

### Lesson Summary

Overfishing is emptying the ocean, with 90% of fisheries already overfished. Illegal fishing is increasing this. In this lesson we will look at some of the practices being used to protect the ocean and marine wildlife, and how IUU activity is being detected.

This lesson will take approx. 45 mins.



### Subjects relevant to

English, Geography, History, Math, Science and Social Science.

### Learning objectives

From this lesson students will:

- Understand and explain the practices being used to protect marine ecosystems.
- Understand the methods being used to detect illegal fishing activity.
- Evaluate the term sustainable fishing.
- Learn the difficulties in prosecuting illegal vessels.

### Preparation

- This lesson has been designed to provide a complete lesson, but can be stopped at any time and split over multiple lessons, should you wish to include your own discussion/questions or incorporate the lesson activities.
- Definitions of key terms have been provided at the end of the guide to assist with the learning process.
- Each lesson has case study options showing Sea Shepherd campaigns, including videos to provide students with a firsthand experience of ocean conservation in action.
- Depending on whether students are working in a classroom or remotely, you can choose to discuss questions in the class or use the online learning app.
- This digital lesson has an interactive option called student devices. If you choose this option ask the students to bring their mobile phones or tablets to the lesson.
- Should you choose the interactive option, it will run a quiz during the lesson. Recommendation: only use this interactive option in classes of up to 30 students.
- Students can sign up on their mobile device to the [www.LessonUp.app](http://www.LessonUp.app). They will be asked for a PIN code (this will appear automatically on slide 3 and will also show at the bottom of the screen). Students who sign up under a false name may be removed by the teacher.
- Students who do not have a mobile device can join the quiz with another student.
- If student devices is turned ON, you can opt to turn the sound and the share screen ON or OFF. Further on you can choose if you want to 'show ranking after each quiz' question. Doing so will create a competitive element, but it can be distracting. Recommendation: turn the 'show ranking after each quiz' OFF.
- The abovementioned options will also show if you click on the PIN code at the bottom of the screen.

### Lesson plan

#### Slide 1 Introduction

This lesson is provided by Sea Shepherd. Sea Shepherd was founded in 1977 and is a marine conservation organisation working to protect the oceans and marine wildlife. Sea Shepherd works globally on a range of issues impacting the oceans, running numerous direct action campaigns each year. IUU is one area Sea Shepherd is working on to help stop illegal fishing and reduce by-catch.



#### Slide 2 Lesson action icons

During the lesson we will use these icons to identify the learning actions.



#### Slide 3 Lesson summary

During this lesson we will further explore IUU fishing activity, by looking at some of the practices being used to protect the ocean and ways that law enforcement are using to detect illegal fishing activity.

**INTERACTIVE JOIN** – ask students to go to [www.LessonUp.app](http://www.LessonUp.app)



#### Slide 4 Overfishing

This slide shows an emptying ocean. Explain to students that scientists estimate that by 2050 the ocean ecosystem will be on the verge of collapse, empty of fish and marine wildlife, unless urgent action is taken on the issues impacting on the oceans and marine wildlife.

Show this video (1.11 min) which explains some of the key issues impacting the ocean and marine wildlife.

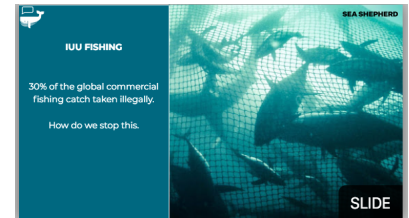
[https://www.youtube.com/watch?v=b\\_SK9-Zr71g](https://www.youtube.com/watch?v=b_SK9-Zr71g)



### Slide 5 Last lesson summary

In the last lesson we discussed the meaning of IUU and the causes behind the increasing demand for fish. We also learned the extent of illegal fishing taking place, with around 30% of the global commercial fishing catch taken illegally.

Now we are going to look at some of the measures in place to stop IUU activity.



### Slide 6 Practices to protect marine wildlife

In many countries and regions there are laws and regulations in place to help regulate fishing and protect marine ecosystems. These regulations help to provide the framework for the legal fishing industry and the basis upon which law enforcement agencies can monitor and enforce fisheries crimes.



### Slide 7 International laws

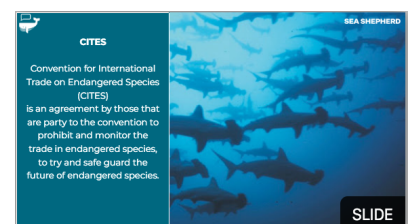
In international waters there are regulations in place, agreed to via the United Nations. These include regulations on restricting the use of driftnet fishing in international waters.



### Slide 8 CITES

The Convention for International Trade on Endangered Species (CITES) is an agreement by those that are party to the convention to prohibit and monitor the trade in endangered species, to try and safeguard the future of endangered species.

Countries that have signed up to CITES must prohibit any trade in fauna or flora that are listed by CITES. However it is the members of CITES who must agree which species will be covered, not all endangered species are currently covered by the convention. There are over 180 parties to the convention, which covers around 35,000 species of animals and plants.





### Slide 9 Marine zones and sanctuaries

Each country that borders the ocean has territorial waters, referred to as an Exclusive Economic Zone (EEZ). The EEZ is included in the United Nations Law of the Sea, where coastal states assume jurisdiction over this area and its marine resources. The EEZ extends no more 200 nautical miles from shore, but cannot infringe on a neighboring countries EEZ.

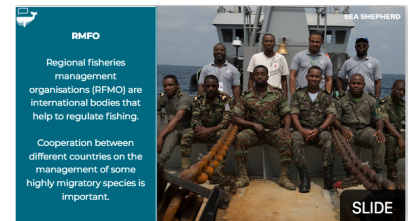
Within the EEZ countries can establish marine sanctuaries providing protection in ecologically vital areas, such as areas where fish breed or where ecosystems which have been damaged and need to recover. Within these zones fishing and other activities are strictly controlled or prohibited.



### Slide 10 RFMO

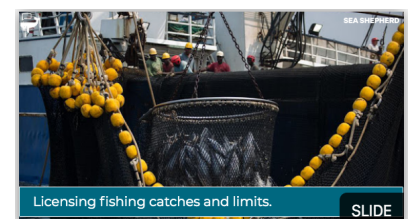
Regional fisheries management organisations (RFMO) are international bodies that help to regulate fishing. Cooperation between different countries on the management of some highly migratory species is important.

Where a species moves between different countries and international waters, individual country management of fishing runs the risk of the species being overfished quickly. Setting quotas for the region helps to protect the species from this and creates a framework for tackling illegal fishing activity in these areas.



### Slide 11 Fishing permits

Along with RFMO's countries can set up licensing systems to issue permits for fishing. Both commercial and recreational fishermen can be subjected to restrictions via the permit system, limiting the location for fishing, the species allowed to be caught, restrictions on and catch limits.



### Slide 12 Question

Ask students to respond via [www.LessonUp.app](http://www.LessonUp.app) or discuss in classroom.

“Why do you think it is important to have laws that apply in international waters or between countries?”





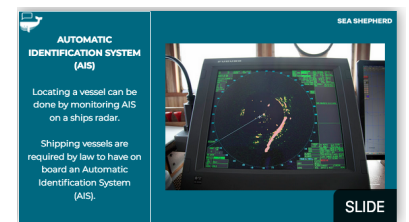
### Slide 13 Detecting and stopping illegal fishing

One way to reduce overfishing is by detecting and detaining illegal fishing operations and monitoring the catches of legal fishing vessels. With around 30% of the global fishing catch taken illegally this can have a huge impact.



### Slide 14 Automatic Identification System (AIS)

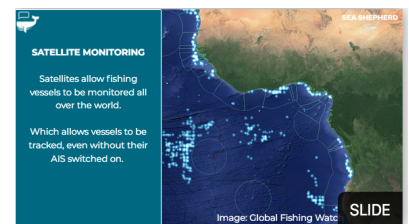
Locating a vessel can be done by monitoring AIS on a ships radar. Shipping vessels are required by law to have on board an Automatic Identification System (AIS), which shows the location and the identification details of the vessel. By monitoring the position of vessels, authorities can detect illegal activity in protected areas, such as marine reserves.



However sometimes vessels switch off their AIS, which could be an indication for suspicious activities.

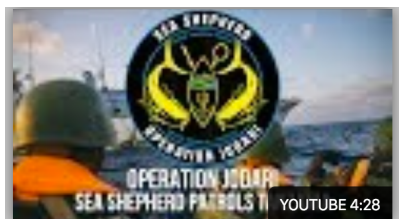
### Slide 15 Satellite monitoring

Satellites allow fishing vessels to be monitored all over the world. Which allows vessels to be tracked, even without their AIS switched on. Satellite monitoring also allows law enforcement vessels patrolling for illegal activity to find the location of potential illegal activity.



### Slide 16 Patrol vessels

The best way to deter illegal activity is to patrol the ocean. In areas where illegal poachers are heavily operating the only option is to patrol the waters. Using a patrol vessel that is faster than the fishing vessels allows law enforcement to chase down poachers and board their vessels for inspection. Inspection means taking a look at their log books, checking their registration documents, fishing license and what catch is in the ships hold.



Some countries don't have the resources to undertake these patrols, this is where Sea Shepherd has been able to help by providing ships and crew to assist in law enforcement activities.

Show the video (4.36 min) from Sea Shepherd's Operation Jodari in Tanzania. This shows some of the illegal activities taking place and the impact patrolling the EEZ.

<https://www.youtube.com/watch?v=i9Q00iciLuc&list=PLx1pnhQVtbbDkZfN2nz9qqd8bVVLOGkkl>

### Law enforcement agencies

Each country has its own authorities, such as fisheries agencies, coast guard, navy or marines that monitor fishing activities and tackle the issue of IUU activity.

### Slide 17 Regional cooperation

To combat IUU fishing activities, which span whole regions, countries are starting to work together to form taskforces that coordinate responses against illegal activities, including fishing. In south east Africa eight countries have formed FISH- I Africa to tackle these issues: Comoros, Kenya, Madagascar, Mauritius, Mozambique, Seychelles, Somalia and Tanzania.



### Slide 18 Question

Ask students to respond via [www.LessonUp.app](http://www.LessonUp.app) or discuss in classroom.

“Why do you think international cooperation on fishing is important?”

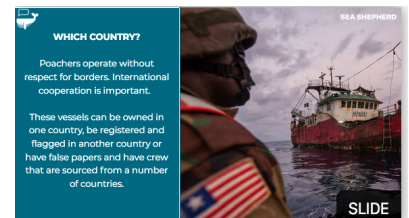


### Slide 19 Which country

Given that poachers operate without respect for borders international cooperation becomes more important.

These vessels can be owned in one country, be registered and flagged in another country or have false papers and have crew that are sourced from a number of countries.

Bringing them to justice, when they are found fishing illegally in a country's waters, may not always be easy.

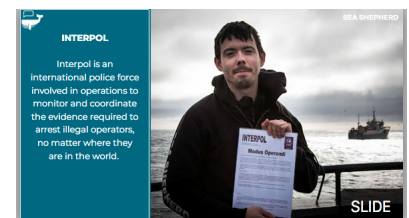


### Slide 20 INTERPOL

Interpol is an international police force involved in operations to monitor and coordinate the evidence required to arrest illegal operators, no matter where they are in the world.

Illegal fishing vessels are often well prepared, they may have papers showing the vessel is registered in multiple countries, most will be forged. All vessels must have a country of registration, otherwise they are deemed to be a pirate vessel.

Illegal vessels will frequently change the name and flag that appears on their ship, making it difficult to track them when they enter the various ports around the world.



Once a vessel is identified as having been operating illegal its flag state; country of registration will be asked to remove them from their register.

Vessels that break the law and fish illegally can be blacklisted by countries or RMFO's. If they return they will be arrested. Where evidence has been gathered against an illegal operator, with the aim to prosecute the ship or it cannot be located, Interpol can issue what is called a Purple Notice against them. A purple notices requires participating countries to detain the vessel once it enters their waters.

A Purple Notice is for the provision of information on modi operandi, procedures, objects, devices or hiding places used by criminals. Which means that Interpol are looking for information on the ships activities and evidence against them, such as fishing gear that has been used to fish illegally. It could be the vessel has tried to evade an investigation into their activities by fleeing a port, or a countries waters, or they have false registration details.

### Slide 21 Question

Ask students to answer using the [www.LessonUp.app](http://www.LessonUp.app):

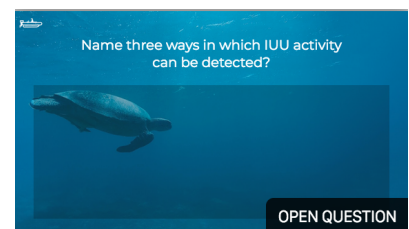
"Name two methods that are in place to protect marine wildlife?"



### Slide 22 Question

Ask students to answer using the [www.LessonUp.app](http://www.LessonUp.app):

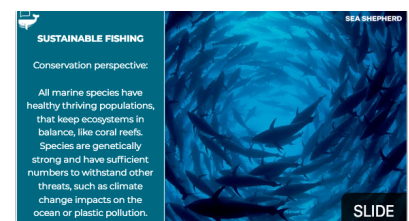
"Name three ways in which IUU activity be detected?"



### Slide 23 Sustainable – what it means

There are two ways to view the term sustainable.

From a conservation perspective organisations like Sea Shepherd look to see that all marine species have healthy thriving populations, that keep eco-systems in balance, like coral reefs. This means the species is genetically strong and has sufficient numbers to withstand other threats, such as climate change impacts on the ocean or plastic pollution.





### Slide 24 Sustainable – fishing industry view

Commercial fishing has a different perspective. They are focused on sustainable fisheries management.

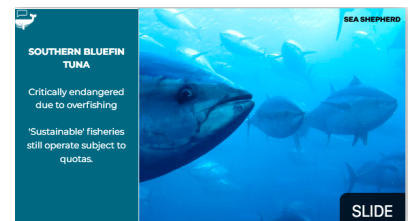
Sustainability in this context means that it supplies the need for food for human consumption, now and in the future. So as long as there is enough fish left to grow and breed, so they can catch the same amount of fish again the next year, it is deemed to be sustainable. “Sustainable” means maintaining the current level, keeping things as they are.

Overfishing in this context is fishing that depletes a population to a level that reduces its population. Overfished populations can still be sustainable, but it could also ultimately lead to that fisheries collapse.



### Slide 25 Sustainable fishing example

The Southern Bluefin Tuna is an example of this. Populations have been destroyed due to fishing prior to quotas being introduced. The current numbers are now so low that the Southern Bluefin Tuna is deemed to be a critically endangered species. Yet a regulated fishing industry still exists with fishing quotas issued each year to continue catching a critically endangered species.

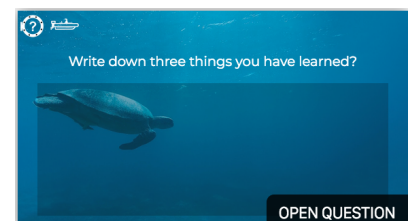


Sustainable fisheries management is about a species surviving to provide future food for humans, whereas the conservation perspective is about species thriving, the impacts on the whole eco-system if the species is lost and also looking at other threats to that species.

### Slide 26 What did you learn?

Ask students to answer the following question using [www.LessonUp.app](http://www.LessonUp.app) or discuss in the classroom.

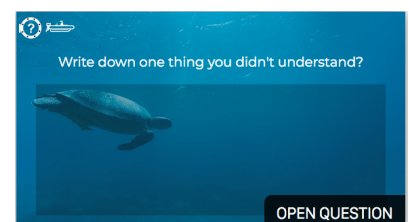
“Write down three things you have learned?”



### Slide 27 What don't you understand?

Ask students to answer the following question using [www.LessonUp.app](http://www.LessonUp.app) or discuss in the classroom.

“Write down one thing you didn't understand?”





# ILLEGAL, UNREPORTED AND UNREGULATED (IUU) FISHING LESSON 2

TEACHERS GUIDE: SEONDARY SCHOOL (Age 11 – 16)

## Slide 28 Next lesson

Next lesson we will discuss the issue of by-catch and the fishing methods that are being used and their impacts.



## Slide 29 Close



## Case Study Options

- Case Study – Operation Albacore
- Case Study – Operation By-catch
- Case Study – Operation Driftnet
- Case Study – Galapagos Islands
- Case Study – Operation Icefish
- Case Study – Operation Milagro
- Case Study – Operation Siso
- Case Study – Operation Sola Stella

### Key Definitions

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IUU – Illegal, Unreported and Unregulated Fishing.

Illegal fishing - means that the fishermen enter the territorial waters of a country or regulated marine zone without permission or without a license for the fish they intend to catch.

Unreported - means that a fishing vessel may have a license with an allocated quota for fishing a particular species, such as tuna, but then catches more than their quota states and without reporting the extra catch.

Unregulated - refers to areas where there may not be a quota or any regulations in place, either in that location or for the type of species.

AIS – Automatic Identification System.

By-catch - is basically anything that is caught in fishing nets or on lines that the fishermen don't want or are not allowed to legally sell.

CITES – Convention for International Trade on Endangered Species.

Ecologically - in a way that concerns the relation of living organisms to one another and to their physical surroundings.

Ecosystem - a biological community of interacting organisms and their physical environment.

Extinction - the state or process of being or becoming extinct. No longer in existence.

EEZ – Economic Exclusion Zone.

Overfishing - depletion of fish numbers by excessive fishing.

Overfished populations - depleted the numbers of fish in specific area) by excessive fishing. Even though these numbers could still be considered sustainable, they could ultimately lead to the collapse of fisheries.

Poaching - illegally hunt or catch (marine mammals or fish) that is not one's own or in contravention of official protection.

RFMO - Regional fisheries management organisation.

Sustainable - able to be maintained at a certain rate or level.

### YOUR FEEDBACK

We value your feedback and would be pleased to hear your thoughts about this lesson and activities. Any comments, suggestions or requests for further information can be sent to [education@seashepherdglobal.org](mailto:education@seashepherdglobal.org).