

Introduction

As part of a series of guides covering topical issues affecting the UK fishing industry, Seafish presents science-based information on what the term 'sustainability' really means to the fishing industry, and reports on how the UK seafood industry is both protecting marine ecosystems and supporting the sustainable and efficient harvesting of the fisheries on which it depends.

There are other Seafish guides on related topics including Responsible Sourcing, the Responsible Fishing Scheme and bottom trawling.

Myth and reality

The media often focuses on broad-brush descriptions of the state of the world's fisheries. Despite the availability of various sources for information on the status of fish stocks (mostly web-based), the whole concept of sustainability is difficult to define. It has led to the selective interpretation of information, which can distort the overall picture.

Shades of respectability*

We should be considering the 'shades of respectability' spectrum below. On the far left we have illegal, unreported and unregulated (IUU) or pirate fishing. In the middle we have legal fisheries which operate within the law, but may not

necessarily take into account all the relevant sustainability criteria relating to responsible fishing.

A responsible fishery will take into account sustainability criteria and observe when resources may need recovery. This is exemplified in the Responsible Fishing Scheme which audits the application of good practice by a vessel, skipper and crew in their fishing operations in relation to sustainability.

A sustainable fishery encompasses all aspects of the fishery, including the supply chain from sea to plate. Essentially, buyers want to source as much of their product from the right-hand side of the spectrum as possible.

DEFINITION

Sustainability is a word that is used a lot these days. But what does sustainability really mean?

In the 1980s the United Nations, in the Brundtland Report, defined sustainable development as 'development which meets the needs of the present without compromising the ability of future generations to meet their own needs'.

A well-managed and sustainable fishery protects the fish and the environment in which they live, whilst allowing responsible use of the species that come from that fishery. A sustainable fishery is one where the target fish populations are judged to be at healthy levels (this can be the case even if they are still 'recovering' from having been depleted in the past). A well-managed fishery will ensure that there is a future for the industry and all those who depend on the fisheries for their livelihoods.

From a human perspective a fishery is an organised effort by humans to catch fish or other aquatic species. Ultimately it is the fishermen who are at the forefront, controlling fisheries and fish production. We need balance, between fishermen, who depend on fishing for their livelihoods, and fisheries scientists, who recommend that if future fish populations are to be sustainable, then some fisheries may need to reduce or close.

Illegal
Unreported
Unregulated (IUU) legal responsible sustainable



Who assesses world fish stocks?

Sustainability takes into account the status of individual fish stocks, the wider impacts of the fishery on the ecosystem, and even global sustainability. There are two authoritative sources of information on the state of fish stocks.

Food and Agriculture Organisation (FAO) of the United Nations

On a world scale the source that is quoted most often is FAO. Every two years they publish a review called 'The State of World Fisheries and Aquaculture'.

FAO classifies fish stocks in three categories:

- Fully exploited; therefore producing catches that were at, or close to, their maximum sustainable limits, with no room for further expansion.
- Under exploited; effectively there could be more fish caught from the stock.

- Over exploited, depleted or recovering; with these stocks managers should be taking action to improve the stock's chances of recovery.

International Council for the Exploration of the Sea (ICES)

ICES is responsible for providing scientific advice for North East Atlantic fishery management. Their advice tends to be more species-specific.

ICES has adopted a precautionary approach to fisheries management. Their assessments are based on assessments of the risk that the spawning stock biomass (SSB) will fall below the level required for the stock to be able to produce sufficient recruits (young fish) to support a fishery and maintain it for sustainable, commercial harvesting. ICES has a slightly different approach and classifies fish stocks as:

- 'Harvested sustainably and at full reproductive capacity', meaning the stock is inside safe biological limits; or

- 'At risk of reduced reproductive capacity and/or being harvested unsustainably'; or

- 'Suffering from reduced reproductive capacity and/or being harvested unsustainably', meaning the stock is outside safe biological limits.

When a stock is classified in either of the bottom two categories, managers should consider what action needs to be taken to avert potential stock collapse. Controls on these fisheries are based on regular monitoring and assessment of the status of individual stocks, conducted by independent and Government-based scientific organisations. Stocks are then managed through Total Allowable Catch (TAC) limits and a limit on the number of days boats can spend at sea. In addition, closed areas and closed seasons can be introduced, as well as technological measures such as the selectivity of fishing gears.

How sustainable fisheries are assessed

The FAO Code of Conduct for Responsible Fisheries is the 'bedrock' on which fishery certification or assessment is based. The Code is based on a number of fundamental principles:

- Firstly, that stock status is regularly assessed;
- Secondly, that a management regime is in place that is based on sound science and has the capacity to adapt to stock fluctuations; and
- Finally, that fishing operations should ensure that the habitat or ecosystem is maintained.

There are many fisheries that are well-managed and sustainable. Independent auditing by a third-party can verify enterprises for chain of custody and can certify fishery products.

Marine Stewardship Council (MSC)

The MSC provides an environmental standard for sustainable and well-managed fisheries that is fully consistent with the FAO Code. It uses its distinctive 'blue tick' logo on labels to allow consumers to buy fish that can be traced back to a certified sustainable source. Over 140 fisheries around the world are engaged in the MSC programme either as certified fisheries or in assessment against the MSC standard for a sustainable fishery. Independent specialist certifiers assess each fishery by examining the stock levels, environmental impact and management plan before deciding if the fishery should be certified. In May 2009, more than 2,300 MSC labelled seafood products were sold in 42 countries – over 300 of these in the UK, more than any other country.



Friend of the Sea

The Friend of the Sea ecolabelling scheme for marine capture fisheries and aquaculture follows FAO principles. It certifies and promotes seafood from sustainable fisheries and aquaculture. Friend of the Sea Approved Fisheries target stocks which are not overexploited, use fishing methods which don't impact on the seabed and generate less than 8% discards.

Responsible Fishing Scheme

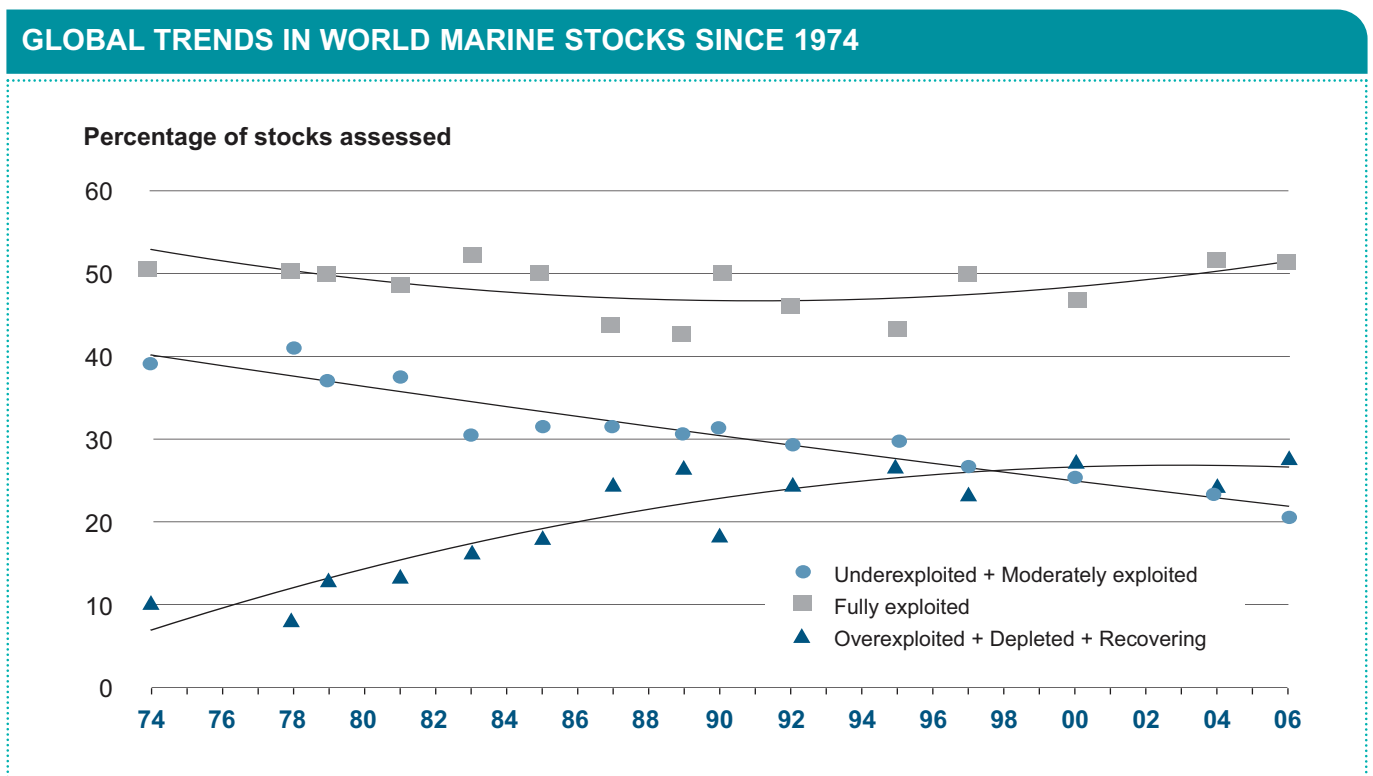
As an assurance of best fishing practice the Responsible Fishing Scheme embraces sustainable fishing methods. The Scheme now boasts over 300 certified vessels and a further 200 going through the assessment process.

<http://rfs.seafish.org>

The state of world fish stocks

There is well documented, authoritative information on the state of world fish stocks from both the FAO and ICES. Differences really occur in how that information is used and interpreted. There's no denying that there are serious problems in some major fisheries around the world but it is important that the broader picture on global fish stocks is viewed correctly.

The FAO, in its 2008 State of World Fisheries and Aquaculture report report assessed capture fisheries world-wide. The graph below shows the change in the proportions of fish stocks that fall into the three FAO categories over the last 30 years or so: under or moderately exploited, fully exploited, and overexploited, depleted or recovering.



Source: Food and Agriculture Organisation of the United Nations.

A stable picture

The graph shows a fairly constant picture. Whilst there are now many less underexploited and many more overexploited stocks, the picture is clearly stabilising. The proportion that is fully exploited (meaning that maximum yield is being achieved) has been pretty constant at around 50% (52% in 2007). Each of the other two categories is now fairly steady at around 25% (28% in 2007). This stability is being achieved as a result of greatly improved management based on a better understanding of the dynamics of marine ecosystems.

Interpretation of data

As ever, this data can be interpreted in very different ways, and this can dramatically affect how this information is presented, perceived, and ultimately promoted.

- It could be presented as 'only 28% of the world's fish stocks are overexploited'.
- We could say that '80% of the world's fish stocks are providing maximum benefit for mankind or have the potential to produce more'.

Both of these statements sound, and are, very positive.

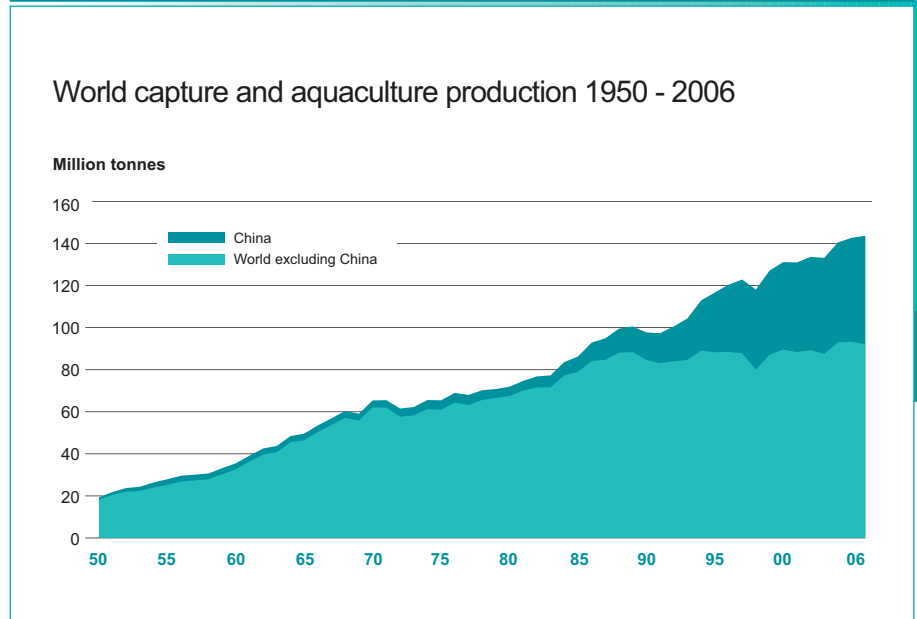
- On the other hand we can try to stigmatise the word 'exploited' and say that '80% of the world's fish stocks are either overexploited, recovering, depleted or fully exploited' – and then the imagery becomes quite different.

Global fish capture

Globally, in 2006 we produced about 110 million tonnes of fish for direct human consumption*. This has been fairly stable over the last 10 years. However, the world's population is increasing, and per capita consumption of fish is increasing too. The United Nations forecasts that, by 2030, food fish production will edge up to around 130 million tonnes, making it all the more important that fish stocks are managed to provide for future demand.

*This figure includes aquaculture production, but the global capture figures include some fish not used for direct human consumption.

GLOBAL CAPTURE



Source: FAO State of World Fisheries and Aquaculture report 2008

More information on the sustainability of fish stocks

There are a number of sources of information on the status of fish stocks, many of which are web-based. It is important in all instances to think about the origins of the information and where it comes from. The most authoritative information will derive from the FAO and ICES, but there are also other sources of valuable information such as fully peer-reviewed reports which are backed up with data, reports published in respected journals and information from government organisations.

Seafish: who we are

Seafish, the authority on seafood, was founded in 1981 by an act of parliament and supports the seafood industry for a sustainable, profitable future. Our services range from research and

Guides to sustainability

Seafish has produced a series of 26 guides which can assist you in determining the sustainability of individual fish stocks. The Seafish Responsible Sourcing Guides outline the status of the main fish stocks consumed in the UK. These detail where to get information on stock status, describe the measures being taken to conserve these stocks, and highlight which fish to use and which are best to avoid. These can be found at www.seafish.org/b2b/rss

development, economic consulting, market research and training through to account management and legislative advice for the seafood industry.

Contact Seafish at:

www.seafish.org
<http://sin.seafish.org>

SOURCES

1. Independent scientific reference sources
www.ices.dk
www.fao.org
The section on capture fisheries in the 2008 FAO report can be found at:
<http://www.fao.org/docrep/011/i0250e/i0250e00.htm>
 2. Independent science-based advice – unbiased and balanced
www.cefas.cosuk
www.frs-scotland.gov.uk
www.dfo-mpo.gc.a
www.fisheries.no
www.fisheries.is
www.nefmc.org
 3. Fact-based advice, providing a common database of shared information.
www.fishsource.org
www.fishbase.org
 4. Other sources
www.msc.org
www.mcsuk.org
www.friendofthesea.org
- * Tom Pickerell, WWF