



Teacher's Guide

**WORLD OCEAN DAY
TEACHING GUIDE AND
WORKSHEETS**



Recycle me

How can we achieve a #BigBlueFuture? A billion people around the world rely on fish as their main source of animal protein, and one in 10 of us around the world relies on fishing for their livelihood. But almost a third of global fish stocks are overfished, and marine pollution, bycatch and climate change threaten the biodiversity of our oceans.



Our ocean: How do we get the balance right between life and livelihoods?

World Ocean Day is celebrated around the world on 8th June each year. This World Ocean Day, learners can investigate this big question using this learning resource, set out as a geographical enquiry and enabling learners examine a variety of sources, data and perspectives to help them develop their viewpoint and share it. In critically evaluating the resources they use, learners will be able to comment on whether they trust them, and discuss and reflect on what makes a resource trustworthy.

The resources can also be easily adapted to fit into a single lesson or shorter time – see the table below. The resources are suitable for learners aged 12+ in Geography or Social Science.

Learning objectives

- Learners work together to investigate a contemporary issue in Geography, thinking geographically to tackle a complex systems issue from different perspectives
- Learners improve their understanding of how human processes can influence and change the ocean environment, and how human activity relies on effective functioning of the ocean system
- Learners use their justified reasoning skills, critical evaluation skills, problem-solving skills, teamwork and communication skills

Key terms and concepts

Biodiversity

Climate change

Coral bleaching

Economic growth

Ecosystem

Fishery

Fish stocks

Food security

Illegal, unreported and unregulated (IUU) fishing

Invasive species

Livelihoods

Marine pollution

Ocean acidification

Overfishing

Quotas

Population

Sustainable development goals

Sustainable fishing

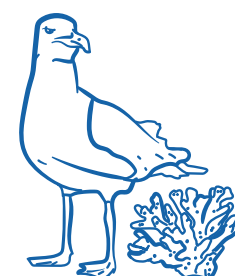


Resource list

- [World Ocean Day PowerPoint](#)
- Diamond Ranking worksheet – one sheet per group (each group will need a pair of scissors)
- Enquiry Sources – one list per learner (there are three options, each learner will need one option)
- Enquiry Worksheet – one-three per learner
- [Bank of photos](#) (optional)

How to use these resources

IF YOU HAVE....	WHY NOT TRY...	USING...
AROUND 20 MINUTES	<ul style="list-style-type: none"> • Starter: the role the ocean plays in our lives • Diamond Ranking activity 	<ul style="list-style-type: none"> • World Ocean Day PowerPoint • Diamond Ranking worksheet
AROUND 60 MINUTES	<ul style="list-style-type: none"> • Starter: the role the ocean plays in our lives • Main activity: The big question enquiry • Plenary: what's the answer to the big question? 	<ul style="list-style-type: none"> • World Ocean Day PowerPoint • Enquiry Sources • Enquiry Worksheet
AROUND 100 MINUTES+ (including independent or home study)	<ul style="list-style-type: none"> • Starter: the role the ocean plays in our lives • Diamond Ranking activity • Main activity: The big question enquiry • Plenary: what's the answer to the big question? • Diamond Ranking activity • Homework / extension 	<ul style="list-style-type: none"> • World Ocean Day PowerPoint • Diamond Ranking worksheet • Enquiry Sources • Enquiry Worksheet



Starter: the role the ocean plays in our lives

Using the [World Ocean Day PowerPoint](#), show learners slide 2, or slides 3-10 on screen, the selection of eight photos - and ask them to silently choose one. Alternatively you could also print out the eight images for learners to look at individually or in groups - download them [here](#). Ask some learners to share the reason for their choice. Learners could vote to find out the class favourite and paste this photo into slide 11.

If you have time and want to encourage learners to give reasons for their choice and present rationales to each other, learners choose their favourite and then discuss their choice with a partner. Then they choose the one they prefer. Each pair of learners joins with another pair, and the group discusses their two choices and again chooses their favourite. Groups combine again and briefly discuss in a larger group, choosing one photo by consensus or vote, until the class comes together – at this point learners could vote for their favourite. and one photo has been chosen overall. You could paste this photo into slide 11.

Using slide 11, ask learners questions - they could discuss in pairs or as a whole class.

Show slide 12. What can learners see in the photos? How do they feel about it?

Show slide 13. Getting the balance right for our ocean between life and livelihoods is a big global challenge. Learners could work in pairs or small groups, select one question and discuss it briefly, then feed back to another group or the whole class.

Use slide 14 to show learners one short video and follow up with the comprehension question.

Diamond Ranking activity (optional)

If you have time and want to encourage learners to use what they already know and think to start discussing the big question from a variety of perspectives, ask them to work in pairs or small groups to complete the Diamond Ranking Worksheet. Groups rank different actions as to how effective they think they might be – discussing aspects such as how easy, realistic or meaningful those actions might be, relative to each other. They arrange the different actions into a diamond shape, with their preferred action at the top, and others ranked below it in a diamond shape, with the least preferred right at the bottom. They then share their top action and the reasons why they think it would be effective with the rest of the class.

Main activity: The big question enquiry

Show slide 15 for learners' reference.

Our ocean: How do we get the balance right between life and livelihoods?

Learners get into small groups depending whether they want to look at the question from the perspective of

- Life
- Livelihoods, or
- Balance

Provide each group with the relevant Enquiry Sources list, and the copies of the Enquiry Worksheet. Each group will use a slightly different set of sources and data, completing an Enquiry Worksheet for each video, article or data source they use and evaluate.



Depending how much time is available, and the group wants to work, they could look at each resource together then complete an Enquiry Worksheet, or each learner could choose one or two resources to look at, complete their own Enquiry Worksheet for each, and then discuss them as a group. As an alternative, learners could complete their enquiry independently, or search for data sources and information using online searches.

Plenary: sharing viewpoints

After completing their enquiry, using slide 16 of the World Ocean Day PowerPoint, learners work in their small group to create and share their viewpoint on the big question:

Our ocean: How do we get the balance right between life and livelihoods?

Depending how much time the class has, they could either share their viewpoint in class, or make a plan or rough draft of one or more of the following to communicate their viewpoint:

- Poster mock-up
- Podcast plan
- Infographic mock-up
- Script, storyboard or drama 'sketch' for a 15-second video
- Mock-up for a social media post
- Idea for an artwork

Groups share their viewpoints. Follow up with some discussion questions.

- Are all the viewpoints the same?
- Do the groups agree with the findings of each other's groups?
- What does it say about this challenge, that there are different viewpoints and advice?

Diamond Ranking activity (optional)

If you have time, complete the Diamond Ranking Worksheet activity (again) – there are blank squares for groups to add their own ideas about how we can get the balance right between life and livelihoods. Groups share their top ideas for how to get the balance right – if they are repeating the activity, they can also share if they have changed their minds.

Extension / homework ideas

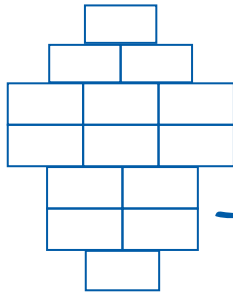
- Learners could complete some or all of the enquiry task as independent learning
- Learners could do independent research and recommend resources, articles, videos or datasets that they found useful
- Learners could turn their viewpoint plans into an output to share. You could share them via your school's social media account using the hashtag #BigBlueFuture
- Learners could take the project further by focusing on a particular challenge in ocean sustainability, e.g. climate change, ocean pollution or illegal fishing



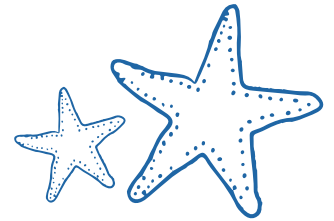
OUR OCEAN

HOW DO WE GET THE BALANCE RIGHT BETWEEN LIFE AND LIVELIHOODS?

Cut out and arrange the ideas into a diamond, with the best ideas at the top and the one you like least at the bottom. You can also write your own ideas. Which is your favourite idea?



Your diamond could be shaped like this.



Stop dumping plastic pollution in our oceans	Listen to diverse voices and ensure that protecting our ocean has benefits for those who live near it and rely on it	Have more marine protected areas, like national parks, where no fishing is allowed
Encourage people to visit and have fun at the seaside	Make sure the people who catch our fish make enough money	Stop fishing and stop eating fish and seafood
Make sure everyone understands how important the ocean is	Take action on climate change	Make sure everyone in the world can afford and access a healthy balanced diet
Pass laws to make harmful fishing illegal	Help fishing boats find ways of catching just the fish they want, not other animals	Choose sustainable seafood to eat
	Your idea	Your idea

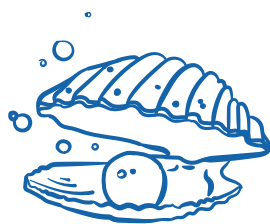




LIFE

The ocean is home to an extraordinary variety of life, from plants and corals, to fish and mammals. It is essential for our survival – helping to regulate our global climate, and providing much of the oxygen we breathe. The health of our ocean ecosystem is linked to our environmental, social and economic wellbeing, with the ocean providing us with food, jobs and recreation. But the ocean ecosystem is under threat from human activities like fishing and pollution and this threatens ocean species across the world.

- The sea produces around half of all the oxygen we breathe (thanks to phytoplankton, tiny single-celled ocean plants)
- The size of marine populations declined by almost half (49%) between 1970 and 2012¹
- 34.2% of global fisheries have been fished beyond sustainable limits²
- An estimated 8 million tons of plastic end up in our ocean every year, and this could double by 2050³
- Around 4% of the world’s seas have official, legal protection (compared with around 16% of land)⁴



¹From <https://www.msc.org/en-au/what-we-are-doing/oceans-at-risk>, source is WWF’s Living Blue Planet Report 2015

²From <https://www.msc.org/en-au/what-we-are-doing/oceans-at-risk>, source is the United Nations FAO’s 2020 State of World Fisheries and Aquaculture (SOFIA) report

³From Evaluating scenarios toward zero plastic pollution <https://science.sciencemag.org/content/369/6510/1455>

⁴From www.wwf.org.uk/where-we-work/oceans

Short films to watch

- How do the oceans help fight climate change? <https://www.youtube.com/watch?v=WxWBvTi-l3s>
- What are marine protected areas and where are they needed? https://www.youtube.com/watch?v=gq_U73i6s1U
- What is biodiversity? <https://www.youtube.com/watch?v=XTC4qiXd36Q>
- Overfishing https://www.msc.org/docs/default-source/default-document-library/education-page/3-overfishing.mp4?sfvrsn=51806387_4

Data source 1

Read or watch “Ode To Our Ocean” by Amanda Gorman <https://www.lonelywhale.org/ode-to-our-ocean>

Articles to read

- Ocean Threats <https://www.nationalgeographic.com/environment/article/ocean-threats>
- Extinction: ‘Time is running out’ to save sharks and rays <https://www.bbc.co.uk/news/science-environment-55830732>
- Should we stop eating fish to save our oceans? <https://www.msc.org/media-centre/news-opinion/news/2019/05/09/should-we-stop-eating-fish-to-save-our-oceans>

Online quizzes – play individually, or as a group

- Why do we need the ocean? Go to [kahoot.it](https://www.kahoot.it) and enter game pin 003642838
- Sustainable Fishing Challenges: bycatch. Go to [kahoot.it](https://www.kahoot.it) and enter game pin 001589971
- Film quiz – overfishing. Go to [kahoot.it](https://www.kahoot.it) and enter game pin 005002747



Data source 2

What do the statistics tell us about the health of our ocean, and the challenges it is facing?

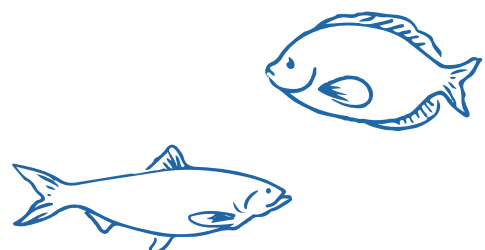
Ocean and Fishing

- **33%**: marine fish stocks in 2015 being harvested at unsustainable levels; **60%** are maximally sustainably fished; **7%** are underfished
- **>55%**: ocean area covered by industrial fishing
- **3-10%**: projected decrease in ocean net primary production due to climate change alone by the end of the century
- **3-25%**: projected decrease in fish biomass by the end of the century in low and high climate warming scenarios, respectively
- **>90%**: proportion of the global commercial fishers accounted for by small scale fisheries (over 30 million people) – representing nearly **50%** of global fish catch
- **Up to 33%**: estimated share in 2011 of world's reported fish catch that is illegal, unreported or unregulated
- **>10%**: decrease per decade in the extent of seagrass meadows from 1970-2000
- **+/-50%**: live coral cover of reefs lost since 1870s
- **100-300 million**: people in coastal areas at increased risk due to loss of coastal habitat protection
- **400**: low oxygen (hypoxic) coastal ecosystem 'dead zones' caused by fertilizers, affecting >245,000 km²
- **29%**: average reduction in the extinction risk for mammals and birds in 109 countries thanks to conservation investments from 1996 to 2008; the extinction risk of birds, mammals and amphibians would have been at least **20%** greater without conservation action in recent decade
- **>107**: highly threatened birds, mammals and reptiles estimated to have benefitted from the eradication of invasive mammals on islands

This data comes from a report by the United Nations (UN) in 2019. You can find this data and more here: <https://www.un.org/sustainabledevelopment/blog/2019/05/nature-decline-unprecedented-report/>

Data source 3

Listen to some or all of a podcast episode – The Life Scientific: Helen Scales on Marine Conservation <https://www.bbc.co.uk/programmes/m000vwqh>





BALANCE

Oceans cover more than 70% of the planet's surface, regulate the climate, and supply half the oxygen we need to survive. The oceans are also home to an extraordinary variety of life. Much of this life is essential to sustain people's livelihoods and to help ensure global food security. We have only explored about 5% of the ocean, and because we do not have enough data about it, we are limited in how we can manage marine ecosystems. In a world of climate change and rising population, a better understanding of the ocean and good management of its resources, are necessary to reduce the risks to the ocean.

- The sea produces around half of all the oxygen we breathe (thanks to phytoplankton, tiny single-celled ocean plants)
- The size of marine populations declined by almost half (49%) between 1970 and 2012¹
- Illegal, unreported, and unregulated (IUU) fishing is one of the greatest threats today to marine ecosystems and ocean health. IUU fishing accounts for up to 26 million metric tons of fish annually and threatens ocean ecosystems and the livelihoods of legal fishers²
- Around 4% of the world's seas have official, legal protection (compared with around 16% of land)³
- Up to 10% of the global population relies on fisheries for their livelihood⁴

¹From [msc.org/what-we-are-doing/oceans-at-risk](https://www.msc.org/what-we-are-doing/oceans-at-risk), source is WWF's Living Blue Planet Report 2015

²From UNFAO [fao.org/fao-stories/article/en/c/1136937/](https://www.fao.org/fao-stories/article/en/c/1136937/)

³From <https://www.wwf.org.uk/where-we-work/oceans>

⁴From <https://www.msc.org/uk/what-we-are-doing/oceans-at-risk/the-impact-on-communities>

Short films to watch

- What is the connection between climate change, our oceans, and the people who depend on them? <https://www.youtube.com/watch?v=Hzd8I5cuFcg>
- Saving Our Fisheries, Protecting Our Oceans <https://www.youtube.com/watch?v=55VqeYnrIFy>
- How saving the Oceans can feed the world <https://www.youtube.com/watch?v=7PIDQNDr-yY>
- Global Fisheries need better governance to sustain key stocks <https://www.pewtrusts.org/en/research-and-analysis/video/2020/global-fisheries-need-better-governance-to-sustain-key-stocks>
- Sustainable fishing https://www.msc.org/docs/default-source/default-document-library/education-page/4-fishing-sustainably.mp4?sfvrsn=f32fd95d_4

Data source 1

- Listen to Sail for Climate Action with Steff McDermott <https://www.lonelywhale.org/52hertz/againstthecurrent/episode2>

Articles to read

- Protect our ocean 'to solve challenges of century' - <https://www.bbc.co.uk/news/science-environment-56430542>
- Why should we care about the ocean? <https://oceanservice.noaa.gov/facts/why-care-about-ocean.html#:~:text=The%20air%20we%20breathe%3A%20The.our%20climate%20and%20weather%20patterns.>





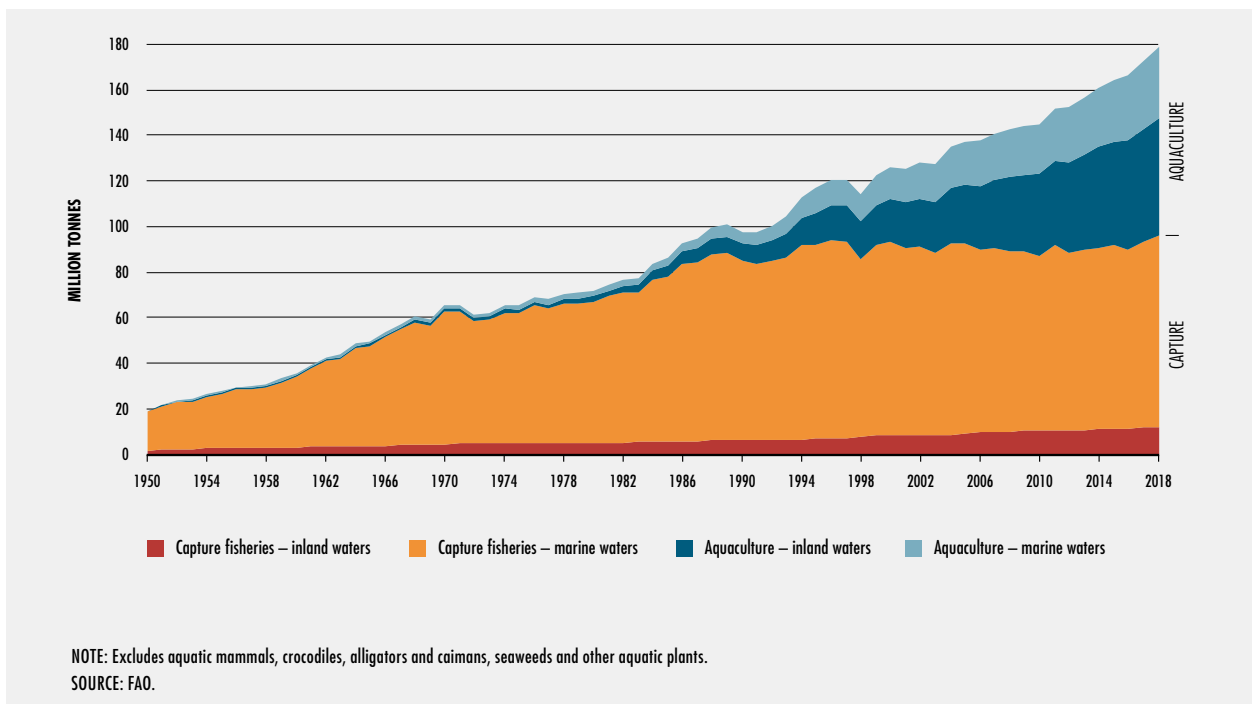
Data source 2

How is the world getting its fish, and how is that changing over time? Are we consuming more or less fish than we used to? Which regions of the world provide more fish?

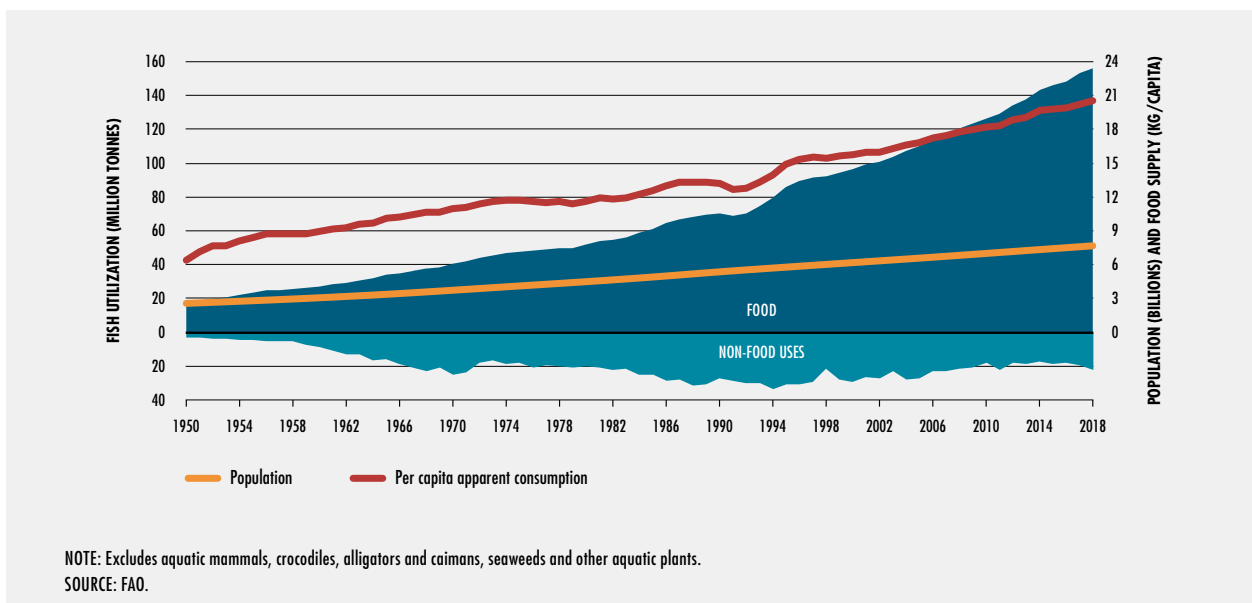
'Capture' means caught from the wild (oceans, lakes or rivers), and **aquaculture** involves farming fish and seafood in the ocean, lakes, rivers or ponds.

You can find this chart and more at *The state of the world's fisheries and aquaculture 2020* <http://www.fao.org/3/ca9229en/online/ca9229en.html#fig1>

WORLD CAPTURE FISHERIES AND AQUACULTURE PRODUCTION

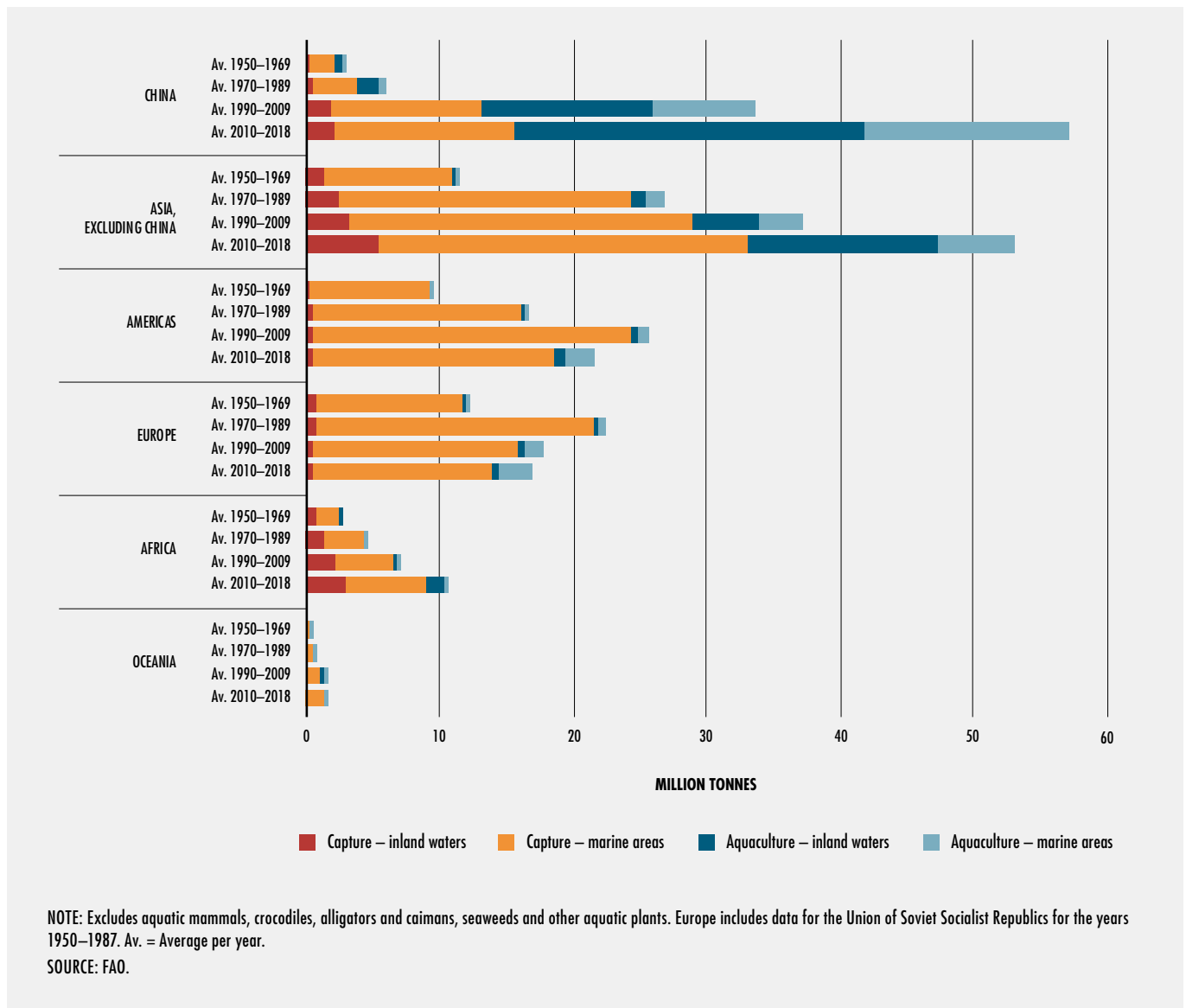


WORLD FISH UTILIZATION AND APPARENT CONSUMPTION





REGIONAL CONTRIBUTION TO WORLD FISHERIES AND AQUACULTURE PRODUCTION



Online quizzes – play individually, or as a group

- Why do we need the ocean? Go to kahoot.it and enter game pin 003642838
- World Tuna Day: a global catch. Go to kahoot.it and enter game pin 005621716
- Film quiz – overfishing. Go to kahoot.it and enter game pin 005002747





LIVELIHOODS

Many communities around the world depend on the fishing industry for food and income. For many people fishing is their livelihood. With increasing population levels and challenges such as climate change, sustainable fishing is important for our global food security and for the livelihoods of millions of people around the world.

- 3.3 billion people get at least 20% of their daily animal protein intake from fish
- There are 39 million fishers around the world, catching wild fish and seafood from our ocean
- Over 50% of the world's traded seafood comes from low- and middle- income countries
- Up to 10% of the global population relies on fisheries for their livelihood
- 85% of the people who work in the fisheries sector are in Asia, 9% live in Africa (9%) and 4% live in the Americas¹.

Short films to watch

- Our oceans can feed a billion people a day <https://www.youtube.com/watch?v=5Z7WhInKlow>
- Short film from the World Economic Forum <https://www.youtube.com/watch?v=5qEf3b9Bwps>
- Fish in food security and nutrition <https://www.youtube.com/watch?v=MMPPrPfkOMGc>
- The life of a fisherman https://www.msc.org/docs/default-source/default-document-library/education-page/1-the-life-of-a-fisherman.mp4?sfvrsn=2ba71ba_4

¹Taken from <https://www.msc.org/what-we-are-doing/oceans-at-risk/the-impact-on-communities> all figures from the UNFAO SOFIA 2018 [Report](#).

Articles to read

- Protecting the Oceans: why turning vegan can't be the only answer <https://www.greenpeace.org/international/story/46985/protect-the-oceans-why-vegan-cant-only-answer/>
- The world could eat more fish if we try to catch less <https://www.msc.org/en-us/media-center/blog/2021/03/24/the-world-could-eat-more-fish-if-we-try-to-catch-less>
- Keep eating fish; it's the best way to feed the world <https://blog.oup.com/2019/05/keep-eating-fish-best-way-feed-world/>

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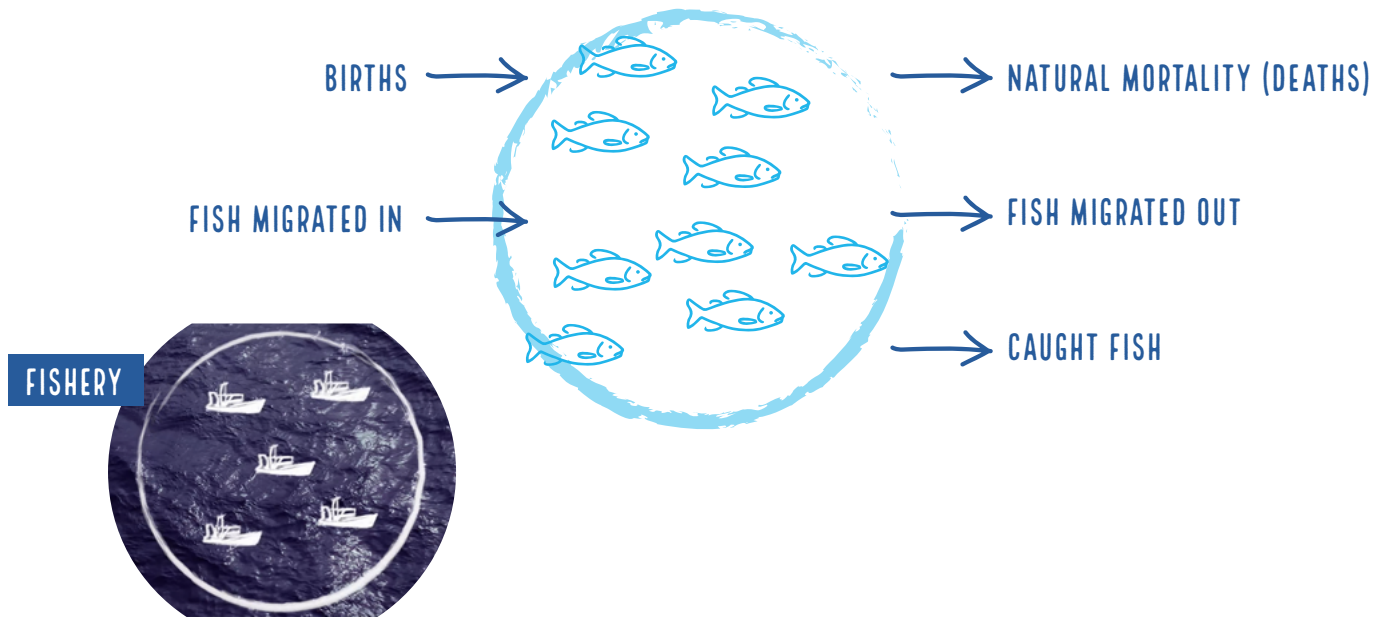


Data source 1

What do fishers and scientists need to know about the ocean to manage its resources sustainably? Where in the world are fish stocks more, and less, healthy? Why do you think this is?

1. FISHERIES AND FISH STOCKS

A fishery is an area of the sea that different boats can use. Fish migrate in and out of the fishery, and fish are born and die others are caught. So this means the number of fish - the fish stock - changes in number over time.



2. WHAT IS MAXIMUM SUSTAINABLE YIELD?

When a new fishery is first harvested, the number of fish will go down to start with, as a result of fishing.

There is a point where a roughly constant fishing level can be maintained indefinitely without causing decline in the population, and where the productivity of the fish population is at its maximum.

This is the maximum sustainable yield.

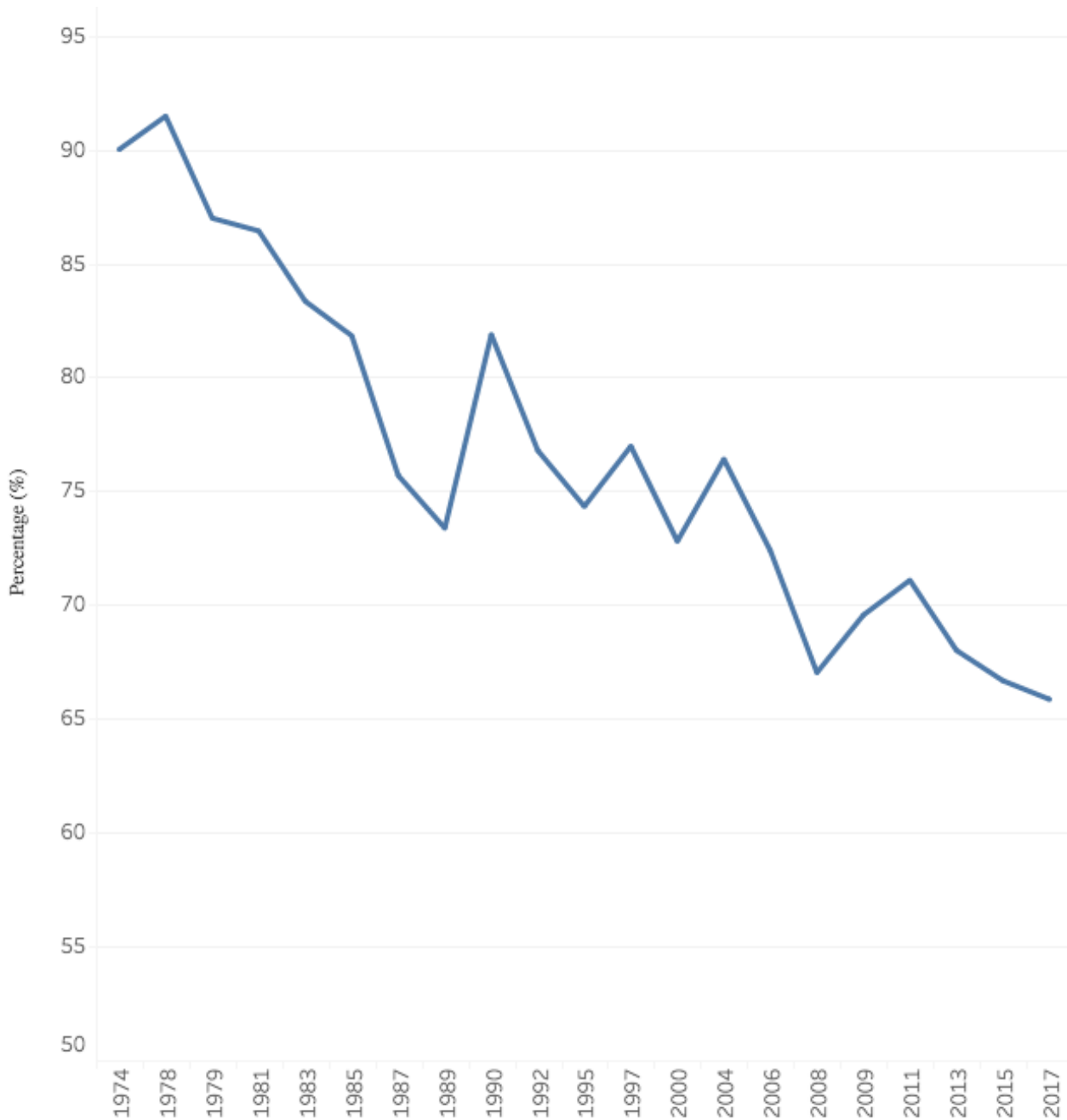
If a fishery is overfished, it becomes unsustainable. This means the fish population is too small to reproduce and replace the fish being harvested. There is a risk that this will affect other sea creatures in the food web too.





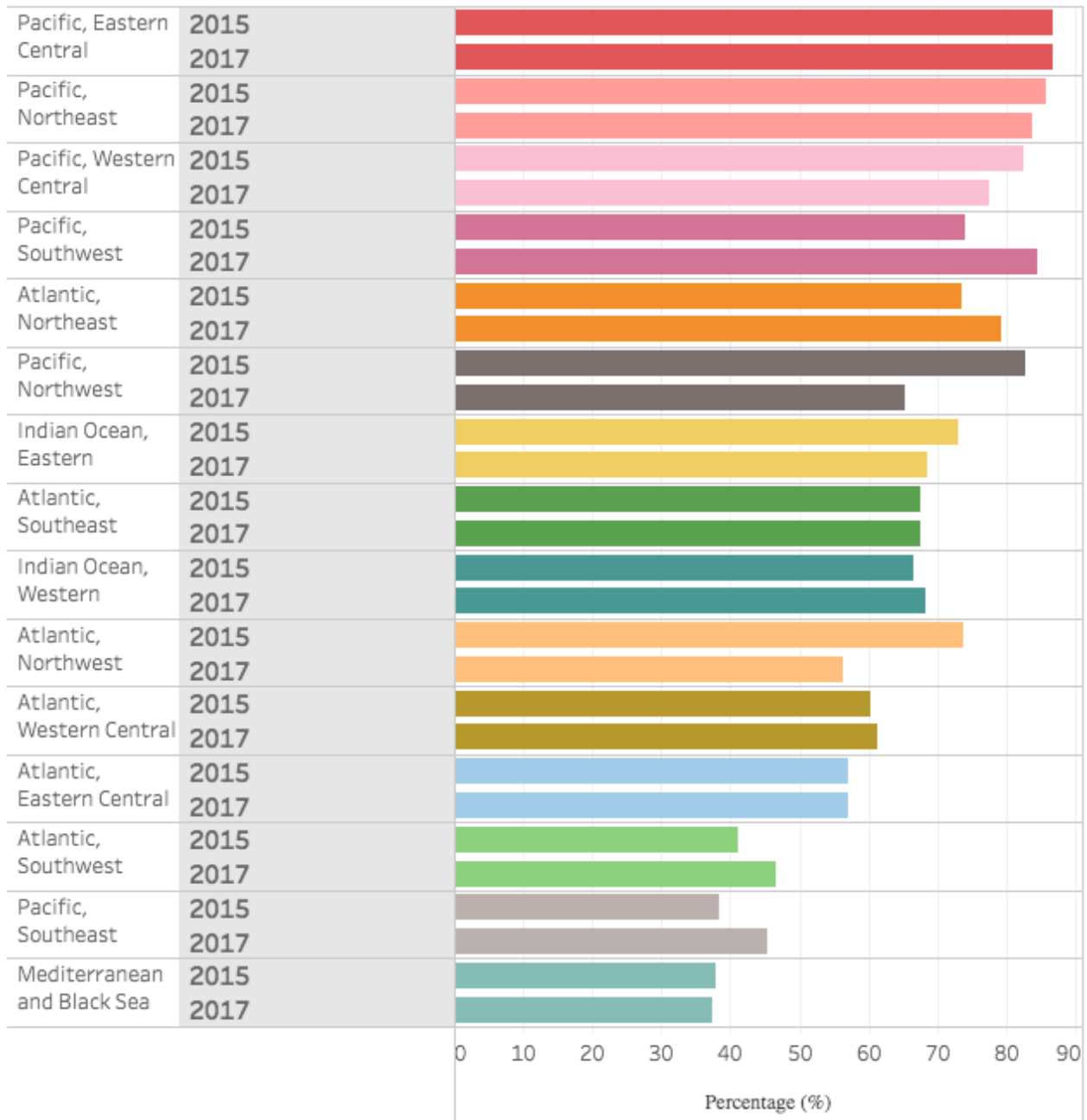
3. PROPORTION OF FISH STOCKS

GLOBAL PROPORTION OF FISH STOCKS WITHIN BIOLOGICALLY SUSTAINABLE LEVELS (1974-2017)





PROPORTION OF FISH STOCKS WITHIN BIOLOGICALLY SUSTAINABLE LEVELS BY FISHING AREA (2015 & 2017)



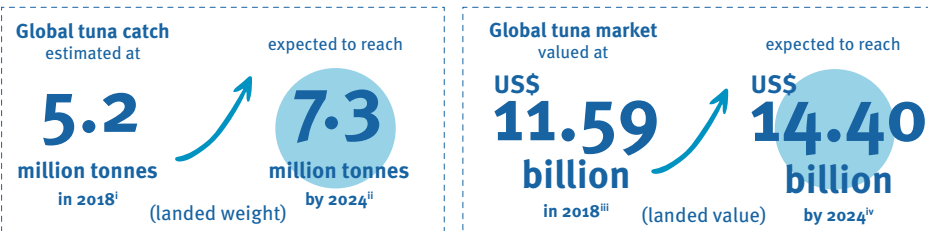
You can find these charts and more at [fao.org/sustainable-development-goals/indicators/1441/en/](https://www.fao.org/sustainable-development-goals/indicators/1441/en/)



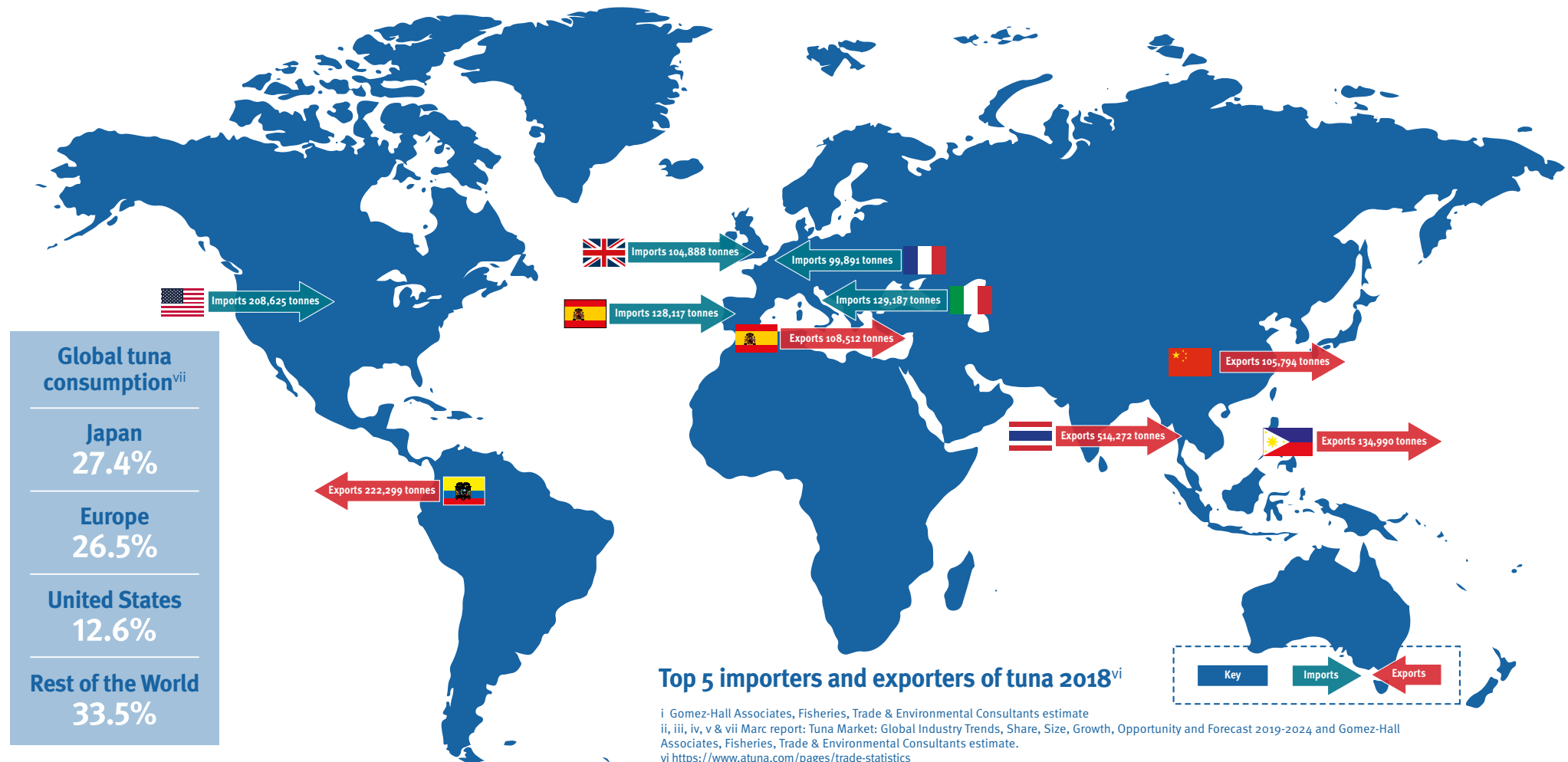


Where in the world does our Tuna come from, and where is it mostly eaten?

GLOBAL TUNA MARKET DATA



Some 29% of the world's tuna catch is MSC certified. This means the state of the stock, environmental impacts and the management of the fishery have been rigorously assessed.





Top 5 importers and exporters of tuna 2018^{vi}

ⁱ Gomez-Hall Associates, Fisheries, Trade & Environmental Consultants estimate
^{ii, iii, iv, v & vii} Marc report: Tuna Market: Global Industry Trends, Share, Size, Growth, Opportunity and Forecast 2019-2024 and Gomez-Hall Associates, Fisheries, Trade & Environmental Consultants estimate.
^{vi} <https://www.atuna.com/pages/trade-statistics>

HOW DO WE GET THE BALANCE RIGHT BETWEEN LIFE AND LIVELIHOODS?

Complete this sheet for each resource you use in your enquiry.

TITLE OF RESOURCE:	
Format: film, article, data, something else?:	
Year produced:	
How did you find this resource?	Who made this resource?
Whose voice is included (fishers, government, environmentalists, activists)? Where in the world are they?	
What were its messages? 1. 2. 3.	
How would you summarise it?	
What perspective do you think this resource is coming from?	
Do you trust this resource? 	Rate this resource 
Why (not)? What made you decide to trust or not trust it? Is it about its age, who is speaking, what they say, the quality of the film? Or something else?	

