removed from this food chain below?

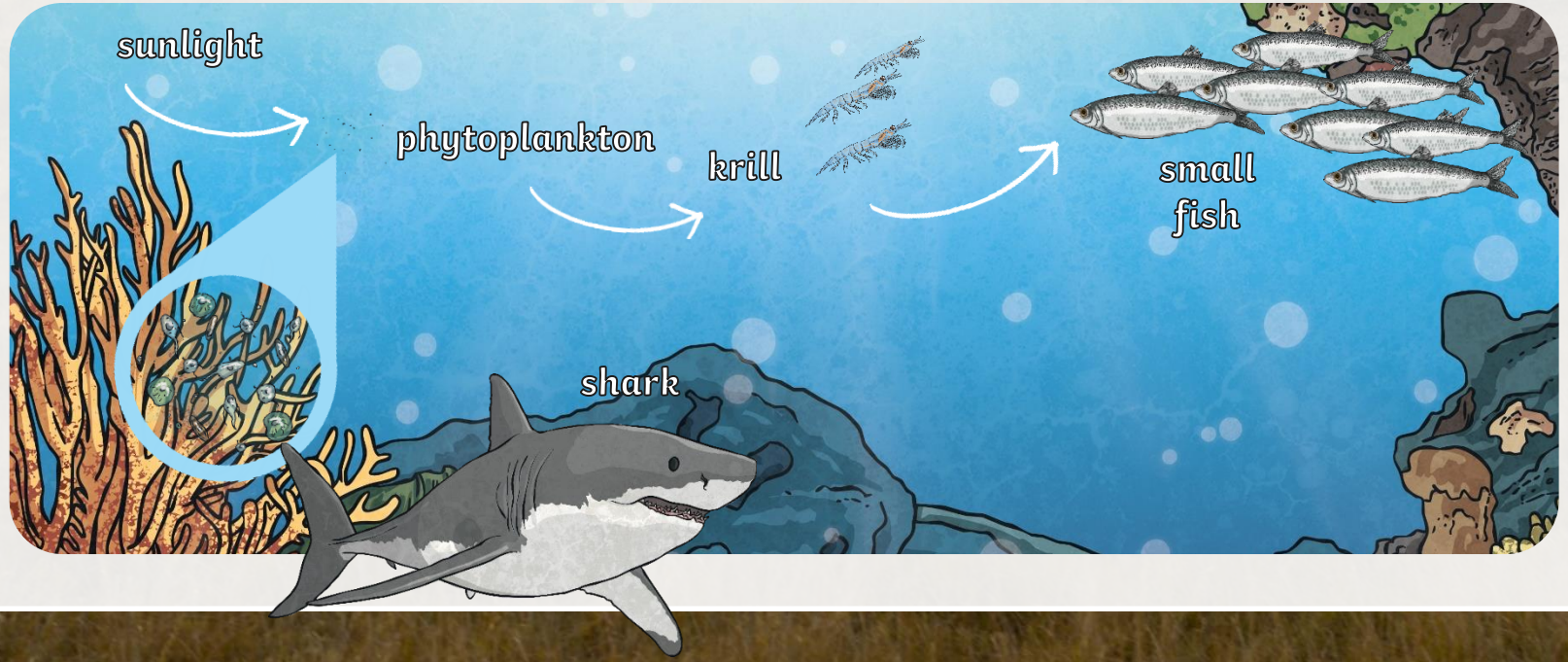


How Are Species Important to the Ecosystem They Belong to?

If all the tuna were removed, the shark would have nothing large enough to eat.

With nothing to eat, the shark would not survive.

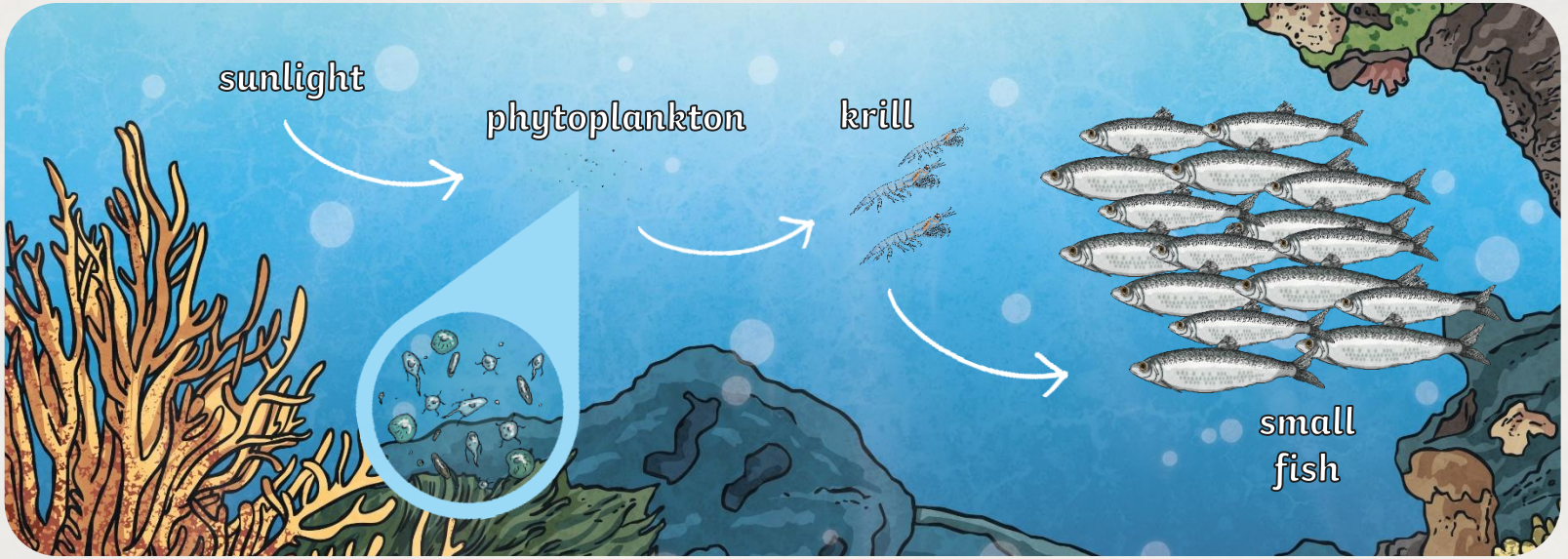
With no tuna, the small fish have no predator so would grow and grow in numbers.



How Are Species Important to the Ecosystem They Belong to?

In this scenario, the small fish would now eat the krill faster than they can reproduce.

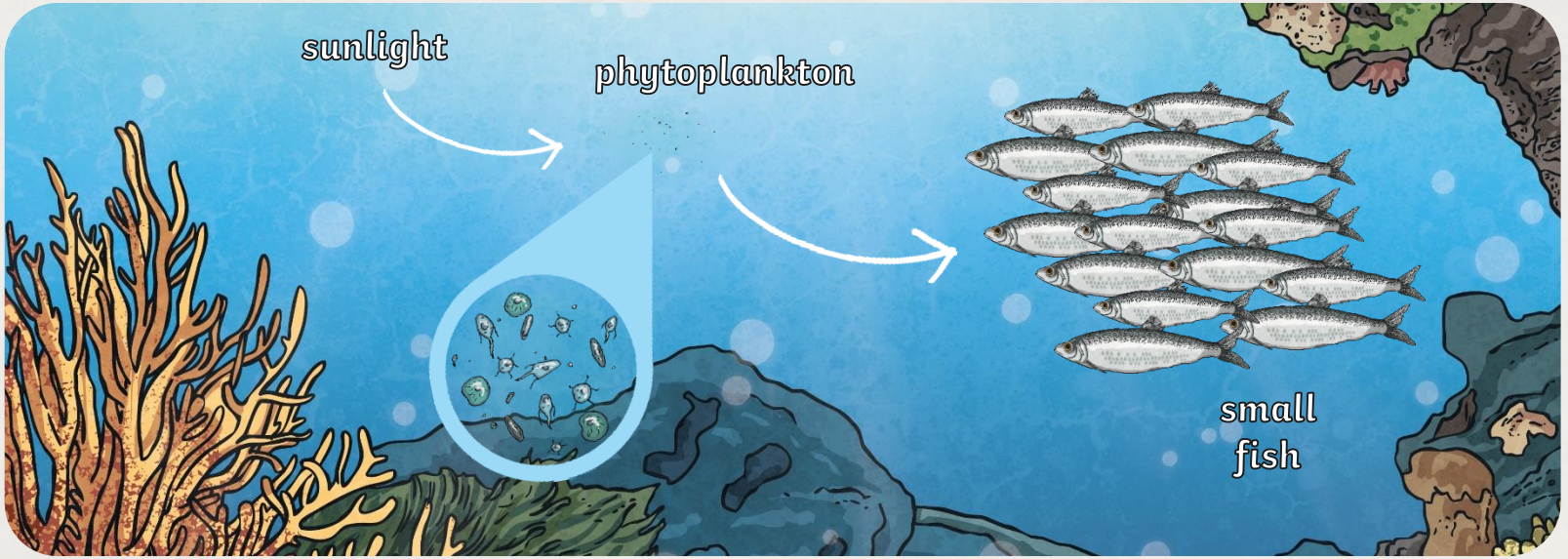
Eventually, the krill would all be eaten, meaning the small fish would have only phytoplankton to consume.



How Are Species Important to the Ecosystem They Belong to?

With the small fish continuing to grow in numbers and no longer having krill to eat, they would eventually consume all the phytoplankton too.

As the phytoplankton die out, there is no new food being produced in this food chain. The small fish now have nothing to eat and can no longer survive.



Why Are Ocean Ecosystems Important to Us?

Oceans are sometimes referred to as the 'planet's life support' as they are vital for all life on earth. They are an essential habitat for a wide variety of species of animals and plants – scientists estimate over 2 million species – and provide us and other living creatures with many benefits.

Phytoplankton, seaweeds and sea grasses make around 50% of the world's oxygen supply.

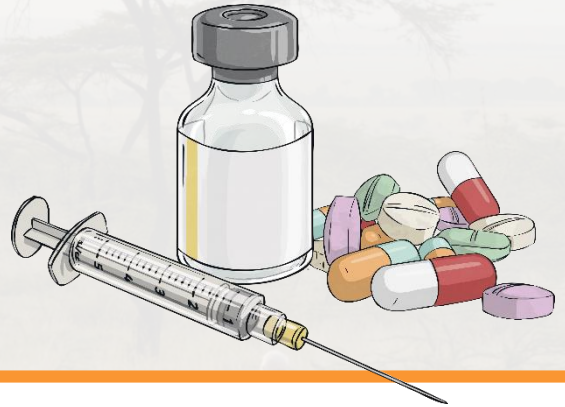
The ocean provides nutritious food for many animals, including humans (one fifth of the animal protein people eat comes from the oceans and seas).

Did You Know...?

All of the plankton, seaweeds and sea grasses make as much oxygen as the forests and grassy plains on earth.

Why Are Ocean Ecosystems Important to Us?

Many ingredients for medicines and medical research come from ocean ecosystems.



Millions of livelihoods around the world depend on the **biodiversity** of our oceans, from the fishing industry to areas in tourism and leisure (such as snorkelling and diving).

Biodiversity

All the plants and animals in the world or in a particular habitat.

What Are the Threats to Ocean Ecosystems?

There are many threats to ocean ecosystems and **marine** life, these include:

plastic pollution

It is thought that 32% of single-use plastic packaging ends up in the world's oceans, causing pollution that harms marine life.

marine

Something that relates to or is found in the sea.

What Are the Threats to Ocean Ecosystems?

global warming

The rising temperature of our atmosphere is changing the temperatures of our seas and oceans too. Wildlife can be very sensitive to these changes.

overfishing and 'bycatch'

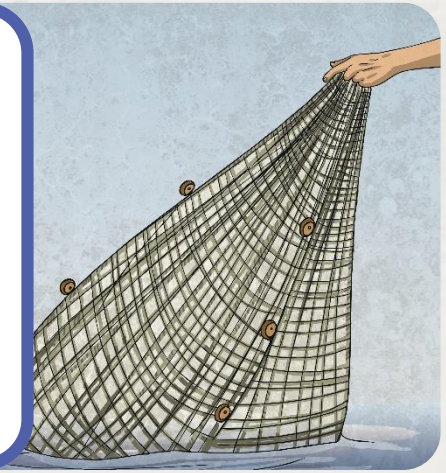
Some marine species are being removed from our oceans and seas faster than they can be replaced naturally. We are going to look at this in more detail over the next few slides.

How Does Modern Fishing Affect Our Oceans?

Modern fishing can be done simply, with family-owned businesses operating small boats that use little technological and mechanical equipment.

It can also be done on a large scale, with big businesses operating vast fleets of large ships (known as supertrawlers) that use powerful technologies and heavy machinery. This is often referred to as 'industrial fishing'.

When we consider the effect of some of the industrial fishing methods, we need to think about the amount of fish that are taken from the oceans every day.



Did You Know...?

Some modern, industrial fishing methods use radars, sonars, helicopters and spotter planes.

How Does Modern Fishing Affect Our Oceans?

Modern industrial fishing often makes use of huge boats known as 'supertrawlers'. These fishing boats are over 100 metres long. With the aid of huge nets up to a mile in length and sometimes onboard freezers, they can catch and carry thousands of tonnes of fish.

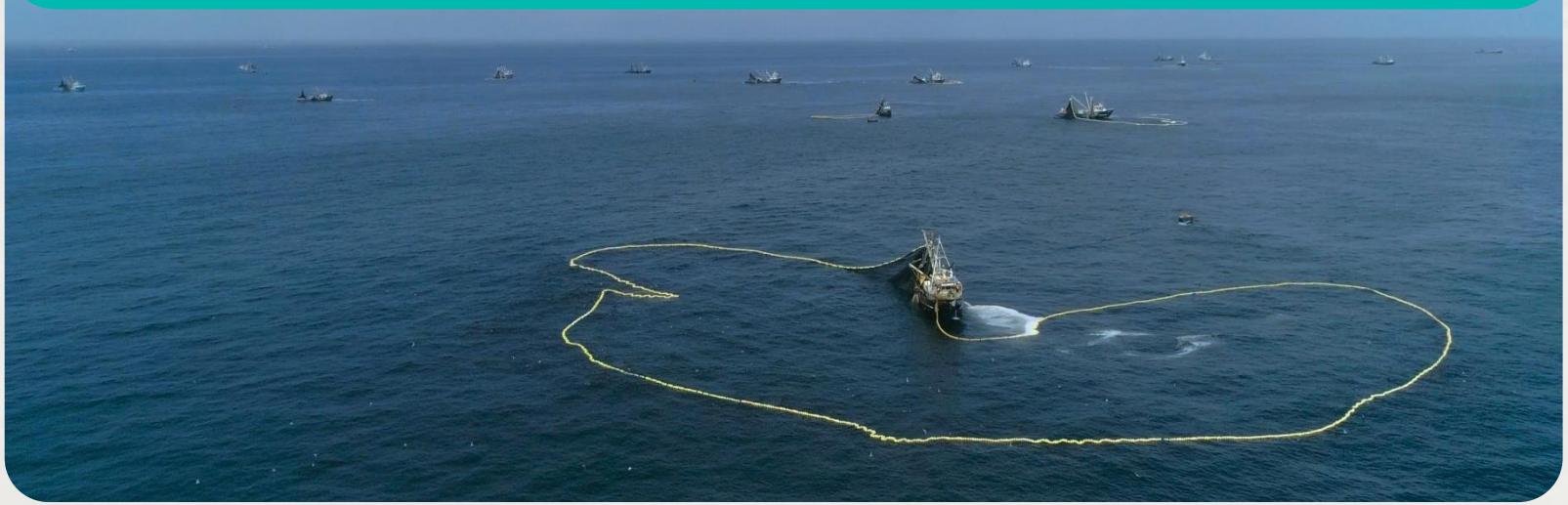
The Annelies Ilena

At 144 metres long, the 'Annelies Ilena' is a one of the world's largest supertrawlers. It can catch, process and freeze 400 tonnes of fish every 24 hours and stay out at sea for five days at a time.

How Does Modern Fishing Affect Our Oceans?

Did You Know...?

It is estimated that from 2007 to 2016 between 0.79 and 2.3 trillion fish (790,000,000,000 to 2,300,000,000,000) were caught from the wild each year.



How Does Modern Fishing Affect Our Oceans?

The Lafayate

At 288 metres long, the 'Lafayate' is a 'fish factory' on water. It is larger than France's nuclear-powered aircraft carrier the 'Charles de Gaulle'. This huge ship doesn't catch fish, instead it uses its 320,000m^3 of refrigeration space – that's same as 128 olympic-sized swimming pools – to collect the catch of supertrawlers while out at sea. This means the supertrawlers can catch even more fish!

How Does Modern Fishing Affect Our Oceans?

Fishing on this scale is having an impact on our oceans through overfishing.

Overfishing is the opposite to **sustainable** fishing. It is when a particular species of fish is taken from the ocean faster than it is able to reproduce naturally.

Did You Know...?

The population of jack mackerel in our oceans has been reduced by 90% since the 1970s. This is just one example of how overfishing is reducing the populations of species of fish.

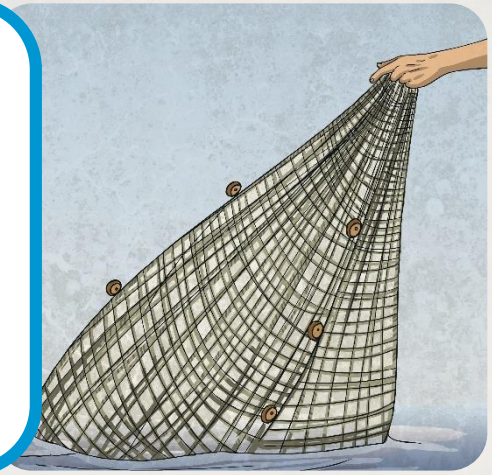
sustainable

Something that can be kept at the same level over a long period.

How Does Modern Fishing Affect Our Oceans?

It is also impacting our oceans through 'bycatch'. Bycatch is the name given to the fish and other sea creatures that are accidently trapped in nets. Bycatch can be young fish that are too small to sell, sea birds or marine mammals, such as dolphins and small whales. Many of these animals do not survive.

Watch this video to find out more about the impact of industrial fishing. While watching, take notes about the interesting facts you hear. This will help you with the questions on the next slide.



How Does Modern Fishing Affect Our Oceans?

What is the name of the fish that neither sounds nor looks very appetising, but is now considered a delicacy?

It is called the Patagonian toothfish and is a type of cod. It was rebranded (given a new name) as Chilean seabass to make it sound more appealing.

What is happening to sharks and why?

Sharks are caught and killed for their fins because they are worth a lot of money. Boats are filled with fins and the rest of the fish is left behind.

How Does Modern Fishing Affect Our Oceans?

What percentage of the world's fish populations are overfished?

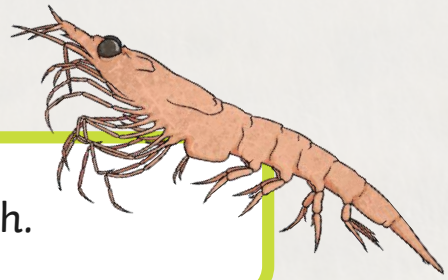
31%

What percentage are fished to the maximum sustainable level?

58%

How small can the catch of wild shrimp sometimes be and what else is caught?

Sometimes, only 5% of the catch is shrimp, the rest is bycatch.



Why Is It Important That We Change What We Do Now?

The need to revive our oceans is very urgent. It is estimated that at the present rate of fishing (which means at the speed we are currently removing fish from the oceans) and if we continue to do nothing, the oceans may be close to empty by 2050.

Talk About It

How old will you be in 2050? Do you think that 2050 is a long or a short time away?

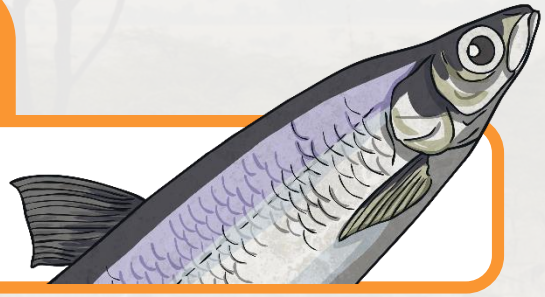
In this video, Sir David Attenborough shares how our coastal seas are struggling, in part because of overfishing. "There used to be so much more life off our shores," he says.

While watching the video, take notes about the facts you hear. This will help you with the questions on the next slide.

Why Is It Important That We Change What We Do Now?

What do you notice about the fish in the photographs from 1950 to now?

The size and number of the fish caught get smaller.



What is the cause of this decline? Tip: Look up the word 'decline' in a dictionary.

'Decline' means to gradually become less, worse or lower. The cause for this decline is that we've been catching too many fish.

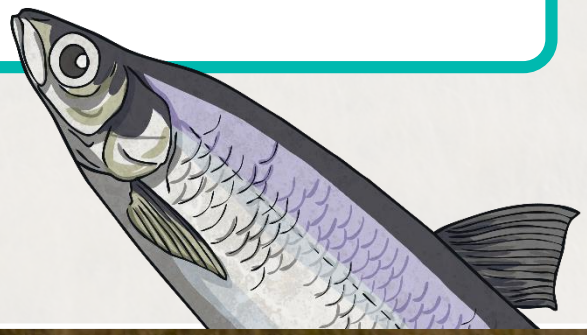
Why Is It Important That We Change What We Do Now?

Complete the sentence:

For every ten _____ fish that should be swimming in our oceans, there's only ____ today.

Scientists warn that if we continue fishing at this rate, how much of the world's fish populations will be overfished by 2050?

90% of the world's fish stocks will be overfished.



What Is the Solution to the Problem?

But the global problem of the lack of fish in our oceans, as Sir David Attenborough says in the next part of this video, is **very solvable**. Can you find the answers to these questions as you are watching the video?

What characteristics of fish give them their special nature?

They grow fast and have lots of young. In fact, fish never stop growing and the bigger they grow, the more young they have.

What would an increase in the number of older fish in the sea mean?

Lots and lots more fish in the sea, and ultimately, lots more of the creatures that eat fish too.

What is the solution to overfishing suggested in this video?

The solution suggested is to stop fishing in the places where fish breed and grow big.

What Is the Solution to the Problem?

In the following extract, Sir David Attenborough explains how we can protect our oceans. Fish can regenerate in incredible amounts – we just need to give them the space to do so. He introduces the magic of **marine reserves**.

A **marine reserve** is an area of a sea or ocean where fishing is forbidden. Its is a sanctuary for fish, seaweed and the entire ecosystem in that habitat.

While watching the next part of this video, take notes to help you with the questions below.

What Is the Solution to the Problem?

How much of the world's oceans and seas are currently marine reserves?

7% are currently marine reserves.

Scientists think there should be more marine reserves. How much of the ocean should become a reserve?

Scientists believe that 30% should become a reserve.

What does Sir David Attenborough say is the right amount of fish to catch?

He says that the right amount of fish to catch is "the most fish we can remove while still leaving enough fish to breed and replenish what we have taken."

The World's Most Overfished Sea

What can a single person do about it? A Turkish man, Zafer Kizilkaya, has taken it upon himself to protect a part of the world's most overfished sea, Gokova Bay in the Mediterranean.

Watch this video to find out more about what Zafer is doing in Gokova Bay.

What improvement has Zafer notice ten years after the Turkish government agreed to make the bay a protected area?

His research suggests marine life has increased by 800%.

What two threats to fish does the video mention?

The two threats are overfishing and invasive species.

What solution did Zafer come up with against invasive species?

His solution was to consume them. They made recipes to teach people to cook them and organised festivals to encourage people to eat them.

Let's Give Fish a break!

It's your turn to act!

With everything you have learnt in this lesson, by reading the slides, watching the videos and answering the questions, make a poster with the title 'Let's give fish a break!'.

Try to include information on:

- how industrial fishing affects our oceans;
- why it's important for our oceans to contain different animal and plant species;
- how, if we don't do anything, oceans will be nearly empty by 2050;
- how the destruction of oceans could affect people;
- how marine reserves can help revive the oceans.


WWF-UK / David Attenborough: A Life On Our Planet