



**GREENPEACE**

# **A RECIPE FOR DISASTER**

**SUPERMARKETS' INSATIABLE APPETITE FOR SEAFOOD**

**'If commercial fishing is not heavily regulated, there will be little left to harvest in the seas outside of the lowest levels of the food chain. So you don't need to worry about these problems as long as your children like plankton stew.'**

Daniel Pauly, Professor of Fisheries, University of British Columbia, Canada,  
10 August 2004<sup>1</sup>





# CONTENTS

List of Tables and Figures	2	4.2.2 ASDA's seafood policies	64
Glossary	3	4.2.3 Review of ASDA's seafood policies	66
Executive Summary	6	4.3 Sainsbury's – 'Making life taste better'	66
<b>1 Introduction</b>	9	4.3.1 Sainsbury's background	66
1.1 Fisheries in trouble	9	4.3.2 Sainsbury's seafood policies	66
1.2 What is sustainable seafood?	10	4.3.3 Review of Sainsbury's seafood policies	68
1.2.1 Principles of sustainable fisheries	10	4.4 Safeway/Morrisons – 'More reasons to shop at...'	68
1.2.2 Is aquaculture the solution?	10	4.4.1 Morrisons' background	68
1.3 Supermarkets and the seafood industry	11	4.4.2 Morrisons' seafood policies	68
1.4 Supermarkets and sustainability	11	4.4.3 Review of Morrisons' seafood policies	68
<b>2 Identifying sustainable seafood: Labelling and certification</b>	13	4.5 Marks & Spencer – 'Quality & trust'	69
2.1 Standard fish labelling	13	4.5.1 M&S's background	69
2.1.1 Consumer information	13	4.5.2 M&S's seafood policies	69
2.1.2 Traceability	13	4.5.3 Review of M&S's seafood policies	71
2.2 The 'Ocean Wild Frozen at Sea' mark	14	4.6 Somerfield – 'Good food made easy'	71
2.3 'Dolphin safe' and 'dolphin friendly' tuna	14	4.6.1 Somerfield's background	71
2.3.1 Inter-American Tropical Tuna Commission dolphin-safe tuna	14	4.6.2 Somerfield's seafood policies	72
2.3.2 Earth Island Institute dolphin-safe tuna	14	4.6.3 Review of Somerfield's seafood policies	73
2.3.3 Is dolphin-safe tuna sustainable tuna?	15	4.7 The Co-op – 'Investing in people'	73
2.3.4 What does dolphin-safe mean in the UK?	16	4.7.1 The Co-op's background	73
2.4 Marine Stewardship Council certification	17	4.7.2 The Co-op's seafood policies	73
2.4.1 History and principles	17	4.7.3 Review of the Co-op's seafood policies	74
2.4.2 Certification process	17	4.8 Waitrose – 'Good food, honestly priced'	74
2.4.3 MSC supporters	19	4.8.1 Waitrose's background	74
2.4.4 Challenges to MSC certification	19	4.8.2 Waitrose's seafood policies	74
2.4.5 Development and reform of the MSC	19	4.8.3 Review of Waitrose's seafood policies	77
2.5 Aquaculture certification schemes	20	4.9 Iceland – 'Food you can trust'	77
2.5.1 Organic aquaculture	20	4.9.1 Iceland's background	77
2.5.2 The RSPCA Freedom Food scheme	20	4.9.2 Iceland's seafood policies	77
2.6 Consumer seafood guides	21	4.9.3 Review of Iceland's seafood policies	77
2.6.1 <i>Good fish guide</i> – UK	21	<b>5 Other seafood supplier policies</b>	79
2.6.2 Other European guides – Germany & the Netherlands	21	5.1 Young's Bluecrest	79
2.6.3 <i>Best fish guide</i> – New Zealand	21	5.1.1 Young's Bluecrest's background	79
2.6.4 <i>Australia's sustainable seafood guide</i>	22	5.1.2 Young's Bluecrest's seafood policies	79
2.6.5 <i>The fish list</i> – USA	22	5.1.3 Review of Young's Bluecrest's seafood policies	80
<b>3 Seafood sold in UK supermarkets</b>	25	5.2 Unilever	81
<b>4 Supermarket seafood procurement policies</b>	61	5.2.1 Unilever's background	81
4.1 Tesco – 'Every little helps'	61	5.2.2 Unilever's seafood policies	81
4.1.1 Tesco's background	61	5.2.3 Review of Unilever's seafood policies	83
4.1.2 Tesco's seafood policies	61	<b>6 Conclusions and recommendations</b>	85
4.1.3 Review of Tesco's seafood policies	63	6.1 The best and worst supermarket seafood practices	85
4.2 ASDA – 'Always low prices'	64	6.2 Improving the sustainability of supermarket seafood	85
4.2.1 ASDA's background	64	6.3 Promoting alternatives to seafood	86
		<b>References</b>	90
		<b>Acknowledgments</b>	93

Table 2.1	Dolphin-safe policies of major UK brands of tinned tuna	17	Table 6.1	Ranking of supermarkets' sustainable seafood policies	87
Table 2.2	Fisheries with Marine Stewardship Council certification	18	Table 6.2	The most destructively fished (MCS grade 5 or equivalent) seafood species or groups sold by each UK supermarket	87
Table 4.1	Major UK supermarkets and their share of the seafood retail market	61	Table 6.3	The most destructively fished (MCS grade 5 or equivalent) seafood species or groups sold in UK supermarkets	88
Table 4.2	Fish banned under Marks & Spencer's sourcing policy	70	Table 6.4	Model sustainable seafood policy for supermarkets	89
Table 5.1	Sources and certification of the major seafood species sold under the Young's brand	80	Figure 5.1	Unilever's traffic light system for the assessment of sustainable fisheries	82
Table 5.2	Sources and certification of white fish species sold by Unilever	82			

# GLOSSARY

AIDCP	Agreement on the International Dolphin Conservation Program
AMCS	Australian Marine Conservation Society
Aquaculture	Cultivation or farming of any aquatic species – marine or freshwater, plant or animal.
ASOC	Antarctic and Southern Ocean Coalition
Beam trawl	A type of <b>bottom trawl</b> in which the horizontal opening of the net is provided by a beam, made of wood or metal and mounted at each end on guides or skids which travel along the seabed. Used mainly for flatfish and shrimp fishing.
Benthic	Bottom-dwelling
Biomass	The total weight of a group (or <b>stock</b> ) of living organisms or of some defined fraction of it (eg spawners), in a given area, at a particular time.
$B_{MSY}$	<b>Biomass</b> corresponding to maximum sustainable yield (see <b>MSY</b> ). Often used as a biological reference point in fisheries management, it is the long-term average biomass expected if fishing at $F_{MSY}$ (see <b>Fishing mortality</b> ).
BOI	Blue Ocean Institute
Bottom trawl	A trawl designed to work at the sea bottom. The lower edge of the net opening drags along the seabed, and is normally protected by a thick ground rope and ballasted with chains, sinkers, rubber discs, bobbins etc. Bottom trawls include low-opening trawls for <b>demersal</b> species, such as <b>beam trawls</b> and shrimp trawls; and high-opening demersal trawls for semi-demersal or <b>pelagic</b> species.
Brood stock	Eggs, juveniles or adults of a species, from which a first or subsequent generation may be produced in captivity, whether for growing in aquaculture or for release to the wild for <b>stock</b> enhancement.
Bycatch	The part of a catch other than the adults of the target species, which is taken incidentally. Some or all of it may be returned to the sea as discards, usually dead or dying.
Cetacean	A marine mammal of the order <i>Cetacea</i> , including whales, dolphins and porpoises.
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
Common Fisheries Policy	(CFP). The policy under which the <b>EU</b> manages all fisheries within the European <b>EEZ</b> .
Critically Endangered	Facing an extremely high risk of extinction in the wild in the immediate future ( <b>IUCN</b> definition).
Data Deficient	Presumed to be at some risk of extinction, but there is inadequate information to make a direct, or indirect, assessment of this risk based on its distribution and/or population status ( <b>IUCN</b> definition).
Demersal	Of a fish or other organism: living near or on the seabed. Of a fishery, etc: operating within this zone. Demersal fish include haddock and cod and flatfish.
Dredge	Gear used in fishing for shellfish, consisting of a rugged triangular steel frame and tooth-bearing bar, behind which a mat of linked steel rings is secured. A heavy netting cover joins the sides and back of this mat to form a bag in which the catch is retained. Shellfish such as scallops are raked out of sand or gravel and swept into the bag. Several dredges are towed together from a tow bar and larger vessels generally tow two bars.
Driftnet	A net kept at or below the surface by numerous floats, that drifts with the current, freely or with the boat to which it is attached. May be used close to the bottom (eg shrimp driftnet) or at the surface (eg herring driftnet), usually across the path of migrating fish schools. Fish strike the net and become entangled in its meshes. Also known as drifting <b>gillnets</b> , driftnets are associated with a high level of <b>bycatch</b> .
DSIMP	Dolphin Safe International Monitoring Programme
EDSMO	European Dolphin Safe Monitoring Organisation
EII	Earth Island Institute
Endangered	Not <b>Critically Endangered</b> , but facing a very high risk of extinction in the wild in the near future ( <b>IUCN</b> definition).
Ethical Trading Initiative	(ETI). An alliance of companies, <b>NGOs</b> and trade union organisations, set up to promote and improve the implementation of corporate codes of practice covering supply chain working conditions.
ETP	Eastern tropical Pacific

EU	European Union
Exclusive economic zone	(EEZ). The maritime zone under national jurisdiction (up to 200 nautical miles from the coast), within which a coastal state has the right to explore and exploit, and the responsibility to conserve and manage, the living and non-living natural resources.
FAO	Food and Agriculture Organisation of the United Nations
FASFA	Frozen at Sea Fillets Association
Fishing mortality	(F). The total rate of deaths of fish directly due to fishing. Usually expressed as the proportion of the entire population caught in a year. $F_{MSY}$ is the rate which, if applied constantly, results in the Maximum Sustainable Yield ( <b>MSY</b> ) of fish. $F_{lim}$ is the rate above which <b>recruitment</b> will decline substantially, usually set as the $F_{MSY}$ . $F_{pa}$ is the precautionary approach limit set to allow for uncertainty in survey data and to ensure $F_{lim}$ is not reached accidentally. Fish are harvested sustainably when $F < F_{pa}$ Fish are at risk of being harvested unsustainably when $F_{lim} > F > F_{pa}$ Fish are harvested unsustainably when $F > F_{lim}$
Fishmeal	Protein-rich meal derived from processing whole fish (usually small <b>pelagic</b> fish, and <b>bycatch</b> ) as well as by-products from fish processing plants. Used mainly as feeds for poultry, pigs and carnivorous aquatic species.
Forest & Bird	(F&B). The Royal Forest and Bird Protection Society of New Zealand
Ghost nets	Lost or abandoned nets that continue to entangle marine creatures.
Gillnets	Non-towed nets used to fish on the surface, in mid-water or on the seabed according to design, ballasting and buoyancy. Fish are gilled or entangled in the netting. Gillnets are used either alone or in large numbers placed in a row.
Hand-line	A type of fishing that uses lines and hooks from a stationary or moving boat. Because hauling is slow, mechanised systems have been developed to allow more lines to be worked by a smaller crew. This method is more selective than other types of fishing in terms of species and size, and provides high quality fish. The method can be used on spawning fish as they normally only bite after completion of spawning.
IATTC	Inter-American Tropical Tuna Commission
ICCAT	International Commission for the Conservation of Atlantic Tunas
ICES	International Council for the Exploration of the Sea
Industrial fisheries	Fleets of large vessels, using highly mechanised means to catch and process fish and shellfish, particularly for purposes other than human consumption (eg fishmeal, fertiliser).
IUCN	World Conservation Union (formerly the International Union for Conservation of Nature and Natural Resources)
IUU fishing	Illegal, unreported and unregulated fishing. Also known as pirate fishing.
Jigging	A method of fishing using lures on a vertical line moved up and down (jigged) by hand or mechanically. Extremely efficient for fishing oceanic squid at night.
Long-line	A type of fishing gear consisting of short lines carrying hooks, attached at regular intervals to a longer main line which is laid on the bottom or suspended horizontally with the help of surface floats. Main lines are up to 150 km long and can carry several thousand hooks. Commonly used for tuna.
Maximum sustainable yield	(MSY). The highest theoretical yield that can be continuously taken from a <b>stock</b> under existing environmental conditions without significantly affecting recruitment.
MBA	Monterey Bay Aquarium
MCS	Marine Conservation Society
Minimum landing size	(MLS). A fishery management control on size at landing (or in the market) intended to minimize the catch of small fish or juveniles to give them a better chance to grow and reproduce before being vulnerable to fishing.
MSC	Marine Stewardship Council
Near Threatened	At a lower risk of extinction in the wild but close to qualifying for the <b>Vulnerable</b> category ( <b>IUCN</b> definition).
NESFC	North Eastern Sea Fisheries Commission
NGO	Non-governmental organisation
Nursery	An area where juvenile fish live and grow.
OSPAR	Oslo and Paris Convention for the Protection of the Marine Environment of the North-East Atlantic
Overfished	A stock is considered overfished when exploitation is over an explicit limit ( $F_{lim}$ ) beyond which the population may fall to a level too low to ensure reproduction at a rate sufficient to maintain it (see <b>fishing mortality</b> ).

Pelagic	Of a fish or other organism: spending most of its life in the mid-water, with little contact with or dependency on the seabed. Pelagic fish include herring and sardine.
Pelagic trawl	A trawl designed to work in mid-water, targeting <b>pelagic</b> fish. The front net sections are often made of very large meshes or ropes, which herd the fish towards the back of the funnel-shaped net. Pelagic trawls may be towed by one or two (pair trawl) boats. Associated with <b>bycatch</b> of marine mammals.
Plankton	Marine organisms (plant or animal) which drift in the water column and have limited powers of locomotion. Many <b>benthic</b> animals, such as crabs, have a planktonic larval stage to allow wide dispersal.
Pole-and-line	A fishing method in which surface schooling fish are attracted to a vessel and driven into active feeding behaviour by throwing live or dead bait into the water and spraying water onto the sea surface to simulate the escape of small prey. Poles and lines with barbless hooks are used to hook the fish which are pulled on board by manual or powered devices. Also known as bait-boat fishing, this method is used worldwide to capture surface-schooling tuna such as skipjack and albacore.
Pots	Traps to catch fish or crustaceans, taking the form of cages or baskets with one or more openings or entrances. Usually set on the bottom, with or without bait, singly or in rows, connected by ropes (buoy-lines) to buoys on the surface showing their position. Pots are also known as creels. Modern 'parlour pots' are more complex and fitted with 'pot-locks' to prevent escape. Modern materials and mechanised hauling systems mean that pots can be left on the seabed for longer than traditional willow pots, and many more can be set and hauled. Pot buoy lines are known to entangle marine mammals.
Pinger	Acoustic deterrent attached to fishing nets to discourage marine mammals from swimming too close and getting caught.
Purse seining	A method of fishing in which fish are encircled with a large 'wall' of net, which is then brought together to retain the fish by using a line at the bottom that enables the net to be closed like a purse. Commonly used to catch schooling fish such as tuna, mackerel and herring.
Quota	A share of the <b>TAC</b> for a given fishery, allocated to an operating unit such as a country, a vessel, a company or an individual fisherman (individual quota), depending on the system of allocation. Quotas may or may not be transferable, inheritable or tradable.
Ranching	<b>Aquaculture</b> method that involves capturing and fattening juvenile fish for later harvesting. Used for fish which cannot be bred under captive conditions.
Reproductive capacity	(RC). A measure of a <b>stock's</b> ability to maintain its <b>SSB</b> at a level below which <b>recruitment</b> will decline substantially. RC is determined by comparing the SSB to the <b>biomass</b> limit reference point ( $B_{lim}$ ) and the biomass precautionary approach reference point ( $B_{pa}$ ): A stock is at full reproductive capacity when $SSB > B_{pa}$ A stock is at risk of reduced reproductive capacity when $B_{lim} < SSB < B_{pa}$ A stock is at reduced reproductive capacity when $SSB < B_{lim}$
Recruitment	The rate at which a population is added to each year. Recruitment to an exploitable (ie mature) <b>stock</b> is generally through growth of juvenile individuals and/or migration into the stock area.
Spawning stock biomass	(SSB). The total weight of all fish in the population which contribute to reproduction.
Stock	A population from which catches are taken by a fishery. A stock is usually defined in terms of a particular population more or less isolated from other populations of the same species and hence self-sustaining.
Stock status	Assessment of the situation of a <b>stock</b> . The FAO express this as: protected, under-exploited, intensively exploited, fully exploited, over-exploited, depleted, extinct or commercially extinct. ICES express this in a variety of ways based on a stock's <b>reproductive capacity</b> and <b>fishing mortality</b> .
Total allowable catch	(TAC). The catch allowed to be taken from a resource in a specified period (usually a year), as defined in the management plan. The TAC may be allocated to the stakeholders in the form of <b>quotas</b> , as specific quantities or proportions of the TAC.
Trammel net	Bottom-set net made with three layers of netting, the two outer walls being of a larger mesh size than the loosely hung inner panel. The fish get entangled in the inner small-meshed panel after passing through one of the outer walls.
Trawl	A funnel-shaped net that is towed through the water by one or more vessels.
Trolling	A surface and sub-surface fishing method in which lines fitted with baits or lures are trailed near the surface or at a certain depth by a vessel. Several lines are usually towed at the same time. Commonly used for tuna and marlin.
Vulnerable	Not <b>Critically Endangered</b> or <b>Endangered</b> , but facing a high risk of extinction in the wild in the medium-term future ( <b>IUCN</b> definition).
WDCS	Whale and Dolphin Conservation Society
WWF	World Wide Fund for Nature (formerly World Wildlife Fund, and now in fact known solely by its initials).



# EXECUTIVE SUMMARY

In the UK, local fishmongers or fishermen selling directly from their boats have been replaced by just a handful of major supermarkets. The total UK retail market for seafood is worth £1.8 billion a year, with nearly 90% of seafood sales made through supermarkets. Given the seriousness of the threats to our marine environment from commercial fishing the UK's leading supermarkets should be rising to the challenge of sourcing sustainable seafood. Unfortunately, as this report demonstrates, this is not the case.

## Destructive fishing practices threaten the marine environment

The world's oceans are in a state of crisis. Destructive fishing practices are having a huge impact on ocean biodiversity and are recognised as a major threat to the global marine environment alongside climate change. United Nations Food and Agriculture Organisation (FAO) statistics show that three-quarters of commercially valuable fish stocks are fully exploited, overexploited or depleted. Worldwide up to 90% of stocks of large predatory fish have already been lost, including tuna, swordfish, cod and halibut.

As well as depleting commercial fish stocks, damaging fishing methods are destroying marine ecosystems and killing vast amounts of juvenile fish and non-target species through incidental capture or 'bycatch'. Bottom trawling, for example, with its various combinations of chains, beams and heavy rollers, destroys the seafloor and up to 80% of the catch is thrown away, dead or dying.

The FAO developed its *Code of conduct for responsible fisheries* in 1995 to encourage governments, industry, fisheries management bodies and marine scientists to work together to develop sustainable fisheries – fishing practices that can be maintained indefinitely without reducing the target species' ability to maintain its population and without adversely impacting on other species within the ecosystem by removing their food source, accidentally killing them, or damaging their environment.

However, while there is much talk of improving current fisheries management practices, little has changed. The seafood industry continues to fish unsustainably and until a stronger demand is made for sustainable seafood, it will continue to do so.

## Aquaculture exacerbates the problem

Aquaculture has undergone a massive growth over the last 50 years and is often promoted by industry and governments as being the solution to sustainable fisheries. Unfortunately, with the exception of some shellfish aquaculture practices and freshwater fish reared in ponds, most aquaculture exacerbates the pressures placed on overexploited marine ecosystems. In particular:

- Wild caught fish are used for fishmeal and fish oil to feed farmed stocks. It takes about three tonnes of wild fish to produce one tonne of salmon.
- Industrial fishing for smaller fish such as sandeels and anchovy for use in fishmeal has caused massive disruption to marine food webs and has almost certainly led to the decline in species such as cod, seals and seabirds in the North Sea.
- Disease spreads easily from farmed to wild populations, further depleting wild stocks.
- Water and surrounding ecosystems are polluted by chemicals, antibiotics and vaccines used to control diseases in intensively farmed fish.
- Many aquaculture practices are associated with poor human rights records, including loss of land and access to fishing grounds and poor employee rights.

## Consumers have the right to chose sustainable seafood

While certification programmes such as Fairtrade or Organic assist consumers in making a more environmental or ethical choice for a range of other consumables, choosing sustainable seafood is not so easy.

The Marine Stewardship Council (MSC) provides the only eco-label for fisheries that are using more sustainable fishing practices; however, the MSC is still relatively young, only 12 fisheries have been certified by the MSC to date (only 4% of the global marine catch), and its label is not yet widely recognised by consumers. In addition, the MSC has not yet established its credibility with all environmental NGOs, including Greenpeace, primarily due to concerns over the consistency and quality of fishery certifications.

At present, consumers who are trying to reduce their impact on marine ecosystems need to develop a fairly detailed understanding of fishing and aquaculture issues in order to make a sustainable seafood choice. However, even with this knowledge in hand, consumers are hampered by the fact that current labelling practices rarely provide the species name, the precise area of catch, or the fishing method used, making it hard to determine sustainability. The alternative is to buy seafood from a retailer that has a clearly defined and fully implemented sustainable seafood policy.



### The supermarkets' appetite for seafood

The research for this report began with a review of publicly available information on supermarket's seafood policies – supermarkets' websites, corporate social responsibility (CSR) reports, annual reviews and press statements, and by surveying the range of seafood available on supermarket shelves, fish counters and freezers. Supermarkets were then given the opportunity to update and correct any information through written comments and in meetings with Greenpeace.

The results of this research clearly shows that most UK supermarkets continue to purchase seafood with little consideration for the health of the seafood stocks they sell and with even less concern for where or how it was caught or for the impacts on the wider marine environment.

There is a general lack of publicly available information on seafood procurement policies, and Greenpeace encountered an unwillingness or inability to provide further details or evidence that these policies are put into practice. Where information was provided, it was often fragmented, conflicting or misinformed.

Supermarkets were ranked with regard to their overall policy on sustainable seafood. A score out of five was given for each of four categories: seafood procurement policies; support and promotion of sustainability initiatives; labelling policies and public promotion of sustainable seafood; and the number of species (eg Atlantic cod) or groups (eg all sharks) of the most destructively fished (least sustainable) seafood sold.

To identify these most destructively fished species, Greenpeace considered research and gradings by organisations that included the Marine Conservation Society (MCS) – taking into account the stock status, species vulnerability, fisheries management and the environmental impacts of the fishing methods used. The worst species, MCS grade 5 or an equivalent ranking by other organisations, score badly on most if not all of these categories. For a few of the grade 5 species listed, one or more stocks, in specific locations, are not yet depleted, and occasionally these are fished using more sustainable methods. However, most supermarkets provided no evidence that they are sourcing their seafood in this way.

### The best and worst supermarket seafood practices

Marks & Spencer is the clear leader in all fields of seafood sustainability – it has a comprehensive, transparent policy which is largely reflected by what it sells, in addition to its support for research and its promotion of sustainability initiatives. Waitrose takes a close second, falling behind only because it supports fewer sustainability initiatives.

Sainsbury's, in third place, has a policy in place and has set some clear goals, but provided little evidence of how its policy is reflected in its sourcing and therefore barely scraped a pass mark. Co-op, Somerfield and Tesco in the middle of the pack each scored only a one or two in each category. Iceland, Morrisons and ASDA bring up the rear. ASDA, the lowest scoring supermarket, has no sustainable seafood policy, has demonstrated little support for sustainability

initiatives, does not actively promote sustainable seafood, and sells a wide range of the most destructively fished species or groups of seafood.

### Supermarkets must develop sustainable seafood policies

Supermarkets are now in a frontline position to shape the commercial fishing industry of tomorrow. Marks & Spencer and Waitrose have shown that this is possible. Greenpeace has developed a model sustainable seafood policy which it will be asking supermarkets to adopt. Within the framework of this policy Greenpeace calls on supermarkets to:

- **Remove the worst** by immediately beginning the process of removing the most destructively fished species from their shelves – those listed as being most overfished and caught using wasteful or destructive methods. For the few of these stocks that are not yet severely depleted, supermarkets must clearly specify the source and method of fishing and work to improve sustainability.
- **Support the best** by increasing the range of sustainable seafood they sell – from stocks that are not depleted and using the most sustainable fishing methods – and ensuring these sustainable species are promoted effectively in store, on their websites and in store magazines.
- **Change the rest** by working with suppliers to source fish from only the least depleted stocks, working with fishermen and/or researchers to improve sustainability of fishing methods and rejecting fish from fisheries and suppliers that refuse to change.
- **Improve seafood labelling** by ensuring that all seafood products sold are clearly labelled so that consumers can make a more informed choice about the products they are buying. This means labelling seafood with: the common and scientific name of the species; the specific stock the seafood was caught from or the farm it was cultivated at; the fishing method used to catch it.







# INTRODUCTION

## 1.1 Fisheries in trouble

The oceans and seas of our planet, with their dominance of 70% of the Earth's surface and vast unexplored depths, have in the past been considered an unlimited resource. Unfortunately, over the past century, this assumption has been proved wrong, and few would disagree that our oceans and seas are now in crisis.

As with all other life on earth, the biggest threat to life in the oceans is climate change. Rising sea levels, increasing temperatures and acidity, and changing currents all threaten the intricate and delicately balanced marine ecosystems, with particularly sensitive systems such as coral reefs already suffering irreversible effects.

A second threat of human origin has already had a major impact on ocean biodiversity – fishing. The United Nations Food and Agriculture Organisation (FAO) estimates that, by 2003, 76% of the world's assessed fisheries stocks were fully exploited (52%), over-exploited (16%) or depleted (8%).<sup>2</sup> For the North-East Atlantic, the estimates were worse – 41% of assessed fish stocks were over-exploited or depleted, with the remainder fully exploited. Worldwide, up to 90% of stocks of large predatory fish have already been lost,<sup>3</sup> including tuna, swordfish, cod, and halibut, with decreases in entire communities across many ecosystems.

Commercial fishing practices have rarely been sustainable. Over the last 50 years, increasing advances in technology have allowed more fleets to fish further out to sea for a longer time, and to locate fish using sonar. However, despite increasing effort and efficiency, global seafood catches have been declining since the late 1980s.<sup>4</sup> As fisheries become depleted and some stocks, such as the Grand Banks cod stock in the North-West Atlantic, experience complete crashes, fisheries continue to expand into distant oceans, looking for new marine species to exploit. As large predatory fish disappear, smaller, faster-growing fish and invertebrates have been increasingly targeted, a trend described by fisheries scientists as 'fishing down the food web'.<sup>5</sup>

In addition to the effects of overfishing, damaging fishing methods are destroying marine ecosystems and killing vast amounts of unwanted juvenile fish and non-target species, through accidental capture or 'bycatch'. The most damaging fishing method, bottom trawling, not only takes vast amounts of bycatch, but with its various combinations of chains, beams and heavy rollers, used to keep the nets tight against the seabed, destroys the physical environment of the seafloor – with impacts ranging from the

stirring up of sediment on sandy bottoms, to the crushing of ancient cold-water coral reefs on seamounts. Other less habitat-damaging methods, such as pelagic trawls, set (non-towed) nets, and long-lines nevertheless have high levels of bycatch, including sharks, turtles, marine mammals and seabirds.

As well as destroying marine environments, overfishing has serious implications for food security and human rights, and is already causing global 'fish wars', a little-publicised side-effect.<sup>6</sup> Small-scale, subsistence fisheries are left struggling as either their traditional fishing grounds are depleted by larger, more efficient fishing fleets, their coastal wetlands are overtaken by large-scale aquaculture companies, or their fishing rights are sold to wealthier countries that have already depleted their own fishing grounds. In poorer countries where food is already scarce, the loss of another food source as it is exported to wealthy countries is a major blow, and leads to further environmental problems. In Ghana, for example, a decrease in local fish supplies has caused the price of fish to rise, leading to an increase in the consumption of bushmeat (the meat of wild African mammals), which has in turn brought about localised extinctions of terrestrial animal species.<sup>7</sup> This phenomenon is directly linked to the fishing quotas set for the European Union (EU) fleet operating off the west coast of Africa – the largest fleet fishing in these waters.

Despite the global urgency of the situation, and despite recommendations from fisheries scientists and non-governmental organisations (NGOs) that fishing capacity be reduced, alongside a return to small, local, sustainable fishing practices and the establishment of large-scale marine reserves, there has been little positive movement from governments or fisheries regulatory bodies. Current fishing management practices, such as the EU Common Fisheries Policy (CFP), focus on maintaining commercial stocks so that they can be fished at the highest possible level, rather than on maintaining the health of the ecosystems of which the fish stocks form an inextricable part.

Where do UK consumers stand on all this? On the one hand, there is an increasing public awareness of the need to preserve seafood stocks and switch to more sustainable fisheries, albeit with little understanding of what, why or even how to do this. On the other hand, UK consumers tend to see fish as the healthy meat option, despite efforts by environmental and vegetarian groups to highlight the problems of persistent organic pollutants in fish and to promote vegetarian alternatives<sup>8</sup> – and in the UK, fish consumption is increasing.<sup>9</sup>

There is much talk of changing current fisheries management practices, but little movement, and seafood stocks continue to be depleted. If the supply end of the product chain – the fishing industry – cannot be persuaded quickly to introduce such changes on its own initiative, then change will have to be driven from further down the chain. While consumer pressure is vital, it is the supermarkets, which purchase and sell the bulk of the fish that we consume, that hold the key to this process.

## 1.2 What is sustainable seafood?

In simple terms, a particular seafood is sustainable if it comes from a fishery whose practices can be maintained indefinitely without reducing the targeted species' ability to maintain its population, and without adversely impacting on other species within the ecosystem by removing their food source, accidentally killing them, or damaging their physical environment.

### 1.2.1 Principles of sustainable fisheries

In 1995, the FAO produced a *Code of conduct for responsible fisheries*.<sup>10</sup> The overarching messages of the code are contained within the first two general principles:

1. 'States and users of living aquatic resources should conserve aquatic ecosystems. The right to fish carries with it the obligation to do so in a responsible manner so as to ensure effective conservation and management of the living aquatic resources.'
2. 'Fisheries management should promote the maintenance of the quality, diversity and availability of fishery resources in sufficient quantities for present and future generations in the context of food security, poverty alleviation and sustainable development. Management measures should not only ensure the conservation of target species but also of species belonging to the same ecosystem or associated with or dependent upon the target species.'

The code emphasises the need for strong, co-ordinated, effective management and conservation of resources by all users and the need for co-operative research to improve scientific and technical knowledge of fisheries including their interaction with the ecosystem.

The code stipulates the need to apply a precautionary approach to conservation and management, based on the best scientific evidence available, while also taking into account 'traditional knowledge of the resources and their habitat, as well as relevant environmental, economic and social factors.' It warns that 'the absence of adequate scientific information should not be used as a reason for postponing or failing to take measures to conserve target species, associated or dependent species and non-target species and their environment.'

### 1.2.2 Is aquaculture the solution?

Aquaculture has expanded dramatically in the last century and now encompasses fresh and saltwater fish, crustaceans (crayfish, lobsters, crabs and tropical prawns), molluscs (mussels, oysters, scallops and abalone) and plants (seaweed). Marine aquaculture, or mariculture, involves farming saltwater species in land-based tanks and ponds, in sea-based cages or nets, or on other structures such

as ropes or racks for shellfish. It also includes 'ranching' – the capture and 'fattening' of wild organisms before they are sent to market (for example, ranching of southern bluefin tuna is now carried out in Australia).

Aquaculture has been promoted by industry and governments as being the solution to sustainable fisheries, and has a great appeal to retailers because it provides a steady, cheaper supply of seafood of standard size and quality. Unfortunately, with the exception of some herbivorous shellfish farms and freshwater herbivorous fish farms based on closed, recirculating pond systems, most aquaculture exacerbates the problem of overfishing and breaks the principles of sustainable fisheries in a number of ways, as summarised below.

#### *Further depletion of wild fish stocks*

- Wild-caught fish are used for fishmeal and fish oil to feed farmed stocks, which increases the pressure on marine ecosystems rather than reducing it. It takes about three tonnes of wild fish to produce one tonne of salmon, and up to five tonnes of wild fish to produce one tonne of marine fish such as cod, sea bass and halibut.<sup>11</sup>
- Brood stocks (juveniles or eggs) are also taken from the wild, diminishing the repopulation of wild stocks.

#### *Changes to ocean food webs*

- Industrial fishing of smaller fish such as capelin (*Mallotus villosus*), sandeel (Ammodytidae) and anchovy for fishmeal has led to declines of other marine species such as cod, seals and seabirds, for example in the North Sea.<sup>12</sup>
- Seabirds, turtles, and marine mammals are killed when they get entangled in aquaculture nets and cages, and may be intentionally killed by aquaculturists protecting their stocks.

#### *Introduction of pathogens and non-native species*

- Diseases spread from farmed fish to wild populations, further depleting wild populations.
- Farmed fish escape, exacerbating the spread of diseases into the wild. Moreover, where non-native species are farmed, and escapes lead to the establishment of a self-sustaining wild population, this may also have negative impacts on food webs and the wider ecosystem.

#### *Pollution*

- Water and surrounding ecosystems are polluted by chemicals, antibiotics and vaccines used to control disease in intensively farmed fish.
- Eutrophication (increased nutrient levels) from fish waste and excess food leads to algal blooms and subsequent oxygen depletion when the algae die and decompose.

#### *Habitat damage*

- The building of fish and shellfish farms can damage surrounding habitats. The development of over 100,000 hectares of mangroves and coastal wetlands for shrimp and milkfish (*Chanos chanos*) farming around the world, for example, has resulted in the destruction of nursery habitats for juvenile fish and shellfish, and loss of coastal protection, flood control, sediment trapping and natural water filtration systems.<sup>13</sup>



### Human rights violations

- Human rights issues include loss of land and access to prior fishing grounds, and poor employee rights.

Unsustainable aquaculture practices have prompted major campaigns against prawn and salmon farming. The Environmental Justice Foundation (EJF) lead the campaign against tropical prawn farming and its associated impacts: degradation of important coastal habitats; localised declines in wild fish stocks; and serious human rights violations, including land seizures and displacement, child labour, violence and intimidation.<sup>14</sup> Various groups are campaigning against salmon farming, including the Salmon Farm Protest Group in the UK<sup>15</sup> and a coalition of Greenpeace USA, Native Alaskans, and Canadian First Nations, in North America.<sup>16</sup> As a result, salmon farms have been banned in Alaska to protect the wild salmon fisheries, but Canadian farms still threaten wild salmon populations through a lethal epidemic of sea lice spread by escaping farmed salmon.

### 1.3 Supermarkets and the seafood industry

As they have with almost every other saleable commodity, supermarkets have now taken over from fishmongers as the biggest retailers of seafood. The latest Seafood Industry Authority data (year ending 22 May 2005) puts the total UK retail market in chilled and frozen seafood at £1.82 billion in 2004/05, up 6% on the previous year, with over 85% of sales being through supermarkets.<sup>17</sup> Tesco has the greatest retail share (21.7% of chilled fish and 22.5% of frozen fish) and the highest growth, followed by Sainsbury (21.8% and 11.2%), ASDA, Safeway/Morrisons and Marks & Spencer (M&S). With their huge buying power, supermarkets have a strong influence on the seafood industry.

Unlike other food suppliers, the seafood industry is awkward and fractured – it has no close relationship with its sources; price, quality and availability are unpredictable; and traceability is highly variable. The path of seafood from the ocean to the table is a fragmented and ever-changing trail, highly dependent on its availability, the weather, the times of fish markets and auctions, and the types of processing employed.

However, changing patterns of consumption and the continuing drive towards greater convenience mean that supermarkets demand reliability, continuity and consistency of supply, along with competitive pricing. This is reflected in the high proportion of farmed fish available at supermarket fish counters – not as a result of a desire to protect wild fish stocks, but because the chain of supply is easier to control and so suits the supermarkets' centralised, automated nationwide buying systems. A supermarket's fish buyer can, for example, have direct contact with a farmed sea bass supplier in Greece, who can guarantee a particular weight, quality, price and level of availability. Supermarkets are determined to change the seafood industry into one from which they can get fish when they want it, and at a price and in quantities that suit them. They are beginning to get their way.

### 1.4 Supermarkets and sustainability

The price of food is no longer the overriding factor that attracts customers to supermarkets. There is a choice of at least two competing stores in most areas, and supplying the 'ethical choice' has now become an important competitive factor. Dr Hugh Phillips, retail psychologist at Bournemouth University, believes that 'The next big thing will be an uncontaminated, physically and ethically clean food chain which makes people say: "I feel good about buying this and so does my family. Not only will we not be poisoned or given cancer, but I will feel better about it because I've exercised my choice – even if I paid 2p more for it."<sup>18</sup>

And, to an extent, the supermarkets agree. Most of the big chains now have a colourful corporate social responsibility (CSR) report proclaiming their worth as an ethical company (although they have been unable to convince NGOs or the media of this).

According to a sustainability report from New Zealand, there is an increasing global interest in sustainable seafood sources, but the demand for certified products at a low premium currently exceeds the supply.<sup>19</sup> In the UK, fish producers such as Unilever and Young's Bluecrest, fast food outlets such as Little Chef and McDonalds, and supermarkets such as Waitrose and Marks & Spencer are all seeking seafood supplies from sustainable fisheries. At the same time, they are promoting the sustainability of their seafood on their packaging and menus. Celebrity chefs in Europe and the USA are also starting to promote the use of sustainable seafood in their recipes.

With the shift towards ethical trading and their increasing power over the seafood industry, UK supermarkets are in a position to make significant changes to the sustainability of seafood. But will they? What are their current policies on seafood procurement? And are they willing to improve those policies wherever necessary to help make the seafood industry more sustainable?

This report reviews the current seafood procurement practices of the major UK supermarkets in the context of the sustainability of the seafood industry as a whole. Chapter 2 explores the difficulties that consumers face when trying to choose sustainable seafood. Standard seafood labelling practices, sustainable seafood certification schemes, and consumer guides to seafood produced by various NGOs are all reviewed. Chapter 3 gives an overview of the sustainability of seafood sold in UK supermarkets. In light of this information, Chapter 4 reviews the supermarkets' stated seafood procurement policies and considers how close they are to realising them in practice. For the sake of comparison, Chapter 5 describes the policies of the UK's two leading producers and wholesalers of seafood. Chapter 6 presents a summary, a league table of best and worst practices within the supermarkets, and recommendations for moving towards more sustainable practices.







# IDENTIFYING SUSTAINABLE SEAFOOD: LABELLING AND CERTIFICATION

According to a survey by the Seafood Choices Alliance, consumers prefer labelling as the main source of information on sustainability compared with newspapers, other printed materials, or even the internet, and 72% of consumers would be more likely to buy seafood bearing an 'environmentally responsible' label.<sup>1</sup> But for concerned consumers in the UK, as elsewhere, identifying the more sustainable seafood options is a particularly difficult process.

The UN Food and Agriculture Organisation (FAO) has only recently produced a technical paper on certification and labelling for fisheries sustainability<sup>2</sup> and set voluntary guidelines for the eco-labelling of wild-caught seafood.<sup>3</sup> The only global sustainable seafood certification scheme, run by the Marine Stewardship Council (MSC), is relatively new, is not yet widely recognised by the public, and has not yet gained support from major environmental and marine conservation organisations (see section 2.4).

In the relative absence of a sustainability label, consumers must develop a fairly detailed understanding of fishing and aquaculture issues in order to make a sustainable seafood choice. However, even with this knowledge in hand, the consumer is hampered by the fact that current labelling practices rarely provide the species name, the precise area of catch, or the fishing method used, making it hard to determine sustainability.

This chapter reviews standard seafood labelling laws in the UK; seafood certification schemes that may help the consumer make an informed choice at the point of purchase; and seafood guides produced by environmental organisations, providing details of what seafood to eat, what to avoid, and why.

## 2.1 Standard fish labelling

### 2.1.1 Consumer information

From January 2002 labelling of seafood with commercial name, production method, and origin became mandatory in the EU for raw whole and filleted fish, including frozen fillets, and raw shelled or unshelled shellfish.<sup>4,5</sup> Consumers must now be supplied with the:

- commercial name – each EU Member State has established its own list of commercial names applicable
- production method – caught wild at sea or in fresh water, or farmed
- area where the fish was caught or country it was farmed in.

While this is an improvement on former labelling standards, unless supermarkets choose to divulge further information, this mandatory information does little to help consumers judge the sustainability of seafood, for a number of reasons:

- There may be more than one commercial name legitimately used to cover one species or a range of similar species so, without knowing them all, consumers may still not know exactly what they are buying. Dogfish, for example, can be sold as huss, flake, rigg, rock salmon, or rock eel, and can be any member of the genera *Galeorhinus*, *Mustelus* or *Scyliorhinus*, or the species *Galeus melastomus* and *Squalus acanthias*.<sup>6</sup>
- The area names used to identify where fish are caught are often very broad (for example NE Atlantic), and the areas in question may contain many different stocks of a particular species. Identifying fish caught from overfished stocks is therefore frequently impossible.
- The fishing method of wild-caught seafood is not given, so it is not possible to choose seafood caught or collected by a less damaging method.

This legislation does not cover packaged and processed seafood where other ingredients have been added or the seafood has been cooked, such as canned or jarred seafood, prawn cocktails, fish fingers, breaded fillets and fish pies. Here the source information relates to the origin of the final product, not the raw material. In addition, the actual species name is not required – the general terms 'fish' or 'white fish' can be used on the ingredient label for a variety of processed seafood products such as sauces, fish fingers, fish pies and surimi.

### 2.1.2 Traceability

A new EU regulation demanding 'one-up, one-down' traceability for all food became effective in January 2005.<sup>7</sup> This is a new general regulation on food hygiene that states that all foods and ingredients should be traceable and safe. Businesses must keep records identifying the sources of their raw material and the businesses their products were supplied to. The regulation does not specify how the records should be kept, merely stipulating that they have to be easily accessible in case of a food scandal.

In order to enable the European seafood industry to comply with this legal requirement, a two-year EU-funded project known as Traceability of Fish Products, or TraceFish, agreed consensus-based standards for the recording and exchange of traceability information in the farmed and wild-caught seafood chains.<sup>8</sup> The TraceFish

conclusions recommended the European Article Numbering and Uniform Code Council (EAN.UCC) system for the identification, bar coding, tracing and electronic communication of this information on seafood and seafood products.<sup>9</sup>

This EAN.UCC system is voluntary, but goes further than the legislation requires and should help bring about a vast improvement in traceability in the currently disjointed seafood industry. TraceFish does not demand perfect traceability, as it accepts that batches may be mixed at times, but any mixing must be logged. While this traceability information is not at present readily available to the end consumer, producers and retailers who are attempting to establish sustainable seafood policies will in future be able to provide more detailed information or guarantees of sustainability to customers.

## 2.2 The 'Ocean Wild Frozen at Sea' mark

The Frozen at Sea Fillets Association (FASFA) was formed in 2000, to promote the high quality of frozen-at-sea fillets of cod and haddock.<sup>10</sup> FASFA created the 'Ocean Wild Frozen at Sea' assurance mark for fillets of cod and haddock frozen at sea off Iceland and in the Barents Sea. Members of FASFA include vessel owners from Norway, Iceland, the Faeroe Islands, Russia and the UK, as well as importers and distributors in the UK.

While the Ocean Wild logo does not denote a sustainable fishery, it does provide the consumer with more information on the source of the fish than is required by law. One of FASFA's aims is to 'ensure that environmental regimes, managed by those countries controlling the Barents Sea and the seas around Iceland, are adhered to, ensuring a sustainable long-term supply.'<sup>11</sup> The waters of Norway and Iceland are generally considered to be better managed than most European waters under the Common Fisheries Policy (CFP) – management stipulations include annual adjustments to quotas, areas closed to fishing, larger-mesh nets and sorting grids to allow smaller fish to escape, and a ban on discards.

## 2.3 'Dolphin-safe' and 'dolphin-friendly' tuna

The definition of 'dolphin-safe' or 'dolphin-friendly' tuna has been the subject of a long international debate involving consumer boycotts, legal cases, and constantly changing national and international legislation. The original issue of the high numbers of dolphins being killed in fishing nets has expanded into debates over the recovery of dolphin populations, the protection of marine ecosystems, international relations, free trade and consumer fraud.

The tuna/dolphin controversy centres on the Eastern Tropical Pacific (ETP) fishery where, unusually, schools of large yellowfin tuna associate with dolphins. In a practice that began in the 1950s, purse seiners maximise their catches of yellowfin tuna by chasing and setting their nets on herds of dolphins. This practice once resulted in very high numbers of dolphin deaths – from the late 1950s to the 1990s, over six million dolphins died in the ETP tuna fishery.<sup>12</sup> Two programmes designed to reduce dolphin mortality have since been developed. Their details and relative successes are described below.

For those interested in the history of the tuna/dolphin controversy, there are many reviews by scientists<sup>13,14</sup> and marine conservation organisations such as the Whale and Dolphin Conservation Society (WDCS).<sup>15</sup> This section reviews the current status of dolphin-safe certification and outlines the situation in the UK.

### 2.3.1 Inter-American Tropical Tuna Commission dolphin-safe tuna

The Inter-American Tropical Tuna Commission (IATTC), established in 1950, is responsible for the conservation and management of fisheries for tuna and other species taken by tuna-fishing vessels in the ETP.<sup>16</sup> IATTC began a tuna/dolphin programme in 1976 to:

- reduce dolphin mortality by improving fishing methods, training fishermen, and conducting net inspections
- place dolphin observers on vessels of the international fleet
- conduct and make recommendations for dolphin research and conservation.

In 1992, ten countries adopted the Agreement for the Conservation of Dolphins, also known as the La Jolla Agreement, under the auspices of the IATTC. In 1999, the Agreement on the International Dolphin Conservation Program (AIDCP), which built on the La Jolla Agreement, became legally binding. Countries that have now ratified the AIDCP are Costa Rica, Ecuador, El Salvador, France, Guatemala, Japan, Mexico, Nicaragua, Panama, Peru, Spain, the USA, Vanuatu and Venezuela. In addition, Canada, China, the EU, Honduras, Korea and Chinese Taipei are Co-operating Non-Parties to the agreement.<sup>17</sup> The AIDCP is supported by environmental and marine conservation organisations such as Greenpeace International, WDCS and WWF.

Under the AIDCP, countries promise to:

- ensure the sustainability of tuna stocks in the ETP
- progressively reduce the incidental mortality of dolphins in the ETP tuna fishery to levels approaching zero
- agree to stock mortality limits on individual dolphin stocks (rather than combined stocks), which apply to all the fleets combined
- minimise bycatch and discards of juvenile tuna and non-target species
- allow 100% observer coverage on all large purse seiners in the ETP
- allow monitoring for performance and compliance by the AIDCP's International Review Panel, which has representatives from governments, environmental groups and industry.

In 2001, the IATTC launched its 'AIDCP Dolphin Safe Tuna' certification for tuna caught in the ETP, to encourage fishermen to reduce dolphin deaths to zero. Tuna caught during a single encirclement and haul of the net, known as a 'set', in which dolphins are not killed or seriously injured can be certified as AIDCP Dolphin Safe Tuna.

### 2.3.2 Earth Island Institute dolphin-safe tuna

The Earth Island Institute (EII) launched its International Marine Mammal Project in 1986 to pressure US tuna companies into ending the practice of intentionally setting purse seine nets on dolphins, and adopting dolphin-safe fishing practices.<sup>18</sup> The project succeeded in 1990 when dolphin-safe standards were developed by the EII and the HJ Heinz Corporation (parent company of StarKist Tuna, the world's largest tuna supplier), and endorsed by the US Tuna Foundation and the tuna suppliers Chicken of the Sea and Bumble Bee Tuna.





As part of the development of its dolphin-safe label, the EIU established the Dolphin Safe International Monitoring Programme (DSIMP) – the largest private food monitoring system in the world. Observers monitor operations at tuna canneries, offloading ports and cold storage facilities, and on trans-shipment sites and some fishing vessels to ensure full traceability. The EIU works with fisheries, importers, canneries, brokers and retailers to establish Dolphin Safe policies for each company, under which each company agrees to make available all their facilities and tuna procurement records for independent monitoring, and to apply the policy to all international aspects of their operations and related subsidiaries.

According to the EIU, its Dolphin Safe Tuna must meet the following requirements:

- no intentional chasing, encirclement or netting of dolphins during an entire tuna fishing trip
- no use of drift gill nets to catch tuna
- no accidental killing of, or serious injury to, any dolphins during the setting of nets
- no mixing of dolphin-safe and 'dolphin-deadly' tuna (the capture of which resulted in accidental deaths) in individual boat wells, or in processing or storage facilities
- an independent observer (from the IATTC) on board each trip by large purse seiners in the ETP to confirm compliance.<sup>19</sup> (Outside the ETP, the EIU monitors vessels and has access to observer programmes on a case by case basis only<sup>20</sup>).

In addition, EIU Dolphin Safe Tuna companies promise that they:

- do not own or operate vessels that engage in factory, shrimp, or other trawling operations that harm the ecological integrity of the oceans

- do not catch tuna within national or international marine protected areas where fishing is banned
- are not involved in whaling, shark finning, dolphin driving, or sea turtle fishing
- avoid causing injury or death to marine mammals and other non-target species
- make a sincere effort to reduce bycatch by using nets or long-lines that incorporate recognised bycatch reduction methods or by releasing non-target species while alive
- do not process, store, transport or sell seafood from other companies that do not have a dolphin-safe policy confirmed and approved by the EIU.<sup>21</sup>

The EIU predominantly certifies purse seiners as most of the tuna caught by long-line does not go to canneries; the majority is used for fresh or fresh-frozen fish markets, both locally and for export. However, the EIU has certified a few long-liners in the north Pacific (mainly albacore tuna fishermen).<sup>22</sup>

### 2.3.3 Is dolphin-safe tuna sustainable tuna?

This question needs to be considered in the context of the wider effects of tuna fishing on the marine ecosystem. In the ETP during 2000–04, on average 94% of yellowfin, 99% of skipjack and 54% of bigeye tuna caught were netted by purse seiners.<sup>23</sup> During this time, about 41% of purse seine sets were made on herds of dolphins, 21% on tuna associated with floating debris or man-made fish aggregating devices ('log sets'), and 37% on tuna schools swimming at the surface ('school sets').<sup>24</sup> Dolphin sets still kill dolphins; however, their bycatch of other marine species is low. In contrast, log and school sets have a very high bycatch rate – they catch 10–1,000 times more individual non-target marine animals than the dolphin sets do, including immature tuna, billfish (such as marlin and swordfish), sharks and turtles, and occasionally even dolphins, and are therefore considerably more damaging.

Long-lining tuna vessels in the ETP also catch non-target species including seabirds, sharks and turtles, although some have incorporated methods to reduce this bycatch. These long-liners are currently not required to have observers on board. Outside the ETP, no other tuna fishery management programme provides 100% observer coverage of tuna fishing vessels, so various tuna fishing methods continue to catch large numbers of non-target species, including dolphins.

The AIDCP dramatically reduced the numbers of dolphins killed in the ETP fishery – from about 132,000 in 1986 to less than 1,500 in 2003 (about 0.02% of the dolphin population in the ETP) – by changing how purse seiners haul in their nets.<sup>25</sup> However, the AIDCP does allow the chasing, encirclement and netting of dolphins, which can result in unseen dolphin deaths following the physiological stress of being chased and netted, injuries from nets, and the deaths of young calves separated from their lactating mothers.<sup>26</sup> The possibility that dolphin sets may be responsible for the apparent failure of two dolphin populations to recover, despite decreased mortality in nets, was the basis for a recent legal case in the USA that prevents tuna from being labelled dolphin-safe if it was caught in dolphin sets, whether or not dolphins were killed.<sup>27</sup>

Ultimately, the AIDCP Dolphin Safe Tuna certification guarantees that the tuna is from a fishery that is part of a legally binding programme encouraging continued improvement of the most sustainable fishing practices used in the ETP region, and that no dolphins died in the fishing nets. However, it does not guarantee that dolphins were not traumatised or injured, or that dolphins did not die later as a result of this.

For tuna caught within the ETP, the EII provides consumers with tuna that has been caught without dolphins being chased or killed. However, this tuna can still be associated with high levels of bycatch of other species, which in turn leads to a depleted ecosystem that, ironically, may only be able to maintain small dolphin populations. For the small amount of EII-certified tuna caught outside the ETP, the EII can only provide traceability from fishing vessel to shop. However, with very few observers on board tuna fishing vessels, there can be no guarantee that dolphins were not injured or killed during fishing.

#### 2.3.4 What does dolphin-safe mean in the UK?

In the UK, tuna labelling is inconsistent. Tinned tuna can be generically labelled 'tuna' or may list the species name. Most labels show the country where the fish was tinned, and a few show the ocean it was caught in. Fresh tuna is labelled as for other fresh fish, and is rarely labelled with the species name, although it is sometimes labelled as 'line-caught' or 'pole and line caught'.

When it comes to labelling tuna with regard to its impact on dolphins, the situation is even less clear. Although EU tuna vessels operate under the AIDCP in the ETP, or similar EU laws that protect dolphins in other ocean regions, the EU currently has no legal definition of the term dolphin-safe and no common policy on how this term can be applied to labelling tuna.

UK supermarkets prefer the term 'dolphin-friendly' to 'dolphin-safe' and have either developed their own individual, although fairly similar, dolphin-friendly logos for their own-brand tinned tuna, or simply have a statement on the label (see Table 2.1 and Chapter 4 for details). Fresh tuna is rarely labelled with a logo or statement about dolphins. The definition of dolphin-friendly varies from supermarket to supermarket, and indeed for Somerfield, whose suppliers change regularly, the label may mean something different from year to year (see section 4.6.2).

Two UK supermarkets, Tesco and the Co-op, and the major tuna brands, John West and Princes, are EII-certified tuna retailers or suppliers, but they use their own logos or statements rather than the EII Dolphin Safe logo, a registered EU trademark of the European Dolphin Safe Monitoring Organisation (EDSMO) which represents the EII programme in Europe. Co-op is, however, currently in the process of switching to the EII Dolphin Safe logo.

Most supermarkets claim that, although not EII-certified themselves, they buy their tinned and fresh tuna from EII-certified companies; however, according to EDSMO there have been occasions when some supermarkets did not do so.<sup>28</sup> Other supermarkets, such as Waitrose, claim that their policies follow or exceed EII standards for their tuna. None of the supermarkets' policies mention AIDCP Dolphin Safe Tuna.

In conclusion, in the UK, a label stating that tuna is dolphin-friendly or dolphin-safe firstly does not guarantee that it comes from a fishery that has been monitored by either the AIDCP or the EII programme, and secondly is certainly not an indication that the tuna is necessarily from a sustainable fishery.

BRAND	DOLPHIN LOGO	LABEL STATEMENT	CERTIFICATION
ASDA	Dolphin Friendly (on some tins)	None	None
Co-op	Dolphin Safe	None	EI1-certified
Glenryck	None	'Dolphin Friendly'	EI1-certified
Iceland	Dolphin Friendly	None	None
John West/Heinz	None	'Dolphin Friendly'	EI1-certified
Marks & Spencer	Dolphin Friendly	None	None
Princes	Dolphin Friendly (on some tins)	None	EI1-certified
Safeway/Morrisons	Dolphin Friendly (on some tins)	None	None
Sainsbury's	Dolphin Friendly	Some labels state: 'We are fully committed to fishing methods which protect marine life' or: 'Sainsbury's tuna is caught by using a pole and line, avoiding danger to other marine life.'	None
Somerfield	Dolphin Friendly (on some tins)	None	None
Waitrose	None	'Waitrose tuna is caught using only fishing methods which do not harm dolphins or other marine mammals'	None
Tesco	Dolphin Friendly	'Dolphin friendly: Tesco is fully committed to fishing methods which protect the marine environment and its species'	EI1-certified

\*Data from the EI1<sup>29</sup> and individual supermarket policies (see Chapter 4)

## 2.4 Marine Stewardship Council certification

### 2.4.1 History and principles

The MSC is an independent, international, non-profit organisation that aims to use a market-based approach to help to improve fisheries management practices and to provide customers with information on the best environmental choice in seafood.<sup>30</sup> Products from fisheries certified by the MSC can carry the MSC eco-label on their packaging.

The MSC was first established in 1997 by Unilever (see section 5.2), one of the world's largest buyers of seafood, and WWF. The MSC spent two years in consultation with stakeholders around the world to establish an environmental standard based on the FAO's *Code of conduct for responsible fisheries* (see section 1.2.1). In 1999, the MSC became fully independent and is now funded by a wide range of organisations including charitable foundations and corporations around the world.

The MSC Principles for Sustainable Fishing<sup>31</sup> are as follows:

1. 'A fishery must be conducted in a manner that does not lead to overfishing or depletion of the exploited populations and, for those populations that are depleted, the fishery must be conducted in a manner that demonstrably leads to their recovery.'
2. 'Fishing operations should allow for the maintenance of the structure, productivity, function and diversity of the ecosystem (including habitat and associated dependent and ecologically related species) on which the fishery depends.'
3. 'The fishery is subject to an effective management system that respects local, national and international laws and standards and incorporates institutional and operational frameworks that require use of the resource to be responsible and sustainable.'

### 2.4.2 Certification process

The MSC certification programme is not limited by the size, scale, type, location or intensity of the fishery.<sup>32</sup> The assessment is undertaken by independent certification bodies approved or accredited by the MSC to undertake a rigorous assessment of fisheries wishing to achieve MSC certification. If a fishery meets the MSC standard, it is then certified. The certification process allows for confidential pre-assessment so applicants can judge whether to proceed with a full assessment. Companies wishing to use or sell MSC-certified products undergo a chain of custody certification process that guarantees traceability of MSC-labelled seafood, ensuring that it has been separated from non-certified product at every stage of the process, from the boat to the plate.

The MSC certification process is promoted as open and transparent – stakeholders are consulted on the selection of assessment and peer review teams, and on the performance indicators and scoring guidelines designed specifically for each applicant fishery. The final decision on certification can be challenged through an objections procedure.

In 2000, the Western Australian rock lobster fishery became the first fishery in the world to be certified to the MSC standard. Now over 100 products from 12 fisheries across the world carry the MSC logo. The fisheries that are currently certified are listed in Table 2.2.

Fishery	Species	Details	Accredited
Western Australian rock lobster fishery	<i>Panulirus cygnus</i>	Caught in baited pots off the coast of Western Australia from Cape Leeuwin to Shark Bay. Currently in its 5-year reassessment	Mar 2000
Thames Blackwater herring driftnet fishery	<i>Clupea harengus</i>	Caught in a driftnet fishery for spring-spawning herring in the Greater Thames Estuary within the UK 6-nm limit, in a designated area within which mid-water herring trawls are prohibited	Mar 2000
Alaskan salmon fishery	<i>Oncorhynchus nerka</i> <i>Oncorhynchus keta</i> <i>Oncorhynchus tshawytscha</i> <i>Oncorhynchus kisutch</i> <i>Oncorhynchus gorbuscha</i>	Caught by drift and set gillnets, in purse seines or by trolling, within the territorial waters adjacent to the coast of Alaska, USA	Sep 2000
New Zealand hoki fishery	<i>Macruronus novaezelandiae</i>	Caught in mid-water and bottom trawls off the west coast of New Zealand's South Island, in the Cook Strait or in the Chatham Rise to the east of the South Island	Mar 2001
Burry Inlet cockle fishery	<i>Cerastoderma edule</i>	Harvested by hand-raking and sieving in Burry Inlet in South Wales, UK	Apr 2001
South-West UK mackerel hand-line fishery	<i>Scomber scombrus</i>	Caught by hand-line off the south-west coast of England, from Start Point to Hartland Point, within UK territorial waters, primarily within 8 nm of shore	Jul 2001
Loch Torridon <i>Nephrops</i> creel fishery	<i>Nephrops norvegicus</i> (also known as langoustine or scampi)	Caught in baited creels deployed on lines in the Loch Torridon & Inner Sound of Rona 'Closed Area' off the north-west coast of Scotland, UK	Jan 2003
South Georgia Patagonian toothfish long-line fishery	<i>Dissostichus eleginoides</i>	Caught in bottom-set long-lines around the island of South Georgia and the associated plateau to the west around Shag Rocks, within the Government of South Georgia & the South Sandwich Islands EEZ	Mar 2004
South African Cape hake trawl fishery	<i>Merluccius paradoxus</i> <i>Merluccius capensis</i>	Caught in inshore and deep-water bottom trawls within the South African EEZ. <i>M. capensis</i> is mainly targeted on the south coast. <i>M. paradoxus</i> predominates in the west and south-west in deeper waters	Apr 2004
Mexican Baja California red rock lobster fishery	<i>Panulirus interruptus</i>	Caught in baited wire traps from Cedros Island to Punta Abreojos, Baja California Sur, on the Pacific coast of NW Mexico	May 2004
Bering Sea/Aleutian Islands Alaska pollock fisheries	<i>Theragra chalcogramma</i>	Caught in a mid-water trawl fishery	Sep 2004
Gulf of Alaska Alaska pollock fishery	<i>Theragra chalcogramma</i>	Caught in a mid-water trawl fishery	Apr 2005

EEZ: exclusive economic zone; nm: nautical mile



### 2.4.3 MSC supporters

The MSC has been endorsed by over 100 organisations in more than 20 countries. The MSC Stakeholder Council has representatives from environmental NGOs, seafood consumer initiatives, fishery groups, developing nations and commercial interests. Its Technical Advisory Board includes experts in the fields of marine ecology; fisheries science, assessment and management; and fisheries certification, chain of custody and marketing.

Retailers and processors/brand owners in the UK which are promoting or choosing MSC fish include:

- UK supermarkets Marks & Spencer, Sainsbury's, Tesco and Waitrose (see Chapter 4)
- UK restaurants Fish!<sup>33</sup> and Deep<sup>34</sup>
- Seafood producers Unilever and Young's Bluecrest and wholesaler New England Seafoods.<sup>35</sup>

### 2.4.4 Challenges to MSC certification

While producers and retailers are keen to support the label, the MSC has not yet established its credibility with all environmental NGOs, particularly in the USA. The main reservations expressed have concerned the transparency and governance of the MSC, and the consistency and quality of fishery certifications.

With regard to governance, NGOs have expressed a need for the MSC to be more democratic, improve stakeholder representation, and engage more fully with environmental groups. The main criticism of the MSC certification is that it comes too early in the process. Certification is given to fisheries that pass an initial set of standards, and which adopt an action plan to improve the fishery further. The MSC argues that certification leads a fishery towards being more sustainable; however, many NGOs remain sceptical. Of the twelve fisheries that have received MSC certification to date, the fisheries for New Zealand hoki, Patagonian toothfish and Alaska pollock in particular have received significant criticism from NGOs, and highlight the challenges that the MSC faces in implementing its environmental standard.

#### The New Zealand hoki fishery

The Royal Forest and Bird Protection Society of New Zealand (Forest & Bird) objected to the MSC certification of this fishery in 2001. The Society's *Best fish guide* (see section 2.6.3) gives hoki the lowest possible sustainability ranking of E (Red – Avoid).<sup>36</sup> The main concerns described are:

- the bycatch of New Zealand fur seals (*Arctocephalus forsteri*), albatrosses, petrels and sharks, including a number of threatened species
- the management of two separate stocks under one quota
- the decline of the Western stock
- the lack of a management plan
- damage to seabed habitats by bottom trawling.

#### The South Georgia Patagonian toothfish long-line fishery

The Antarctic and Southern Ocean Coalition (ASOC) has objected to this certification for a variety of reasons. ASOC, which contains about 230 organisations in 49 countries, launched its Southern Ocean Fisheries Campaign in response to the migration of the

fishing industry into Southern oceans, which has placed significant pressure on stocks of the Patagonian toothfish (*Dissostichus eleginoides*, also known as Antarctic or Chilean sea bass).<sup>37</sup> Indeed, the illegal fishery for toothfish is driving the fish to commercial extinction and, combined with pressure from fishing nations to expand the legal fishery, has undermined the ability of the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR) to manage the fishery sustainably. In November 2000, ASOC called for a moratorium on all toothfish fishing until the situation improves.

In addition, both ASOC and the Government of Argentina protested the certification on the grounds that this fishery is considered the most politically sensitive and contentious fishery in the Southern Ocean. The UK exercises jurisdiction, but sovereignty over the South Georgia and South Sandwich Islands is contested by the UK and Argentina.<sup>38</sup>

#### The Gulf of Alaska and Bering Sea/Aleutian Islands Alaska pollock fisheries

Together these fisheries constitute the world's second biggest fishery and the largest white fish fishery. The Alaska Oceans Programme, Greenpeace International, the National Environmental Trust, Oceana and the EII have all officially objected to the certification of both these fisheries.<sup>39,40</sup> In September 2004, the MSC agreed to convene an independent objections panel for the Gulf of Alaska (GOA) fishery but allowed the Bering Sea Aleutian Islands (BSAI) fishery to be certified.<sup>41</sup> Both fisheries have now been certified. The main criticisms of these certifications are as follows:

- The GOA stock has been in decline for over 20 years.
- Stocks are poorly managed. A US federal court found that the National Marine Fisheries Service has focused on single-species management of the pollock populations when setting catch levels, and has failed to consider the impact on other fish, wildlife and seabirds that eat pollock. The fisheries have indeed been linked to the decline of marine mammals and seabirds that feed on the species.
- The fisheries jeopardise the continued existence of the endangered western population of Steller sea lions (*Eumetopias jubatus*) and adversely modify their critical habitat.

### 2.4.5 Development and reform of the MSC

Following two evaluation reports from key funders based in the USA, the MSC is undergoing substantial reform with respect to its governance and transparency; consistency and quality of certifications; environmental performance; and financial stability and potential growth.<sup>42</sup> Governance reforms began with the replacement of both the Chief Executive Officer (CEO) in October 2004, and the Chair of the Board in April 2005, and continue throughout the organisation. The new CEO, Rupert Howes, has been re-engaging with funders and NGOs and is pushing forward the MSC's reform agenda.

The MSC is a relatively new organisation and has had a steep learning curve over the past five years. Despite its past problems, the future direction of the MSC is important to those who are promoting sustainable seafood practices. While NGOs, including Greenpeace, have not yet endorsed the MSC certification, they are

working with the MSC in the hope of developing a stronger, more widely accepted sustainable seafood label that will help consumers to make better choices and encourage fisheries to adopt sustainable fishing practices.

## 2.5 Aquaculture certification schemes

Organic certification and the RSPCA's Freedom Food certification are reviewed here, not because they are an indication of sustainability, but because they provide consumers with the best environmental option within the farmed seafood industry.

### 2.5.1 Organic aquaculture

The Soil Association, the owner of the most widely recognised organic logo in the UK, currently certifies organic farmed Atlantic salmon, brown trout, rainbow trout, and Arctic charr (*Salvelinus alpinus alpinus*). It also offers certification for shrimp and mussel producers overseas and is working towards certification for shellfish and other types of fin fish in the UK.<sup>43</sup> Food Certification Scotland (FCS) certifies various salmon farm schemes including organic salmon.<sup>44</sup>

The Soil Association was the first certification body to become involved with organic aquaculture, when in 1989 it published the first draft of its Aquaculture Standards in response to requests from farms that wanted their better practices to be recognised. The Soil Association, while aware of the controversy surrounding aquaculture, decided that the most responsible position would be to 'provide a lead in this troubled sector rather than to turn its back on an important area of food production'.<sup>45</sup>

In 1998, the Soil Association Aquaculture Standards were finally given interim approval by the Soil Association Council, and organic trout and salmon went on sale in the UK in 1999. Since then, organic aquaculture initiatives have developed around the world. The EU Organic Livestock Regulation, which came into force in August 2000, recognises aquaculture as eligible for organic status, but the EU has not yet defined its own rules – Member States provide their own or recognise private standards developed by independent bodies. In July 2000, the Soil Association, FCS, and the Organic Food Federation published their joint UK Organic Aquaculture Standards, which were immediately recognised by the UK Department for Environment, Food and Rural Affairs (Defra). These standards build on the Soil Association's standards, but the Soil Association Council continues to refer to them as 'interim' as further development is needed before they comply fully with organic principles.

The key principles of organic farming have been adapted for aquaculture to produce standards in four key areas:

#### Nutrient cycling within closed systems

The process by which nutrients are continuously transferred or cycled from one organism to another within one ecosystem is a key principle in organic farming. However, this is difficult to achieve with carnivorous fish, such as salmon and trout, because the main component of their diet is fishmeal and fish oil, obtained from other marine ecosystems in often distant oceans. Although the waste does return to the sea, a more cyclical system needs to be developed – this is the main reason for the 'interim' organic status.

#### Water quality

The quality of water, the counterpart of the soil in terrestrial farms, must be maintained or enhanced with respect to freedom from pollution. The water where farms are sited must meet strict purity standards to conform with public health regulations for food, and the quality of water leaving farms must meet similar standards to minimise the impact on the surrounding environment.

#### Fish feed

Organic farmed carnivorous fish are fed 60–70% fishmeal and fish oil combined with cereal products, vitamins, minerals, etc. The agricultural component must be organic and other non-fish ingredients must follow land-based organic standards. At least 50% of the fish-based components must come from the by-products of fish that have been wild-caught for human consumption (waste from filleting, etc), and the rest must be from sustainably managed sources. The Soil Association has set a lower maximum permitted oil content for organic fish feed than is set by the EU for standard fish farms, to minimise contamination by persistent organic pollutants such as dioxins.

#### Confinement

In order to meet organic welfare requirements, farmed animals must be given conditions which allow them to perform the basic aspects of their innate behaviour. Farmed salmon are initially reared in fresh water and then transferred to large net pens where they swim against ocean currents. According to the Soil Association, farmed salmon are many generations from their wild counterparts, with different behaviour patterns and less pronounced instincts, and are adapted to farming. Organic farmed salmon do not reach maturity so do not have significant migratory instincts.

Fish are stocked at much lower densities than would usually be the case. The resulting healthier fish are less likely to spread disease to wild populations, or to require chemical or antibiotic treatments that can contaminate the water (these are in any case strictly limited and monitored in organic aquaculture). Lower-density farming also means that there is a lower impact on the environment from fish waste and uneaten food.

### 2.5.2 RSPCA Freedom Food scheme

Freedom Food is the RSPCA's farm assurance and food labelling scheme, set up by the RSPCA in 1994. RSPCA Freedom Food standards cover all aspects of farming – management, husbandry, equipment, environmental quality, feeding, health, transport and slaughter.<sup>46</sup> The Farm Animal Welfare Council's 'Five Freedoms', which are central to the Freedom Food scheme, have been adapted for fish:

- freedom from thirst, hunger and malnutrition – access to an appropriate high-quality diet and an environment in which fluid and electrolyte balance can be maintained
- freedom from discomfort – maintenance of the water at an appropriate temperature and chemical composition, and provision of well-designed enclosures or tanks, with shading if necessary
- freedom from pain, injury or disease – avoidance of situations which are likely to cause pain, injury or disease; rapid diagnosis and treatment of disease when it occurs; and humane killing

- freedom to express normal behaviour – provision of sufficient space and an appropriate environment for the species
- freedom from fear and distress – minimisation as far as possible of stressful situations such as handling or predator attack; ensuring that changes to husbandry and water quality are made gradually; and humane killing.

Although the standards are primarily welfare-based, the better environment which they produce for the fish not only produces healthier fish, but also reduces the impact on the marine environment around the farm. Salmac, a seafood supplier based in Aberdeen, Scotland, is the first and only company to receive both Freedom Food and Soil Association certifications for its salmon.<sup>47</sup>

## 2.6 Consumer seafood guides

Various guides to buying sustainable seafood have been published around the world, mainly by marine conservation NGOs; they range from simple wallet-sized lists to books and in-depth reports. Those described below are comprehensive guides produced in Europe, New Zealand, Australia and the USA. These guides have sound scientific backing and are probably the most useful to help UK consumers determine the sustainability of local and imported seafood products.

### 2.6.1 *Good fish guide* – UK

The Marine Conservation Society (MCS) published its *Good fish guide* – ‘the ultimate consumer guide to eating eco-friendly fish’ – in 2002.<sup>48</sup> As well as information on biology, status, capture methods and fishing impacts for 65 species or groups of fish commonly eaten in the UK, the guide provides comprehensive general information on fishing methods and management, and impacts of fishing on marine life and human communities. The guide also lists 20 species which consumers should avoid eating.

In August 2004, the MCS launched *FISHONLINE*, an internet guide to seafood that is updated yearly, along with a new pocket guide which can be ordered free online.<sup>49</sup> Seafood species and individual stocks are given ratings based on their stock status, vulnerability, fisheries management and the environmental impacts of the fishing methods used. *FISHONLINE* ranks seafood from most to least sustainable using a grading system of one (green) to five (red). It has increased the list of seafood species and groups examined from 65 to 124, with a corresponding increase in the red list (grade 5) to 36. There are some additional species or groups that are given a grade 5 for particular stocks or fishing methods that do not appear on this red list, such as Dover sole and lumpfish. *FISHONLINE* also provides background information on the state of the world's fish stocks, maps of the world's fishing areas, and a glossary explaining terms associated with fish biology, management and fishing methods.

The Seafood Choices Alliance, a sustainable seafood trade association, is currently working with NGOs in Europe to agree on a simple, transparent scoring mechanism for assessing seafood sustainability in order to produce more consistent consumer seafood guides. While some other European Greenpeace offices have produced their own fish guides, Greenpeace UK, rather than reproduce the work of the MCS and until the work of the Seafood Alliance is complete, currently recommends the *FISHONLINE* guide as the main reference for UK seafood retailers and consumers to

determine the sustainability of seafood. Some UK supermarkets have already used the *Good fish guide* and *FISHONLINE* as indicators of their seafood's sustainability (see Chapter 4).

### 2.6.2 Other European guides – Germany and the Netherlands

Greenpeace offices in Germany and the Netherlands have recently produced consumer guides to seafood commonly sold in their countries. The pocket-sized *VIS-a-card* (a play on the Dutch word for fish) is available on the Greenpeace Netherlands website<sup>50</sup> and is based on *De goede visgids* (‘the good fish guide’) produced by the North Sea Foundation, a Dutch environmental NGO.<sup>51</sup> The card lists 31 species or groups of seafood as green (excellent), orange (dubious) or red (do not buy).

The German guide is a fold-out poster, originally produced as an insert for *Greenpeace Magazin*, but also available on the Greenpeace Germany website.<sup>52</sup> The guide provides details of 37 seafood species or groups, where they are commonly caught or farmed, the state of the stocks, and the problems associated with the particular fishing or farming methods used. Fish are graded as acceptable, critical (not recommended), or calamitous (not to be touched).

### 2.6.3 *Best fish guide* – New Zealand

Forest & Bird produced its *Best fish guide* in June 2004. This guide comprises a thorough report on the ecological rankings of New Zealand commercial fisheries<sup>53,54</sup> with summaries in the form of a pocket guide (downloadable from the website) and a website-based guide.<sup>55</sup>

The *Best fish guide* profiles 62 commercial species, ranking each aspect of the fishery from A (best) to E (worst) and then giving an overall rank for sustainability. This ranking takes into account the state of fish stocks, management and research, bycatch, the damage done to marine habitats and other ecological effects caused by the fishery. Of the 62 fisheries, 31 are rated overall at D, and 31 at E. In the pocket guide, seafood is in theory ranked green (best), amber (caution) and red (avoid), but in practice no fisheries qualify for the green rating.

As an indication of just how poor the New Zealand fisheries are, Forest & Bird provide the following summary of the 62 commercial fisheries:

- 62 have no management plan
- 16 are guilty of overfishing or there has been a substantial decline in stocks
- 50 cause habitat damage
- 23 kill significant numbers of seabirds
- 28 kill significant numbers of marine mammals
- 56 catch non-target fish species
- 60 have other ecological effects
- 36 have never had a stock assessment
- 2 have stock assessments which are more than 10 years old
- 12 have had only a partial stock assessment in the last 10 years
- 10 have had a full stock assessment in the last 10 years – some of these showed that little was known about the true state of the stocks prior to the assessment.

#### 2.6.4 Australia's sustainable seafood guide

The Australian Marine Conservation Society (AMCS) released its *Australia's sustainable seafood guide* in 2004.<sup>56</sup> As well as providing background on fishing methods, seafood labelling, problems with aquaculture, and imported seafood, the guide includes a '3-Step Guide' (also available in a wallet-sized version) to choosing sustainable seafood. This contains a list of 13 species to avoid, questions to ask the fishmonger about other seafood, and a recommendation to avoid all imported seafood. The guide also comes with a pocket booklet called the *Sustainable fish finder*. This provides pictures and more detailed information on the sustainability of fish and shellfish with 10 'say no'; 5 'say no to some species'; and 19 'better choice' categories.

#### 2.6.5 The fish list – USA

The Blue Ocean Institute (BOI),<sup>57</sup> the Environmental Defence Network (EDN),<sup>58</sup> and Monterey Bay Aquarium (MBA)<sup>59</sup> all produce online fish guides and pocket guides. They have also worked with the Seafood Choices Alliance to produce a collaborative guide called *The fish list*, which consists of a list of 14 'enjoy' and 14 'avoid' species or groups of seafood.<sup>60</sup> On the online version of *The fish list*, alongside each seafood type, there are links to information from each of the partner organisations' individual fish guides, providing a thorough overview of biology, problems associated with fisheries, health aspects such as chemical contamination, and even recipes from the EDN.

The BOI guide includes a detailed analysis of how each species or seafood was scored, including all scientific references. The MBA also provides a thorough background document from its fisheries analyst, with an explanation of the grading of each species or group listed.











# SUSTAINABILITY OF SEAFOOD SOLD IN UK SUPERMARKETS

The following chapter reviews the sustainability of individual fish and shellfish species (and groups of species) sold in UK supermarkets, and lists those supermarkets where each species may be found, along with the sources (if known) for each supermarket.

The listing that follows is a snapshot of what different supermarkets have sold at some time between June 2004 and September 2005, and encompasses fresh, chilled, frozen, tinned and processed seafood sold in-store or over the internet. It does not necessarily reflect the whole range of fish sold at some time or other by the entire supermarket chain. Stock varies seasonally and from region to region depending on the buying policies of the particular chain. For example, Sainsbury's stores in the South-West appear to have a broader range of locally caught seafood than those in other regions.

All supermarkets, except Marks & Spencer (M&S), sell seafood from other brands – particularly Young's, Ross and Birds Eye frozen seafood, and John West and Princes tinned seafood. For simplicity, rather than listing every brand sold, branded seafood is only listed where a supermarket does not appear to sell a particular seafood species or group under its own brand.

Species and groups of species are listed alphabetically under the most common name used by UK supermarkets. In cases where more than one species may be sold under the same common name under UK labelling laws,<sup>1</sup> and where no source was given on the packaging, the seafood sold by a particular supermarket was assumed to be the species most commonly sold under that name in the UK. For example, 'cod fish fingers' with no source given would be listed under the Atlantic cod species (*Gadus morhua*) rather than Pacific cod (*G. macrocephalus*) or Greenland cod (*G. ogac*). The scientific names given follow the FishBase online database.<sup>2</sup> The sources listed here are those noted from labels information, supermarkets' websites, and in some cases from information provided by supermarket representatives. These sources should not be considered as a complete list for each supermarket. Most labels only provide details of the ocean or ocean region (such as NE Atlantic) while a few provide greater detail.

The majority of the seafood listed is sourced exclusively or primarily from the NE Atlantic, and the stock status data is taken from scientific advice provided by the International Council for the Exploration of the Sea (ICES).<sup>3</sup> Maps showing the divisions of the NE

Atlantic into ICES areas are available online.<sup>4</sup> Stock details for fish from other management regions are provided by various sources and are referenced individually. It must be noted that where ICES describes a stock as being 'sustainably fished', this refers only to the ability of the particular fish or shellfish stock to continue to reproduce in numbers sufficient to maintain an economically viable fishery. The ICES assessment does not reflect the effects of a particular fishery on the broader marine ecosystem and does not imply that the fishery is sustainable in terms of the UN Food and Agriculture Organisation (FAO) definition (see section 1.2.1). Definitions of the fisheries assessment terms used in the list are given in the glossary of this report.

Other sustainability data used to compile the listing has been taken from:

- The Marine Conservation Society (MCS)'s *Good fish guide*<sup>5</sup>
- The MCS's *FISHONLINE* internet guide<sup>6</sup>
- The Marine Stewardship Council (MSC)'s reports and documentation for certified fisheries and fisheries undergoing assessment<sup>7</sup>
- The Royal Forest and Bird Protection Society of New Zealand (Forest & Bird)'s *Best fish guide*<sup>8</sup>
- The Australian Marine Conservation Society (AMCS)'s *Australia's sustainable seafood guide*<sup>9</sup>
- Monterey Bay Aquarium (MBA)'s *Seafood watch*<sup>10</sup>
- The Blue Ocean Institute (BOI)'s *Guide to ocean friendly seafood*<sup>11</sup>
- The World Conservation Union (IUCN) red list of endangered species<sup>12</sup>
- The Oslo and Paris Convention for the Protection of the Marine Environment of the North-East Atlantic (OSPAR) threatened and/or declining species list.<sup>13</sup>

For the majority of the species listed, unless otherwise indicated, the sustainability grading is from the MCS's *FISHONLINE* guide. For seafood imported from New Zealand, the Forest & Bird guide has been used as the primary grading, and for fish from the USA or Canada, the guides from MBA and the BOI have been used. Where no listing can be found, an interim grade has been given based on a new methodology for assessing seafood, currently being developed by the Seafood Choices Alliance and European NGOs, including the MCS and Greenpeace (see section 2.6 for details of guides).





#### Key to abbreviations

AMCS	Australian Marine Conservation Society
$B_{MSY}$	biomass at MSY
BOI	Blue Ocean Institute
F&B	Royal Forest and Bird Protection Society of New Zealand
CCAMLR	Commission for the Conservation of Antarctic Marine Living Resources
ICCAT	International Commission for the Conservation of Atlantic Tunas
IUCN	World Conservation Union (formerly known as the International Union for Conservation of Nature and Natural Resources)
IUU	illegal, unregistered, unreported
MBA	Monterey Bay Aquarium
MCS	Marine Conservation Society
MLS	minimum landing size
MSC	Marine Stewardship Council
MSY	maximum sustainable yield
NESFC	North Eastern Sea Fisheries Commission
OSPAR	Oslo and Paris Convention for the Protection of the Marine Environment of the North-East Atlantic
RC	reproductive capacity
SSB	spawning stock biomass
TAC	total allowable catch

#### Key to sustainability grading and scores

MCS	1–5 (best–worst, green–red)
F&B	A–E (best–worst)
AMCS	Better choice; Say no to some species; Say no
MBA	Green (best choice); Yellow (good alternative); Red (avoid)
BOI	2.60–4.00 dark green (best) 2.20–2.59 light green 1.80–2.19 yellow 1.40–1.79 orange 0.00–1.39 red (worst)



## ALASKA POLLOCK

Other names:	Alaska pollack, Pacific pollack, Pacific pollock, walleye pollock, generic 'white fish'
Scientific name:	<i>Theragra chalcogramma</i>
Caught by:	Primarily industrial pelagic trawl; Danish seine; long-line
Sold in/Source:	All supermarkets – usually as 'white fish' in processed seafood such as fish fingers, and as surimi in crab sticks, etc. The following supermarkets list Alaska pollock specifically as an ingredient in one or more seafood products: ASDA – no source given Safeway/Morrisons – no source given Sainsbury's – no source given Tesco – no source given

### Concerns

Stock status:	<ul style="list-style-type: none"> <li>• The USA's Bering Sea/Aleutian Islands stocks are considered healthy</li> <li>• The Gulf of Alaska stock is in a 20-year decline, but as this was preceded by a 20-year increase, it is considered to be due to natural fluctuations rather than to overfishing</li> <li>• Russian stocks are overfished</li> </ul>
Management:	<ul style="list-style-type: none"> <li>• Management of US pollock fisheries is controversial, but is now considered effective, largely due pressure from conservation groups and federal court orders, rather than proactive decisions made by management</li> <li>• Allegations of corruption in both Russian and USA pollock fisheries management – both highly influenced by commercial fishing interests<sup>14,15</sup></li> </ul>
Method:	<ul style="list-style-type: none"> <li>• Bycatch is a relatively small fraction of the catch; however, due to the large scale of the fisheries, the absolute volume is large</li> </ul>
Ecosystem:	<ul style="list-style-type: none"> <li>• There is conflicting evidence and controversy regarding the effects of these fisheries on endangered Steller sea lions (<i>Eumetopias jubatus</i>) and depleted Northern fur seals (<i>Callorhinus ursinus</i>), for both of which Alaska pollock is a major prey species. It seems likely that fishing is one of many factors affecting their decline</li> </ul>

**Sustainability rating:** **MCS grade 2 (for MCS certified stocks)**

**BOI grade Dark Green**

**MBA grade Green**

**MSC-certified – Bering Sea/Aleutian Islands and Gulf of Alaska Alaska pollock fisheries**

## ANCHOVY

Scientific name:	Various <i>Engraulis</i> species including: <i>Engraulis encrasicolus</i> – European <i>Engraulis ringens</i> – Peruvian
Caught by:	Mainly purse seine; some trawl
Sold in/Source:	All supermarkets, except M&S, in various forms – tinned, marinated, pastes (source generally not given) Safeway/Morrisons – produced in Spain Sainsbury's – produced in Spain Waitrose – produced in Italy

### Concerns

Stock status:	<ul style="list-style-type: none"> <li>• The stock within South Brittany, North &amp; West Spain, and South, Central and West Biscay areas (VIII) is so low that a 3-month emergency closure was adopted in June 2005 and recently extended until the end of 2005.<sup>16</sup></li> <li>• Portuguese coast (IXa) stock is unknown</li> <li>• Peruvian stock is overfished by industrial fleets</li> </ul>
Management:	<ul style="list-style-type: none"> <li>• Large intra-year fluctuations in recruitment and spawning stock require better in-season, rather than yearly, management decisions</li> <li>• No closed areas to protect nurseries and juvenile stock</li> <li>• TAC for the Bay of Biscay stock was set at 30,000 tonnes, in contrast to ICES advice of 5,000 tonnes with the possibility of a mid-year review, which resulted in overfishing and emergency closure</li> </ul>
Method:	<ul style="list-style-type: none"> <li>• Bycatch of marine mammals</li> <li>• Juvenile fish taken, as methods are unselective and involve targeting dense shoals of fish</li> </ul>
Ecosystem:	<ul style="list-style-type: none"> <li>• Removal of huge quantities of small, plankton-feeding fish from food chain</li> <li>• Loss of prey for pelagic and demersal species and cetaceans</li> <li>• Decreases in Peruvian stocks led to decrease in seabird numbers</li> </ul>
Other:	<ul style="list-style-type: none"> <li>• Highly dependent on environmental factors for spawning</li> <li>• Decreases in Peruvian stocks led to decrease in guano industry</li> </ul>

**Sustainability rating:** **MCS grade 4**

**BRILL**

Scientific name: *Scophthalmus rhombus*  
 Caught by: Mainly as bycatch in sole and plaice beam trawl; some demersal trawl fisheries  
 Sold in/Source: Waitrose – Cornwall; NE Atlantic  
 Sainsbury's – SW England; NE Atlantic

**Concerns**

Stock status:
 

- No ICES assessment for the species so stocks are unknown
- North Sea stock shows a decline in landings, large numbers of immature female fish landed, and reduced age of capture, indicating over-exploitation

 Management:
 

- Unprotected species with no TAC in EU waters, except that it is included in a combined TAC with turbot in EU waters of the North Sea (IV) and Norwegian Sea (IIa)
- No assessment of stocks
- Many immature brill taken (<40 cm) as no MLS specified, although some local bylaws do set a low MLS (eg in Cornwall MLS is 30 cm)

 Method:
 

- Bycatch and seabed destruction by beam and demersal trawling

**Sustainability rating: MCS grade 4 (demersal trawl) or 5 (beam trawl)**

**CLAM**

Scientific name: Various clam species can be sold under the common name clam; however, John West Baby Clams are the following two species:<sup>17</sup>  
*Paphia undulata* – short-necked clam, undulated surf clam, carpet shell, carpet clam  
*Tapes or Venerupis philippinarum* – littleneck clam, Japanese littleneck clam, Manila clam, carpet shell  
 Caught by: Mainly dredged; hand-gathered by digging or raking  
 Sold in/Source: ASDA – John West baby clams, Thailand  
 Iceland – John West baby clams, Thailand  
 Sainsbury's – John West baby clams, Thailand

**Concerns**

Stocks:
 

- Catches of short-necked clams (*Paphia* species) peaked in the 1980s in Thailand and have since declined<sup>18</sup> due to overfishing and the destructive effects of other fisheries on the ecosystem, such as bottom trawling<sup>19</sup>

 Method:
 

- Dredging damages seabed or estuary bottom
- Bycatch of juvenile fish, and other molluscs and crustaceans

 Ecosystem:
 

- Removal of prey species for marine animals and birds

**Sustainability rating: None given by MCS – interim grade 3 (wild)  
 BOI grade Dark Green (farmed in the USA)**

**COCKLE**

Scientific name: Various *Cerastoderma* species including *C. edule*  
 Caught by: Suction or hydraulic dredging; tractor-towed harvester; hand-raking, hand-picking  
 Sold in/Source: Most supermarkets, except M&S, sell branded jarred cockles such as Ocean Crown (no source given) and Parson's Burry Port cockles (Burry Port, Wales) as well as their own:  
 ASDA – fresh NE Atlantic; jarred in Netherlands  
 Co-op – jarred in Netherlands  
 Iceland – jarred in Netherlands  
 Sainsbury's – fresh NE Atlantic; jarred (no source given)  
 Tesco – fresh NE Atlantic; jarred (no source given)  
 Waitrose – fresh NE Atlantic; jarred (no source given)

**Concerns**

Stock status:
 

- Not assessed by ICES
- Stocks are potentially vulnerable to local over-exploitation and depletion

 Management:
 

- Cockle fisheries are regulated by local bylaws in some areas of the UK

 Method:
 

- Dredging damages seabed or estuary bottom and affects cockle burrowing behaviour

 Ecosystem:
 

- Prey species for birds and other marine life

 Other:
 

- Social justice issues of untrained casual pickers exploited and exposed to potentially fatal risks by unscrupulous operators

**Sustainability rating: MCS grade 1 (hand-gathered) or 3 (mechanically gathered)  
 MSC-certified – Burry Inlet cockle fishery in Wales**



## COD

Other names:	Atlantic cod, codling
Scientific name:	<i>Gadus morhua</i>
Caught by:	Mixed demersal trawl, Danish seine, gillnet; long-line, hand-line, jig; angling. Also farmed.
Sold in/Source:	ASDA – N and NE Atlantic Co-op – NE Atlantic Iceland – NE Atlantic M&S – Iceland; Barents Sea; NE Atlantic Safeway/Morrisons – NE Atlantic Sainsbury's – NE Atlantic Somerfield – SW England; NE Atlantic Tesco – caught in NE Atlantic, landed in Norway, Iceland, Denmark and UK Waitrose – Iceland; NE Atlantic

## Concerns

Stock status:	<ul style="list-style-type: none"> <li>• Atlantic cod is IUCN-red-listed as Endangered</li> <li>• OSPAR-listed as under threat and/or in decline in the Greater North Sea and the Celtic Seas</li> <li>• All NE Atlantic stocks are overfished and in decline, according to ICES reports</li> <li>• Stocks in Greenland (XIV), Eastern Channel (VIIId), North Sea (IV), Skagerrak &amp; Kattegat (IIIa), Norwegian Coastal (within I, II) and parts of the Sound, Belt and Baltic Sea (IIIb–d) are so low that ICES recommended that no cod catches be allowed in 2005</li> <li>• Faeroe Bank (Vb2) stock is unknown but SSB thought to be above average while Faeroe Plateau (Vb1) stock is below precautionary limits and overfished</li> <li>• Icelandic cod is often described as from more sustainable fisheries, but Iceland (Va) stock SSB is below the long-term average and overfished</li> <li>• North-East Arctic (within I, II) stock is at full RC but at risk of being overfished</li> <li>• The combined stock from Western Channel out to the West Great Sole (VIIe–k) is the only stock considered by ICES to be at full RC and harvested sustainably, but a substantial reduction in TAC was recommended for 2005</li> </ul>
Management:	<ul style="list-style-type: none"> <li>• TACs for 2005 were set for all stocks despite ICES's advice that zero TACs should be set in some areas</li> <li>• Management areas and TACs do not always correspond to ICES assessment areas and cod stock boundaries</li> <li>• Faeroe Bank and Plateau landings are often incorrectly assigned, as boats can fish in both areas in the same trip</li> <li>• IUU fishing occurs in many areas</li> </ul>
Method:	<ul style="list-style-type: none"> <li>• High levels of bycatch in trawls</li> <li>• Long-lining catches seabirds</li> </ul>
Farming:	<ul style="list-style-type: none"> <li>• Approximately 5 kg wild fish required to produce 1 kg farmed cod; environmental degradation; pollution; spread of disease to wild fish; escaped foreign species compete with wild fish (see section 1.2.2)</li> </ul>
Other:	<ul style="list-style-type: none"> <li>• Vulnerable to global warming and sea temperature increases</li> <li>• Cod bycatch in mixed demersal and flatfish fisheries</li> </ul>
Sustainability rating:	<b>MCS grade 3 (Western Channel to West Great Sole, Icelandic and Faeroe Bank stocks) or 5 (all others)</b>

**COLEY**

Other names:	Saithe, coalfish
Scientific name:	<i>Pollachius virens</i>
Caught by:	Mixed demersal trawl, targeted pair trawl and purse seine, gillnet; long-line, hand-line, jig; angling
Sold in/Source:	ASDA – no source given Co-op – NE and NW Atlantic Iceland – Young's brand, no source given Safeway/Morrisons – NE Atlantic Somerfield – NE Atlantic Sainsbury's – NE Atlantic Tesco – NE Atlantic Waitrose – UK; NE Atlantic

**Concerns**

Stock status:	<ul style="list-style-type: none"> <li>• North-East Arctic (I, II), North Sea (IV), and Skagerrak &amp; Kattegat (IIIa) stocks are at full RC and sustainably fished</li> <li>• West Scotland and Rockall (VI) stocks are thought to be at full RC and sustainably fished, but minimal assessment data makes this uncertain</li> <li>• Faeroe (Vb) stock is at full RC, but overfished</li> <li>• Iceland (Va) stock is at risk of reduced RC and overfished</li> </ul>
Management:	<ul style="list-style-type: none"> <li>• Other areas have TACs set but no assessment information</li> </ul>
Method:	<ul style="list-style-type: none"> <li>• High levels of bycatch in trawls, including cod</li> <li>• Long-lining catches seabirds</li> </ul>
Other:	<ul style="list-style-type: none"> <li>• Coley often discarded by fisheries targeting cod</li> </ul>
<b>Sustainability rating:</b>	<b>MCS grade 2 (most assessed stocks), 3 (Faeroe jig, Icelandic hand-line) or 4 (Faeroe and Icelandic long-line and trawl)</b>

**CONGER**

Scientific name:	Various <i>Conger</i> species including the European conger <i>C. conger</i>
Caught by:	Beam and demersal trawl; long-line; pot; angling
Sold in/Source:	Safeway/Morrisons – NE Atlantic

**Concerns**

Stocks:	<ul style="list-style-type: none"> <li>• No stock information available, but landings of European conger in the NE Atlantic have decreased since 1996 according to the FAO<sup>20</sup></li> </ul>
Management:	<ul style="list-style-type: none"> <li>• Unmanaged</li> </ul>
Biology:	<ul style="list-style-type: none"> <li>• All Conger species are highly vulnerable to fishing as they reproduce only once in their life, and mature between 5 and 15 years</li> </ul>
<b>Sustainability rating:</b>	<b>None given by MCS – interim grade 5</b>

**CRAB**

Other names:	Brown crab, edible crab, Cromer crab
Scientific name:	<i>Cancer pagurus</i>
Caught by:	Set net; pot
Sold in/Source:	ASDA – British NE Atlantic M&S – Cromer, Norfolk; Orkney, Scotland; Canada; Norway Safeway/Morrisons – Scotland Sainsbury's – Cromer, Norfolk; Orkney, Scotland; NE Atlantic Tesco – NE Atlantic Waitrose – Cromer, Norfolk

**Concerns**

Stock status:	<ul style="list-style-type: none"> <li>• Unassessed by ICES</li> <li>• Many crab populations are overfished and reduced to unsustainable levels</li> <li>• Over 60% of crab populations in the UK are harvested each year, reducing their SSB to well below 25% of the unfished level</li> </ul>
Method:	<ul style="list-style-type: none"> <li>• Pots are more sustainable than nets, but the increasing use of modern 'parlour' pots, combined with mechanical hauling and increasing pot numbers, contributes to unsustainability</li> <li>• Entanglement of turtles in pot buoy ropes</li> <li>• Capture of undersized crabs or egg-bearing females</li> </ul>
Other:	<ul style="list-style-type: none"> <li>• Claws may be removed from live crabs and the body discarded</li> </ul>
<b>Sustainability rating:</b>	<b>MCS grade 3</b>



## DAB

Scientific name: *Limanda limanda*  
Caught by: Mainly mixed demersal trawl and Danish seine; also mixed beam trawl; hand-line  
Sold in/Source: M&S – UK  
Safeway/Morrisons – NE Atlantic  
Sainsbury's – NE Atlantic

### Concerns

Stock status: • Unknown, unassessed  
Management: • TAC in the North Sea (IV) and Norwegian Sea (IIa) includes flounder and lemon sole  
• No MLS set by EU (MLS of 15 cm in Cornwall)  
Method: • Bycatch and seabed destruction by beam and demersal trawling  
• Low commercial value so many discarded

**Sustainability rating: MCS grade 2 (seine, hand-line) or 3 (demersal or beam trawl)**

## DOGFISH

Other names: Huss, rigg, flake, rock salmon, rock eel  
Scientific name: Although *Squalus acanthias* (piked or spiny dogfish or spurdog) is the most commonly landed in the UK, various other small shark species can also be marketed as dogfish under UK labelling laws:  
All *Galeorhinus* species  
All *Mustelus* species  
All *Scyliorhinus* species  
*Galeus melastomus* – blackmouth catshark  
Caught by: Bycatch in demersal trawl and seine; targeted by gillnet and long-line  
Sold in/Source: ASDA – NE Atlantic  
Co-op – NE Atlantic  
Safeway/Morrisons – NE Atlantic  
Sainsbury's – NE Atlantic  
Tesco – NE Atlantic

### Concerns

Stock status: • *S. acanthias* accounts for 90% of landings of dogfish in the NE Atlantic and has a history of over-exploitation and near-collapse  
• Landings data and experimental assessments suggest *S. acanthias* has undergone a marked decline and is probably depleted  
• *S. acanthias* is IUCN-red-listed as Near Threatened  
Management: • Dogfish are unregulated and unprotected despite over-exploitation  
• A TAC for the North Sea has been proposed to conserve stocks  
Method: • Bears live young; pregnant females taken and pups discarded when gutted  
Biology: • All sharks are slow-growing and late-maturing with low reproductive capacity, and thus highly vulnerable to over-exploitation

**Sustainability rating: MCS grade 5 (for all sharks)**

**DOVER SOLE**

Other names:	Sole
Scientific name:	<i>Solea solea</i>
Caught by:	Mainly beam trawl; also demersal trawl, set net, gillnet
Sold in/Source:	ASDA – NE Atlantic Co-op – NE Atlantic M&S – UK, Netherlands Safeway/Morrisons – NE Atlantic Sainsbury's – NE Atlantic Somerfield – SW England; NE Atlantic Tesco – Iceland; NE Atlantic Waitrose – NE Atlantic

**Concerns**

Stock status:	<ul style="list-style-type: none"> <li>• Only Skagerrak &amp; Kattegat (IIIa) and Eastern Channel (VIIId) stocks are at full RC and harvested sustainably</li> <li>• Bristol Channel and South-East Ireland (VIIf, g), and North Sea (IV) stocks are at full RC, but overfished</li> <li>• Irish Sea (VIIa), and South Brittany, South Biscay and Central Biscay (VIIIa, b, d) stocks are at risk of reduced RC</li> <li>• Western Channel (VIIe) stock is at risk of reduced RC, and the SSB was at its lowest ever in 2004</li> <li>• West Ireland and Porcupine Bank (VIIb, c), and Sole (VIIh–k) stocks are unknown and unassessed</li> </ul>
Management:	<ul style="list-style-type: none"> <li>• High misreporting and misallocation of catches throughout stock areas</li> <li>• TACs for Western Channel do not provide enough control of fishing</li> </ul>
Method:	<ul style="list-style-type: none"> <li>• Bycatch, including cod, and seabed destruction by beam and demersal trawling</li> </ul>
<b>Sustainability rating:</b>	<b>MCS grade 2 (Eastern Channel gillnet) to 5 (depleted and at-risk stocks)</b> <b>Under MSC assessment – Hastings fishing fleet Dover sole fishery</b>

**EEL**

Other names:	European eel, glass eel (juvenile), yellow eel (river stage), silver eel (ocean stage)
Scientific name:	Various <i>Anguilla</i> species including <i>A. anguilla</i> – European eel
Caught by:	Net, trap; farmed
Sold in/Source:	Sainsbury's – no source given Tesco – farmed in Denmark

**Concerns**

Stock status: <sup>21</sup>	<ul style="list-style-type: none"> <li>• European eels over-exploited and dangerously close to collapse</li> <li>• Number of glass eels entering European rivers has declined to 1% of former levels</li> <li>• Most widespread and highest-employing single fish stock in Europe</li> <li>• <i>Anguilla</i> species imported from New Zealand and USA also at risk</li> </ul>
Management:	<ul style="list-style-type: none"> <li>• Inland fisheries under national jurisdictions – no centralised management</li> <li>• Lack of scientific knowledge – spawning and eggs not observed in the wild but smallest larvae found in Sargasso Sea, south of Bermuda</li> </ul>
Farming:	<ul style="list-style-type: none"> <li>• Eel farming depends entirely on wild-caught seed material, as eel not successfully bred in captivity</li> <li>• Most juveniles exported for aquaculture in eastern Asia, with some for European farms, restocking of northern European waters, and direct human consumption</li> <li>• Over 4.5 kg wild fish used to produce 1 kg farmed eels (see section 1.2.2)</li> </ul>
Biology:	<ul style="list-style-type: none"> <li>• Very low resilience to overfishing as minimum population doubling time is &gt;14 years</li> </ul>
Other:	<ul style="list-style-type: none"> <li>• Other threats include loss of inland habitat, climate change, disease and pollution</li> </ul>
<b>Sustainability rating:</b>	<b>None given by MCS for European eels – interim grade 5 (wild and farmed)</b> <b>F&amp;B grade E for New Zealand eels</b> <b>BOI grade Orange for US eels</b>



---

## GILT HEAD BREAM

Other names: Sea bream, New Zealand red snapper, red sea bream  
Scientific name: *Sparus aurata* in Europe or *Pagrus auratus* in New Zealand and Australia

Caught by: Mainly farmed. Also demersal trawl; long-line; some gillnet  
Sold in/Source: ASDA – farmed in Greece  
M&S – farmed in Greece  
Safeway/Morrisons – farmed in Greece and Turkey  
Sainsbury's – farmed in Greece and France  
Tesco – farmed in Greece  
Waitrose – farmed in Greece; wild line-caught in New Zealand

### Concerns

Stock status: • New Zealand stocks are depleted in most areas – the two most depleted stocks are at 18% and 8–12% of the original unfished biomass; a third stock is below the biomass that supports the MSY; while the assessment for the fourth stock is uncertain

Management: • No management plan for New Zealand stocks

Method: • Bycatch of seabirds by long-lines, including threatened species  
• Bycatch and seabed destruction by beam and demersal trawling

Farming: • Increasing size of gilt head bream aquaculture industry in Europe  
• Approximately 5 kg wild fish required to produce 1 kg farmed gilt head bream; environmental degradation; pollution; spread of disease to farmed fish; escaped foreign species compete with wild fish (see section 1.2.2)

Sustainability rating: **MCS grade 3 (farmed)**  
**F&B grade E (New Zealand wild)**



## GREY MULLET

Scientific name:	All species of the genera <i>Chelon</i> , <i>Liza</i> and <i>Mugil</i> can be sold as grey mullet under UK labelling laws. Species found in the NE Atlantic include: <i>Chelon labrosus</i> – thicklip grey mullet, lesser grey mullet <i>Liza aurata</i> – golden grey mullet, golden mullet, long-finned grey mullet <i>Liza ramado</i> – thinlip mullet, thin-lipped grey mullet <i>Liza saliens</i> – leaping mullet, leaping grey mullet <i>Mugil cephalus</i> – flathead mullet, flathead grey mullet
Caught by:	Trawl, seine, gillnet; angling
Sold in/Source:	Safeway/Morrisons – NE Atlantic
<b>Concerns</b>	
Stock status:	• Lack of scientific data
Management:	• Unmanaged stocks • MLS not specified in EU waters; however, in coastal waters of England and Wales MLS set and enforced by local bylaws
Method:	• Angling clubs promote 'catch and release' policy for grey mullet
Biology:	• Many grey mullet species are slow-growing, late-maturing species vulnerable to exploitation
Other:	• High bycatch in winter sea bass pair trawl fishery in Western English Channel (VIIe)
<b>Sustainability rating:</b>	<b>MCS grade 5 (<i>C. labrosus</i>). Interim grade 5 for other species</b>

## HADDOCK

Scientific name:	<i>Melanogrammus aeglefinus</i>
Caught by:	Mixed and targeted demersal trawl, seine; long-line, hand-line; experimental farms in Norway and Scotland
Sold in/Source:	ASDA – NE and N Atlantic Co-op – NE Atlantic Iceland – no source given M&S – Cornwall; Scotland; Faeroe Islands; Iceland; NE Atlantic Safeway/Morrisons – NE Atlantic Sainsbury's – Scotland; NE Atlantic Somerfield – SW England; NE Atlantic Tesco – caught NE Atlantic & landed in Norway; NE Atlantic Waitrose – Iceland; NE Atlantic
<b>Concerns</b>	
Stock status:	• Some stocks are improving but many are exploited at very high levels • Rockall (VIb) stock is unknown but was at historical low in 2002 • Irish Sea (VIIa) stock is unknown but overfished • Iceland (Va) stock is thought to be at full RC, but at risk of being overfished • Faeroe (Vb) and North-East Arctic (I, II) stocks are at full RC, but at risk of being overfished • North Sea (IV), Skagerrak & Kattegat (IIIa) and West Scotland (VIa) stocks are at full RC, but reductions in fishing are recommended by ICES • The stock in the areas encompassing the English Channel and West Ireland to West Great Sole (VIIb–k) is unknown but thought to be increasing • Haddock is IUCN-red-listed as Vulnerable
Management:	• Part of Rockall stock falls in unregulated international waters • Scientists have been denied access to ports to conduct Irish Sea surveys • Unquantified discards and misreporting of landings
Method:	• Most haddock is caught in mixed fisheries with depleted stocks of cod and whiting • High bycatch (up to 50% of catch) of other species and juvenile haddock • In particular, high bycatch of cod, although ongoing gear trials in Scotland have so far managed to reduce cod bycatch by 50% in 12 months
Farming:	• Approximately 5 kg wild fish required to produce 1 kg farmed haddock; environmental degradation; pollution; spread of disease to wild fish; escaped foreign species compete with wild fish (see section 1.2.2)
Other:	• Haddock stocks fluctuate widely as they are tightly linked to ecosystem productivity and water temperatures
<b>Sustainability rating:</b>	<b>MCS grade 5 (unknown or depleted stocks) or 3 (all others)</b>

**HAKE**

Other names:	European hake
Scientific name:	<i>Merluccius merluccius</i>
Caught by:	Demersal, beam and pelagic trawl including pair trawl; gillnet, trammel net, long-line, trap
Sold in/Source:	ASDA – no source given Co-op – no source given Tesco – no source given

**Concerns**

Stock status:	<ul style="list-style-type: none"> <li>• Southern stock (around Portugal) at a reduced RC and overfished</li> <li>• Northern stock (around France, UK and North Sea) at risk of reduced RC and of being overfished</li> </ul>
Management:	<ul style="list-style-type: none"> <li>• Northern stock managed under an EU recovery plan since 2004, but not southern</li> <li>• Northern TAC exceeded considerably in recent years</li> <li>• SSB of southern stock consistently overestimated (by over 41% in 2003)</li> </ul>
Method:	<ul style="list-style-type: none"> <li>• Marine mammal bycatch in pelagic trawls and gillnets</li> <li>• Bycatch and seabed destruction by beam and demersal trawling</li> </ul>
Biology:	<ul style="list-style-type: none"> <li>• A slow-growing, late-maturing species vulnerable to over-exploitation</li> </ul>
<b>Sustainability rating:</b>	<b>MCS grade 5</b>

**HAKE – CAPE**

Other names:	South African hake
Scientific name:	<i>Merluccius capensis</i> <i>Merluccius paradoxus</i>
Caught by:	Mainly beam trawl; also demersal trawl, inshore trawl; long-line, hand-line
Sold in/Source:	ASDA – MSC-certified, South Africa, SE Atlantic M&S – MSC-certified, South Africa, SE Atlantic Sainsbury's – MSC-certified, South Africa, SE Atlantic

**Concerns<sup>22</sup>**

Stock status:	<ul style="list-style-type: none"> <li>• Stocks of both species regarded as being healthy, with a conservative TAC that only allows South African vessels to fish</li> </ul>
Management:	<ul style="list-style-type: none"> <li>• Two species managed as one stock and with one TAC</li> <li>• Poor enforcement of recreational and line-fishing regulations has resulted in a high level of poaching</li> <li>• Lack of knowledge of recruitment and age structure of both species</li> </ul>
Method:	<ul style="list-style-type: none"> <li>• Bycatch by trawls, including kingklip and monkfish</li> <li>• Inshore trawls catch juvenile kob (<i>Argyrosomus japonicus</i>), a partially protected species</li> <li>• Bycatch of seabirds by long-line</li> <li>• Seabed destruction by beam and demersal trawling</li> </ul>
Ecosystem:	<ul style="list-style-type: none"> <li>• Little knowledge of fishery's effects on bird populations or general ecosystem</li> </ul>
Biology:	<ul style="list-style-type: none"> <li>• A slow-growing, late-maturing species vulnerable to over-exploitation</li> </ul>
<b>Sustainability rating:</b>	<b>MCS grade 2</b> <b>MSC-certified – South African Cape hake trawl fishery</b>

**HALIBUT – ATLANTIC**

Other names:	White halibut
Scientific name:	<i>Hippoglossus hippoglossus</i>
Caught by:	Bottom and demersal trawl, gillnet; long-line, hand-line; farmed
Sold in/Source:	Co-op – NE Atlantic M&S – farmed in Scotland Safeway/Morrisons – NE Atlantic Waitrose – Iceland; NE Atlantic

**Concerns**

Stock status:	<ul style="list-style-type: none"> <li>• Overfished in NW and NE Atlantic</li> <li>• IUCN-red-listed as Endangered</li> </ul>
Method:	<ul style="list-style-type: none"> <li>• Bycatch and seabed destruction by beam and demersal trawling</li> <li>• Bycatch of marine mammals by gillnets and long-lines</li> </ul>
Farming:	<ul style="list-style-type: none"> <li>• Generally farmed in closed tanks which reduces some of the impacts associated with farmed fish (see section 1.2.2)</li> <li>• Approximately 5 kg wild fish required to produce 1 kg farmed halibut</li> </ul>
Biology:	<ul style="list-style-type: none"> <li>• A slow-growing, late-maturing species vulnerable to over-exploitation</li> </ul>
Other:	<ul style="list-style-type: none"> <li>• Juveniles taken as bycatch in other flatfish fisheries</li> </ul>
<b>Sustainability rating:</b>	<b>MCS grade 2 (farmed) or 5 (wild)</b>







---

**HALIBUT – BLACK**

Other names: Mock halibut, Greenland halibut  
 Scientific name: *Reinhardtius hippoglossoides*  
 Caught by: Bycatch in beam and demersal trawls; targeted by gillnet, long-line, hand-line  
 Sold in/Source: ASDA – NE Atlantic

**Concerns**

Stock status:
 

- All stocks low and overfished
- Catches decreasing despite increased fishing effort

 Management:
 

- Nursery grounds unknown and thus unmonitored
- No formal management agreement between Iceland, Greenland and Faeroe Islands
- Catches well in excess of TACs recommended by ICES
- This slow-growing species only appears in catches at age 5, so any failure of recruitment of juveniles to the stock may not be detected until 5–10 years later

 Method:
 

- Bycatch and seabed destruction by beam and demersal trawling
- Fishery has gradually moved into deeper waters as shallower stocks are depleted

 Biology:
 

- A slow-growing, late-maturing species vulnerable to over-exploitation

**Sustainability rating: MCS grade 4**

---

**HALIBUT – PACIFIC**

Scientific name: *Hippoglossus stenolepis*  
 Caught by: Trawl, gillnet; long-line, hook and line  
 Sold in/Source: M&S – Alaska  
 Waitrose – Pacific

**Concerns**

Stock status:
 

- Stocks well managed by International Pacific Halibut Commission, which applies strict harvesting conditions

 Method:
 

- Long-lining can result in seabird bycatch

 Biology:
 

- A slow-growing, late-maturing species vulnerable to over-exploitation

**Sustainability rating: MCS grade 2**

**Under MSC assessment – Pacific halibut long-line fisheries in USA and Canada**

---

**HERRING**

Other names: Kippers (when smoked), rollmops (pickled), whitebait (immature), sild (young, tinned)  
 Scientific name: *Clupea harengus*  
 Caught by: Pelagic trawl including pair trawl, purse seine, driftnet; industrial fisheries  
 Sold in/Source: ASDA – NE Atlantic  
 Co-op – UK  
 Iceland – no source given  
 M&S – Scotland; NE Atlantic  
 Safeway/Morrisons – NE Atlantic  
 Sainsbury's – NE Atlantic including MSC-certified  
 Somerfield – Scotland and SW England; NE Atlantic  
 Tesco – NE and NW Atlantic  
 Waitrose – Cornwall; NE Atlantic; Canadian NW Atlantic

**Concerns**

Stock status:
 

- About 50% of NE Atlantic stocks are unknown but appear to be rebuilding
- The North Sea (IV) and West Scotland North (within VIa) stocks are at full RC and are considered to be harvested sustainably
- The Iceland (Va) stock is at full RC but at risk of overfishing
- One stock in the Baltic Sea (ICES areas 22–29 and 32) is close to its lowest ever estimate of SSB

 Method:
 

- Seines and trawls associated with cetacean bycatch
- Immature inshore herring sold as 'whitebait'

 Ecosystem:
 

- Important prey species for other fish, birds and mammals

 Other:
 

- Some stocks in Baltic Sea are highly dependent on severity of winter before spawning
- Human activities such as gravel dredging and beam trawling threaten spawning grounds and nurseries
- In May 2004, Denmark banned human consumption of herring caught east of Bornholm due to high dioxin content

**Sustainability rating: MCS grade 4 (Baltic Sea) or 2 (other NE Atlantic stocks)**  
**MSC-certified – Thames Blackwater driftnet herring fishery (undergoing 5-year reassessment)**  
**Under MSC assessment – North Sea herring and Hastings pelagic herring fisheries**

---

## HOKI

Scientific name: *Macruronus novaezelandiae*  
 Caught by: Beam and demersal trawl  
 Sold in/Source: ASDA – New Zealand  
 Safeway/Morrisons – Young's MSC-certified  
 Sainsbury's – MSC-certified, New Zealand, Pacific Ocean  
 Somerfield – MSC-certified, New Zealand, Pacific Ocean  
 Waitrose – MSC-certified, New Zealand, Pacific Ocean

### Concerns

Stock status: • Both New Zealand stocks are overfished and declining, particularly the western stock (despite being MSC certified)  
 Management: • Two separate stocks included under one quota  
 • No management plan  
 Method: • Bycatch of other deep-water fish  
 • Bycatch of New Zealand fur seals (*Arctocephalus forsteri*), albatrosses, petrels and sharks, including a number of threatened species  
 • Seabed destruction by beam and demersal trawling

**Sustainability rating: MCS grade 2 (MSC-certified)**  
**F&B grade E**  
**MSC-certified – New Zealand hoki fishery (undergoing 5-year reassessment)**

---

## ICEFISH

Scientific name: *Champsocephalus gunnari* – icefish, mackerel icefish  
*Chaenodraco wilsoni* – spiny icefish  
 Caught by: Demersal and pelagic trawl  
 Sold in/Source: Sainsbury's – Antarctic Atlantic

### Concerns

Stock status:<sup>23,24</sup> • Fishery collapsed in 1992 due to overfishing  
 • Stocks believed to undergo large natural variations in abundance; however, commercial fishing is restricted to periods of high abundance  
 Method: • Some bycatch including sleeper shark (*Somniosus pacificus*), skates and rays; however, all vessels have strict bycatch limits and carry observers in accordance with the CCAMLR Scheme of International Scientific Observation  
 • Seabed destruction by demersal trawling  
 Ecosystem: • Important prey for Antarctic fur seals (*Arctocephalus gazelle*)

**Sustainability rating: None given by MCS – interim grade 2 (pelagic trawl) or 3 (demersal trawl)**  
**Under MSC assessment – Australian Antarctic icefish fishery**

---

## JOHN DORY

Other names: Dory, St Peter's fish  
 Scientific name: *Zeus faber*  
 Caught by: Bycatch in trawls; angling  
 Sold in/Source: Sainsbury's – SW England, NE Atlantic

### Concerns

Stock status: • Unknown as no specific fishery for John Dory  
 • Landings increasing, possibly due to range extending north due to climate change  
 Management: • Unregulated, unprotected  
 • High potential for landing and marketing immature fish

**Sustainability rating: MCS grade 4**

**KINGKLIP**

Other names: Kingclip  
 Scientific name: *Genypterus capensis*  
 Caught by: Valuable bycatch in South African Cape hake and sole demersal and long-line fisheries<sup>25</sup>  
 Sold in/Source: Sainsbury's – South Africa, SE Atlantic

**Concerns**

Stock status:
 

- Unknown
- Targeted long-line fishery was closed in 1991 due to overfishing<sup>26</sup>
- Considered highly exploited and unlikely to withstand a targeted fishery for any length of time<sup>27,28</sup>

 Management:
 

- Poor enforcement of recreational and line-fishing regulations has resulted in a high level of poaching

 Method:
 

- Bycatch including sharks and skates
- Bycatch of seabirds by long-line
- Seabed destruction by beam and demersal trawling

**Sustainability rating: None given by MCS – interim grade 3**

**LEMON SOLE**

Scientific name: *Microstomus kitt*  
 Caught by: Mainly beam and demersal trawls for mixed flatfish  
 Sold in/Source: ASDA – NE Atlantic  
 Co-op – NE Atlantic  
 Iceland – no source given  
 M&S – North Sea and English Channel; UK; Netherlands; NE Atlantic  
 Safeway/Morrisons – Cornwall; NE Atlantic  
 Sainsbury's – NE Atlantic  
 Somerfield – SW England; NE Atlantic  
 Tesco – caught NE Atlantic, landed in Netherlands and Iceland; NE Atlantic  
 Waitrose – Cornwall; Iceland; Faeroe Islands; NE Atlantic

**Concerns**

Stock status:
 

- Unknown

 Management:
 

- Fishery largely unregulated
- Mixed TAC with witch, another flatfish, in Norwegian Sea (IIa) and North Sea (IV)
- No TAC set in other areas
- No MLS set for EU waters (although Cornwall Sea Fisheries District has set MLS of 25 cm)

 Method:
 

- Bycatch and seabed destruction by beam and demersal trawling

**Sustainability rating: MCS grade 2 (demersal trawl) or 3 (beam trawl)**

**LING**

Scientific name: All species of *Molva* can be sold as ling under UK labelling laws, most commonly:  
*Molva dypterygia* – blue ling  
*Molva molva* – ling, European ling  
 Caught by: Directed beam and demersal trawl; gillnet; long-line; also as bycatch in other trawl fisheries  
 Sold in/Source: ASDA – NE Atlantic

**Concerns**

Stock status:
 

- North Atlantic *M. dypterygia* stocks are currently at RC
- North Atlantic *M. molva* stock status is unknown but catches have been decreasing since 1998

 Management:
 

- ICES advice in 2004 for *M. dypterygia* was that there should be no directed fisheries and that closed areas should be introduced to protect spawning fish
- ICES advice in 2004 for *M. molva* was that there should be a 30% reduction in fishing effort

 Method:
 

- Bycatch and seabed destruction by beam and demersal trawling
- A major part of the fishery for *M. dypterygia* targets fish aggregating to spawn

 Biology:
 

- Slow-growing, late-maturing species vulnerable to over-exploitation

**Sustainability rating: MCS grade 5**



---

## LOBSTER – CANADIAN SPECIES

Scientific name: All species of the genus *Homarus* can be sold as lobster under UK labelling laws, the most common Canadian lobster being:

*Homarus americanus* – Canadian lobster, American lobster, Maine lobster

Caught by: Pot; bycatch in demersal trawl and gillnet

Sold in/Source: M&S – Canada

Waitrose – Nova Scotia; Canadian NW Atlantic

### Concerns

Stock status:

- Overall status of stocks considered low or unknown
- Although lobsters appear abundant in some regions, few large adults remain
- Serious decline of stock in central area of Northumberland Strait and small region near New Brunswick's Acadian Peninsula

Management:

- MLS allows immature females to be caught
- Poaching

Method:

- Bycatch of endangered North Atlantic right whales (*Eubalaena glacialis*) in lobster pot buoy lines

Other:

- Other fisheries disturb breeding grounds
- Human rights issues with history of conflict between a small First Nations fishery, other Canadian lobster fisheries and government officials<sup>29</sup>

**Sustainability rating: BOI grade Pale Green  
MBA grade Yellow**

---

## LOBSTER – EUROPEAN SPECIES

Scientific name: All species of the genus *Homarus* can be sold as lobster under UK labelling laws, the most common European lobster being:

*Homarus gammarus* – lobster, common lobster

Caught by: Beam, demersal and pelagic trawl; gillnet; pot

Sold in/Source: ASDA – no source given

M&S – UK

Safeway/Morrisons – Scotland

### Concerns

Stock status:

- Many traditional lobster grounds are depleted, with stocks below a quarter of their potential unfished levels, and larger breeding animals are rarely found

Management:

- In England and Wales many Sea Fishery Committees operate tagging or v-notching programmes for egg-bearing female lobsters (retention of notched lobsters is prohibited); however, deliberate removal of eggs still occurs
- Fishermen are extending lobster fishing grounds

Method:

- Turtles and whales can become entangled in buoy lines of pots

**Sustainability rating: MCS grade 3 (pot) or 4 (net)  
Under MSC assessment – NESFC lobster pot fishery, Yorkshire**

---

## LOBSTER – ROCK

Scientific name: All species of the genera *Jasus*, *Palinurus*, and *Panulirus* can be sold as rock lobster, spiny lobster, or crawfish under UK labelling laws including:

*Panulirus cygnus* – Western rock lobster, Australian spiny lobster

Caught by: Bottom and beam trawl (tropical species); pot, hand-collected

Sold in/Source: M&S – MSC-certified, Australia

Waitrose – MSC-certified, Australia

### Concerns

Stock status:

- Many Australian tropical rock lobsters classified as overfished
- Most other species fished down to very low population sizes although considered sustainable by management at these levels

Method:

- Bycatch and seabed destruction by demersal and beam trawling

**Sustainability rating: AMCS grade 'Say no to some species' (temperate species) and 'Say no' (tropical species)  
MBA grade Green (USA and Australian)  
MSC-certified – Western Australian rock lobster fishery (undergoing 5-year reassessment)**

## LOBSTER – SQUAT

Scientific name: All species of the family Galatheididae can be sold as squat lobster under UK labelling laws including:  
*Galathea squamifera* – squat lobster (most common species on north European shores<sup>30</sup>)  
*Pleuroncodes planipes* – squat lobster, Chilean lobster, red crab, tuna crab

Caught by: Beam, demersal and pelagic trawl; gillnet; fixed net; pot

Sold in/Source: Iceland – Young's squat lobster, Chilean Pacific<sup>31</sup>  
Safeway/Morrisons – squat lobster, no source given  
Waitrose – Young's squat lobster, Chilean Pacific

### Concerns

Stock status: • Squat lobsters are relatively abundant but generally stocks are unassessed

Management: • Unmanaged

Method: • Bycatch including marine mammals in gillnets  
• Bycatch and seabed destruction by beam and demersal trawling  
• Turtles and some whales can become entangled in buoy lines of pots

Ecosystem: • *P. planipes* is a prey species for many marine organisms including various tuna species, blue whale (*Balaenoptera musculus*), and loggerhead turtle (*Caretta caretta*)

**Sustainability rating: None given by MCS – interim grade 3**

## LUMPFISH

Other names: Lump sucker

Scientific name: *Cyclopterus lumpus*

Caught by: Bycatch in trawls, and in gillnets during the shoreward spawning migration

Sold in/Source: Jars of lumpfish roe (caviar) sold in:  
ASDA – G Costa and John West brands, no source given  
Sainsbury's – Marina brand, no source given  
Tesco – John West brand, no source given  
Waitrose – no source given

### Concerns

Stock status: • NE Atlantic stocks not assessed by ICES  
• Iceland (Va) stock estimated at 60% of 2002 levels<sup>32</sup>  
• No data for NW Atlantic stocks<sup>33</sup>

Management: • Largely unmanaged  
• The Marine Research Institute advice for the Iceland stock for the quota year 2005–06 was to set a zero TAC

Method: • Harvested during spawning season  
• Females are caught for their roe to make lumpfish caviar

**Sustainability rating: MCS grade 5**



## MACKEREL

Scientific name:	All species of the genus <i>Scomber</i> can be labelled as mackerel under UK labelling laws; however those found in the NE or NW Atlantic are: <i>S. scombrus</i> – Atlantic mackerel, the vast majority of mackerel sold in the UK and the main species discussed below <i>S. japonicus</i> – Spanish mackerel, Pacific mackerel, chub mackerel
Caught by:	Pelagic trawl including pair trawl; purse seine; hand-line
Sold in/Source:	All supermarkets, except M&S, sell branded tinned mackerel; most also sell own-brand tinned and smoked, and some sell fresh: ASDA – Scotland; NE Atlantic Co-op – NE Atlantic M&S – Cornwall; Scotland Safeway/Morrisons – NE Atlantic Sainsbury's – NE Atlantic Somersetfield – NE Atlantic Tesco – caught NE and NW Atlantic, landed in Scotland Waitrose – Cornwall, including MSC-certified hand-line; Scotland, NE Atlantic

### Concerns

Stock status:	<ul style="list-style-type: none"> <li>• Combined NE Atlantic stock is at risk of being below RC and is overfished</li> <li>• North Sea (IV) component has long been depleted</li> </ul>
Management:	<ul style="list-style-type: none"> <li>• TAC has been exceeded in most years</li> <li>• ICES believes that there are substantial undeclared landings</li> <li>• Closures throughout the year in the Central and Southern North Sea (IVb–c) have resulted in discarding of mackerel, above the 10% permitted as bycatch, by other fisheries, especially that for horse mackerel (<i>Trachurus</i> species)</li> </ul>
Method:	<ul style="list-style-type: none"> <li>• Pelagic trawls and purse seining for mackerel have been associated with marine mammal bycatch</li> <li>• Bycatch of juveniles</li> </ul>
Other:	<ul style="list-style-type: none"> <li>• Bycatch of juveniles in sardine/pilchard and horse mackerel fisheries</li> <li>• Spanish fishery closed in first quarter of 2003 following <i>Prestige</i> oil spill</li> </ul>
Sustainability rating:	<p><b>MCS grade 2 (MSC-certified) or 4 (all other) <i>S. scombrus</i></b>  <b>BOI grade Dark Green for <i>S. japonicus</i></b>  <b>MSC-certified – South-West UK mackerel hand-line fishery</b>  <b>Under MSC assessment – Hastings pelagic mackerel fishery</b></p>

## MAHI MAHI

Other names:	Common dolphinfish, dorado
Scientific name:	<i>Coryphaena hippurus</i>
Caught by:	Targeted and as bycatch in long-line fisheries; hand-line in small artisanal fisheries
Sold in/Source:	M&S – Ecuador
<b>Concerns</b>	
Stock status:	<ul style="list-style-type: none"> <li>• No formal assessments so limited information on abundance worldwide</li> </ul>
Management:	<ul style="list-style-type: none"> <li>• Management measures exist for legal Taiwanese distant-water pelagic long-line fleet, and most Latin American long-line fleets; however, goals to minimise bycatch are not being met</li> <li>• Inadequate scientific monitoring of stock status, catch or fishing effort</li> <li>• Measures to restrict 'shark-finning' (the cutting of fins from bycaught sharks) are not in place</li> <li>• Pirate long-liners are a problem, with most vessel owners based in Taiwan</li> </ul>
Method:	<ul style="list-style-type: none"> <li>• Bycatch regularly includes loggerhead (<i>Caretta caretta</i>) and leatherback (<i>Dermochelys coriacea</i>) turtles, sharks and seabirds, including some IUCN-red-listed species</li> <li>• High bycatch of sharks by pelagic long-liners, especially shallow-setting long-liners off Taiwan and the eastern tropical Pacific (Ecuador and Costa Rica)</li> </ul>
Biology:	<ul style="list-style-type: none"> <li>• Fast-growing, short-lived fish with high resilience to fishing pressure</li> </ul>
Sustainability rating:	<p><b>MCS grade 2 (hand-line) or 3 (long-line)</b>  <b>BOI grade Dark Green (pole-and-line) or Yellow (long-line)</b>  <b>MBA grade Yellow (Hawaiian fleet) or Red (international fleet)</b></p>

**MARLIN**

Scientific name:	Major commercial species include: <i>Makaira nigricans</i> – Atlantic blue marlin <i>Makaira indica</i> – black marlin <i>Makaira mazara</i> – Indo-Pacific blue marlin <i>Tetrapturus albidus</i> – Atlantic white marlin <i>Tetrapturus audax</i> – striped marlin
Caught by:	Purse seine, gillnet; long-line; game fishing. <i>M. nigricans</i> and <i>T. albidus</i> mainly landed as bycatch in tuna and swordfish long-line fisheries
Sold in/Source:	ASDA – Indian and Pacific Oceans Sainsbury's – Indian and Pacific Oceans

**Concerns**

Stock status:	<ul style="list-style-type: none"> <li>• <i>M. nigricans</i> and <i>T. albidus</i> considered overfished and near collapse: SSB is estimated at 40% of <math>B_{MSY}</math> for <i>M. nigricans</i> and 15% of the <math>B_{MSY}</math> for <i>T. albidus</i> – neither is predicted to recover at current levels of mortality</li> <li>• Little is known of <i>M. indica</i> or <i>M. mazara</i> stocks, but as commercial fishing levels are high and escalating, their status is likely to be similar to that of <i>M. nigricans</i></li> </ul>
Method:	• Bycatch of turtles, mammals and sharks in long-line fishery
Ecosystem:	• Large predators at the top of the food chain – implications for stability of marine ecosystems
Other:	• Bycatch of juvenile marlin in swordfish and tuna fisheries
<b>Sustainability rating:</b>	<b>MCS grade 5</b>

**MIRROR CARP**

Other names:	Common carp
Scientific name:	<i>Cyprinus carpio carpio</i>
Caught by:	Farmed; hand-line
Sold in/Source:	Safeway/Morrisons – farmed in France Waitrose – farmed in France

**Concerns**

Stock status:	• Wild European carp under threat: IUCN-red-listed as Endangered in the River Danube and Data Deficient elsewhere
Farming:	<ul style="list-style-type: none"> <li>• Some concerns depending on how and where the carp are contained, but these freshwater species are omnivores that eat aquatic plants, algae, insects, crustaceans, and worms, so pose little threat to other fish</li> <li>• Some large-scale farms use fishmeal to feed carp – up to 0.75 kg wild fish used to produce 1 kg carp (see section 1.2.2)</li> </ul>
<b>Sustainability rating:</b>	<b>None given by MCS – interim grade 2 (farmed) or 5 (wild)</b>

**MONKFISH – AMERICAN SPECIES**

Scientific name:	<i>Lophius americanus</i> – American angler, anglerfish, goosefish
Caught by:	Mainly beam trawl, seine and gillnet; dredge; long-line; also as bycatch in other trawls
Sold in/Source:	M&S – USA; NW Atlantic Sainsbury's – NW Atlantic

**Concerns**

Stock status:	• Both northern and southern US stocks are overfished
Method:	<ul style="list-style-type: none"> <li>• High bycatch of juvenile monkfish</li> <li>• Bycatch of marine mammals and turtles in gillnets</li> <li>• Bycatch and seabed destruction by beam and demersal trawling</li> </ul>
Biology:	• Slow-growing, late-maturing species vulnerable to exploitation
Other:	<ul style="list-style-type: none"> <li>• Only tail and liver of commercial value</li> <li>• Increasing prices for monkfish livers, favoured in Asian markets, has rapidly led to overfishing</li> </ul>
<b>Sustainability rating:</b>	<b>MBA grade Red</b> <b>BOI grade Red</b>



**MONKFISH – BRAZILIAN SPECIES**

Scientific name: *Lophius gastrophysus* – Blackfin goosefish, monkfish  
 Caught by: Bottom-set gillnet, double-rigged beam trawl  
 Sold in/Source: M&S – Brazil

**Concerns<sup>34</sup>**

Stock status: • A recently targeted species with little available information on stocks and biology  
 Management: • Recent conservation and management recommendations not followed so landings in 2002 were over double the proposed TAC  
 Method: • Fishery mainly targets females  
 • Bycatch of marine mammals and turtles in gillnets  
 • Bycatch and seabed destruction by beam trawling  
 Biology: • Slow-growing, late-maturing species vulnerable to exploitation  
**Sustainability rating: None given by MCS – interim grade 5**

**MONKFISH – EUROPEAN SPECIES**

Scientific name: *Lophius piscatorius* – Angler or anglerfish (main commercial species)  
*Lophius budegassa* – Black-bellied angler, European angler  
 Caught by: Targeted beam and demersal trawl and gillnet; bycatch in other trawls  
 Sold in/Source: ASDA – NE Atlantic  
 Co-op – NE Atlantic  
 Safeway/Morrisons – NE Atlantic  
 Sainsbury's – NE Atlantic  
 Somerfield – NE Atlantic  
 Tesco – NE Atlantic  
 Waitrose – Cornwall; NE and N Atlantic

**Concerns**

Stock status: • All stocks are overfished or unknown  
 • Skagerrak & Kattegat (IIIa), North Sea (IV) and West Scotland & Rockall (VI) stock at unknown RC and landings are declining  
 • North and North-West Spain (VIIIc) and Portuguese Coast (IXa) stock thought to be below RC  
 • The stock in the areas encompassing the English Channel and West Ireland to West Great Sole (VIIb–k) and South Brittany, South and Central Biscay (VIIIa, b, d) are at full RC but at risk of being harvested unsustainably  
 Management: • Inadequate management despite high commercial value  
 • TACs set are not consistent with management areas  
 • No MLS set due to large head – only tail of commercial value  
 • High levels of misreporting of catches and discards, and misallocation of catch areas  
 • Fishery has expanded into deeper waters  
 Method: • Fishery targets immature fish, especially females  
 • Bycatch of marine mammals and other species in gillnets  
 • Bycatch and seabed destruction by beam and demersal trawling  
 Biology: • Slow-growing, late-maturing species vulnerable to exploitation  
**Sustainability rating: MCS grade 5**



## MUSSEL – COMMON

Other names:	Blue mussel
Scientific name:	<i>Mytilus edulis</i>
Caught by:	Wild or farmed on bottom or floating substrate, or rope-grown. Dredged or hand-gathered
Sold in/Source:	Most supermarkets sell branded jars or tins of pickled, smoked or natural mussels (few with source details) as well as fresh, frozen or processed own-brand: ASDA – Denmark Iceland – NE Atlantic Safeway/Morrisons – Scotland; NE and NW Atlantic Sainsbury's – rope-grown on W coast of Scotland; Holland; Denmark Somerfield – W coast of Ireland Tesco – Bantry Bay, Ireland; farmed in NE Atlantic and Mediterranean Waitrose – rope-grown on W coast of Scotland; NE Atlantic

### Concerns

Stock status:	• Good – widely cultivated and under-exploited
Management:	• Assessed at a local level • Unprotected species, not subject to quota restrictions • Cultivated beds are generally privately owned and managed • In coastal waters in UK and elsewhere, wild beds may be managed by local bylaws
Method:	• Dredging damages seafloor, beach or estuary habitats and can remove mussels in large quantities, reducing overall numbers and sizes
Farming:	• Mussel farms generally considered low-impact, but long-term sustainability of large-scale farming is unassessed • Some impacts associated with removing seed from natural mussel beds, but widespread farming has increased abundance of adults and seed
Ecosystem:	• Extensive dredging removes prey species of birds and other marine life
<b>Sustainability rating:</b>	<b>MCS grade 1 (all hand-gathered) or 3 (all dredged)</b>

## MUSSEL – NEW ZEALAND GREEN-LIPPED

Other names:	Greenshell (trade name) mussel
Scientific name:	<i>Perna canaliculus</i>
Caught by:	Rope-grown
Sold in/Source:	Safeway/Morrisons – New Zealand Sainsbury's – New Zealand Waitrose – New Zealand, including some organic

### Concerns

Stock status:	• Wild stocks had collapsed by 1970 following excessive commercial dredging
Farming:	• Mussel farms generally considered low-impact, but long-term sustainability of large-scale farming is unassessed • Proposals to add 39,000 ha of farms, including larger offshore farms, to New Zealand's 2,850 ha of coastal farms prompted a moratorium on expansion in 2002, pending aquaculture law reform <sup>35</sup>
Ecosystem:	• Mussel farms are known to deplete plankton, modify the benthic environment and its species assemblages, change local hydrodynamics, increase marine litter, and facilitate the spread of unwanted organisms • Larger offshore farms are expected to impact significantly on cetaceans and seabirds through entanglement; ingestion of litter; exclusion from traditional habitats by structures or disturbance; declines in prey abundance due to phytoplankton depletion or changes to the benthic environment; and introduction of pest or pathogenic species • Many threatened species share coastal waters with existing and proposed farms – southern right whale ( <i>Eubalaena australis</i> ), Bryde's whale ( <i>Balaenoptera edeni</i> ), Hector's dolphin ( <i>Cephalorhynchus hectori</i> ) and king shag ( <i>Leucocarbo carunculatus</i> ) are particularly vulnerable to large-scale farming
Other:	• Privatisation of a publicly owned resource raises issues of equity
<b>Sustainability rating:</b>	<b>None given by MCS – interim grade 2 (while moratorium continues) None given by F&amp;B but significant concerns expressed<sup>36</sup></b>

---

## NEW ZEALAND DEEP-SEA COD

Other names: Ribaldo, googly-eyed cod, white cod  
 Scientific name: *Mora moro*  
 Caught by: Targeted bottom long-line; also as bycatch in deepwater demersal trawls such as for orange roughy and hoki  
 Sold in/Source: Waitrose – New Zealand Pacific

### Concerns

Stock status: • No quantitative stock assessment available  
 Management: • Sustainability of recent catches and long-term viability of current commercial catch limit are unknown  
 • Lack of basic biological data  
 • No management plans for the fishery  
 Method: • Bycatch of seabirds, including threatened albatrosses and petrels, by long-line  
 • Bycatch of New Zealand fur seals and deep-water sharks  
 • Demersal trawling damages seamount habitats and communities  
 Biology: • Slow-growing, late-maturing species vulnerable to over-exploitation

**Sustainability rating: F&B grade E**

---

## ORANGE ROUGHY

Other names: Deep sea perch  
 Scientific name: *Hoplostethus atlanticus*  
 Caught by: Bottom trawl, gillnet; long-line  
 Sold in/Source: Waitrose – New Zealand; Pacific Ocean

### Concerns

Stock status: • West Scotland (VIa) stock is below full RC and heavily depleted  
 • Other Atlantic stocks unknown but likely to be over-exploited and below full RC  
 • OSPAR-listed as under threat and/or in decline in all areas where it occurs  
 • Most New Zealand stocks are below 20% of their original size, with one at just 3%  
 Management: • No management plan  
 Method: • High bycatch of other seamount species in trawls  
 • Bottom trawling damages seamount habitats and communities  
 • Main fisheries target spawning aggregations, moving from one area to another as each area is fished out  
 Ecosystem: • Important prey for sperm whale (*Physeter macrocephalus*) and various giant squid species  
 Biology: • Species targeted during spawning aggregations  
 • Slow-growing, late-maturing species with low reproductive capacity, highly vulnerable to over-exploitation

**Sustainability rating: MCS grade 5  
 F&B grade E**

---

## OYSTER – NATIVE

Other name: Oyster, flat oyster  
 Scientific name: *Ostrea edulis*  
 Caught by: Farmed or wild; manual or mechanical harvesting  
 Sold in/Source: Waitrose – farmed in UK  
 Note: Although all *Ostrea* and *Crassostrea* species can be sold simply as 'oyster' under UK labelling laws, Waitrose sells *O. edulis*

### Concerns

Stock status: • Wild stocks depleted throughout UK and most of Europe  
 • OSPAR-listed as under threat and/or in decline in the greater North Sea, including the English Channel, and Skagerrak & Kattegat  
 Management: • Oyster beds generally privately owned and managed  
 • Subject of a Biodiversity Action Plan to maintain and expand its distribution in UK waters  
 Method: • Mechanical harvesting disturbs sediment  
 Farming: • Extensive, low-impact method with high water quality standards required for human consumption  
 Other: • Wild native oyster beds displaced by Pacific oyster farms

**Sustainability rating: MCS grade 1 (all farmed), 3 (wild hand-gathered) or 4 (wild dredged)**

## OYSTER – PACIFIC

Other names:	Oyster, Portuguese oyster, rock oyster
Scientific name:	<i>Crassostrea gigas</i> or <i>C. angulata</i> (now accepted as one species)
Caught by:	Farmed; manual or mechanical harvesting
Sold in/Source:	ASDA – Northern Ireland Safeway/Morrisons – Scotland Sainsbury's – farmed in Northern Ireland
Note:	Although all <i>Ostrea</i> and <i>Crassostrea</i> species can be sold simply as 'oyster' under UK labelling laws, the above supermarkets specified Pacific Oysters

### Concerns

Stock status:	• Introduced Pacific oysters more widely cultivated than the native oyster
Farming:	• Extensive, low-impact method with high water quality standards required for human consumption
Ecosystem:	• Wild native oyster beds have been displaced for farming Pacific oyster

**Sustainability rating:** MCS grade 1

## PLAICE

Scientific name:	<i>Pleuronectes platessa</i>
Caught by:	Mainly targeted and mixed trawls, including beam and demersal trawl, and Danish seine; also gillnet, angling
Sold in/Source:	ASDA – no source given Co-op – NE Atlantic Iceland – no source given M&S – UK coastal waters; NE Atlantic Safeway/Morrisons – NE Atlantic Sainsbury's – NE Atlantic Somerfield – SW England; NE Atlantic Tesco – caught in NE Atlantic, landed in UK and Iceland; NE Atlantic Waitrose – Cornwall; Iceland; Faeroe Islands; NE Atlantic

### Concerns

Stock status:	<ul style="list-style-type: none"> <li>• Only Irish Sea (VIIa) stock is at full RC and sustainably fished</li> <li>• Skagerrak &amp; Kattegat (IIIa) stock is at full RC but at risk of being harvested unsustainably</li> <li>• North Sea (IV), Bristol Channel and South-East Ireland (VIIf, g) and Channel (VIId, e) stocks are at risk of reduced RC and of being overfished</li> <li>• West Ireland (VIIb), Porcupine Bank (VIIfc), Sole (VIIh–k) and Baltic Sea (22–32) stocks are unknown and unassessed</li> <li>• Large plaice are now very rare</li> </ul>
Management:	• MLS in EU waters is 27 cm, but 50% of females do not mature until 30–34 cm
Method:	<ul style="list-style-type: none"> <li>• High bycatch by trawls of immature plaice, and of other commercial fish such as cod and non-target demersal species</li> <li>• Bycatch of marine mammals and other non-target species in gillnets</li> <li>• Seabed destruction by beam and demersal trawling</li> </ul>
Other:	• Susceptible to changes in environmental conditions
<b>Sustainability rating:</b>	<b>MCS grade 3 (healthy stocks) or grade 5 (depleted or unknown stocks)</b>





**POLLACK**

Other names: Green pollack, European pollock, lythe (not to be confused with Alaska pollock)  
 Scientific name: *Pollachius pollachius*  
 Caught by: Bycatch in trawl fisheries for cod and coley; targeted hook and line; angling  
 Sold in/Source: Sainsbury's – NE Atlantic

**Concerns**

Stock status: • Not assessed  
 Management: • Managed under TAC without stock assessment

**Sustainability rating: MCS grade 2**

**PRAWN – COLD WATER SPECIES**

Other names: The terms prawn, shrimp and crevette are used interchangeably for many species. Commercially, shrimps tend to be smaller individuals, and prawns larger.

Scientific name: Various including:  
*Pandalus borealis* – Northern prawn, pink shrimp  
*Crangon crangon* (was *C. vulgaris*) – brown shrimp, common shrimp, bay shrimp  
*Pandalus jordani* – Oregon or Pacific pink shrimp

Caught by: Bottom trawl, pair, twin or multi-rig demersal trawl; trap

Sold in/Source: ASDA – NE Atlantic  
 Co-op – N Atlantic  
 Iceland – Arctic; N and NE Atlantic  
 M&S – Greenland; Iceland; Canada; N Atlantic  
 Safeway/Morrisons – Canada; NE and NW Atlantic  
 Sainsbury's – NE and NW Atlantic  
 Somerfield – NE Atlantic  
 Tesco – NE and NW Atlantic, landed in Canada  
 Waitrose – Icelandic fjord; N, NE and NW Atlantic

**Concerns**

Stock status: • Generally unknown  
 • North Sea (IV) stock of *P. borealis* considered at full RC, although spawning stock biomass is poorly estimated  
 • All species are highly dependent on breeding ability of the population in a given year and are subject to large natural fluctuations

Method: • High bycatch of non-target species, although Norwegian, Canadian and US fisheries have compulsory sorting grids to reduce this  
 • Seabed destruction by beam and demersal trawling  
 • Egg-bearing females often caught

Ecosystem: • Important prey for many marine species including cod

Other: • Populations affected by climate change – ironically prawn trawling has the highest fuel consumption of all fisheries<sup>37</sup>

**Sustainability rating: MCS grade 3**

**BOI grade Dark Green**

**MBA grade Green (trapped) or Yellow (trawled)**

## PRAWN – TROPICAL SPECIES

Other names:	The terms king and tiger prawn, prawn and shrimp and crevette are used interchangeably for many species. Commercially, shrimps tend to be smaller, and prawns larger, while the term king prawn can be used to describe the largest individuals.
Scientific names:	Various <i>Penaeus</i> and <i>Parapenaeopsis</i> species including the widely farmed: <i>Penaeus chinensis</i> – Chinese white shrimp, Chinese shrimp <i>Penaeus monodon</i> – black tiger prawn, black tiger shrimp, giant tiger shrimp <i>Penaeus vannamei</i> – Pacific white shrimp, white shrimp
Caught by:	Widely farmed; also beam trawl, twin or multi-rig demersal trawl
Sold in/Source:	ASDA – farmed in Ecuador, Indonesia, Vietnam and Madagascar Co-op – no source given Iceland – farmed in Ecuador, Indonesia, and Thailand M&S – farmed in: Gulf of Fonseca, Honduras; Madagascar; and Thailand Safeway/Morrisons – farmed in Ecuador, India, Indonesia, and Thailand Sainsbury's – farmed in Ecuador and Indonesia Somerfield – farmed in SW Atlantic Tesco – farmed in: Madagascar; Gulf of Guayaquil, Ecuador; southern Sumatra, Indonesia; Gulf of Fonseca, Honduras; Rio Grande do Norte, Brazil; Guatemala; Thailand Waitrose – farmed in Honduras and Madagascar

### Concerns

Stock status:	• Not considered at risk
Method:	• Trawls take over 35% of the world's bycatch – 10 kg of bycatch for 1 kg of prawn – including endangered species such as sea turtles • Seabed destruction by beam and demersal trawling • Prawn trawling has the highest fuel consumption of all fisheries
Farming:	• Large-scale farming with huge environmental and human rights impacts (see section 1.2.2) • Some farms rely on brood stocks taken from the wild instead of captive-reared ones • Approximately 3 kg wild fish used to produce 1 kg of farmed prawns

**Sustainability rating:** **MCS grade 3 (farmed) or 5 (wild)**  
**BOI grade Red (farmed) or Orange (wild)**  
**MBA grade Yellow (US farmed) or Red (other farmed, all wild)**

## RED MULLET

Scientific name:	All species of the genus <i>Mullus</i> can be sold as red mullet under UK labelling laws. Species found in the NE Atlantic are: <i>Mullus barbatus barbatus</i> – red mullet <i>Mullus surmuletus</i> – striped red mullet
Caught by:	Bycatch in demersal trawl fisheries
Sold in/Source:	Sainsbury's – SW England; NE Atlantic Somerfield – SW England; NE Atlantic Waitrose – Cornwall

### Concerns

Stock status:	• Unknown
Management:	• It is an unprotected species not subject to quota restrictions

**Sustainability rating:** **MCS grade 2**

## ROCKFISH

Other names:	Catfish, wolf-fish
Scientific name:	Various species of the genus <i>Anarhichas</i> can be sold as rockfish, catfish or wolf-fish, however M&S specifies <i>Anarhichas lupus</i> – Atlantic wolf-fish
Caught by:	Bycatch in mixed trawl fisheries; long-line
Sold in/Source:	M&S – trawled in NE Atlantic, including North Sea, landed in Scotland and Iceland

### Concerns

Stock status:	• No information available on stock status in European waters, except that Iceland (Va) stock is apparently increasing
Management:	• Only Iceland fishery is managed by TAC and quotas
Biology:	• Slow-growing, late-maturing species vulnerable to over-exploitation
Note:	• Could be confused with a wide variety of other imported non-European species which can be labelled catfish under existing labelling laws

**Sustainability rating:** **MCS grade 5**

---

## SALMON – ATLANTIC

Scientific name:	<i>Salmo salar</i>
Caught by:	Widely farmed; also gillnet, driftnet, trammel net, trap; angling
Sold in/Source:	ASDA – farmed in Scotland and Norway Co-op – farmed in Scotland Iceland – farmed in Scotland and Norway M&S – farmed (some organically) in Shetland, the Hebrides and West Scotland; farmed in Ireland for Irish markets Safeway/Morrisons – farmed in Scotland Sainsbury's – farmed in Scotland (including organically in Orkney) and Norway Somerfield – farmed in Scotland and Norway Tesco – farmed in: Norway; Shetland and Argyll, Scotland; Clare Island, Co Mayo and Mannin Bay, Galway, Ireland; Chile Waitrose – farmed (some organically) in Orkney, Shetland and elsewhere in Scotland

### Concerns

Stock status:	<ul style="list-style-type: none"> <li>• Wild stocks severely depleted – halved in last 20 years, with survival at sea much diminished; has disappeared from 309 of 2,000 traditional breeding rivers worldwide</li> <li>• 90% of the known healthy populations are in Norway, Iceland, Ireland and Scotland</li> <li>• OSPAR-listed as under threat and/or in decline in all areas where it occurs</li> </ul>
Management:	<ul style="list-style-type: none"> <li>• Overfished, especially in driftnets and traps, while returning to rivers to spawn</li> </ul>
Farming:	<ul style="list-style-type: none"> <li>• Extensively and intensively farmed worldwide</li> <li>• Approximately 3 kg wild fish required to produce 1 kg farmed salmon; environmental degradation; pollution; spread of disease; escaped foreign species compete with wild fish (see section 1.2.2)</li> </ul>
Other:	<ul style="list-style-type: none"> <li>• Wild populations reduced by damming of spawning rivers, pollution, climate change and limited availability of food</li> </ul>
<b>Sustainability rating:</b>	<b>MCS grade 2 (farmed organic or Freedom Food certified), 3 (other farmed) or 5 (wild)</b>

---

## SALMON – PACIFIC SPECIES

Scientific name:	Canadian or Alaskan Pacific salmon includes: <i>Oncorhynchus keta</i> – chum salmon, keta salmon <i>Oncorhynchus kisutch</i> – medium red salmon, coho salmon, silver salmon <i>Oncorhynchus gorbuscha</i> – pink salmon <i>Oncorhynchus nerka</i> – red salmon, sockeye salmon <i>Oncorhynchus tshawytscha</i> – chinook salmon, spring salmon, king salmon, Pacific salmon
Caught by:	Purse seine, driftnet, gillnet; trolling
Sold in/Source:	All supermarkets sell their own brand tinned Alaskan or Canadian salmon. Some also sell fresh and smoked: ASDA – wild Alaskan MSC-certified M&S – wild Alaskan MSC-certified Sainsbury's – wild Alaskan MSC-certified Tesco – wild Alaskan MSC-certified Waitrose – wild Alaskan MSC-certified

### Concerns

Stock status:	<ul style="list-style-type: none"> <li>• Most Alaskan salmon stocks are healthy with less than 5% of stocks giving concern</li> <li>• California and Pacific North-West salmon depleted by habitat degradation from dams, logging, etc – many runs (migrations of a specific species in a particular river at a particular season) of salmon are listed as threatened or endangered under the US Endangered Species Act</li> </ul>
Management:	<ul style="list-style-type: none"> <li>• Alaskan salmon fishery is well-managed and sustainable</li> <li>• Many other Pacific salmon stocks need to be supported by rearing and release programmes</li> </ul>
Biology:	<ul style="list-style-type: none"> <li>• Shorter-lived species and more prolific breeders than Atlantic salmon</li> </ul>
Other:	<ul style="list-style-type: none"> <li>• Alaskan salmon hatchery programme has possible adverse effects on wild salmon</li> </ul>
<b>Sustainability rating:</b>	<b>MCS grade 1 (trolling) or 2 (other methods)</b> <b>BOI grade Dark Green</b> <b>MBA grade Green (Alaskan) or Yellow (California, Washington, Oregon stocks)</b> <b>MSC-certified – Wild Alaskan salmon fishery (undergoing 5-year reassessment)</b> <b>Under MSC assessment – British Columbian and Californian chinook salmon fishery</b>

**SARDINE**

Other names:	Smaller fish are called sardines and larger fish pilchards
Scientific name:	<i>Sardina pilchardus</i>
Caught by:	Industrial fisheries; pelagic and demersal pair trawl, purse seine, driftnet
Sold in/Source:	All supermarkets, except M&S, sell branded tinned sardines or pilchards; most also sell own-brand tinned (rarely labelled with the source), and some sell fresh: ASDA – NE Atlantic Co-op – Atlantic and Mediterranean M&S – Penzance and Mevagissey, Cornwall; NE Atlantic Safeway/Morrisons – NE Atlantic Somerfield – SW England; NE Atlantic Tesco – caught in NE Atlantic, landed in France; NE Atlantic Waitrose – Cornwall; NE Atlantic

**Concerns**

Stock status:	<ul style="list-style-type: none"> <li>• North &amp; North West Spain (VIIIc) and Portuguese coast (IXa) stocks at unknown RC, but very low compared to mid-1980s levels</li> <li>• Cornish sardine stocks fluctuate</li> <li>• Populations highly dependent on yearly recruitment – that is, one bad year for recruitment will reduce the whole stock substantially</li> </ul>
Management:	<ul style="list-style-type: none"> <li>• Stocks are largely unassessed</li> <li>• No quota specified in EU, although an MLS is set</li> </ul>
Method:	<ul style="list-style-type: none"> <li>• Young immature fish heavily fished off Bay of Biscay and Portugal for sardine cannery</li> <li>• Object of industrial fishery in some parts of the world</li> <li>• Bycatch of marine mammals in trawls and seines</li> <li>• Bycatch of juvenile mackerel off SW coast of UK – sardine fishery continues within the 'mackerel box', an area designed to protect juvenile mackerel</li> </ul>
Ecosystem:	<ul style="list-style-type: none"> <li>• Major prey species of other fish and cetaceans</li> </ul>
Other:	<ul style="list-style-type: none"> <li>• Reduced recruitment may be related to global warming</li> <li>• Cannibalism of juveniles by adults during food scarcity</li> <li>• <i>Prestige</i> oil spill stopped fishery in January–March 2003</li> </ul>
Note:	<ul style="list-style-type: none"> <li>• Small vessels using traditional, environmentally sensitive cotton driftnets operate off the UK's SW coast</li> </ul>
<b>Sustainability rating:</b>	<b>MCS grade 3</b>

**SCALLOP**

Scientific name:	All species of the family Pectinidae can be sold as scallop or common scallop under UK labelling laws, including: <i>Chlamys islandica</i> – Iceland scallop <i>Chlamys opercularis</i> – queen scallop <i>Pecten maximus</i> – king scallop, great scallop <i>Placopecten magellanicus</i> – Atlantic scallop, sea scallop
Caught by:	Dredging, trap; manual harvesting by divers; farmed
Sold in/Source:	ASDA – no source given M&S – New England, USA; Canada; Argentina; N Atlantic Safeway/Morrisons – wild from W coast of Scotland; NE Atlantic Sainsbury's – Scotland, NE Atlantic Tesco – Scotland, NE Atlantic Waitrose – Canada; NE and NW Atlantic
<b>Concerns</b>	
Stock status:	<ul style="list-style-type: none"> <li>• Unknown</li> </ul>
Management:	<ul style="list-style-type: none"> <li>• Not ICES-assessed, but MLS is set by EU</li> <li>• Localised assessments carried out by various fisheries institutions</li> </ul>
Method:	<ul style="list-style-type: none"> <li>• Dredging causes bycatch or crushing of echinoderms (starfish, brittlestars, etc) and undersized scallops, and damage to the seabed</li> <li>• Dredging has a high bycatch of other bottom-dwelling marine species, as well as sea turtles in the USA</li> <li>• Hand-picking causes minimal damage and depth limits for divers allow refuges for scallops</li> </ul>
Farming:	<ul style="list-style-type: none"> <li>• Increasing demand and unpredictable supply of wild scallops mean that most are farmed</li> <li>• Removal of juveniles from wild for farming, although most are now produced in hatcheries</li> </ul>
<b>Sustainability rating:</b>	<b>MCS grade 2 (farmed) or 3 (wild dredged)</b> <b>BOI grade Yellow (<i>P. magellanicus</i> and <i>C. islandica</i>)</b> <b>MBA grade Yellow (Canada and North-East USA) and Red (Mid-Atlantic USA)</b>



**SCAMPI**

Other names:	Langoustine, nephrops, Dublin Bay prawn, Norway lobster
Scientific name:	<i>Nephrops norvegicus</i>
Caught by:	Mixed and targeted beam and demersal trawl; pot (also known as creel)
Sold in/Source:	ASDA – no source given Co-op – Young's brand, Scotland Iceland – Scotland M&S – caught in NE Atlantic, landed in Fraserburgh; Scotland Safeway/Morrisons – no source given Sainsbury's – Scotland Somerfield – no source given Tesco – caught in NE Atlantic, landed in Scotland Waitrose – UK

**Concerns**

Stock status:	<ul style="list-style-type: none"> <li>• Most stocks are at full RC but overfished</li> <li>• Southern stocks around Bay of Biscay and Iberian Peninsula (VIII, IX) are highly over-exploited and close to collapse</li> </ul>
Management:	<ul style="list-style-type: none"> <li>• ICES is concerned that TACs are set for large areas (eg Area VII) within which there are very different levels of exploitation</li> <li>• TACs are nearly always set higher than ICES recommends by the EU</li> </ul>
Method:	<ul style="list-style-type: none"> <li>• High bycatch of immature white fish including overfished species (cod, hake, whiting) in areas where these are undergoing recovery programmes</li> <li>• Seabed destruction by beam and demersal trawling</li> <li>• Overfishing of males as females hide in burrows when carrying eggs</li> </ul>
Other:	<ul style="list-style-type: none"> <li>• Tails often removed from live scampi at sea</li> <li>• Southern fisheries closed for six months over 2002–03 due to <i>Prestige</i> oil spill</li> </ul>
<b>Sustainability rating:</b>	<b>MCS grade 2 (pot), 3 (trawl), or 5 (southern stocks)</b> <b>MSC-certified – Loch Torridon nephrops creel fishery</b>

**SEA BASS**

Other names:	Bass, European sea bass
Scientific name:	<i>Dicentrarchus labrax</i>
Caught by:	Winter pelagic pair trawl, bycatch in demersal trawl; gillnet; hook and line; angling, spear-diving; widely farmed in Mediterranean
Sold in/Source:	ASDA – farmed in Greece M&S – farmed in Greece Safeway/Morrisons – farmed in Greece and Turkey Sainsbury's – wild NE Atlantic; farmed in Greece and France Somerfield – farmed in Greece Tesco – wild NE Atlantic; farmed in Greece, Cyprus, and Turkey Waitrose – farmed in Corsica, Greece and France
<b>Concerns</b>	
Stock status:	<ul style="list-style-type: none"> <li>• Stock levels unknown</li> <li>• Commercial fishery has depleted mature fish so stocks are dependent on first-time spawners</li> </ul>
Management:	<ul style="list-style-type: none"> <li>• In an attempt to reduce dolphin bycatch, UK pair-trawl fleet is limited to fishing outside the 12-nautical-mile zone; however, most bycatch occurs outside this zone and the restriction does not apply to the larger French fleet</li> <li>• No TAC set by EU, but French and UK fleets have adopted a 5-tonne-per-vessel daily limit in offshore winter fishery</li> </ul>
Method:	<ul style="list-style-type: none"> <li>• Bycatch of marine mammals in trawls and gillnets (gillnets currently use acoustic deterrents, known as pingers, in an attempt to reduce this)</li> <li>• Winter fishery targets spawning and pre-spawning stock</li> <li>• Juveniles exploited in nursery areas</li> </ul>
Farming:	<ul style="list-style-type: none"> <li>• Approximately 5 kg wild fish required to produce 1 kg farmed sea bass; environmental degradation; pollution; spread of disease to wild fish; escaped foreign species compete with wild fish (see section 1.2.2)</li> </ul>
Other:	<ul style="list-style-type: none"> <li>• Threatened by barrages, marinas and pollution</li> <li>• Competition between commercial fishery and more valuable recreational fishery</li> <li>• Increasing water temperatures have allowed sea bass to expand northwards into the North Sea</li> </ul>
<b>Sustainability rating:</b>	<b>MCS grade 1 (line), 2 (gillnet) or 5 (trawl)</b> <b>Under MSC assessment – NESFC gillnet sea bass fishery, NE England</b>

**SKATE**

Other names:	Ray, roker
Scientific name:	Various species of the family Rajidae can be sold as skate, ray or roker under UK labelling laws, including the following species found in the NE Atlantic: <i>Dipturus batis</i> (was <i>Raja batis</i> ) – blue skate, common skate <i>Raja brachyura</i> – blonde ray <i>Raja clavata</i> – thornback ray <i>Raja microocellata</i> – small-eyed ray <i>Raja montagui</i> (was <i>Dipturus montagui</i> ) – spotted ray
Caught by:	Mixed fisheries including beam and demersal trawl, seine, and gillnet; targeted by long-line; angling
Sold in/Source:	ASDA – NE Atlantic Co-op – NE Atlantic Safeway/Morrison – NE Atlantic Sainsbury's – NE Atlantic Somerfield – SW England; NE Atlantic Tesco – NE Atlantic Waitrose – NE Atlantic

**Concerns**

Stock status:	<ul style="list-style-type: none"> <li>• <i>D. batis</i> is extremely depleted in its central range around the UK; rare in shallow waters of Europe; extinct in Irish Sea (VIIa); extremely rare in Central and Southern North Sea (IVb–c), western Baltic (within IIIId) and western Mediterranean; and critically endangered in some areas of North–West Atlantic. IUCN–red–listed as Endangered and OSPAR–listed as under threat and/or in decline in all areas where it occurs</li> <li>• <i>R. clavata</i> was most abundant of this family but exploitation has greatly reduced its range – IUCN–red–listed as Near Threatened</li> <li>• <i>R. microocellata</i> is IUCN–red–listed as Near Threatened</li> <li>• <i>R. montagui</i> is OSPAR–listed as under threat and/or in decline in all regions where it occurs</li> </ul>
Management:	<ul style="list-style-type: none"> <li>• Managed under one TAC for North Sea (IV) and Norwegian Sea (IIa) as skates and rays – no TAC for other areas</li> <li>• No MLS enforced in EU waters outside local 6–nautical–mile boundaries</li> </ul>
Method:	<ul style="list-style-type: none"> <li>• Overfishing of juveniles and females</li> <li>• Bycatch and seabed destruction by beam and demersal trawling</li> <li>• Bycatch of turtles, sharks, etc., by long–line</li> </ul>
Biology:	<ul style="list-style-type: none"> <li>• Slow–growing, late–maturing species with low reproductive capacity, highly vulnerable to over–exploitation</li> </ul>
Other:	<ul style="list-style-type: none"> <li>• <i>R. microocellata</i> vulnerable to habitat degradation and other anthropogenic disturbance due to restricted, patchy distribution</li> </ul>

**Sustainability rating: MCS grade 5****SNAPPER**

Scientific name:	All species of the family Lutjanidae can be sold as snapper including: <i>Lutjanus analis</i> – mutton snapper <i>Lutjanus cyanopterus</i> – Cubera snapper <i>Lutjanus campechanus</i> – Northern red snapper
Caught by:	Trawl; long–line, hand–line; pot; dive–caught; cyanide and dynamite; angling
Sold in/Source:	Safeway/Morrisons – Indian and SW Atlantic Oceans Sainsbury's – Indian and Pacific Oceans

**Concerns**

Stock status:	<ul style="list-style-type: none"> <li>• Many snapper stocks are overfished locally</li> <li>• <i>L. campechanus</i> is generally overfished</li> <li>• <i>L. analis</i> and <i>L. cyanopterus</i> are IUCN–red–listed as Vulnerable</li> </ul>
Method:	<ul style="list-style-type: none"> <li>• Bycatch of sharks and turtles by long–lines</li> <li>• Bycatch and seabed destruction by beam and demersal trawling</li> <li>• Irresponsible fishing methods (dynamite, poisons) damage reef ecology</li> </ul>
Other:	<ul style="list-style-type: none"> <li>• Bycatch of juveniles in shrimp fisheries</li> <li>• Exploited in aquarium trade</li> <li>• Destruction of habitats (eg reefs and mangroves) by human activity</li> </ul>

**Sustainability rating: MCS grade 5**

**SPRAT**

Other names: European sprat, sild (young, tinned), brisling (when tinned); sometimes marketed as sardines, anchovies or skippers  
 Scientific name: *Sprattus sprattus* (was *Clupea sprattus*)  
 Caught by: Most taken in industrial fisheries with herring; purse seine, small local pelagic pair trawl  
 Sold in/Source: All supermarkets, except M&S, carry John West tinned 'skippers brisling'

**Concerns**

Stock status:
 

- Baltic (22–32) stocks are at full RC
- North Sea (IV) stock is unknown but thought to be in good condition
- Skagerrak & Kattegat (IIIa) and Channel (VIIId, e) stocks are unknown

 Management:
 

- For all but Baltic stocks there is inadequate information with no precautionary reference points set to assess stock biomass or exploitation trends

 Ecosystem:
 

- Important prey species

 Other:
 

- Caught in industrial fisheries for fishmeal and mink food

**Sustainability rating: MCS grade 2 (North Sea) or 3 (other)**

**SQUID**

Other names: Calamari  
 Scientific name: Various species of the genera *Loligo* and *Illex* and one of *Todarodes* can be sold as squid under UK labelling laws, including the following:  
*Loligo forbesi* – veined squid, long-finned squid  
*Loligo vulgaris* – common squid, European squid, chokka squid  
*Illex coindetii* – broadtail short-finned squid  
*Illex illecebrosus* – Northern short-finned squid  
*Todarodes sagittatus* (was *Ommastrephes sagittatus*) – flying squid, European flying squid

Caught by: Bycatch in white fish and scampi trawl fisheries; targeted demersal and pelagic trawl; jig

Sold in/Source: Iceland – Indian Ocean  
 Safeway/Morrisons – NE Atlantic  
 Sainsbury's – Indian and Pacific Oceans  
 Tesco – Indian and Pacific Oceans

**Concerns**

Stock status:
 

- Unknown, unassessed

 Management:
 

- Not managed, no quota set

 Method:
 

- Caught before spawning can occur (since both sexes die after spawning)
- High discards when taken early in a fishing trip

 Ecosystem:
 

- Important prey species for a wide variety of marine mammals

 Note:
 

- There is scope for confusion between *Sepia* species and *Rossia macrosoma* which are cuttlefish (also known as calamari), and rings of squid which are also sold as calamari

**Sustainability rating: MCS grade 4**

**SQUID – ARROW**

Scientific name: *Nototodarus sloani*  
*Nototodarus gouldi*  
 Caught by: Mainly pelagic trawl, some demersal; jig  
 Sold in/Source: M&S – New Zealand  
 Waitrose – New Zealand; Pacific Ocean

**Concerns**

Stock status:
 

- Unknown

 Management:
 

- No quantitative assessment
- No management plan
- Lack of basic biological information and no research programme

 Method:
 

- Seabed destruction by beam and demersal trawling
- Bycatch of three threatened species in trawls: New Zealand sea lions (*Phocarctos hookeri*), New Zealand fur seals (*Arctocephalus forsteri*) and basking sharks (*Cetorhinus maximus*)

 Ecosystem:
 

- Important prey species for a wide variety of marine mammals including threatened New Zealand sea lions

**Sustainability rating: F&B grade E**



---

## SWORDFISH

Scientific name:	<i>Xiphias gladius</i>
Caught by:	Long-line, gillnet, harpoon, game fishing; bycatch in tuna driftnet fisheries
Sold in/Source:	ASDA – Indian and Pacific Oceans Safeway/Morrisons – Indian and SW Atlantic Oceans Sainsbury's – Indian and Pacific Oceans Somerfield – no source given Waitrose – Indian, Pacific and SW Atlantic Oceans

### Concerns

Stock status:	<ul style="list-style-type: none"><li>• All swordfish fishing considered by ICCAT to be unsustainable</li><li>• Atlantic swordfish in decline as breeding populations have fallen by over 50% in the last 20 years</li><li>• North Atlantic stock is IUCN-red-listed as Endangered while others are Data Deficient</li><li>• Pacific swordfish status is unknown as stocks are largely unmanaged</li><li>• Indian Ocean and Mediterranean fisheries considered unsustainable</li></ul>
Management:	<ul style="list-style-type: none"><li>• Illegal driftnetting for swordfish in Mediterranean</li></ul>
Method:	<ul style="list-style-type: none"><li>• Adults have been overfished – the average size of line-caught swordfish has dropped from 120 kg to 30 kg in the last 30 years</li><li>• Juveniles are now being overfished</li><li>• Bycatch of turtles, marine mammals, marlin and sharks by long-lines</li></ul>
Ecosystem:	<ul style="list-style-type: none"><li>• Top predator with important role in the ecosystem</li></ul>
Biology:	<ul style="list-style-type: none"><li>• Usually solitary, it forms large schools during spawning, making it vulnerable to fishing</li></ul>
Other:	<ul style="list-style-type: none"><li>• Bycatch of juveniles in tuna long-line fishery</li></ul>
<b>Sustainability rating:</b>	<b>MCS grade 5</b>

---

## TILAPIA

Scientific name:	All species of the genera <i>Tilapia</i> and <i>Oreochromis</i>
Caught by:	Farmed
Sold in/Source:	ASDA – farmed in Cambridge Safeway/Morrisons – farmed in Jamaica Sainsbury's – farmed in Zimbabwe and UK Tesco – farmed in Jamaica

### Concerns

Stock status:	<ul style="list-style-type: none"><li>• Not at risk</li></ul>
Farming:	<ul style="list-style-type: none"><li>• Some concerns over farmed fish, depending on how and where the fish are contained, but these freshwater species are largely farmed in recirculating pool systems, and are herbivores so pose little threat to other fish</li><li>• Some large-scale farms use fishmeal to feed tilapia – up to 1.5 kg wild fish used to produce 1 kg tilapia (see section 1.2.2)</li></ul>
<b>Sustainability rating:</b>	<b>MCS grade 2</b> <b>BOI grade Light Green</b> <b>MBA grade Green</b>



---

## TROUT – RAINBOW

Other names:	Trout, steelhead trout
Scientific name:	<i>Oncorhynchus mykiss</i>
Caught by:	Farmed; angling. More widely farmed than sea trout
Sold in/Source:	ASDA – farmed in UK M&S – farmed in Scotland Safeway/Morrisons – farmed in UK Sainsbury's – farmed in Scotland, including Loch Etive Somerfield – farmed in S England Tesco – farmed in: Yorkshire; Scottish Lowlands and Highlands, including Connel, Argyll; Co Tyrone, Northern Ireland; SW Norway Waitrose – farmed in Loch Etive, Scotland, and England

### Concerns

Stock status:	• Introduced from the USA but few self-sustaining wild breeding populations – most restocked with farmed fish
Farming:	• Approximately 2.5 kg wild fish required to produce 1 kg farmed trout; environmental degradation; pollution; spread of disease to wild fish; escaped foreign species compete with wild fish (see section 1.2.2)
Ecosystem:	• Introduced species which competes with and replaces indigenous brown/sea trout

**Sustainability rating: MCS grade 2 (organic farmed only)**

---

## TROUT – SEA/BROWN

Other names:	Brown trout (spends its whole life in freshwater), sea or salmon trout (spends some time in seawater)
Scientific name:	<i>Salmo trutta</i>
Caught by:	Bycatch in salmon and white fish gillnet and trap net fisheries; widely farmed; angling
Sold in/Source:	ASDA – England, including River Test, Southampton; farmed in UK Safeway/Morrisons – farmed in UK Tesco – farmed in Highlands, Scotland Waitrose – farmed in England

### Concerns

Stock status:	• Wild stocks threatened by overfishing, habitat degradation and introduced species
Management:	• Rod and line fisheries for wild sea trout are tightly managed by licensing, closed seasons, gear restrictions and MLS
Farming:	• Approximately 2.5 kg wild fish required to produce 1 kg farmed trout; environmental degradation; pollution; spread of disease to wild fish; escaped foreign species compete with wild fish (see section 1.2.2)

**Sustainability rating: MCS grade 1 (organic farmed) or 3 (wild and other farmed)**



## TUNA

Scientific name:	Six commercially important species: <i>Katsuwonus pelamis</i> (was <i>Euthyynnus pelamis</i> ) – skipjack tuna <i>Thunnus alalunga</i> – albacore tuna <i>Thunnus albacares</i> – yellowfin tuna <i>Thunnus maccoyii</i> – southern bluefin tuna <i>Thunnus obesus</i> – bigeye tuna <i>Thunnus thynnus</i> – northern bluefin tuna
Caught by:	Pelagic trawl, purse seine, driftnet; trolling; pole-and-line, long-line; ranching (juvenile capture and fattening) in Australia, Japan and the Mediterranean
Sold in/Source:	All supermarkets, except M&S, sell branded tinned tuna (no source given) as well as their own brand, with some selling fresh and/or frozen: ASDA – Indian and Pacific Oceans Co-op – Indian Ocean; packed in the Maldives from various oceans Iceland – Indian and Pacific Oceans M&S – line-caught from the Seychelles, Sri Lanka and the Maldives Safeway/Morrison – hand-line from Sri Lanka and the Maldives; Indian and Pacific Oceans Sainsbury's – pole-and-line from Atlantic, Indian and Pacific Oceans Somersetfield – Indian Ocean Tesco – bigeye landed in Brazil and Sri Lanka; yellowfin landed in Brazil; unknown species line-caught around the Equator, landed in the Maldives Waitrose – Indian and Pacific Oceans

### Concerns

Stock status:	<ul style="list-style-type: none"> <li>• In general, stocks are fully exploited with many overfished, and worldwide catches doubling in the last decade</li> <li>• Pacific skipjack stocks are currently sustainably fished, while Atlantic stocks are fully exploited</li> <li>• Only west and central Pacific yellowfin stocks are not currently overfished. Atlantic yellowfin has declined by 30% in the last 10 years</li> <li>• Albacore is IUCN-red-listed as Data Deficient</li> <li>• Bigeye is IUCN-red-listed as Vulnerable</li> <li>• Southern bluefin is IUCN-red-listed as Critically Endangered, and OSPAR-listed as under threat and/or in decline in all areas where it occurs</li> <li>• Northern bluefin is IUCN-red-listed as Data Deficient, and OSPAR-listed as under threat and/or in decline in all areas where it occurs</li> </ul>
Management:	<ul style="list-style-type: none"> <li>• Illegal and over-quota fishing</li> </ul>
Method:	<ul style="list-style-type: none"> <li>• Bycatch of marine mammals, particularly in the eastern Pacific purse seine fisheries</li> <li>• Purse seine fisheries have a high bycatch of juvenile tuna, of other fish including marlin and swordfish, and of sharks and turtles</li> <li>• Long-line fisheries have a high bycatch of endangered species including seabirds, sharks, marlin, swordfish and turtles</li> </ul>
Ecosystem:	<ul style="list-style-type: none"> <li>• Large predators at the top of the food chain – implications for stability of marine ecosystems</li> </ul>
Biology:	<ul style="list-style-type: none"> <li>• Albacore, bigeye, and northern and southern bluefin are slower-growing, longer-lived fish and as a consequence less resilient to fishing than skipjack or yellowfin</li> </ul>
Note:	<ul style="list-style-type: none"> <li>• Tinned tuna in the UK is mainly skipjack and yellowfin, with some albacore</li> </ul>
Sustainability rating:	<b>MCS grade 2–3 (skipjack), 3–5 (yellowfin), 4–5 (albacore) and 5 (northern and southern bluefin and bigeye), depending on region and fishing method</b> (see <a href="http://www.fishonline.com">www.fishonline.com</a> for details)

## TURBOT

Scientific name:	<i>Psetta maxima</i>
Caught by:	Demersal and beam trawl, purse seine; line; farmed
Sold in/Source:	Sainsbury's – SW England, NE Atlantic
<b>Concerns</b>	
Stock status:	<ul style="list-style-type: none"> <li>• Most unknown</li> <li>• North Sea (IV) stock overfished</li> </ul>
Management:	<ul style="list-style-type: none"> <li>• High demand and value but little management</li> <li>• No MLS set and the only TAC set is in the North Sea, combined with brill</li> <li>• Overfishing, particularly juveniles</li> </ul>
Method:	<ul style="list-style-type: none"> <li>• Bycatch and seabed destruction by beam and demersal trawling</li> </ul>
Farming:	<ul style="list-style-type: none"> <li>• Approximately 5 kg wild fish required to produce 1 kg farmed turbot</li> <li>• Currently farmed in tanks rather than sea-cages, so avoiding some of the problems associated with farming</li> </ul>
Sustainability rating:	<b>MCS grade 2 (farmed) or 5 (wild)</b>



## WHITING

Scientific name: *Merlangius merlangus*  
Caught by: Mixed beam and demersal trawl fisheries, seine; long-line  
Sold in/Source: ASDA – no source given  
Sainsbury's – NE Atlantic  
Somerfield – no source given

### Concerns

Stock status: 

- Western Channel to Great West Sole (VIIe–k) stock at full RC, but overfished
- West Scotland (VIa) at unknown RC but thought to be at historical low
- Irish Sea (VIIa) at unknown RC, but stock low and catches declining steadily
- North Sea (IV) and Eastern Channel (VIId) at unknown RC, but overfished
- Skagerrak & Kattegat (IIIa) unknown, but likely to be overfished

Management: 

- TACs set for areas inconsistent with ICES management areas
- Scientists denied access to several major Irish ports for sampling

Method: 

- High bycatch of juvenile whiting and other juvenile demersal fish such as cod, hake, haddock and coley
- Seabed destruction by beam and demersal trawling

Other: 

- High bycatch and discards of whiting in scampi, prawn and flatfish fisheries

**Sustainability rating: MCS grade 2 (Western Channel) or 4 (all others)**

## WITCH

Other names: Torbay sole  
Scientific name: *Glyptocephalus cynoglossus*  
Caught by: Mainly as bycatch in beam and demersal trawl  
Sold in/Source: M&S – NE Atlantic

### Concerns

Stock status: 

- Unknown

Management: 

- Unassessed, unprotected species not subject to quota restrictions
- MLS enforced in some coastal areas of England and Wales

Method: 

- High bycatch and discards by beam and demersal trawling

**Sustainability rating: MCS grade 2**





FRESH  
HADDOCK  
FILLET  
10.98

FRESH  
MOWFISH  
18.98

FRESH  
SEABASS  
9.50

FRESH  
SCALLOPS  
Per 100g  
2.47

2.20

5.20

9.95

6.20

0



# SEAFOOD POLICIES OF UK SUPERMARKETS

In the UK, four supermarkets share about 80% of grocery sales – Tesco, ASDA, Sainsbury's and Morrisons, which recently took over Safeway (see Table 4.1). There are another five well-established supermarket chains, and an increasing number of grocery chains that specialise in smaller convenience 'top-up' and 'budget' stores. These include European-owned Aldi (Germany), Budgens (Ireland), Lidl (Germany), Netto (Denmark) and Spar (the Netherlands). This report focuses on the nine largest supermarket chains rather than the chains which primarily operate convenience stores, as the former have the biggest share of the seafood market, and thus the biggest influence.

This chapter reviews the supermarkets' stated sustainable seafood policies and considers how close they are to realising them in practice. The contents of this chapter were, in the first instance, drawn from publicly available information: supermarkets' websites, corporate social responsibility (CSR) reports, annual reviews and press statements, as well as the results of the seafood survey in Chapter 3. Supermarkets were then given the opportunity to update and correct any information through written comments and in meetings with Greenpeace.

## 4.1 Tesco – 'Every little helps'

### 4.1.1 Tesco's background

The brand name of Tesco first appeared on packets of tea in the 1920s and the first Tesco store was opened in 1929 in North London.<sup>2</sup> Tesco now operates in 13 countries – the UK, Ireland, Poland, Hungary, the Czech Republic, Slovakia, Turkey, China, Thailand, South Korea, Malaysia, Taiwan and Japan. Tesco trades

primarily in food but also has a non-food sector, including clothing, household goods, personal finance and Tesco Telecoms. The UK is Tesco's core market with 1,780 of Tesco's 2,365 stores worldwide. Tesco employs over 326,000 people globally (250,000 in the UK) with total sales in 2004/05 of £37.1 billion (£29.5 billion in the UK, £7.6 billion in the rest of Europe and Asia).<sup>3,4</sup>

### 4.1.2 Tesco's seafood policies

Tesco's publicly available seafood policy, described in its recent CSR review, is limited to two short paragraphs and only covers Tesco brand seafood.<sup>5</sup> However, specific seafood procurement policies have been mentioned in the media and discussed through engagement with NGOs. Tesco agreed to meet with Greenpeace and provided some additional details of its policies.<sup>6</sup>

#### Seafood suppliers

In the late 1990s, Tesco made particular efforts to promote the sale of fresh fish, investing over £2 million in advertising, increasing the number of its supermarkets with fresh fish counters, training fishmongers, and securing a fleet of vessels to fish exclusively for Tesco.<sup>7</sup> With the increasing growth in more convenient pre-packed fish, however, fewer than a quarter of Tesco's UK stores (416 by July 2005) now have fresh fish counters and Tesco no longer has its own fleet.

Tesco encourages local suppliers in each country where it operates, and operates on a principle of long-term supply partnerships, preferring to deal directly with vessel owners and agents rather than auction markets. Tesco works with its suppliers to develop best working practices, and suppliers are reviewed each year. In the UK,

Table 4.1. Major UK supermarkets and their share of the seafood retail market

Supermarket name	Group name	UK Turnover 2004/05* (£ billion)	Number of UK Stores*	Sales of seafood (% retail value share <sup>1</sup> )	
				Chilled seafood	Frozen seafood
Tesco	Tesco Plc	29.5	1,780	21.7	22.5
ASDA	Wal-Mart Stores Inc	17.0	280	9.2	12.1
Sainsbury's	J Sainsbury Plc	16.6	727	21.8	11.1
Safeway/Morrisons	Wm Morrison Supermarkets Plc	13.0	498	9.1	11.2
Marks & Spencer	Marks & Spencer Group Plc	7.8	375	13.2	4.3
Somerfield/Kwik Save	Somerfield Plc	5.2	1,308	2.9	5.3
Co-op	Co-operative Group Ltd	3.4	2,961	2.1	3.8
Waitrose	John Lewis partnership Plc	3.0	166	6.6	n/a
Iceland	Iceland Foods Ltd	1.5	760	0	14.5

\* See text for specific references. n/a: not available

Tesco currently has about six major and three minor suppliers. Seachill in Grimsby supplies 80–90% of Tesco's white fish.

### Labelling

Labels on Tesco fresh and pre-packed chilled seafood tend to provide more detail on the source of the fish than is required by UK labelling laws (section 2.1.1). Tesco's wild-caught fish are labelled with the country where they were landed as well as the ocean where they were caught. Tesco standard farmed salmon products show the region and country of the farm, and the 'Tesco's Finest' product lines also include the farm name. A few of Tesco's prawn products show the scientific species name.

### Wild seafood procurement policies

Tesco states that it 'is committed to the principles of sustainability in our fish sourcing' and understands that it is 'a concern for our customers and external stakeholders'.<sup>8</sup> However, practical examples of this written commitment show that Tesco's policies tend to be implemented reactively – in response to pressure from NGOs – rather than being applied proactively.

### Patagonian toothfish

Following the November 1999 meeting of the member states of the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR), Tesco announced that it would not sell Patagonian toothfish (*Dissostichus eleginoides*) and that it supported the Greenpeace call for a moratorium on the entire fishery.<sup>9</sup> Tesco decided not to stock this species due to the problems of pirate fishing and albatross bycatch (see section 2.4.4).

### Cetaceans

Tesco told the Whale and Dolphin Conservation Society (WDCS) in 2003 that it had taken a number of steps to ensure its sourcing policies do not impact on whales and dolphins.<sup>10</sup> Specifically, Tesco stated that:

- Its supply chain for fresh fish is not connected with the capture of whales and the trade in whale meat in Iceland and Norway, although the company does trade with Icelandic and Norwegian fish and shellfish suppliers.
- Its tinned tuna is sourced from suppliers certified by the Earth Island Institute (EII) as 'dolphin-safe' (see section 2.3.2). Tesco has ensured that 'the catch methods for fresh tuna species exceed EII standards and these fish are all caught using selective hook and line techniques.'
- Its sea bass is caught using methods that avoid cetacean bycatch – Tesco specifically banned the use of pair trawls in 2002. Tesco mainly sources farmed sea bass, but does source some wild sea bass from small hook-and-line day boats.

With such good examples of what appeared to be a proactive policy to protect cetaceans, it was then surprising that it took considerable pressure from the Environmental Investigation Agency, Greenpeace and WDCS before Tesco removed canned whale meat from its Japanese supermarket chains C Two–Network and Fre'c in October 2004. In addition, rather than announce that the decision was taken as part of their sourcing policy, Tesco claimed that it was 'due to a lack of customer demand'.<sup>11</sup>

### Marlin and swordfish

Swordfish and marlin have been on the MCS list of fish to avoid since 2002. However, it was not until June 2005 that Tesco agreed to remove swordfish and marlin from all its stores in response to an email campaign by Bite-Back, a UK marine conservation organisation, which asks supermarkets to stop selling sharks, swordfish, marlin, monkfish, and orange roughy.<sup>12</sup>

### Other threatened species

Tesco claims in its CSR review that: 'Of the 36 'at risk' species currently identified by the Marine Conservation Society (MCS), we do not source 32. For the four remaining species on the MCS list our sourcing policy is developed on a case by case basis to minimise the impact on the environment and promote sustainability of these species. For example, line fishing is specified in preference to trawling for cod and haddock.' When asked to clarify this statement and provide details of the 'at risk' or grade 5 species it does sell, Tesco described its policy for a further four groups of species in addition to cod and haddock – dogfish, monkfish, skate and tiger prawns (see details below).<sup>13</sup>

Tesco has provided few details of where its cod and haddock are sourced from. Contrary to the impression given by a recent advertising campaign (see below), Tesco claims it does not sell cod from the North Sea. However, Tesco has one Scottish supplier which catches North Sea haddock by purse seine (which reduces it to MCS grade 3) for its Scottish stores. Tesco also claims that 'line fishing is specified in preference to trawling for cod and haddock.' In reality this means that over a given year about 70% of Tesco's cod and haddock are line-caught; however, 'due to quota restrictions and adverse weather conditions' the remaining 30% are still trawled.<sup>14</sup> Without further evidence, it is reasonable to assume that Tesco continues to source some of its cod and haddock from depleted (MCS grade 5) stocks using unsustainable fishing methods.

Tesco sources most of its skate from an area of the North-East Atlantic surrounding Ireland and South-West England (ICES area VII) and sometimes from the seas off the west of Scotland (ICES area VI). Tesco says that it 'follows all scientific and government advice on catches'. However, as skate and ray stocks are generally unmanaged, no TACs are set in these regions by the EU,<sup>15</sup> and no specific advice on catches is provided by ICES,<sup>16</sup> it is unclear what advice Tesco is referring to. This lack of management and their high vulnerability to fishing has resulted in many skate species being listed as depleted, threatened, or endangered (see Chapter 3). A serious sustainable seafood sourcing policy can not allow for the continued fishing of skate.

Tesco claims that it only sells dogfish of one species (*Squalus acanthias*), which are caught by three long-lining vessels. This species is considered depleted throughout the North-East Atlantic and is IUCN–red-listed as Near Threatened (see Chapter 3). As with other sharks and skates, dogfish are slow growing, with a low reproductive capacity which makes them highly vulnerable to fishing. Whatever fishing method is used, fishing a depleted species cannot be considered sustainable.

With regard to their sourcing of monkfish, Tesco claims to be monitoring the situation, and states: 'This year their quotas are up



and scientists have indicated that 2006 will see an increase in quota. Only one of the three monkfish stocks is considered to be at full reproductive capacity; however, ICES still considered this stock to be at risk of being harvested unsustainably. In addition to stock levels there are considerable concerns about the inherent vulnerability of monkfish to fishing, and the indiscriminate and destructive fishing methods used to catch these species.

Tesco made no mention of its jars of lumpfish caviar, broad range of plaice and Dover sole products, the recent addition of fresh bigeye tuna steaks to its pre-packed chilled section, or the Tesco 'Sweet fire' pepper hake fillets available online – all graded 5 by the MCS for most, if not all, stocks. In addition, Tesco sells farmed eels. Although they have not yet been graded by the MCS, eels are severely depleted throughout Europe, and farmed eels can only be grown from wild-caught juveniles. For this reason, they are given an interim grade 5 (see Chapter 3). Aside from their tropical prawns which are farmed rather than wild-caught, Tesco has provided no evidence that all these seafood species or groups are from less depleted stocks or fished using more sustainable methods. This brings the total to eleven MCS grade 5 (or equivalent) species or groups sold by Tesco under its own brand.

#### Aquaculture policies

Tesco has developed four codes of practice (COPs) for aquaculture, which cover salmon and trout, tilapia, sea bass and sea bream, and tropical prawns. These are written and implemented by the Tesco agricultural team in conjunction with independent veterinary, animal welfare and environmental experts. Unfortunately, Tesco was unwilling to provide Greenpeace with copies of these COPs.

Tesco claims that these aquaculture COPs are based on the most robust national farm schemes available (eg the Scottish Quality Salmon scheme) with additional Tesco-specific standards, and 'aspirational standards' – areas where either further research is required, or the whole industry needs to invest to improve farming. Requirements from other organisations, such as RSPCA (section 2.5.2) and the Environmental Justice Foundation (EJF) (section 1.2.2), have been considered. All suppliers of farmed fish to Tesco are independently audited against the COPs by an external company.

#### *Prawns*

Tesco does not buy wild-caught tropical prawns and does not source prawns on the open market. Tesco claims to have established long-term relationships with a number of prawn farms in Brazil, Ecuador, Honduras, Indonesia, and Nicaragua for use in its own-brand products, including fresh, frozen and processed foods. All Tesco's tropical prawns are produced in accordance with its COP for farmed prawn production, and the farms are also audited against the Ethical Trading Initiative (ETI) (see Glossary) base code on worker's rights, in line with Tesco's ethical trading policy.

#### Support for sustainability initiatives

Tesco has an ongoing relationship with the Marine Stewardship Council (MSC) and is a member of the MSC European commercial group. Tesco currently sells two MSC-certified products – pre-packed wild Alaskan salmon fillets and smoked wild Alaskan salmon slices – although these are difficult to find in store and are not available through Tesco Online (as of August 2005). In addition,

some of Tesco's frozen New Zealand hoki is MSC-certified but is not labelled as such.

Tesco has previously sourced MSC-certified South-West UK line-caught mackerel, Burry Inlet cockles, South African Cape hake and Thames Blackwater driftnet herring for its fresh fish counters, but these were not labelled as MSC-certified because Tesco fish counters were not accredited by the MSC. With this accreditation now in hand, Tesco claims that it will sell these certified species at its counters, fully labelled, as they come into season, along with MSC-certified Alaska pollock when it becomes available in the UK.

#### Promotion of sustainable seafood

Tesco has stated that it aims to increase awareness of the MSC through its magazine, in-store TVs and posters, clubcard mailings, a two-day training course for fish counter staff, and its new touch-screen scales from which fish counter staff can obtain further information and print it off for customers.<sup>17</sup> Currently there does not appear to be any promotion through these media and no roll-out date has been given for these plans.

Tesco has recently produced a standard email reply to customers' questions about the sustainability of its seafood, which includes its standard statement on the MSC, and its responses to the Bite-Back campaign and the MCS's 'to avoid' list.

While other supermarkets are promoting cod from 'more sustainable' sources (such as Iceland stocks), in autumn 2004 Tesco appeared to be promoting endangered North Sea cod in a series of billboard and newspaper advertisements. One newspaper advertisement showed a fillet of cod with the line: 'Fresh cod. Crazy. One minute it's in the North Sea. The next. It's somewhere off the South Circular.'<sup>18</sup> When questioned about this, Tesco claimed that it does not sell North Sea cod – this campaign was simply an embarrassing marketing error.<sup>19</sup>

#### **4.1.3 Review of Tesco's seafood policies**

Although Tesco has policies on sustainable seafood procurement, their application appears patchy and unpredictable, particularly with regard to their wild-sourced fish. Despite its claims to the contrary, Tesco sells at least eleven seafood species or groups which are rated at grade 5 – the least sustainable choices. The policies seem to be applied only to fish species that are less commonly sold, which raises the question of whether these are purely financial decisions. Tesco's policies are not extended to other brands sold in its stores, and do not seem to cover seafood ingredients in Tesco's other products such as sauces.

With regard to its aquaculture policies, Tesco sources a wide range of carnivorous farmed fish and prawns which are considered unsustainable and does not appear to sell organic or Freedom Food certified farmed fish which reduce some of the impacts of fish farming. Tesco has, however, recently introduced locally farmed tilapia, an herbivorous fresh-water fish which can be farmed more sustainably than marine varieties.

The survey of Tesco's seafood (Chapter 3) shows that Tesco has limited the range of seafood choices in most of its stores to the best-sellers, so customers have few alternative or more sustainable choices. Tesco currently sells only a limited range of MSC-certified

seafood. As yet, Tesco does little to promote sustainable seafood and continues to provide mixed messages in its public statements. With its plans to introduce a larger range of MSC-certified seafood to its fresh fish counters and improvements to its promotion, Tesco's customers should become more aware of sustainable seafood choices.

As the biggest seller of seafood in the UK, and an increasing presence in other countries, Tesco's seafood policies need to improve dramatically if it is to prove its commitment to the principles of seafood sustainability.

## 4.2 ASDA – 'Always low prices'

### 4.2.1 ASDA's background

ASDA was formed when Associated Dairies and the Asquith brothers' supermarket chain Queen's merged in 1965 to form ASDA Stores Ltd.<sup>20</sup> ASDA became part of the American Wal-Mart family in June 1999 and now has 280 stores and 24 depots across the UK, with 148,000 employees and over 3,000 suppliers.<sup>21,22</sup> ASDA recently expanded into Northern Ireland when it acquired 12 Safeway stores from WM Morrison.<sup>23</sup> ASDA's estimated turnover in 2004 was £17 billion (ASDA keeps its financial details confidential so this total is estimated from recent market share figures<sup>24</sup>).

As well as fresh food and groceries, ASDA stocks over 12,000 non-food products including household items and its own clothing line, George, and is rapidly expanding into new 'speciality' areas such as pharmacies, opticians, and jewellery and photo departments.

ASDA has been voted Britain's best-value supermarket by the leading trade magazine *The Grocer* for the last seven years, and has an aggressive policy of increasing the price gaps between it and its closest competitors in order to maintain its commitment to offer 'Always low prices'.

### 4.2.2 ASDA's seafood policies

Gordon Madden, Regulatory Affairs Manager for ASDA, believes that 'A vibrant UK fish sector and a positive confident attitude by consumers to the consumption of fish are very important to us. As a protein and nutrient source, fish has a lot going for it.'<sup>25</sup> Despite this apparent commitment to a thriving fish industry, ASDA has as yet no sustainable seafood policy and does not produce a CSR report. However, it has begun to develop sustainable sourcing and ethical trading initiatives, as evidenced by its recent switch to sourcing Forest Stewardship Council-certified timber garden furniture.<sup>26</sup>

ASDA's Ethical Trading Manager, Chris McCann, requested a meeting with Greenpeace prior to being asked for input into this report. At this time, both the fish buyer and Chris McCann appeared to know very little about the fishing industry, or the issues surrounding sustainable fish procurement; however, ASDA has apparently begun developing a seafood procurement policy.

Interestingly, just prior to this report going to press, Chris McCann contacted Greenpeace with a new statement on ASDA's seafood policy; 'You quite rightly point out that ASDA doesn't have a defined policy on sustainable fish. This is because we work with Young's Bluecrest, who are very active in the area of sustainability.' ASDA now seems to be claiming to have a sustainable seafood policy by

default, which only covers the frozen seafood supplied by Young's Bluecrest.<sup>27</sup> (See Chapter 5 for a review of Young's Bluecrest's seafood policies).

### Seafood suppliers

Like Tesco, in April 1999 ASDA began chartering its own trawlers, intending at this time to move toward buying up to 20% of its fish from contracted trawlers.<sup>28</sup> Again like Tesco, for reasons which Greenpeace was unable to discover, ASDA no longer has dedicated trawlers. Four main UK-based processors now supply ASDA with seafood sourced through fish markets, directly from UK boats, or from overseas sources.

About 30% of seafood sales by ASDA are fresh seafood and 70% are chilled or frozen processed products (not including tinned products). Young's Bluecrest supplies the majority of ASDA's frozen seafood.<sup>29</sup> ASDA is increasing the number of fresh fish counters in its stores each year (207 stores now have counters), and its fishmongers are trained to give preparation and cooking advice.

### Labelling

ASDA's fresh and own-brand processed seafood is labelled according to the requirements of the UK seafood labelling laws.

### Wild seafood procurement policies

ASDA's current lack of a sustainable procurement policy means that over the last year it has been sourcing at least 13 of the MCS grade 5 (or equivalent) species or groups – cod, dogfish, Dover sole, haddock, hake, ling, lumpfish, marlin, monkfish, plaice, skate, swordfish, and tuna (see Chapter 3).

In a newspaper article describing some of the early results of this report,<sup>30</sup> a spokesman for ASDA was quoted: 'As far I am aware all our fish – including the sharks which we used to sell but do not sell any longer – are from a sustainable source. In terms of them being endangered, I don't know where Greenpeace are coming from.' A statement to the effect that ASDA now recognises the need for sustainable fisheries, has met with Greenpeace and is drafting a seafood procurement policy would have provided more reassurance that ASDA genuinely intends to implement a well-informed and sustainable policy.

### Sharks

In November 2004, ASDA agreed to remove shark from 190 stores in response to Bite-Back's email campaign. Until this time, ASDA had been selling up to 100,000 portions of mako (*Isurus oxyrinchus* and *I. paucus*) and bigeye thresher (*Alopias superciliosus*) every year. The fish-buying manager for ASDA at that time claimed: 'Although the sharks sold by ASDA were sourced from ethical suppliers, we understand the emotive issues and are happy to help set a new agenda for shark conservation amongst the retail industry, by publicly removing these items from our fish counters.'<sup>31</sup>

Despite this claim about 'ethical suppliers', sharks are highly vulnerable to overfishing because they are slow-growing and produce few young and the shortfin mako (*I. oxyrinchus*) is IUCN-listed as Near Threatened. In addition, ASDA continues to sell dogfish, another small shark species. The most commonly sold species of dogfish, *Squalus acanthias*, is also listed as Near Threatened (see Chapter 3).





### Support for sustainability initiatives

ASDA does stock some MSC-labelled fish, including its own Alaskan salmon, South Africa Cape hake and occasionally Young's Bluecrest and Birds Eye hoki, although the fish buyer was unaware of the MSC label when Greenpeace first discussed this report with her in April 2005. Gordon Madden claims that ASDA will source fish from MSC-certified fisheries 'where it is practical to do so', and that ASDA will encourage its suppliers, and the fisheries on which they rely, to work constructively with the MSC and similar bodies.<sup>32</sup>

Gordon Madden sits on the board of the Sea Fish Industry Authority (Seafish) and has been chair of its legislative committee for several years.<sup>33</sup> Seafish, a non-departmental public body funded by a levy on seafood, works across all sectors of the UK seafood industry to 'satisfy consumers, raise standards, improve efficiency and secure a sustainable future'.<sup>34</sup> Although Seafish is often seen simply as a seafood promotion body by those outside the industry, it has recently been funding and researching sustainability initiatives (for example see section 4.5.2).<sup>35</sup> ASDA is working with stakeholders at Seafish to develop the 'Seafish Responsible Fishing Scheme' which will promote and reinforce the benefits of adoption of sustainable fishing practices in UK waters.

ASDA has put in writing<sup>36</sup> its support for the follow-up work to the Prime Minister's Strategy Unit report *Net Benefits*,<sup>37</sup> and for Greenpeace's proposal to create marine reserves in 40% of the North Sea.<sup>38</sup>

#### 4.2.3 Review of ASDA's seafood policies

ASDA has no policy on sustainable sourcing of seafood, although it claims one is currently being developed. Senior management may be aware of sustainable fisheries issues through work with Seafish, but little of this has filtered down either to those who actually make the buying decisions, to the Ethical Trading Manager, or to the public relations department.

ASDA's support for the MSC is minimal: it does little to sell or promote its products. Moreover it currently stocks at least 13 of the grade 5 species or groups of seafood. ASDA seems happy to lend verbal or written support to various sustainability campaigns, but how this transfers into actual practical support is unclear.

As a major buyer of fish in the UK, ASDA's current sourcing policies continue to contribute to the depletion of our seafood resources.

### 4.3 Sainsbury's – 'Making life taste better'

#### 4.3.1 Sainsbury's background

Sainsbury's was founded in 1869, with the first shop opening in Drury Lane, London.<sup>39</sup> J Sainsbury Plc is now a leading UK food retailer and comprises Sainsbury's Supermarkets, Bells Stores, Jacksons Stores, JB Beaumont stores and Sainsbury's Bank. In April 2005, Sainsbury's acquired SL Shaw Ltd, a convenience store operator with five stores in south-east England, bringing Sainsbury's convenience stores up to a total of 267.<sup>40</sup> In all, J Sainsbury Plc had 732 stores and about 153,000 employees as of April 2005, and its annual turnover in 2004/05 was £16.6 billion. The retailer carries over 30,000 product lines in larger stores, about 50% of which are its own-brand goods, and has over 1,400 direct suppliers worldwide.

Sainsbury's focuses on quality and choice rather than the lowest price, and is particularly proud of its Soil Association Organic Supermarket of the Year title, which it won for the third time in a row in 2004. However, it does have a 'low price guarantee' to match the lowest prices locally on over 500 regularly priced items.<sup>41</sup>

In March 2005, for the second year running, Sainsbury's was ranked first in the food-retailing sector for Business in the Community's Corporate Responsibility Index.<sup>42</sup> In addition, it was ranked equal fifth overall out of 144 companies, moving up from eighth place the previous year.

#### 4.3.2 Sainsbury's seafood policies

Sainsbury's takes pride in its seafood – it won the Seafood Retailer of the Year (Multiple) 2005 at the Retail Industry Awards in September<sup>43</sup> – and is one of the few supermarkets to have a clear fish procurement policy in its CSR report.<sup>44</sup> Sainsbury's agreed to meet with Greenpeace to discuss issues of sustainable seafood procurement, however their CSR team were reluctant to elaborate much on their existing policies, possibly due to the impending review of Sainsbury's seafood policies (see below).

#### Seafood suppliers

Sainsbury's has a clear policy of buying British products wherever possible, and heavily promotes its range of regional products from small suppliers. It has set up an initiative with two of its suppliers, Interfish and SouthWest Seafoods, to supply customers in the South-West with a wider seasonal choice of local seafood and fish caught off local shores.<sup>45</sup> Interfish has taken over the in-store fish counters in the South-West and trains the staff – this is the first time a local company has been allowed to sell its own-brand fish in a UK supermarket. A smoked seafood range is supplied by SouthWest Seafoods. The initiative supplies up to 25 varieties of local fish including plaice, lemon sole, Dover sole, brill and turbot, as well as species such as John Dory and red mullet, which are not commonly available in supermarkets.

#### Labelling

Sainsbury's fresh and own-brand processed seafood is labelled according to standard fish labelling laws only (see section 2.1.1).

#### Wild seafood procurement policies

Sainsbury's stocks one of the widest ranges of seafood species, providing more sustainable choices to its customers than most other supermarkets. Unfortunately, it also sells one of the largest ranges of MCS grade 5 (or equivalent) species or groups – at least 13. With few details available on labels as to where Sainsbury's fish come from or how they are caught, it is not possible to determine whether it has made any attempt to source any of these more sustainably. Sainsbury's has commented specifically on the sourcing policies of only a few of its seafood species on its website and in its CSR report, as detailed below.

#### Sea bass

Sainsbury's does not sell wild sea bass unless it is line-caught, due to concerns about cetacean bycatch in bass trawl nets. Its sea bass is mainly sourced from farms.



### *Mackerel*

Sainsbury's mackerel supplier works closely with the Sea Mammal Research Unit (funded by the Department for Environment, Food and Rural Affairs) and with observers from the Centre for Environment, Fisheries and Aquaculture Science. Sainsbury's is confident that the mackerel trawl fisheries that supply Sainsbury's do not contribute any detrimental effects to the marine environment.

### *Swordfish and marlin*

In October 2004, Sainsbury's removed pre-packed swordfish and marlin from all its stores in response to Bite-Back's campaign. However, Sainsbury's continues to sell swordfish and marlin from selected fish counters, although it plans to begin removing marlin from its fish counters according to the season.<sup>46</sup>

### Aquaculture policies

Sainsbury's is an active participant in the ETI review of social and welfare issues in the prawn industry. The company only sources farmed prawns from well-established sites, not from farms active in mangrove forest cutting areas.

Sainsbury's CSR report says little about farmed fish, other than that it is concerned about the levels of persistent organic pollutants in farmed salmon and is working with suppliers and industry on the possibility of developing a unique feed formulation.

Sainsbury's farmed salmon hit the news in December 2004, following an advertisement in which TV chef Jamie Oliver expressed his support for one of Sainsbury's farmed salmon suppliers, Marine Harvest. The advertisement drew criticism from other celebrity chefs as well as environmentalists over its claims that it was a well-managed farm.<sup>47</sup> Sainsbury's is currently investigating allegations from the Salmon Farm Protest Group (SFPG) that Marine Harvest's operations cause serious environmental damage, and the SFPG continues its campaign against Marine Harvest and Sainsbury's salmon.<sup>48</sup>

### Support for sustainability initiatives

Sainsbury's was the first supermarket to back the MSC in 1998, and launched its first MSC product that year. It currently has 14 own-label MSC-certified products on sale, including fresh and processed products from Thames Blackwater herring, New Zealand hoki, Alaskan salmon, and South African Cape hake.

In 2002, Sainsbury's became the first retailer in the world to set targets for fish sourcing based on MSC-labelled products, with a commitment to sourcing all its wild fresh, frozen and canned fish products from sustainable sources by 2010. Sainsbury's has since admitted difficulties with achieving this goal. This is partly due to the small number of certified fisheries and consequent limited supply – the supermarket's MSC lines account for only 1% of its total fish sales – and partly because UK consumers prefer traditional uncertified favourites such as cod and haddock, and are unfamiliar with alternative white fish species such as hoki. In response to these difficulties, Sainsbury's is monitoring fisheries practices, encouraging fisheries to obtain MSC certification and promoting consumer awareness.

Sainsbury's has set up a 'Fish Integrity Group', made up of internal stakeholders, suppliers and external experts, to monitor progress towards the sustainability target and address issues as they arise. The group is developing an interim system for monitoring fisheries management, while still encouraging suppliers to gain MSC certification in the long term. It is also reviewing the problem areas of persistent organic pollutants in farmed salmon; sustainability of wild fish stocks used in fishmeal; bycatch; and 'dolphin-friendly' tuna.

Sainsbury's has funded a three-year joint project with the MSC to encourage the tuna industry to adopt sustainable fishing practices. The project started in 2002 with the appointment of a dedicated tuna fisheries officer to the MSC's Asia Pacific office, and a preliminary review of the status of the world's tuna fisheries was completed in October 2003. A range of meetings has taken place with tuna fishery companies, governments and environmental NGOs to discuss issues around sustainable sourcing of tuna and the MSC Standard. In response, one albacore tuna fishery on the west coast of the USA has started to seek MSC certification (with a pre-assessment) and other tuna fisheries have been identified as potential candidates for eventual certification.

### Promotion of sustainable seafood

Sainsbury's is building consumer awareness of fish sustainability issues and promoting the availability of sustainable alternatives to traditional British favourites such as cod and haddock. Sainsbury's promotes the MSC label through its CSR website, pack labelling information, on-pack promotions, press releases of new products, and other publicity initiatives. For example, the supermarket launched a new wine, Custodio del Mar, to promote and raise funds for the MSC. The accompanying tag highlights the problem of over-fishing and contains recipes for MSC-certified fish from celebrity chef, Rick Stein.<sup>49</sup>

### Future directions

Sainsbury's is now in the process of reviewing its position, policies, and targets relating to wild and farmed seafood sourcing, with new targets expected to be set by the end of 2005.<sup>50</sup> Its board of directors has committed to increasing activity in this area with specific goals around responsible fish sourcing. Sainsbury's is increasing awareness of the issues across all its trading, marketing, and technical teams, with the intention of developing an approach which supports sustainable and responsible fish sourcing across all business areas. Areas under review are:

- aquaculture – feed sourcing, organic opportunities, improvement of welfare and environmental standards
- wild sourcing – seafood quality, traceability, species selection, fishing location, fishing methods, avoidance of high-risk species, development of credible risk assessment processes for species selection
- suppliers – ensuring high standards of operation, using their expertise to deliver practical solutions and improvements
- sustainability initiatives – continued commitment to, and partnership with, the MSC and similar organisations
- promoting alternatives – encouraging the consumption of alternative, more sustainable species.

### 4.3.3 Review of Sainsbury's seafood policies

Sainsbury's has set clear goals for sustainable procurement of seafood, and has spent time and money on sustainability initiatives and promotions of MSC fish. In addition to MSC-certified products, Sainsbury's customers in some regions have a wide choice of more sustainably sourced species, but unfortunately these are stocked alongside a wide range of grade 5 species or groups – without further information about the source and fishing method used, customers may not know the difference. The promise of new targets for sourcing sustainable seafood and the possibility of new and improved seafood procurement policies in 2006 could bring Sainsbury's much closer to selling only sustainable seafood.

## 4.4 Safeway/Morrisons – 'More reasons to shop at...'

### 4.4.1 Morrisons' background

Safeway started life as an American supermarket chain, entering the UK in 1962.<sup>51</sup> Safeway broke its ties with the USA when Safeway Inc's UK food business was bought by rival retailer Argyl in 1987. In 2002 it had the fourth largest supermarket sales in the UK. In 2003, the group agreed to be acquired by Wm Morrison Supermarkets Plc, a takeover that was completed in 2004. Prior to the takeover, Safeway had about 480 stores and its annual turnover for 2002/03 was about £9.5 billion (about 10% of the market share).<sup>52</sup>

Morrisons was founded by William Morrison in 1899 as an egg and butter merchant in Bradford.<sup>53</sup> Wm Morrison Supermarkets Plc opened its first supermarket in Bradford in 1961. Prior to the takeover of Safeway, there were 125 Morrisons supermarkets, primarily in Scotland, northern England, the Midlands and Wales, and Morrisons' annual turnover for 2003/04 was £5.3 billion (about 5% of the market share).<sup>54</sup>

At the end of 2004, Morrisons had rebranded 56 Safeway stores and begun to sell off more than 100 others.<sup>55</sup> By early 2005, Morrisons had become the fourth largest UK supermarket chain with 498 stores, 150,000 employees and an annual turnover of £13 billion for 2004/05.<sup>56</sup> Morrisons is known for its 'no nonsense' value-for-money approach.

### 4.4.2 Morrisons' seafood policies

There is little public information on Morrisons' seafood policies, either before or after the Safeway takeover. Safeway published its first CSR report in 2002;<sup>57</sup> however, it is only since the takeover that Morrisons has undertaken a review of CSR priorities, systems and procedures. A full CSR report is due out this year, but it is unclear whether this will include a clear policy on fish procurement.<sup>58</sup> Morrisons' Public Relations Manager agreed to provide some information on its current sourcing policies, as described below.<sup>59</sup>

#### Seafood suppliers

Morrisons' fresh fish is sourced directly from a small number of UK-based processors and specialist suppliers who buy fish through the markets that are supplied directly from UK boats, or from overseas sources. Stores also offer regional products from small suppliers including a seasonal choice of local seafood.

Morrisons' fresh fish counters form part of the supermarket's 'Market Street', a selection of specialist food counters staffed with traditional craft skills and expertise, which Morrison's claims offer more fresh food, freshly prepared in store, than any other chain. They sell over 40 different fish species and Morrisons claims 'Give our fishmongers 48 hours notice and they'll get you almost any type of fish – as long as it's in season.'<sup>60</sup>

#### Labelling

Morrisons' fresh and own-brand processed seafood is labelled according to standard fish labelling laws, and posters at the fish counters explain how to read the labels. However, at least one Safeway store in North London was selling fresh packaged fish without any source information on the labels (either wild source or farm location) in August 2005.

#### Wild seafood procurement policies

Morrisons is 'conscious of obtaining fish from more sustainable sources, wherever possible'. It offers a wide choice of fresh fish, including at least 13 of the MCS grade 5 (or equivalent) species or groups such as haddock, cod and plaice, but also many other more sustainable choices. Morrisons says that its suppliers 'are aware of MCS classifications and are familiar with their grading' but gives no indication that their sourcing is influenced by this.

Customers can order special items; however, with sustainability considerations in mind, Morrisons claims that there are certain types of fish that it chooses not to offer, including marlin, shark and wild sea bass. The availability of some other fish, such as swordfish, is limited by being subject to customer order only.

Morrisons claims to ensure that as far as possible its fish sourcing does not impact on cetaceans, with lines used in preference to nets wherever possible and that all its tuna, snapper, and swordfish are line-caught. Morrisons' own-brand tuna tins carry a 'Dolphin-Friendly' logo, with much of the range being line-caught from the Indian or Pacific Oceans. The four main Morrisons' canned tuna products (chunks or steaks in brine or sunflower oil) are all sourced exclusively from the Maldives (Indian Ocean).

Morrisons launched fresh MSC-certified wild Alaskan salmon in August 2005.

### 4.4.3 Review of Morrisons' seafood policies

Morrisons may sell one of the widest ranges of fish, but without a publicly available sustainable seafood procurement policy, or much evidence of support for and promotion of sustainable seafood initiatives, this counts for little. Its customers are unlikely to realise that they have the opportunity to choose a more sustainable seafood option, particularly as the better options sit side-by-side with a range of at least 13 of the grade 5 species or groups, with more presumably being available to order. If it is to reduce its current damage to the marine environment, Morrisons must ensure that its new CSR team develops and implements a real seafood procurement policy and promotes sustainable seafood to its customers.

## 4.5 Marks & Spencer – 'Quality & trust'

### 4.5.1 M&S's background

Marks & Spencer (M&S) began in 1884 as Marks' market stall at the Kirkgate market in Leeds. The M&S partnership was formed in 1894, and became a limited company in 1926. Fresh produce and canned food were introduced in 1931.<sup>61</sup>

M&S is now one of the UK's leading retailers of clothing, foods, homewares and financial services, serving 15 million customers a week in 399 UK stores and employing 65,000 people. Of these stores, 129 are M&S 'Simply Food' outlets, and food accounts for 45.2% of the company's UK sales. M&S has a 3.1% share of the market in food sold in the UK, with a £3.5 billion turnover in this area. The company also has a growing international business including wholly-owned stores in the Republic of Ireland and Hong Kong, 155 franchises in 30 countries, and Kings Super Markets in the USA. The annual group turnover in the UK was £7.8 billion in 2005.<sup>62</sup>

M&S wants to be famous for product safety, sustainable raw materials, animal welfare, employee welfare, and working with communities. M&S seeks to serve customers who want to 'do the right thing' without having to seek specific labels – it believes that customers want the retailer to do the hard work for them. M&S has been ranked as the world's leading retailer in the Dow Jones Sustainability Index each year from 2003 to 2005, and was named as Business in the Community's Company of the Year in July 2004.

### 4.5.2 M&S's seafood policies

M&S started its work on sustainable seafood procurement in 1996, when the company adopted its *Policy on Sustainable Sourcing of Fisheries Products*, which applies to all the wild and farmed seafood it sells. The policy is tied to written codes of practice on fishing by trawling and long-lining (covering issues from net and line specifications through to storage and transport), salmon farming, and farming and capture of warm-water prawns. M&S's goals and achievements for seafood sustainability have been outlined each year since 2003 in its annual CSR reports.<sup>63</sup> M&S has recently updated its website to include in-depth customer information on its seafood policies, with pictures and detailed descriptions of its chilled fish fillets range.<sup>64</sup> Mike Barry, Sustainable Development Manager, and Andrew Mallison, a fisheries scientist and Seafood Procurement Manager have talked openly with Greenpeace about M&S's current and future projects on seafood sustainability, and have provided Greenpeace with the company's full seafood policy<sup>65</sup> and all the relevant codes of practice.

Mike Barry, Sustainable Development Manager for M&S, states in his reply to the first draft of this report: 'We appreciate the very real challenges that exist for both wild and farmed fish sourcing. However, we believe fish is an important part of a healthy diet and that measures can be taken by individual retailers to drive more sustainable performance. We can also contribute to the development of new policy mechanisms, such as Invest in Fish, that enable all fisheries to be managed in a more sustainable manner.'<sup>66</sup>

M&S is the only supermarket chain to employ a qualified fisheries scientist to manage seafood sourcing, and the only one to carry out its own audits on fish suppliers. As M&S does not sell any other

brands, every piece of seafood, from fillets to sandwich fillings to pizza topping, comes under its sourcing policy. The M&S policy can be summarised by three main aims:

- Support the best – by supporting the MSC
- Avoid the worst – by using the MCS's good fish guide
- Help the rest improve – through support and funding of sustainability initiatives.

#### Seafood suppliers

---

M&S sells over 25 species of seafood, depending on seasonal availability, sourced from all over world and sold as pre-packaged fresh fish and processed fish ready meals and other items. M&S does not have fresh fish counters. M&S's main supplier is Cavaghan & Gray in Grimsby, a company that produces coated fish products in addition to supplying fresh fish to M&S.<sup>67</sup> M&S develops close relationships with its suppliers and holds listening groups with fishermen to discuss sustainability issues and consumer concerns. Iain Harcus from Kirkwall, Orkney, was the first to display the M&S 'Unique Food Supplier Badge' on his fishing boat, and helps M&S to develop methods for sustainable fishing of Scottish haddock (see M&S's Support for Sustainability Initiatives).<sup>68</sup>

#### Labelling

---

As part of its 'open and honest' labelling policy, M&S has extended the standard fish labelling laws (see section 2.1.1) to include its processed seafood products. The packaging of all frozen products displays the common name and a picture of the fish or shellfish species used, along with the ocean region it was caught in.

Labels on chilled products, such as plain and breaded fillets, tend to provide a more detailed catch location, along with the method used to catch the fish. M&S has recently introduced photos and short biographies of individual suppliers to its labels. For example, the fresh uncoated haddock is supplied by Olafur Bjornsson, and is line-caught off Iceland, while M&S sardines are provided by a small fleet of day boats from Penzance and Mevagissey in Cornwall.

#### Wild seafood procurement policies

---

According to its sourcing policy, each M&S seafood product must be obtained from reputable producers, operating within relevant regulations and with respect for the environment.<sup>69</sup> Where possible, fisheries will have been certified as sustainable by independent organisations such as the MSC, and be managed in accordance with the FAO Code of Conduct for Responsible Fisheries (see section 1.2.1). All fisheries that supply M&S are audited in detail to ensure that they comply with the policy.

Wild fish are obtained from stocks controlled by fishery management systems. Suppliers are required to maintain reference data on each source of raw seafood including scientific advice from the relevant organisation for the stocks in question (eg ICES for North-East Atlantic stocks), to verify that the fishery is not causing stocks to decline, damaging the environment, or generating significant quantities of discards.

All seafood must be traceable back to the vessel which caught it, with evidence that the catch was within quota where applicable. Fish from undeclared (illegal) landings are prohibited.



The fishing methods used should not adversely impact on non-target species, such as marine mammals or seabirds, or cause permanent damage to the environment or food chain. All fishing gear must comply with, and where possible exceed, current regulations for the fishery (eg minimum mesh size for nets). The gear used should optimise fish quality rather than quantity and suppliers should encourage vessel operators to adopt best practice in gear design. M&S will not purchase from any company actively involved in capturing or processing marine mammals.

M&S maintains a 'Banned Species List' of seafood species (see below and Table 4.2). M&S had already ceased to stock 19 of the initial top 20 species or groups to avoid when the MCS published its list<sup>70</sup> (see section 2.7.1); the one group still being sold was skates and rays, of which M&S had banned the more vulnerable species.<sup>71</sup> All skates and rays have since been added to the banned list. The company has also extended its flatfish range to include witch and dab, so as to relieve pressure on more traditional flatfish species such as plaice.

#### *Cod and haddock*

The *Skalaberg*, a factory ship that fishes in the Barents Sea and the North Atlantic, supplies cod and haddock exclusively to M&S for its chilled breaded and frozen ranges. The chilled breaded haddock range is supplied by the Scottish haddock trawlers involved in the research programme described below.

Fresh cod and haddock are line-caught in Iceland and airfreighted to the UK. M&S has developed a type of fish 'ranching' in which fish are caught and held live in large pens in the cold waters of an Icelandic fjord. These fish can then be harvested during holiday periods to maintain a steady supply of fresh cod and haddock.

#### *Monkfish*

In the past year, M&S has been selling American monkfish, after switching from European monkfish. However, the former species is listed in many US-based fish guides as a species to avoid (see Chapter 3). Due to concerns about stock levels, M&S began replacing it with Brazilian monkfish, a relatively unexploited stock, in May 2005, and hopes to have a positive influence on the Brazilian fishermen and the way this stock is managed.<sup>72</sup>

#### *Rockfish*

Rockfish, one of the unsustainable MCS grade 5 species, is soon to be removed from M&S's shelves. As it is bycaught in a mixed fishery, M&S has found it difficult to obtain enough supplies of consistently good quality fish.<sup>73</sup>

#### *Tuna*

Tuna is caught by long-line in the Indian and South Atlantic oceans by fishermen from countries such as the Seychelles and Sri Lanka. The factories supplying the canned tuna are EII approved but M&S has developed its own 'Dolphin Friendly' logo rather than subscribing to the EII logo licence.<sup>74</sup>

#### Aquaculture policies

M&S believes that sourcing farmed fish will help protect wild stocks. M&S sells predominantly salmon and tropical prawns, with some Atlantic halibut, cod, sea bass, rainbow trout, Atlantic halibut and mussels. M&S also sells an organic range of farmed salmon, rainbow trout and prawns.

Production of both farmed seafood and fishmeal must comply with national regulations on environmental impact and with the relevant M&S codes of practice. Producers are required to seek continual improvements to farming methods and to demonstrate a commitment to improving their local environment. The scheme is fully audited by approved third party inspectors or M&S processors, and maintains a shared central database of approved farms.

Non-marine components of fishmeal are obtained from sustainable sources and do not contain GM ingredients. Sources of marine proteins and oils in fishmeal comply with the M&S policy on wild fish as well as all EU legal requirements for levels of dioxins and polychlorinated biphenyls (PCBs). M&S has now identified an improved unique fishmeal formulation for salmon which further reduces levels of PCB contamination, and is evaluating the practicality and costs of introducing this to the salmon farms which supply it.

#### *Mussels*

Mussels are grown in grade A seawater, the cleanest grading possible, to avoid bacterial and chemical contamination. Mussels are also tested for shellfish toxins before sale.

#### *Tropical prawns*

The main suppliers of tropical prawns to M&S are based in Madagascar and Honduras. M&S regularly visits and audits its suppliers and believes that the concerns raised by the EJF regarding tropical prawn farms do not apply to its suppliers. This view appears to have been confirmed, at least in the case of its Honduran supplier, by the BBC Four documentary *The Price of Prawns*.<sup>75</sup>

M&S claims that its codes of practice have led to the following high standards on its suppliers' farms:

Common name	Species name	Stock
Atlantic salmon	<i>Salmo salar</i>	Scottish wild-caught
Bluefin tuna – northern	<i>Thunnus thynnus</i>	All
Bluefin tuna – southern	<i>Thunnus maccoyii</i>	All
Patagonian toothfish	<i>Dissostichus eleginoides</i>	All
Skates and rays	<i>Raja</i> and <i>Dipturus</i> species	All
Roundnose grenadier	<i>Coryphaenoides rupestris</i>	All
Orange roughy	<i>Hoplostethus atlanticus</i>	All
Sharks	All species	All
Cod	<i>Gadus morhua</i>	North Sea, Irish Sea
Swordfish	<i>Xiphias gladius</i>	All except managed fisheries operating on-board observer programmes

- Mangrove trees are protected and reforestation programmes have been in place for several years.
- Local communities and agriculture have not been displaced, as farms are usually located on tidal estuaries or mudflats that do not support crops or housing.
- Jobs have been created in remote rural areas and farms provide drinking water, sanitation, medical facilities and education to previously deprived areas.
- Suppliers have been audited to the ETI standards to ensure workers' rights are protected.
- Ponds are not restocked by catching wild prawn larvae, as this results in high bycatch of juveniles from other species due the use of fine mesh nets, reduction of wild prawn stocks, and introduction of disease. Farms only use domestic brood stocks.
- Water quality is carefully monitored; water is filtered and is often cleaner on leaving the farm than on entering.
- Antibiotics are not used to increase growth rates or quantities of prawns.

#### Support for sustainability initiatives

M&S has been working with the MSC since 1998, and co-operates with the Council on key projects and fundraising. Andrew Mallison is on the MSC's Commercial Group. M&S sells MSC-certified, own-brand fish including, over the past 12 months, MSC-certified Alaskan salmon, Cornish mackerel, Western Australian Rock Lobster and New Zealand hoki.

Andrew Mallison has also been a member of the Scottish Executives Ministerial Working Group on Aquaculture, developing environmental and regulatory standards for Scottish fish farming. He will also be a member of the newly-formed Scottish ministerial Sea-fisheries Advisory Group. M&S was also the only retailer to give evidence to the Royal Commission on Environmental Pollution for report on the state of Europe's fisheries.<sup>76,77</sup>

M&S is working with WWF and the National Federation of Fisheries Organisations to develop the 'Invest in Fish' initiative – Mike Barry sits on the steering committee. This initiative aims to tackle overfishing while protecting the needs of the differing communities that depend on the sea – economic, social and environmental issues are addressed together. Based in South-West England, the project started in early 2004 and involves scientific research and consultations with all stakeholders such as local communities, environmental groups, the fishing and food industries, restaurant operators, sea anglers and retailers. The aim is, by the end of 2005, to agree recommendations to safeguard both fish stocks and the livelihoods that depend on fishing. M&S has donated £40,000 to help leverage £1.6 million of funding for Invest in Fish.

M&S also sponsors smaller research and restocking programmes. In 2002, M&S joined forces with Inverness College, Strathcarron, Scotland, to restock populations of wild salmon in local West Highland rivers: the first young tagged fish from the programme returned from the high seas in 2004 as breeding adults.<sup>78</sup> Early in 2005, M&S donated £2,000 to the National Lobster Hatchery in Padstow, Cornwall, to purchase new tanks and water-handling equipment. This initiative will increase the hatchery's annual output of juvenile lobsters by about 50% (from 7,000 to 10–11,000) with

the ultimate aim of increasing the quantities of lobsters landed in about four years' time.<sup>79</sup>

In June 2003, M&S stimulated the introduction of innovative haddock fishing methods to reduce the bycatch of cod and juvenile haddock, in partnership with its suppliers Cavaghan & Gray and selected local fishermen. The work is being carried out by the industry bodies Seafish and Seafood Scotland, and is jointly funded by M&S, Scottish Enterprise and Cavaghan & Gray.<sup>80</sup> Initial observer trials indicated that cod bycatch could be reduced through more careful choice of fishing grounds and by rigging nets to take advantage of the fact that haddock trying to escape swim upwards whereas cod tend to swim down. M&S-contracted fishermen have successfully reduced the cod bycatch to less than 5% of the total catch, and these techniques will be applied to all the boats supplying M&S with Scottish haddock.<sup>81</sup>

M&S jointly funded the MCS's *FISHONLINE* website and provides the society with details of its research and policies.

#### 4.5.3 Review of M&S's seafood policies

With almost 10 years of experience, M&S is a clear leader in the field of sustainable seafood procurement. The company has set clear goals and communicates with an openness and honesty that are lacking in the pronouncements of most other supermarkets.

M&S's detailed policies are reflected in its products and labelling and in the information provided to consumers on the company's website. M&S is not merely supporting, but is actually driving sustainability initiatives. Those areas that currently show room for improvement, such as the reliance on farmed carnivorous fish and the need to encourage consumers to consider alternative, more sustainable species than the traditional favourites, are all areas which M&S is aware of and is working to improve.

### 4.6 Somerfield – 'Good food made easy'

#### 4.6.1 Somerfield's background

The Somerfield group includes the Somerfield and Kwik Save supermarkets and convenience stores, which operate as separate businesses. Somerfield began as a small family grocery store in Bristol in 1875, while Kwik Save began trading as Value Stores Ltd in 1959, with the first Kwik Save store opening in Rhyl, North Wales in 1965. The two companies merged in 1998. Together they now operate 1,308 stores, employ over 56,000 staff, and sell about 25,000 lines, including over 6,000 own-label products.<sup>82</sup>

Somerfield's 814 stores (by April 2005) include the convenience stores Market Fresh and Essentials, on high streets and garage forecourts (TotalFinaElf, Texaco and Fuelforce), as well as larger Somerfield supermarkets. Somerfield stores offer 'high-quality groceries' with an emphasis on fresh foods, along with a range of kitchen, household and car-care items and children's clothing in the larger supermarkets. Kwik Save, centred on the Midlands, Wales and northern England, has 494 stores selling low-cost fresh food and groceries. The Somerfield group turnover in 2004/05 was £5.2 billion.<sup>83</sup>

#### 4.6.2 Somerfield's seafood policies

Somerfield's online CSR report does not contain a clear, publicly available seafood procurement policy, although it does include a policy on prawns.<sup>84</sup> Somerfield agreed to meet with Greenpeace to discuss sustainability issues, and provided a copy of its very limited wild and farmed seafood sourcing policy.<sup>85</sup>

##### Seafood suppliers

Somerfield has a range of fresh, pre-packed chilled, frozen and tinned seafood products, with a commitment to local and regional sourcing where possible, including a South-West fresh fish line supplied by Riddlers, a seafood supplier based in Devon. Only ten Somerfield stores have small fresh fish counters.

##### Labelling

Somerfield's fresh and own-brand seafood is labelled according to standard labelling laws. On its fresh fish counters the labels include the region of landing – for example 'caught in the North-East Atlantic, landed and processed in the West Country'. Somerfield sourcing policy states that it 'does not boycott fisheries due to consumer pressure' but that it will occasionally provide more information on labels to allow consumers to make a more informed choice. In response to the EJF campaign, for example, all Somerfield's own-brand farmed tropical prawn products now include the country of origin.

##### Wild seafood procurement policies

Suppliers of fish used as ingredients in processed own-label lines are expected to comply with Somerfield's fish sourcing policy, which states: 'It is Somerfield's intention that all own label wild fish is sourced from managed fisheries. Somerfield acknowledge that there is an increasing demand for seafood and we expect our suppliers to target well-managed or sustainable fisheries within their company business plans and to participate in initiatives which promote responsible fishing.'<sup>86</sup> Somerfield also prohibits the use of fish from illegal landings.

Somerfield has provided little evidence that it attempts to source more sustainable seafood. It sells few more sustainable seafood choices for its customers and sources at least eight MCS grade 5 (or equivalent) species or groups of seafood. Indeed, according to its both its Technical Director and Technical Manager, Somerfield considers itself too small a player in the grocery market to lead on sustainable seafood procurement.<sup>87</sup>

##### Tuna

Somerfield's fish sourcing policy specifies that its own-brand tuna must be sourced by long-line, trolling, pole and line or hand-line. However, the policy then goes on to state that 'purse seine fish may only be used if the catch has been conducted in accordance with International Dolphin Safe Methods, as approved by independent certification bodies.' When asked to define these certification bodies, Somerfield's Technical Manager in charge of the fresh and frozen fish range explained that its tinned tuna suppliers are required to tender every year, so certification bodies may change.<sup>88</sup> According to the EII, Somerfield's tinned tuna is not EII-certified.<sup>89</sup> Despite Somerfield's inability to clarify its definition, its canned tuna still carries a 'Dolphin Friendly' logo.

##### Prawns

Somerfield states that it is committed to sourcing prawns sustainably. Somerfield's cold-water prawns are sourced from Iceland, where the controls require all fishing to cease if the bycatch exceeds 4%, which according to Somerfield, is usually 2% or lower.<sup>90</sup> Somerfield does not buy wild-caught tropical prawns.

##### Aquaculture policies

Somerfield worked with the EJF and suppliers to address any potential issues with farmed tropical prawns before it launched its own-label tropical prawns. Somerfield's tropical prawns are from farms approved on the basis of food safety, environmental protection, and ethical trading. The EJF and other NGOs have been given an open invitation to join Somerfield on all its visits to suppliers of farmed tropical prawns, to ensure that their concerns are being met.

Somerfield states that all its farmed fish are grown in accordance with the five freedoms as defined by the Farm Animal Welfare Council, although they are not certified as Freedom Food. Somerfield encourages its suppliers constantly to improve aquaculture welfare standards with regard to all phases of the fish's lifecycle and with respect to harvesting methods. Somerfield advocates industry research into alternative sources of protein for fishmeal other than wild marine fish.

All fish and shellfish farms supplying to Somerfield must be subjected to environmental impact assessments to ensure that no lasting damage is being done to the geology or wildlife of the area. Somerfield encourages suppliers to work towards ISO 14000 certification by managing environmental issues in their businesses, and they must also comply with Somerfield's ethical trading policy with regard to worker's rights.

##### Support for sustainability initiatives

Somerfield claims to support sustainability initiatives such as the MSC; however, the supermarket does not currently stock MSC-certified seafood. According to Somerfield's Technical Manager the company has on two separate occasions tried to sell MSC New Zealand hoki – once as natural fillets and once sauced – but discontinued both lines as they were not selling.<sup>91</sup>

This failure did not indicate a lack of effort to encourage change in customers' buying habits. In 2000, Somerfield ran a campaign to introduce its customers to alternatives to cod and haddock in an attempt to help protect dwindling North Sea stocks.<sup>92</sup> The supermarket ran a series of blind taste tests to challenge customers to spot the difference between cod and haddock and alternative fish such as coley, pollack, halibut and hake, as well as traditional favourites such as sole and plaice. It was soon after this that Somerfield first stocked hoki.

Somerfield claims that its own-label UK fish suppliers are members of the MSC, and that as fisheries receive an MSC certification the Somerfield will work with its suppliers to ensure that these fisheries are given preference.<sup>93</sup>



#### 4.6.3 Review of Somerfield's seafood policies

Somerfield has a long way to go in developing a serious sustainable seafood procurement policy. Its limited range of seafood means that it appears to be selling only eight grade 5 seafood species or groups; however, it also means that its customers have few alternative seafood choices.

At the same time, other supermarkets could learn from Somerfield's attempts to promote more sustainable fish choices in its supermarkets, despite its apparent failure. Somerfield itself could start promoting recipes for more sustainable fish in its free monthly *Somerfield magazine* and on its website, instead of the standard cod, haddock and salmon. The introduction of small fish counters selling locally caught fish in some regions is a good opportunity for Somerfield to promote more sustainable, locally caught, seafood choices.

### 4.7 The Co-op – 'We go further so you don't have to'

#### 4.7.1 The Co-op's background

The Co-operative movement began in 1843 in Rochdale, Lancashire, UK, when 28 workers decided to set up a co-operatively owned, co-operatively run shop that would trade honestly, treat customers fairly, and give them a chance to become members with a democratic right to have a say in the business. These founding principles underpin the trading philosophy of the Co-operative Group today.<sup>94</sup>

The Co-operative Group now encompasses a wide range of businesses including food retailing, banking, insurance, funeral directors, car sales, travel agents, pharmacy, farms and property. These businesses employ over 69,000 people with a group turnover of £7.8 billion in 2004.

As of January 2005 there were 1,787 Co-operative Retail (Co-op) stores throughout the UK, employing about 45,700 people, with stores located in many communities not served by other retailers. Stores operate under two main fascias – Co-op Welcome, the smaller convenience stores, and Co-op Market Town, the larger supermarkets. The Group's acquisition of other convenience store chains such as Alldays, Conveco and Balfours, brings to 2,961 the total number of stores operated by the wider Co-operative Group, which will continue to increase the presence of the Co-op name as these stores are refurbished and rebranded. The primary focus of the Co-op is to meet the 'top-up shopping' needs of the communities in which stores are located. The Co-op has over 4,000 own-brand products, with food sales in 2004/05 of £3.4 billion.<sup>95</sup>

#### 4.7.2 The Co-op's seafood policies

The Co-op does not provide a detailed policy on sustainable fish procurement, but its CSR report states that it does 'ensure sustainable marine fisheries by promoting responsible, environmentally appropriate, socially beneficial and economically viable fishing practices'.<sup>96</sup> In addition, the Co-op Bank policy states: 'In line with the principles of our Ecological Mission Statement, we will not invest in any business whose core activity contributes to ... the unsustainable harvest of natural resources, including timber and fish.'<sup>97</sup>

In a Co-op survey conducted in 2004, 90% of the 30,000 members and consumers questioned believed that retailers' and manufacturers' products should be independently reviewed against ethical standards. In response to this, the Co-op set up a 10-member advisory panel to help to define, implement and monitor new ethical standards across the Co-op range in the following areas:

- 'The Whole Truth' – improving product labelling so consumers can make an informed choice
- Food integrity – providing products which are produced and marketed in a way consumers can trust
- Animal welfare and animal testing – improving standards of care and banning animal testing
- Globalisation and poverty reduction – ensuring a fair deal for growers in developing countries
- Environment and sustainability – minimising the impact of industry on the environment
- Local communities – working to support and sustain local communities.<sup>98</sup>

Additional specific policies on marine life are listed on the Co-op website,<sup>99</sup> and were updated by the Group Quality Assurance Manager of Co-operative Retail in response to the first draft of this report.<sup>100</sup>

#### Co-op seafood suppliers

As the focus of the Co-op is on the top-up sector, and its stores are mainly small, community-based outlets, it has limited opportunity to sell fresh fish. Some larger stores have fresh fish counters; however, the seafood sold by the Co-op is predominantly Young's pre-packed chilled seafood, and Co-op's own and other brand (eg Birds Eye, Young's, Ross) frozen seafood, and ready meals. Co-op carries its own-label tinned fish as well as the common brands.

#### Labelling

The Co-op has a strong labelling policy for all its food, providing information on its own-brand food over and above the required legal standards. All seafood products, including processed products such as breaded fillets and fish fingers, include the information required by law for raw fresh or frozen fish (see section 2.1.1). The Co-op website also provides information on how to read labels on Co-op fish products to help customers to know what they are buying.<sup>101</sup> Unfortunately, this information is only on quality, quantities and processing methods of the fish used, and does not help the consumer determine its sustainability.

#### Wild seafood procurement policies

The Co-op provides only minimal details of specific sourcing policies, primarily on the fishing methods used. The Co-op specifies that wild marine species must be taken in a way which minimises damage to non-target species, in particular whales and dolphins. The Co-op's own-brand tuna is certified by the EIU, and is now being labelled with the EIU Dolphin Safe logo (see section 2.3.2). The Co-op does not sell wild sea bass due to concerns about dolphin bycatch associated with pair trawling.

The Co-op recognises the decline of fish stocks, particularly cod and haddock, and is 'using an increasing proportion of these fish species sourced from the more sustainably managed Icelandic waters'.<sup>102</sup>

In most of the Co-op's stores the seafood range is small, and centred on the most popular, but less sustainable species such as cod, haddock and plaice, which it does not balance with more sustainable choices. In a few larger stores the Co-op sells a greater range of seafood, however, these include at least ten MCS grade 5 (or equivalent) species or groups.

#### Aquaculture policies

All Co-op farmed salmon is sourced from farms accredited to the Scottish Quality Salmon Scheme, which provides benefits including independent auditing and enhanced traceability.

The Co-op is working with its salmon suppliers to ensure that all fishmeal is obtained from sustainable sources and is low in persistent organic pollutants. Where possible, the Co-op specifies that fishmeal should use bycatch and appropriate fish-processing waste, to help reduce fisheries wastage. Its fishmeal suppliers are also developing alternative protein sources such as vegetable-derived proteins, including non-GM soya, and are working to effect a gradual reduction to more natural levels of the amounts of carotenoid pigments added to fishmeal (these are used to colour farmed salmon flesh and as a dietary supplement).

The Co-op is extending the Freedom Food accreditation across its own-brand meat, poultry and fish, wherever defined standards exist, and in collaboration with the RSPCA is developing farm animal welfare standards in new areas and higher standards in existing areas. A Freedom Food frozen salmon fishcake has been launched in the Truly Irresistible range.

The Co-op is a founding member of the ETI and participated in the pilot programme which considered social and welfare issues within the tropical prawn farming industry. The Co-op has also been discussing these issues with the EJF in response to its prawn farming campaign.

#### Support for sustainability initiatives

The Co-op has been a member of the MSC since 1998 and stocks some MSC-certified products, including a range of canned Alaskan salmon. With the recent certification of several Alaska pollock fisheries, the Co-op is identifying opportunities to rebrand existing products that use Alaska pollock. It is also working with the Canadian salmon fishery to promote certification, and has discussed the MSC-certification with representatives of several tuna fisheries.

The Co-op supports the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) as an essential instrument for the safeguarding of species which are threatened by international trade. The Co-op specifically avoids products or ingredients taken from endangered species. In particular, the Co-op does not sell shells or corals taken from the seabed, or cosmetics containing whale products, and Co-op pet food does not contain meat from endangered species.

The Co-op has been and continues to be involved in research initiatives on aquaculture: it has discussed possible areas of collaboration with Stirling University, and has also funded research into the use of acoustic reflectors on fishing nets. These devices bounce back the sonar sent by approaching dolphins so as to prevent them from swimming into the nets.

#### 4.7.3 Review of the Co-op's seafood policies

Given that the Co-op sells a relatively small volume of seafood compared to other supermarkets, the efforts it has made to develop seafood procurement policies are surprising, as are its level of involvement in research and its support of sustainability initiatives. However, its policies are not yet reflected in the range of seafood it sells, and the Co-op needs to reconsider its sourcing of grade 5 species or groups of seafood. With its development of new ethical standards for environment and sustainability, the Co-op must address sustainable seafood procurement in more detail and promote these policies to the public.

### 4.8 Waitrose – 'Good food, honestly priced'

#### 4.8.1 Waitrose's background

Waitrose started as a small grocery shop in Acton Hill, West London in 1904 and, following its acquisition by the John Lewis Partnership in 1937, the first Waitrose supermarket opened in 1955.<sup>103</sup> The John Lewis Partnership now includes 166 branches of Waitrose in the south of England, East Anglia, the Midlands and Wales; 27 John Lewis department stores; several manufacturing concerns; and a farm. The company is owned by the workers rather than shareholders, and its 61,100 employees or 'partners' share the profits. The John Lewis Partnership turnover for 2004 was £5.3 billion, just under £3.0 billion of which was through Waitrose stores.<sup>104</sup>

Quality and freshness of food are among Waitrose's prime concerns, as are the provenance and traceability of its food. The company's buyers source from British suppliers wherever possible and increasingly buy local produce from suppliers and small growers close to individual Waitrose stores. Waitrose claims that no other supermarket takes greater care over the quality, safety and provenance of the food sold in its shops, and these efforts won Waitrose the 'Compassionate Supermarket of the Year' award for 2003–04 in an audit by Compassion in World Farming.<sup>105</sup>

#### 4.8.2 Waitrose's seafood policies

Waitrose was voted Seafood Retailer of the Year (Multiple) 2005 at Seafish's Seafood Awards in March<sup>106</sup> and was runner up to Sainsbury's in the Seafood Retailer of the Year (Multiple) 2005 at the Retail Industry Awards in September.<sup>107</sup> In the citation at Seafish's awards ceremony particular attention was given to 'Waitrose's efforts in achieving superb quality, freshness and traceability with a standard of service second to none. The definition of quality extends far beyond the product itself with buyers actively seeking well managed fisheries with sustainable fishing practices with an emphasis on minimal environmental impact.'<sup>108</sup>

This recognition by the seafood industry is a reflection of Waitrose putting its clear sustainable seafood policies into practice. Waitrose's sustainable fishing policy has recently been updated and is given in detail on its website.<sup>109</sup> Its specialist fish buyers, Quentin Clarke and Jeremy Ryland Langley, have discussed seafood sustainability issues with Greenpeace on many occasions, and have supplied further details of Waitrose's policies. The team regularly visits Waitrose's suppliers, shows considerable knowledge of the provenance and sustainability of the fish it buys, and is well acquainted with the industry.

The company states: 'Waitrose ensures the highest standards of welfare for its farmed fish and sources wild seafood in the most ethical manner currently possible. Where there is still room for development, Waitrose has been working for many years towards an ever more responsible fishing policy both on its own account through its dedicated supply base and using independent certification bodies where available such as the Marine Stewardship Council.'<sup>110</sup>

#### Seafood suppliers

---

Waitrose was the first major retailer to introduce fresh fish counters, and by January 2004 it had counters in all but 10 of its stores.<sup>111</sup> Waitrose sells 55 different species of fish and shellfish, both farmed and wild-caught, from 25 different countries, obtained through its small, specialised UK-based, but not all UK-owned, suppliers.<sup>112</sup> All Waitrose's fish are fully traceable to the source.

Waitrose has a dedicated processing unit at Caistor near Grimsby, which is owned by Sealord, a major supplier to the company. Sealord is jointly owned by the Maori people of New Zealand and the Japanese seafood company Nippon Suisan Kaisha (Nissui) and has its own fishing vessels based in New Zealand.<sup>113</sup> It uses a combination of New Zealand and northern hemisphere seafood to supply Waitrose with approximately 40% of its fresh fish requirements, including mussels, cod, haddock, sea bass, New Zealand deep sea cod and squid.<sup>114</sup>

Sealord claims that it is 'committed to sustainable harvesting of the ocean's fish stocks', and has a sustainability policy; however, the company sells species such as orange roughy and New Zealand squid which are associated with unsustainable fishing practices (see Chapter 3). Sealord's part-owner Nissui is one of two major Japanese whaling companies that supply tinned whale, dolphin and porpoise products in Japan (including those sold in Tesco's Japanese stores until last year) and are involved in Japan's so-called 'scientific' whaling policy.<sup>115</sup>

#### Labelling

---

Waitrose labels its seafood mainly according to standard UK labelling laws, although a few product labels provide further details, for example specifying that mussels are rope-grown in Scotland. Further details of seafood sources and the fishing methods used are provided on the company's website.

#### Wild seafood procurement policies

---

Waitrose states that it buys from well-managed fisheries using sustainable fishing methods when stocks are available and favours selective fishing techniques to minimise the effect on other species as well as the marine ecosystem.<sup>116</sup> For example, long-line vessels that catch fish for Waitrose use various methods to minimise bycatch such as using shorter lines, fishing closer to shore, setting lines at night, streamers and buoys to deter seabirds, specialised hooks to avoid catching turtles, and extra weighting to ensure lines sink quickly to prevent seabirds being hooked or tangled.

Waitrose maintains a list of species and stocks that it does not sell due to sustainability issues: North Sea brill; North Sea Atlantic cod; European hake; ling; marlin; Patagonian toothfish; wild Atlantic salmon; trawled sea bass; sharks including dogfish or huss; sturgeon

(*Acipenser* and *Huso* species) and its eggs (caviar); Atlantic or common skate; groupers; bluefin and bigeye tuna; North Sea turbot; and whitebait (juvenile herrings or sprats).<sup>117</sup>

Waitrose has provided significant details about some of their more controversial seafood species (see below); however, questions remain about the sustainability of all its arrow squid, Dover sole, lumpfish, monkfish, New Zealand deep sea cod, other skate species, and yellowfin tuna, all of which are MCS grade 5 (or equivalent) species or groups (see Chapter 3).

#### Cod and haddock

Waitrose's cod and haddock have been sourced from Iceland since 1999, and 95% of these fish are caught by long-line, including those for breaded products. Trawled fish are only sourced for frozen products or to meet a short seasonal gap during April. These trawls use the most up-to-date net designs to reduce turbulence, minimise seabed damage, and allow higher levels of escape by undersized fish.

Jeremy Ryland Langley told Greenpeace: 'The decision to move all Waitrose requirements for Atlantic cod to the Icelandic fishery was a difficult one, but necessary, if we are to continue to offer our customers high-quality fish from sustainable sources. Many of the world's fisheries are over-exploited, with many species of fish under threat, and sadly this includes the European fishery, particularly for Atlantic cod.'<sup>118</sup> However, while the Icelandic cod stock is certainly better managed than other European stocks, it is still considered overfished (see Chapter 3).

#### Flatfish

Fresh plaice and lemon sole are caught in Iceland and the Faeroe Islands by inshore fisheries using seine nets rather than beam trawling which damages the seabed. The small amount of halibut sold in Waitrose is mainly Pacific halibut. Waitrose does sell some Atlantic halibut which is caught as bycatch in the Icelandic cod and haddock fishery. Brill is line-caught from Cornwall.

#### Monkfish

Waitrose sources monkfish from various areas depending on the time of year. Monkfish fillets are from the Bristol and English Channels, whilst tails and whole fish are sourced from Scotland. When these areas are out of season, monkfish is sourced from Iceland and the Faeroe Islands. Waitrose is aware of the concerns surrounding monkfish; however, it claims that no evidence of over-fishing of young females has been seen in the supermarket's catches and that its sources of monkfish are abundant and show good levels of maturity.

Despite these claims, ICES lists a variety of problems associated with fishing monkfish off the coast of Scotland, including the fact that there is insufficient data to be able to determine the state of the stock, landings are declining, and quota restrictions are not adequately regulating this fishery.<sup>119</sup> Additionally, ICES reports that stocks in the both the Bristol and English Channels are being fished at too high a level to be considered as following the precautionary approach.<sup>120</sup> Waitrose makes no comment on how it minimizes the effects of the destructive methods of bottom trawling and gillnets used to catch monkfish.

*Orange roughy*

Until July 2005, Waitrose was sourcing New Zealand orange roughy, which is listed by the Royal Forest and Bird Protection Society of New Zealand (Forest & Bird) as the most unsustainable fishery in the country (see Chapter 3).<sup>121</sup> Following discussions with Greenpeace, pressure from the Bite-Back campaign, and a subsequent visit to New Zealand by Jeremy Ryland Langley, Waitrose has taken the decision to stop selling orange roughy due to 'concerns over the potential for environmental damage caused by deep-sea trawling of their habitat.'<sup>122</sup>

*Prawns*

Waitrose does not buy any prawns, tropical or cold-water, on the open market, and does not buy wild-caught tropical prawns. Shell-on wild cold-water prawns are from the coast of Iceland and Greenland, while cooked and peeled prawns are caught in the North Atlantic from the Gulf of St Lawrence, Canada, through to the Norwegian coast. Multiple grids are fitted to all the prawn trawl nets to reduce the capture of unwanted species low levels and allow small prawns to escape.

*Sardines*

All Cornish Sardines are caught in purse seines by the Lakeman family in Cornwall, who have commissioned their own boat, *The Resolute*, to fish exclusively in the UK for Waitrose.

*Sea bass and mackerel*

Wild Cornish sea bass and MSC-certified Cornish mackerel are line-caught to avoid catching smaller fish and marine mammals, particularly harbour porpoises and dolphins. Waitrose do not buy any fish caught by pair trawling.

*Gilt head bream*

Waitrose wild gilthead bream, also called red snapper or red sea bream, is line-caught from New Zealand – the company claims this is one of the best-managed fisheries in the southern hemisphere. However, Forest & Bird have graded this fish as E – one of the worst choices.

*Swordfish*

Waitrose sells swordfish caught as bycatch in tuna boats, rather than allowing it to be thrown away. The majority of the swordfish is caught in the Indian and Pacific Oceans, from fisheries that Waitrose believes are well-researched, managed fisheries that are subject to quotas. Only swordfish that are below 40 kg wet weight are sold, due to health concerns resulting from high levels of persistent organic pollutants in large predator fish.

*Tuna*

Waitrose's fresh tuna is yellowfin tuna, pole-and-line or long-line caught by dedicated boats to minimise bycatch. The tuna is mainly from the Indian and Pacific Oceans, as well as from fisheries in the South-West Atlantic covered by the International Commission for the Conservation of Atlantic Tunas.

Waitrose own-brand tinned skipjack and yellowfin tuna is also caught by pole-and-line or long-line, and does not carry a confusing dolphin logo; it is simply labelled: 'Waitrose tuna fish is caught using

only fishing methods which do not harm dolphins or other marine mammals.' Waitrose monitors mercury levels in tuna closely, and if any issue develops will stop sourcing from that area.

*Aquaculture policies*

In collaboration with its suppliers, Waitrose has developed an aquaculture code of practice which it claims is probably one of the most rigorous in the world, with some of the highest standards of animal welfare and health and minimal impacts on the environment and marine ecosystems.

*Salmon and trout*

Waitrose's salmon farms are located on Orkney and Shetland Islands, where the fast-flowing tidal waters provide some of the best conditions for rearing salmon. Organic Scottish salmon is available from the same waters, as well as from the Western Isles. Rainbow and organic brown trout (unique to Waitrose) are grown in grass ponds on Lord Radnor's Longford Estate in Wiltshire, while sea trout is farmed in Loch Etive on the west coast of Scotland and in the Northern Shetland Isles.

Waitrose is the market leader in organic fish and sells the widest range, all certified by the Soil Association. Waitrose and two dedicated suppliers were instrumental in the development of organic standards for salmon and trout and Waitrose was the first UK supermarket to sell organic salmon and organic brown trout.

Waitrose's farmed fish are stocked at much lower densities than industry standards require.<sup>123</sup> Salmon, for example, are kept at 15 kg per m<sup>3</sup> compared to the industry standard of 20–25 kg per m<sup>3</sup>. Waitrose's farms use submerged cameras to ensure minimal feed falls onto the seabed, thereby reducing pollution. Waitrose does not use any antibiotics as a routine preventative measure or antibiotic growth promoters in fishmeal. Only licensed and prescribed veterinary medicines can be used when diseases occur. Bi-annual checks are undertaken to assess the environmental impact of all its farms.

*Other fish*

Waitrose also sells farmed sea bass from France and Greece and farmed gilthead bream from Greece.

*Prawns*

Large tropical prawns are reared and sourced from farms in the Gulf of Fonseca in Honduras, Mahajanga in Madagascar, and the Gulf of Guayaquil in Ecuador. Farmed organic tropical prawns are from farms on the Las Palomas (Isla Puna) island in the Gulf of Guayaquil. The organic farms are fully integrated and certified throughout the entire production, including the hatchery, farm, processing factory and feed mill. Waitrose has a close relationship with its prawn farms, and visits them regularly to monitor their environmental and social conditions.

The farms in Honduras and Madagascar have been built on the upper plains of salt flats between the bends of rivers in an effort to minimise disturbance to the mangrove ecosystem. Prawns are stocked at low density and rely on both natural food in the ponds as well as feed supplements which contains no antibiotics or artificial, synthetic or natural pigmentation.



Waitrose claims that the construction of these prawn farms in Honduras and Madagascar has created many jobs in areas where previously opportunities were scarce and poverty was high. Each farm has a programme to improve health, education, infrastructure and environmental conditions in the surrounding communities. This help covers schemes such as maintaining the surrounding roads, digging wells, building schools and medical centres as well as providing clean, potable water.

#### *Mussels and oysters*

Waitrose common or blue mussels are grown on ropes suspended in tidal sea lochs around Shetland and Orkney. The farms are sited in remote locations away from housing and industry to ensure pristine water quality, and mussels feed on natural plankton. All environmental bodies, such as Scottish Natural Heritage, are consulted prior to building mussel farms for Waitrose to ensure the protection of rare species and sensitive habitats. Waitrose claims that its mussel farms are a haven for wild life such as otters, seals and seabirds.

Waitrose's cooked organic New Zealand half-shell green mussels are farmed in the Pacific Ocean – their second dedicated organic seafood line. Oysters are grown in Scottish hatcheries in mesh bags.

#### Support for sustainability initiatives

Waitrose supports the MSC and sells MSC-certified Cornish mackerel, Alaskan salmon and Western Australian rock lobster, with plans to increase the MSC range as more fisheries are certified.

Waitrose is committed to organic aquaculture and has recently agreed to help fund a two-year project with the Soil Association for the Aquaculture Development Programme. In addition, Waitrose is currently working on developing sustainable fishmeal for farmed salmon.

#### Promotion of sustainable seafood

Waitrose publishes articles on fishing and sustainability in both the online and print versions of its magazine *Waitrose Food Illustrated*,<sup>124</sup> and its online recipes for seafood include a good range of species to encourage consumers to try alternatives to the standard favourites.<sup>125</sup> Its MSC-certified seafood lines are clearly displayed and promoted at its fish counters.

During Seafood Week 2005, Waitrose focussed on promoting their more sustainable seafood range – particularly avoiding their farmed fish, cod and haddock – in order to raise awareness of the issues surrounding sustainable seafood and to encourage their customers to broaden their seafood tastes.

#### **4.8.3 Review of Waitrose's seafood policies**

Although some of its individual sources and species choices remain questionable, Waitrose is certainly a leader in the sustainable sourcing of seafood. Waitrose has considerable knowledge of the provenance of its seafood and sustainability issues, and openly promotes its procurement policies. Waitrose supports sustainability initiatives through its work with the MSC, and is working to improve aquaculture with its work on organic fish and shellfish farming. With the wide range of species sold, Waitrose customers are buying more sustainably sourced seafood, even if they are not aware of the issues.

## **4.9 Iceland – 'Food you can trust'**

### **4.9.1 Iceland's background**

Iceland was founded in 1970 as a single shop in Oswestry selling frozen food, and is now a high-street supermarket chain with 760 stores across the UK and Ireland. Iceland employs over 22,000 people, serving more than 3.4 million customers each week with a choice of over 4,000 products.<sup>126</sup>

Iceland was formerly part of The Big Food Group, but in February 2005, the group was bought and split up by the Baugur Group, an Icelandic investments group, and Iceland became a private company. Iceland's turnover in 2004/05 was £1.5 billion.<sup>127</sup>

Iceland is known for its frozen food range, but has been expanding its stores and now also offers a range of groceries including fresh fruit and vegetables, chilled products, toiletries, fresh bread, wine and beer; over 300 stores also sell home appliances. Iceland's own brand products are made with no GM ingredients (the first supermarket to go non GM with their own brand), artificial colours or flavours.

### **4.9.2 Iceland's seafood policies**

Iceland sells a very limited range its own and other brand (mainly Birds Eye, McCrae and Young's) traditional frozen seafood. Although the range of seafood species sold is small, Iceland sells more frozen seafood than each of the other supermarkets, except Tesco (see Table 4.1). These sales are primarily of the popular and unsustainable cod, haddock, plaice, farmed salmon, and tuna.

Iceland currently has no publicly available CSR report and Iceland's Food Legislation Manager has confirmed that Iceland has no sustainable seafood procurement policy. She added only that all of Iceland's own-brand frozen tuna is line-caught and that its supplier complies with the EIU Dolphin Safe policy.<sup>128</sup>

Iceland's seafood is labelled according to the requirements of the UK seafood labelling laws.

### **4.9.3 Review of Iceland's seafood policies**

Iceland's expansion into the fresh and chilled food sector, although not yet including chilled seafood, is a worrying trend for a supermarket with no seafood procurement policy. However, with such a limited range of seafood species on sale, Iceland is in a good position to develop and implement a seafood policy before it considers any further expansion.



# OTHER SEAFOOD SUPPLIER POLICIES

In addition to its own-brand seafood, every supermarket, except M&S, stocks other brands of seafood. In the tinned seafood sections John West, Princes, and Glenryck dominate, while in the frozen fish sections, Young's and Birds Eye are the main two alternatives to the supermarkets' own brands. Unfortunately, supermarkets' sustainability policies do not extend to other brands of seafood. For this reason, the sustainability policies of the two major brand owners, Young's Bluecrest and Unilever, are reviewed here.

## 5.1 Young's Bluecrest

### 5.1.1 Young's Bluecrest's background

With about 40% of the market, Young's Bluecrest is the largest seafood processor in the UK. The company was created in 1999 when two well-known UK seafood companies merged.<sup>1</sup> Young's was founded in 1805 by Elizabeth Young and family, who were watermen and fishermen on the Thames. Bluecrest was founded in the mid-1970s in Grimsby and developed into a fresh fish merchant and fish processing operation.

In June 2004, following the acquisition of the Macrae Food Group, a specialist in chilled ready-to-eat seafood products, Young's Bluecrest became the UK's leading seafood specialist and one of the top five independent UK food companies.<sup>2</sup> With a total annual turnover in excess of £500 million, the company now employs over 5,000 people at sites in the Humber and Scotland.<sup>3</sup>

Young's Bluecrest is a major supplier to most sectors of the UK market including supermarkets, restaurants, pubs, fish and chip shops, schools and hospitals. The company supplies chilled and frozen seafood under its own brands including Young's, Macfisheries, Macrae, Ross and Scotpak. Young's Bluecrest also supplies supermarkets with fish for their own-label seafood ranges and for their wet-fish counters.

### 5.1.2 Young's Bluecrest's seafood policies

Young's Bluecrest's seafood procurement policies are described on both its corporate and food service websites. Young's Bluecrest claims to be 'acutely aware of the need for proper management of fisheries around the globe, to ensure the long-term availability of seafood – now and for future generations.'<sup>4</sup>

The company's states that it is 'actively seeking ways of operating its business which meet the UK Government's four key objectives on sustainability', namely the 'prudent use of natural resources' and 'effective protection of the environment', while maintaining 'high

and stable levels of growth and employment.'<sup>5</sup> No policies for particular species are detailed, and no specific sustainability goals have been set; however, Young's Bluecrest's position on a number of sustainability issues is clear.

### Labelling

Young's Bluecrest's branded seafood is generally labelled according to standard fish labelling laws (see section 2.1.1). A few product ranges include more detailed information on the source and sustainability of the product – its MSC-certified fish range, its Scotpak range (sourced in Scotland) and some of its tuna (hand-line-caught in India) and haddock (sourced in Scotland) products.

Some Young's Bluecrest products, such as fishcakes, fish fingers and fish pies, are simply labelled as 'whitefish' or just 'fish'. The company claims that it is largely Alaska pollock products that are labelled this way, because consumers have not yet accepted Alaska pollock as a good substitute for more familiar species such as cod and haddock.<sup>6</sup>

### Young's Bluecrest's seafood suppliers

Young's Bluecrest has links and partnerships with fishermen around the globe, from the Arctic Circle to New Zealand.<sup>7</sup> Its buying team travels extensively, checking the quality and environmental credentials of all the seafood bought. In total, Young's Bluecrest sources more than 60 species of fish from 33 countries around the world.

Polarfrost Seafoods, a wholly owned subsidiary of Young's Bluecrest, specialises in 'frozen at sea' fish, working with factory trawlers and agents in the main North Atlantic fisheries (Norway, Iceland, Faeroe Islands, etc), as well as various international white fish fisheries that provide a range of species including Alaska pollock, catfish, hake, hoki, and Pacific cod.<sup>8</sup> Young's Bluecrest buys fresh products such as scampi, prawns, mackerel, herring and monkfish from all the key UK fishing ports. While its biggest sellers are still cod, salmon and prawns, Young's Bluecrest has introduced a 'Flying for Freshness' project that brings alternative types of fresh fish into the UK, including over 15 species from seven different countries, such as kingklip from South Africa, tuna from the Maldives, and farmed tilapia from Jamaica. Other farmed fish, such as salmon and trout, are sourced from the UK and Norway, from both small and large producers.

Young's Bluecrest claims to have a 'rigorous policy of selecting and monitoring its suppliers.' It works only with fishing companies that are able to demonstrate the highest levels of good practice, sourcing



only from well-managed fisheries and actively avoiding vulnerable species. Young's Bluecrest's suppliers are regularly audited and inspected to ensure that they meet these standards.

#### Wild seafood sourcing policies

Young's Bluecrest regularly reviews its sourcing policy against a wide variety of information sources, including the latest scientific advice and the IUCN Red List of Threatened Species. The company strongly condemns practices such as 'shark finning', exploitation of vulnerable or poorly-understood types of seafood, and the uncontrolled and unnecessary capture of non-target species such as turtles, dolphins and seabirds.

Young's Bluecrest claims to take into account the views expressed by other parties such as marine conservation groups and NGOs, and to be sensitive to concerns relating to particular species such as shark, swordfish, monkfish, marlin and orange roughy. The company has reviewed recent sourcing policies on this basis.

The sources of the major seafood species sold under the Young's brand are listed on Young's consumer website (see Table 5.1). Unfortunately, Young's Bluecrest does not provide further details about where and how individual species are caught in order to substantiate their claims of sustainable sourcing. Indeed, the fact that the company continues to source cod from the North Sea, the one stock that even the general public knows is severely depleted, raises serious concerns about how its policies are applied.

#### Aquaculture sourcing policies

Young's Bluecrest has not supplied details of their sourcing of farmed seafood but claims to have a policy that requires its suppliers to 'operate best environmental, economic and social practice in relation to all aspects of production.'<sup>11</sup>

#### Support for sustainability initiatives

Young's Bluecrest states that it 'will continue, through our international network of suppliers, to initiate, support and stimulate any projects, policies and actions that contribute towards long term sustainability, whenever and wherever this can be achieved.'<sup>12</sup>

Young's Bluecrest supports the objectives of the MSC in implementing and enforcing sustainable fishing practices around the world. Mike Parker, the Deputy Chief Executive of Young's Bluecrest, currently serves as an MSC board member<sup>13</sup> and Cliff Morrison, Technical Advisor, sits on the MSC's Technical Advisory Board.<sup>14</sup>

Young's Bluecrest sources a growing proportion of species from MSC-certified fisheries, including South African Cape hake, Alaskan salmon, Alaska pollock and New Zealand hoki. Increasingly, these species are labelled as MSC-certified. To support and promote the MSC, Young's Bluecrest has developed a new 'Fish for Life' brand under which to market its own-label MSC-certified products. The company is now working on improving consumer understanding of such provenance.

Table 5.1. Sources and certification of the major seafood species sold under the Young's brand<sup>9,10</sup>

Common name	Species name	Source (certification)
Alaska pollock	<i>Theragra chalcogramma</i>	Pacific Bering Sea (MSC-certified) Sea of Okhotsk
Atlantic salmon	<i>Salmo salar</i>	Farmed – North Atlantic (Scotland, Norway)
Cape hake	<i>Merluccius capensis</i>	South Atlantic (South Africa,) (MSC-certified)
cod	<i>Gadus morhua</i>	North Atlantic (Norway, Iceland) Barents Sea Baltic Sea North Sea
coley	<i>Pollachius virens</i>	NE Atlantic (Scotland/Norway)
haddock	<i>Melanogrammus aeglefinus</i>	North Atlantic (Norway, Iceland) Barents Sea North Sea
herring	<i>Clupea harengus</i>	UK
hoki	<i>Macruronus novaezealandiae</i>	Pacific (New Zealand) (MSC-certified)
mackerel	<i>Scomber scombrus</i>	UK
Pacific salmon	<i>Oncorhynchus gorbuscha</i>	Alaska (MSC-certified)
plaice	<i>Pleuronectes platessa</i>	North Atlantic North Sea
prawns – cold water	<i>Pandalus borealis</i>	North Atlantic (Norway, Iceland, Greenland)
scampi	<i>Nephrops norvegicus</i>	Scotland Ireland
South Pacific hake	<i>Merluccius gayi</i>	Pacific (Chile, South America)
squat lobster	<i>Pleuroncodes planipes</i>	Pacific
yellowfin tuna	<i>Thunnus albacares</i>	Sri Lanka Maldives Fiji



Through its traceability project, known as 'Young's Trace', Young's Bluecrest are developing a traceability system for monitoring where, when and how scampi are caught in the Western Isles. Trials in Stornoway have recently concluded and the project is now being expanded across the Western Isles fishing fleet (expected to encompass about 200 vessels over the next two years). The project has significantly improved understanding of how to manage the fishery more sustainably, with a demonstrable reduction in the number of small fish caught, and a consequent improvement in overall seafood quality. Young's Bluecrest is continuing to monitor the development of traceability technology with a view to wider application in other fisheries, such as the line-caught tuna fishery in Sri Lanka.

Young's Bluecrest also has begun a partnership with Glasgow University's Institute of Biomedical and Life Sciences and the University's Marine Biological Station at Millport, to investigate the health and continued sustainability of the Clyde fishery.

#### Public promotion of sustainability

---

Young's Bluecrest has engaged in a long-term process of improving consumer understanding of fisheries practice and sustainability, both by directly promoting a greater diversity of species through its own Young's brand to consumers, and by working with those supermarkets that it supplies to encourage this.<sup>15</sup>

#### 5.1.3 Review of Young's Bluecrest's seafood policies

Young's Bluecrest needs to reconsider its definition of 'sustainable', and its sourcing policies need to be re-assessed in view of this. However, the company has clearly begun thinking about where it sources its seafood and is making efforts to reduce its impact on the marine environment. Young's Bluecrest has taken an active role in promoting sustainability through its involvement in the MSC, the development and promotion of its own-brand MSC-certified fish, its traceability projects, and through its work with its customers. The company needs to continue encouraging consumers to eat more sustainable choices without encouraging them to eat a greater amount of seafood, admittedly a difficult balance to find for any seafood company.

## 5.2 Unilever

### 5.2.1 Unilever's background

Unilever was created in 1930 when the British soap manufacturer, Lever Brothers, merged with the Dutch margarine producer, Margarine Unie.<sup>16</sup> Unilever has two parent companies, Unilever NV and Unilever Plc, with corporate centres in Rotterdam and London, respectively. These are separate businesses that operate as a single unit with the same board of directors. Unilever employs over 223,000 people in over 100 countries, with an annual worldwide turnover of over £27 billion in 2004.<sup>17</sup> Unilever's wide range of brands includes Birds Eye fish, Bertolli pasta, Wall's and Ben & Jerry's ice-cream, Hellmann's mayonnaise, Flora margarine, Lipton tea, Domestos cleaning products, and Dove, Rexona and Sunsilk personal care products.

### 5.2.2 Unilever's seafood policies

Although Unilever's fish business accounts for less than 2% of its global sales, the company has chosen fish as one of its three sustainability initiatives, alongside agriculture and water. In its report, *Fishing for the future II*, Unilever describes its plans for changing its own procurement policies as well as convincing consumers and others in the seafood industry of 'the very urgent need for positive change.'<sup>18</sup> To push the issue further with other stakeholders, Unilever commissioned *Fishing for good*, published in July 2005 by Forum for the Future, to provide an objective analysis of the current state of fisheries management, and the progress made on sustainability by both the MSC and Unilever.<sup>19</sup> The following details are drawn from these two reports.

#### Unilever seafood suppliers

---

Around 80% of Unilever's seafood business is focused on the European market. Unilever buys fish from about 100 suppliers, mainly in frozen blocks. Some premium products are also prepared from individually frozen fillets. About 95% of Unilever's fish products sold in Europe are made from white fish species (see Table 5.2), which are sold as coated or uncoated frozen products, with the remaining 5% made up of salmon, shrimps or prawns, shellfish, tuna, and some freshwater species. Unilever seafood is sold under the following brands:

- Birds Eye – Ireland, UK
- Findus – Italy
- Frudesa – Spain
- Iglo – Austria, Belgium, France, Germany, Greece, the Netherlands, Switzerland
- Knorr – France.

Outside Europe, Unilever's Indian subsidiary, Hindustan Lever, annually buys and processes about 70,000 tonnes of fish, from 50–60 species, to make fish mince or 'surimi' for fish sticks, fish paste, and other products. In Vietnam, about 2,000 tonnes of fish goes into fish sauce for Unilever each year.

Table 5.2. Sources and certification of white fish species sold by Unilever<sup>20</sup>

Common name	Species name	Source (certification)
Alaska pollock	<i>Theragra chalcogramma</i>	Alaskan (MSC-certified) and Russian Pacific
Atlantic cod	<i>Gadus morhua</i>	Baltic Sea Barents Sea Russian and Norwegian North Atlantic
Cape hake	<i>Merluccius capensis</i>	South African South Atlantic (MSC-certified)
coley	<i>Pollachius virens</i>	Russian and Norwegian North Atlantic
haddock	<i>Melanogrammus aeglefinus</i>	Russian and Norwegian North Atlantic
hoki	<i>Macruronus novaezelandiae</i>	New Zealand Pacific (MSC-certified)
Pacific cod	<i>Gadus macrocephalus</i>	US Pacific
plaice	<i>Pleuronectes platessa</i>	North Sea
South Pacific hake	<i>Merluccius gayi</i>	Chilean South Pacific

**Labelling**

Unilever’s Birds Eye frozen seafood is labelled according to standard fish labelling laws only (see section 2.1.1). Only for its MSC-certified fish is there any information on the source and sustainability of the product. Some Birds Eye products, such as fish fingers and fish pies, are simply labelled as ‘fish’.

**Targets for sustainability**

In 1996, Unilever made a public commitment to procure all its fish from sustainable sources by 2005, and to work in partnership with the fishing industry, governments, NGOs, consumer organisations and scientists to achieve this. At this time, Unilever and WWF began working together to set up the MSC (see section 2.4). Following the launch, Unilever stopped doing business with any suppliers who could not confirm that all their fish was legally caught, and that none was sourced from endangered stocks. In addition, fish oils were removed from Unilever’s products and replaced with more sustainable alternatives.

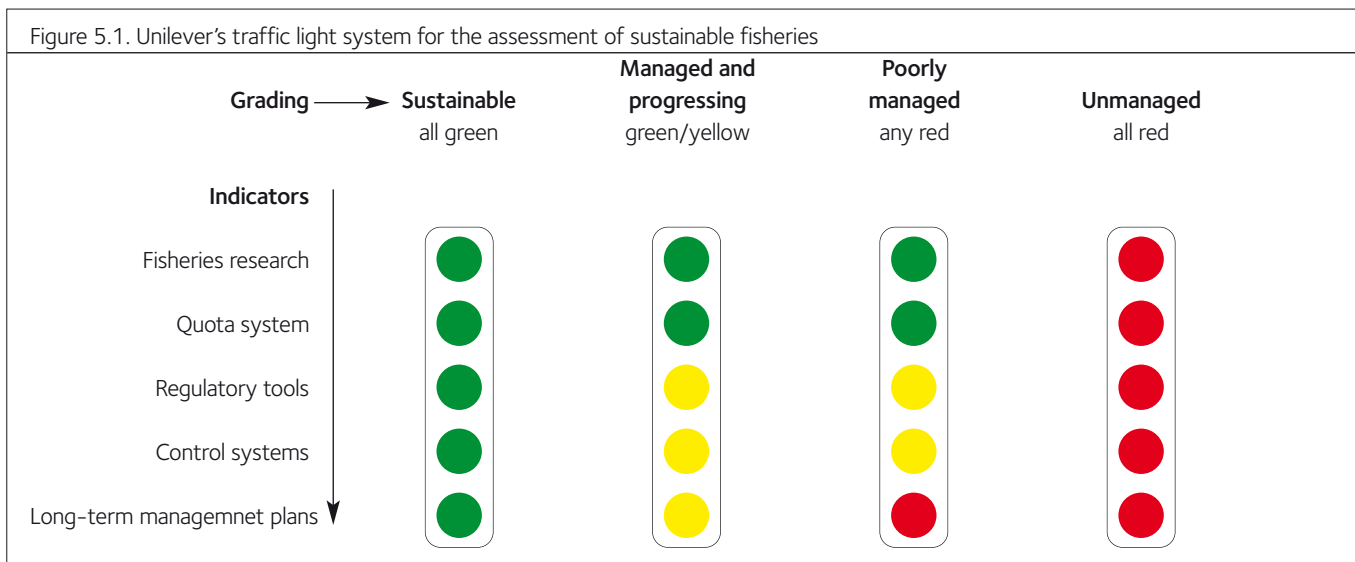
Unfortunately, with so few sustainable fisheries in existence – only 12 fisheries have been certified by the MSC to date, accounting for only 4% of the global marine catch – Unilever has not met its targets. By the end of 2003, only about 50% of Unilever’s fish was from sources it considered sustainable, including the MSC-certified fisheries. Additionally, its Indian and Vietnamese businesses, purchased after the original targets were set, were not included in them.

**Unilever’s sustainable fisheries assessment system**

Rather than admit defeat, Unilever developed a ‘traffic light’ system to provide its own assessment of fisheries, based on the FAO Code of Conduct for Responsible Fisheries (see section 1.2.1). Fisheries are assessed against five indicators:

- ecosystem-based fisheries research
- quota systems
- regulatory tools used to manage the fishery
- control systems to monitor and enforce legal requirements
- long-term management plans.

Results are graded and each indicator is given a green, yellow or red light (see Fig. 5.1). An all-green fishery is termed ‘sustainable’ and encouraged to seek MSC certification. A mix of green and yellow is termed ‘managed and progressing’ and one or more red lights indicate ‘poorly managed’. A fishery is considered ‘unmanaged’ if all five indicators score red lights. Unilever claims that it stops sourcing from fisheries that it discovers are unmanaged, uses its influence to improve the others, and continues to support those that are making good progress towards sustainability.





Rather than switch immediately to more sustainable alternative fisheries, Unilever initiates a progressive changeover. In this way the company can continue to use its buying power to move less sustainable fisheries in a more sustainable direction. This method has worked well for Alaska pollock, where, rather than drop the Russian fishery, and switch to the US one, Unilever met with Russian Far East fishery representatives in Vladivostok, following an invitation from the provincial Governor. One of the company's main suppliers made a formal commitment to more sustainable practices, and the Governor has been pushing for a reform in Russia's fisheries management regulations. However, Unilever has had less success in influencing the 'unmanaged' Baltic Sea cod fishery, or the 'poorly managed' Dutch North Sea plaice fishery, with its 90% bycatch rate and poor stock levels – neither fishery has shown signs of improving. Unilever is buying progressively less Baltic cod as it sources more from the Pacific cod fishery, and is looking for an alternative to the North Pacific for the plaice-loving Italian market.

The traffic light system is kept up-to-date with the most recent scientific advice and involves regular inspections, including at-sea observations, on a three-year rolling basis. However, although Unilever shares the results of the assessments, it does not publish the details, and there is no external audit to provide transparency.

Currently, using both the MSC-certified stocks and its own 'all green' assessed sources, over half the fish Unilever sells in Europe is sourced from sustainable fisheries, and this figure is expected to rise to 60% during 2005. Within the European market, the introduction of MSC-certified Alaska pollock in May 2005 should see Unilever's use of MSC-certified fish rise from 4–50% by the end of 2005.

#### Sustainability in Asia

Moving its businesses in India and Vietnam towards sustainability will be a greater challenge for Unilever. India's fisheries, including small fishing communities, have no stock-by-stock assessments or long-term targets, and Vietnam's fisheries management remains poor. Unilever's sustainable fisheries team in Europe have been seeking advice from NGOs on environmental best practice for shrimp procurement following Hindustan Lever's purchase of local shrimp companies (farms and fisheries).<sup>21</sup>

#### 5.2.3 Review of Unilever's seafood policies

In its development of the MSC, its openness about its own policies and targets, and its continued lobbying for improvement within the industry, Unilever is an industry leader for seafood sustainability. However, if Unilever's push for sustainability is to have maximum effect, it may need to reconsider its continued focus on a small number of white fish species and begin promoting alternatives. While such a well known brand, Birdseye, continues to include cod and haddock as its main species, changing the fish eating habits of UK consumers and pushing the message of seafood sustainability continue to be a difficult task.







# CONCLUSIONS AND RECOMMENDATIONS

## 6.1 The best and worst supermarket seafood practices

Marks & Spencer (M&S) is the clear leader in all fields of seafood sustainability – it has a comprehensive, transparent policy which is largely reflected by what it sells, in addition to its support for research and its promotion of sustainability initiatives. Waitrose comes a close second, falling behind only because it supports fewer sustainability initiatives. Sainsbury's, in third place, has a policy in place and has set some clear goals, but provided little evidence of how its policy is reflected in its sourcing.

Determining a ranking for the remaining supermarkets is a difficult task. There is a general lack of publicly available information on seafood procurement policies, and Greenpeace encountered an unwillingness or inability to provide further details or evidence that these policies are put into practice. Where information has been provided, it has often been fragmented, conflicting or misinformed. Is a supermarket that claims to be supporting sustainability initiatives and yet sells a wide range of unsustainably sourced species worse than a supermarket that has no clear policy and simply sells a limited range of popular fish? Should a supermarket that claims to source seafood from low-risk areas while spending thousands of pounds advertising North Sea cod be penalised for its duplicity?

With these questions in mind, Table 6.1 ranks the supermarkets with regard to their overall policy on sustainable seafood. A score out of five is given for each of four categories: seafood procurement policies; support and promotion of sustainability initiatives; labelling policies and public promotion of sustainable seafood; and the number of species or groups of Marine Conservation Society (MCS) grade 5 or equivalent (ie the most unsustainable) seafood sold. A final score is given out of a possible 20.

Tables 6.2 and 6.3 highlight the most unsustainable seafood species or groups sold in UK supermarkets (see Chapter 3) to give a greater perspective on how supermarket procurement policies translate into practice. These species or groups have scored poorly on a large number of criteria within the following categories:

- biological characteristics, including stock status, that make them vulnerable to fishing
- effectiveness of fisheries management
- effects of the fishing method or methods on the marine ecosystem.

For a few of these species or groups, one or more stocks are not yet seriously depleted, and occasionally these species or groups are fished using more selective and less destructive methods. In these specific cases, the grading is reduced to a mid-range grade – needing improvement to become fully sustainable, but not the worst. Only M&S and Waitrose have provided evidence of where they source these problematic species and how they are caught, so only for these two supermarkets have their lists of grade 5 species sold been reduced. The vast majority of Waitrose's cod and haddock, for example, is fully traceable to less depleted, better managed stocks in Icelandic waters and is caught by long-line rather than being bottom trawled (see section 4.8.2).

## 6.2 Improving the sustainability of supermarket seafood

At present, consumers who are trying to reduce their impact on marine ecosystems have the following choices when buying seafood:

- to buy from a supermarket they trust and assume that all the seafood is sustainable
- to rely on their own knowledge of sustainable seafood, supplemented by the various seafood guides available (see Chapter 2), and buy only those seafood choices they can be sure are sustainable
- to stop eating seafood.

The first option may be easier for customers of M&S and Waitrose, although they should still be cautious with regard to some of the species being sold, such as monkfish and skate. Consumers taking the second option need considerable knowledge of fisheries issues and/or a fish guide to hand, but even then the lack of source and other information at the point of sale hampers an informed consumer choice. In view of this, the third option is much the easiest – but for those already on a restricted diet for ethical or health reasons, cutting out seafood may not be a healthy option.

The sustainability of seafood is becoming an increasingly high-profile issue and if supermarkets are serious about listening to their customers, they must take action to develop transparent seafood procurement policies and set clear targets for more sustainable seafood sourcing.

At the very least, consumers have a right to know what they are buying. The minimum labelling requirements for all seafood – fresh and processed – should include the common and scientific names, the stock from which the seafood was caught or the farm in which it was cultivated, and the fishing or harvesting method used.

Supermarket fish-sourcing teams need to develop an understanding of sustainability issues and become more acquainted with the fishing industry. They need to understand the UN Food and Agriculture Organisation's definition of sustainable seafood and realise that current fisheries management and quota systems often fall far short of this. Finally, their policies should extend to every product containing seafood that they sell in their supermarkets, including other brand products if sold. Currently, only M&S's policy does this, though admittedly its task is made simpler by the fact that M&S only sells goods under its own brand.

Supermarkets need to set goals for, and provide evidence of:

- **removing the worst** by immediately beginning the process of removing the grade 5 species from their shelves. For the few of these species with stocks that are not yet severely depleted, supermarkets must clearly specify the source and method of fishing and work to improve sustainability
- **supporting the best** by increasing the range of sustainable seafood they sell and ensuring that sustainable species are promoted effectively in store, on their websites and in their magazines
- **improving the rest** by working with suppliers to source fish from only the least depleted stocks; working with the fishing industry and/or researchers to improve sustainability of fishing methods; and rejecting fish from fisheries and suppliers that refuse to change.

The outline of a model sustainable seafood policy for supermarkets is provided in Table 6.4.

### 6.3 Promoting alternatives to seafood

Seafood has long been promoted as a healthy choice, particularly as an alternative to red meat. Seafood is low in cholesterol and high in protein, and is a source of all the essential amino acids; vitamins A, D, K and B complex; and minerals including calcium, copper, iodine, iron, zinc and selenium. The most quoted dietary benefit is the high level of the essential omega-3 fatty acids in oily fish such as mackerel, herring, fresh tuna (oils are removed from tinned tuna) and sardines. In white fish, such as cod, the fatty acids tend to be stored in the liver rather than the flesh.

The Food Standards Agency (FSA) advises that people should eat at least two portions of fish a week, one of which should be from an oily fish.<sup>1</sup> At the same time, the FSA discourages young children, women considering having children, and pregnant or breastfeeding women from eating too much oily fish, particularly the large predator fish such as salmon, tuna, marlin and swordfish, because they accumulate high levels of persistent organic pollutants (POPs), including polychlorinated biphenyls, dioxins and heavy metals such as mercury. Babies and children are particularly sensitive to the toxic effects of these POPs.<sup>2</sup>

Even taking account of POP contamination, few would dispute that fish can be a good part of a healthy diet. However, more importantly, fish are vital for a healthy marine environment. In UK, the average adult fish consumption rate is about 1.55 portions per week, one-third of which is oily fish – but this varies markedly. If we were to meet the FSA's suggested intake levels, the present total level of fish consumption in the UK would need to increase by over 40%, with oily fish consumption increasing by over 200%.<sup>3</sup> With many stocks already in decline, such an increase in fish consumption is clearly not a sustainable option.

All the benefits of eating seafood can be reproduced by other diets. Reducing consumption of animal products and processed foods, and introducing a broader range of vegetarian food sources, can provide all the necessary nutrients for a healthy, balanced diet. A range of studies has shown that plant oils, particularly soya oil, walnut oil, and seed oils such as linseed (flax) and rapeseed (canola) oils, are in fact a healthier source of omega-3.<sup>4</sup> Plant oils also contain considerably lower levels of POPs than are found in fish.

If consumers are to play a role in improving the sustainability of the seafood industry, the truth about the perceived benefits of eating fish needs to be conveyed to the public, and alternative sources of healthy oils must be promoted. Supermarkets can play a key role in this promotion through their various magazines, free recipe cards and online information.

Table 6.1. Ranking of supermarkets' sustainable seafood policies

Supermarket	1. Sustainable seafood sourcing policies	2. Support for sustainability initiatives	3. Labelling & promotion of sustainable seafood	4. Selling the most destructively fished species	Total score (out of 20)
M&S	5	5	4	3	17
Waitrose	5	3	4	3	15
Sainsbury's	3	4	3	0	10
Co-op	2	2	2	1	7
Somerfield	1	1	2	2	6
Tesco	2	1	1	1	5
Iceland	0	0	0	3	3
Safeway/Morrisons	1	1	0	0	2
Asda	0	1	0	0	1

**Key to columns 1–3:**

- 0 None
- 1 Little
- 2 Some
- 3 Moderate
- 4 Good
- 5 Extensive

**Key to column 4:**

- 0 More than 12 of the most destructively fished seafood species/groups sold (listed in Table 6.2 below)
- 1 10–12
- 2 7–9
- 3 4–6
- 4 1–3
- 5 None of the most destructively fished seafood sold

Table 6.2. The most destructively fished (MCS grade 5 or equivalent) seafood species or groups sold by each UK supermarket

Supermarket	Seafood species or group	Total
ASDA	Cod (Atlantic), dogfish, Dover sole, haddock, hake (European), ling, lumpfish, marlin, monkfish, plaice, skate, swordfish, tuna	13
Co-op	Cod (Atlantic), dogfish, Dover sole, haddock, hake (European), halibut (Atlantic), monkfish, plaice, skate, tuna	10
Iceland	Cod (Atlantic), haddock, plaice, tuna	4
M&S	Arrow squid, Dover sole, monkfish, plaice, tuna	5
Safeway/Morrisons	Cod (Atlantic), conger, dogfish, Dover sole, haddock, halibut (Atlantic), grey mullet, monkfish, plaice, skate, snapper, swordfish, tuna	13
Sainsbury's	Cod (Atlantic), dogfish, Dover sole, haddock, lumpfish, marlin, monkfish, plaice, skate, snapper, swordfish, turbot, tuna	13
Somerfield	Cod (Atlantic), Dover sole, haddock, plaice, monkfish, skate, swordfish, tuna	8
Tesco	Cod (Atlantic), dogfish, Dover sole, eel, haddock, hake (European), lumpfish, monkfish, plaice, skate, tuna	11
Waitrose	Arrow squid, Dover sole, lumpfish, monkfish, New Zealand deep-sea cod, skate	6

NB: Tuna includes all species except skipjack



Seafood species or group	Supermarket	Seafood species or group	Supermarket
Arrow squid	M&S Waitrose	Monkfish	ASDA Co-op M&S Safeway/Morrisons Sainsbury's Somersetfield Tesco Waitrose
Cod (Atlantic)	ASDA Co-op Iceland Safeway/Morrisons Sainsbury's Somersetfield Tesco	New Zealand deep-sea cod	Waitrose
Conger	Safeway/Morrisons	Plaice	ASDA Co-op Iceland M&S Safeway/Morrisons Sainsbury's Somersetfield Tesco
Dogfish	Asda Co-op Sainsbury's Safeway/Morrisons Tesco	Skate	ASDA Co-op Safeway/Morrisons Sainsbury's Somersetfield Tesco Waitrose
Dover sole	ASDA Co-op M&S Safeway/Morrisons Sainsbury's Somersetfield Tesco Waitrose	Snapper	Safeway/Morrisons Sainsbury's
Eel	Tesco	Swordfish	ASDA Safeway/Morrisons Sainsbury's Somersetfield
Grey mullet	Safeway/Morrisons	Tuna (all species excluding skipjack)	ASDA Co-op Iceland M&S Safeway/Morrisons Sainsbury's Somersetfield Tesco
Haddock	ASDA Co-op Iceland Safeway/Morrisons Sainsbury's Somersetfield Tesco	Turbot	Sainsbury's
Hake (European)	ASDA Co-op Tesco		
Halibut (Atlantic)	Co-op Safeway/Morrisons		
Ling	ASDA		
Lumpfish	ASDA Sainsbury's Tesco Waitrose		
Marlin	ASDA Sainsbury's		

Table 6.4: Model sustainable seafood policy for supermarkets

**General statement**

[*Supermarket*] acknowledges that the world's seafood stocks are being fished unsustainably and that supermarkets have a major role to play in reversing this trend.

[*Supermarket*] acknowledges that if supermarkets are to continue to supply what many people see as a healthy food option, comprehensive sustainable seafood sourcing policies must be developed and implemented.

[*Supermarket*] understands that sustainable seafood does not fall under any of the following four categories:

- seafood from overfished stocks, and/or stocks assessed by the World Conservation Union (IUCN) as vulnerable, threatened or endangered, and/or stocks where data is deficient
- seafood of species that are vulnerable to exploitation
- seafood from poorly managed or unregulated fisheries
- seafood caught using methods which are detrimental to other marine species and/or habitats.

In order to deliver sustainable seafood to our customers [*Supermarket is developing/has developed*] the following goals and timelines for sustainable fish procurement:

**1. Remove the worst**

- Stop buying all MCS grade 5 (or equivalent) species – [xx months]

**2. Support the best**

- Increase the range of sustainable seafood (grades 1 and 2) available – [xx months]

**3. Improve the rest**

- Work with suppliers to source fish from less depleted stocks
- Work with the fishing industry and/or researchers to improve sustainability of fishing methods
- Stop selling fish from fisheries and suppliers that refuse to change

**4. Demonstrate and promote sustainable practices**

- Provide a clear seafood procurement policy for consumers
- Report annually on research and advances made
- Clearly label ALL products containing seafood with the common and scientific names, the stock from which the seafood was caught or the farm in which it was cultivated, and the fishing or harvesting method used
- Support sustainability initiatives such as the Marine Conservation Society, Invest in Fish, and the Marine Stewardship Council
- Train staff to help customers choose sustainable seafood
- Promote sustainable seafood to customers
- Promote alternative sources of omega-3 fatty acids

## REFERENCES

- 1 Department of Conservation (2004). *World fisheries expert visits New Zealand*. Press release, 10 Aug 2004. Wellington, New Zealand: New Zealand Government, Department of Conservation Accessed Sept 2005 at: <http://pkao.org.nz/whats-new/preslut.asp?prid=1557>
- 2 FAO (2004). *The state of world fisheries and aquaculture (SOFA)*. Biennial report. Rome, Italy: Food and Agriculture Organisation of the United Nations. Accessed Sept 2005 at: [www.fao.org/documents/show\\_cdr.asp?url\\_file=/DOCREP/007/y5600e/y5600e00.htm](http://www.fao.org/documents/show_cdr.asp?url_file=/DOCREP/007/y5600e/y5600e00.htm)
- 3 Myers RA, Worm B (2003). Rapid worldwide depletion of predatory fish communities. *Nature* 423: 280–3.
- 4 Pauly D, Christensen V, Guénette S, Pitcher TJ, Sumaila UR, Walters CJ, Watson R, Zeller D (2002). Toward sustainability in world fisheries. *Nature* 418: 689–95. Accessed Sept 2005 at: [www.searounds.org/Journal/Nature\\_8\\_Aug\\_2002.pdf](http://www.searounds.org/Journal/Nature_8_Aug_2002.pdf)
- 5 Pauly D, Christensen V, Guénette S, Pitcher TJ, Sumaila UR, Walters CJ, Watson R, Zeller D (2002). Toward sustainability in world fisheries. *Nature* 418: 689–95. Accessed Sept 2005 at: [www.searounds.org/Journal/Nature\\_8\\_Aug\\_2002.pdf](http://www.searounds.org/Journal/Nature_8_Aug_2002.pdf)
- 6 Ovetz R (2005). Fishing: The new resource war. *Port Vila Presse website*, 11 March 2005. Port Vila, Vanuatu: Port Vila Presse. Accessed Sept 2005 at: [www.news.vu/en/news/environment/050311-Fishing-The-New-Resource-War.shtml](http://www.news.vu/en/news/environment/050311-Fishing-The-New-Resource-War.shtml)
- 7 Milius S (2005). Bushmeat on the menu: Untangling the influences of hunger, wealth, and international commerce. *Science News Online* 167(9): 138. Accessed Sept 2005 at: [www.sciencenews.org/articles/20050226/bob9.asp](http://www.sciencenews.org/articles/20050226/bob9.asp)
- 8 Scott L (2003). *Fishing for facts: Why public health strategy should promote plant oils in preference to fish oils*. Bristol, UK: The Vegetarian & Vegan Foundation. Accessed Sept 2005 at: [www.vegetarian.org.uk/fish/reportext.htm](http://www.vegetarian.org.uk/fish/reportext.htm)
- 9 Bryden S (2005). *Seafood market overview: May 2005*. Edinburgh, UK: Sea Fish Industry Authority. Accessed Sept 2005 at: [www.seafish.org/land/market.asp?p=fd](http://www.seafish.org/land/market.asp?p=fd)
- 10 FAO (1995). *Code of conduct for responsible fisheries*. Rome, Italy: Food and Agriculture Organisation of the United Nations. Accessed Sept 2005 at: [www.fao.org/fi/agreem/codecond/codecon.asp](http://www.fao.org/fi/agreem/codecond/codecon.asp)
- 11 Naylor RL, Goldberg RJ, Primavera JH, Kautsky N, Beveridge MC, Clay J, Folke C, Lubchenco J, Mooney H, Troell M (2000). Effects of aquaculture on world fish supplies. *Nature* 405: 1017–24.
- 12 RSPB (2005). Policy: Marine and coastal: Fisheries: North Sea fishing ban as sandeel numbers plummet. *RSPB website*. Sandy, UK: The Royal Society for the Protection of Birds. Accessed Sept 2005 at: [www.rspb.org.uk/policy/marine/fisheries/sandeelban.asp](http://www.rspb.org.uk/policy/marine/fisheries/sandeelban.asp)
- 13 Naylor RL, Goldberg RJ, Primavera JH, Kautsky N, Beveridge MC, Clay J, Folke C, Lubchenco J, Mooney H, Troell M (2000). Effects of aquaculture on world fish supplies. *Issues in Ecology* 8: 1–12. Accessed Sept 2005 at: [www.esa.org/science/Issues/FileEnglish/issue8.pdf](http://www.esa.org/science/Issues/FileEnglish/issue8.pdf)
- 14 EIJF (2005). Why prawns will make you sick. *EIJF website*. London, UK: Environmental Justice Foundation. Accessed Sept 2005 at: [www.ejfoundation.org/shrimp/index.html](http://www.ejfoundation.org/shrimp/index.html)
- 15 SFPG (2005). *Salmon Farm Monitor website*. Lairg, UK: Salmon Farm Protest Group. Accessed Sept 2005 at: [www.salmonfarmmonitor.org](http://www.salmonfarmmonitor.org)
- 16 Greenpeace (2004). *Keep it wild! No fish farms*. Press release, 16 July 2004. Washington, DC, USA: Greenpeace. Accessed Sept 2005 at: [www.greenpeaceusa.org/features/details?item\\_id=544795&campaign\\_id=503422](http://www.greenpeaceusa.org/features/details?item_id=544795&campaign_id=503422)
- 17 Bryden S (2005). *Seafood market overview: May 2005*. Edinburgh, UK: Sea Fish Industry Authority. Accessed Sept 2005 at: [www.seafish.org/land/market.asp?p=fd](http://www.seafish.org/land/market.asp?p=fd)
- 18 Purvis A (2004). Loaded! Why supermarkets are getting richer and richer. *The Observer*, 25 January 2004. Accessed Sept 2005 at: <http://observer.guardian.co.uk/foodmonthly/story/0,9950,1127912,00.html>
- 19 Hume J (2003). *Do customers care about the sustainability of New Zealand's key exports?* Wellington, New Zealand: Winston Churchill Memorial Trust. Accessed Sept 2005 at: [www.nzbcsc.org.nz/story.asp?id=404](http://www.nzbcsc.org.nz/story.asp?id=404)
- 20 Personal communication with Mark Palmer, Assistant Director, International Marine Mammal Project, Earth Island Institute, dated 24 Aug 2005.
- 21 EII (2005). *Dolphin-safe fishing company policy (Draft)*. San Francisco, CA, USA: Earth Island Institute. Accessed Sept 2005 at: [www.earthisland.org/immp/assets/DoI\\_Policy\\_Cos\\_7-03.doc](http://www.earthisland.org/immp/assets/DoI_Policy_Cos_7-03.doc)
- 22 Personal communication with Mark Palmer, Assistant Director, International Marine Mammal Project, Earth Island Institute, dated 9 Oct 2005.
- 23 IATTC (2005). *IATTC catch by species, flag and gear. Data for 2000–2004*. La Jolla, CA, USA: Inter-American Tropical Tuna Commission. Accessed Sept 2005 at: [www.iattc.org/Catchbygear/CtchBySppGearENG.htm](http://www.iattc.org/Catchbygear/CtchBySppGearENG.htm)
- 24 IATTC (2005). *Types of sets and catches by purse-seiners in the EPO, 1987–2004*. La Jolla, CA, USA: Inter-American Tropical Tuna Commission (IATTC). Accessed Sept 2005 at: [www.iattc.org/PDFFiles2/5-Purse-seine-set-types-1987-2004.pdf](http://www.iattc.org/PDFFiles2/5-Purse-seine-set-types-1987-2004.pdf)
- 25 IATTC (2005). *AIDCP dolphin safe*. IATTC website. La Jolla, CA, USA: Inter-American Tropical Tuna Commission. Accessed Sept 2005 at: [www.iattc.org/DolphinSafeENG.htm](http://www.iattc.org/DolphinSafeENG.htm)
- 26 Moore P (2004). Examining dolphin hydrodynamics provides clues to calf-loss during tuna fishing. *Journal of Biology* 3(2): 6.1–6.5.
- 27 Henderson TE (2004). *Earth Island Institute v. Evans. Order granting plaintiffs' motion for summary judgement and defying defendant motion for summary judgement by United States District Judge Thelton E Henderson*. Case No. C 03-0007 THE. 9 August 2004. San Francisco, CA, USA: United States District Court, Northern District of California. Accessed Sept 2005 at: [www.cand.uscourts.gov/cand/judges.nsf](http://www.cand.uscourts.gov/cand/judges.nsf)
- 28 Personal communication with Walter Anzer, European Dolphin Safe Monitoring Organisation, dated 3 August 2005.
- 29 EII (2005). *Approved Dolphin-Safe importers, distributors, brokers, retailers, agents*. EII website. San Francisco, CA, USA: Earth Island Institute. Accessed Sept 2005 at: [www.earthisland.org/dolphinSafeTuna/DolphinSafeImpRetail.html](http://www.earthisland.org/dolphinSafeTuna/DolphinSafeImpRetail.html)
- 30 MSC (2005). *MSC website*. London, UK: Marine Stewardship Council. Accessed Sept 2005 at: [www.msc.org](http://www.msc.org)
- 31 MSC Executive (2002). *MSC principles and criteria for sustainable fishing*. London, UK: Marine Stewardship Council. Accessed Sept 2005 at: [www.msc.org/html/content\\_463.htm](http://www.msc.org/html/content_463.htm)
- 32 Gilmore J (2003). *The Marine Stewardship Council and its significance*. Paper presented at the 21st Annual National Fishery Law Symposium, Seattle, WA, USA, 23–24 Oct 2003.
- 33 MSC (2001). *Fish! and the Marine Stewardship Council (MSC) announce a world first*. Press release, 28 June 2001. London, UK: Marine Stewardship Council. Accessed Sept 2005 at: [www.msc.org/html/ni\\_37.htm](http://www.msc.org/html/ni_37.htm)
- 34 Deep (2005). *About us*. Deep website. London, UK: Deep. Accessed Sept 2005 at: [www.deeplondon.co.uk](http://www.deeplondon.co.uk)
- 35 MSC (2005). *Fisheries: Certified suppliers*. MSC website. London, UK: Marine Stewardship Council. Accessed Sept 2005 at: [www.msc.org/html/content\\_561.htm](http://www.msc.org/html/content_561.htm)
- 36 Weeber B, Szabo M (2004). *Best fish guide. Part one: Summary of ecological rankings of New Zealand commercial fisheries*. Wellington, New Zealand: Royal Forest and Bird Protection Society of New Zealand. Accessed Sept 2005 at: [www.forestandbird.org.nz/bestfishguide/gettheguide.asp](http://www.forestandbird.org.nz/bestfishguide/gettheguide.asp)
- 37 ASOC (2005). *Campaigns: Southern Ocean fisheries*. ASOC website. Washington, DC, USA: Antarctic and Southern Ocean Coalition. Accessed Sept 2005 at: [www.asoc.org/what\\_sof.htm](http://www.asoc.org/what_sof.htm)
- 38 Cavalcanti H, Hilborn R, Jensen T, Pikitich E, Punt A (2004). *Final report and decision of the independent objections panel concerning proposed certification of the South Georgia Patagonian toothfish longline fishery pursuant to the Marine Stewardship Council's principles and criteria for sustainable fishing*. London, UK: Marine Stewardship Council. Accessed Sept 2005 at: [www.msc.org/assets/docs/South\\_Georgia\\_toothfish/SGToothfish\\_FinalReportObjPanelDecision\\_March\\_04.pdf](http://www.msc.org/assets/docs/South_Georgia_toothfish/SGToothfish_FinalReportObjPanelDecision_March_04.pdf)
- 39 Trustees for Alaska (2004). *Groups file challenge to sustainable certification of world's largest whitefish fisheries, cite 80 percent decline of sea lions; Object to Gulf of Alaska, Aleutian Islands, Eastern Bering Sea pollock fisheries*. Press release, 26 Aug 2004. Anchorage, AK, Canada: Trustees for Alaska. Accessed Sept 2005 at: <http://releases.usnewswire.com/GetRelease.asp?id=35205>
- 40 EII (2004). *Earth Island Institute urges withdrawal of MSC eco-label for pollock fishery*. Press release, 8 Sept 2004. San Francisco, CA, USA: Earth Island Institute. Accessed Sept 2005 at: [www.earthisland.org/news/new\\_news.cfm?newsID=631](http://www.earthisland.org/news/new_news.cfm?newsID=631)
- 41 MSC (2004). *MSC to convene objections panel to review further objection on determination for the Gulf of Alaska pollock fishery*. Press release, 22 Oct 2004. London, UK: Marine Stewardship Council. Accessed Sept 2005 at: [www.msc.org/html/ni\\_148.htm](http://www.msc.org/html/ni_148.htm)
- 42 MSC (2005). *Briefing: MSC's progress on the 'Reform Agenda', May 2005*. London, UK: Marine Stewardship Council.
- 43 Soil Association (2005). *Enquirers: Farming and growing: Organic certification – Aquaculture production*. Soil Association website. Bristol, UK: Soil Association. Accessed Sept 2005 at: [www.soilassociation.org/web/sa/saweb.nsf/librarytitles/19426.HTML](http://www.soilassociation.org/web/sa/saweb.nsf/librarytitles/19426.HTML)
- 44 FCS (2005). *Product certification schemes*. FCS website. Dochgarroch, UK: Food Certification Scotland Ltd. Accessed Sept 2005 at: [www.foodcertificationscotland.co.uk/default.asp?w\\_id=1514](http://www.foodcertificationscotland.co.uk/default.asp?w_id=1514)
- 45 Soil Association (2004). *Fish farming and organic standards*. Information Sheet, Version 2. Bristol, UK: Soil Association. Accessed Sept 2005 at: [www.soilassociation.org/web/sa/saweb.nsf/librarytitles/19426.HTML](http://www.soilassociation.org/web/sa/saweb.nsf/librarytitles/19426.HTML)
- 46 Salmac (2005). *Freedom Food accreditation*. Salmac website. Aberdeen, UK: Salmac Ltd. Accessed Sept 2005 at: [www.salmac.co.uk/select/freedom\\_food.php](http://www.salmac.co.uk/select/freedom_food.php)
- 47 Salmac (2005). *Premium farmed salmon*. Salmac website. Aberdeen, UK: Salmac. Accessed Sept 2005 at: [www.salmac.co.uk/premium\\_farmed\\_salmon/premium\\_farmed\\_salmon.php](http://www.salmac.co.uk/premium_farmed_salmon/premium_farmed_salmon.php)
- 48 Clarke B (2002). *Good fish guide*. 2nd Edition. Ross-on-Wye, UK: Marine Conservation Society.
- 49 MCS (2005). *FISHONLINE*. Ross-on-Wye, UK: Marine Conservation Society. Accessed Sept 2005 at: [www.fishonline.org](http://www.fishonline.org)
- 50 Greenpeace (2005). *Actienieuws: Visje kopen? Raadpleeg de vis-a-card*. Greenpeace Netherlands website. Amsterdam, the Netherlands: Greenpeace. Accessed Sept 2005 at: [www.greenpeace.nl/news/visje-kopen-raadpleeg-de-vis](http://www.greenpeace.nl/news/visje-kopen-raadpleeg-de-vis)
- 51 Klootwijk W, Absil C, Phua C (2004). *De goede visgids. Vis eten met goed geweten*. Utrecht, the Netherlands: Schuyt & Co.
- 52 Greenpeace Germany (2005). *Fisch & facts 2005*. Hamburg, Germany: Greenpeace Germany. Accessed Sept 2005 at: [www.greenpeace.de/themen/meere/fischerei/artikel/fischratgeber\\_fisch\\_facts/ansicht/bild/](http://www.greenpeace.de/themen/meere/fischerei/artikel/fischratgeber_fisch_facts/ansicht/bild/)
- 53 Weeber B, Szabo M (2004). *Best fish guide. Part one: Summary of ecological rankings of New Zealand commercial fisheries*. Wellington, New Zealand: Royal Forest and Bird Protection Society of New Zealand.



- Zealand. Accessed Sept 2005 at: [www.forestandbird.org.nz/bestfishguide/gettheguide.asp](http://www.forestandbird.org.nz/bestfishguide/gettheguide.asp)
- 54 Weeber B (2004). *Best fish guide. Part two: Criteria for ecological rankings of New Zealand commercial fisheries*. Wellington, New Zealand: Royal Forest and Bird Protection Society of New Zealand. Accessed Sept 2005 at: [www.forestandbird.org.nz/bestfishguide/gettheguide.asp](http://www.forestandbird.org.nz/bestfishguide/gettheguide.asp)
- 55 Forest & Bird (2004). *Best fish guide. Forest & Bird website*. Wellington, New Zealand: Royal Forest and Bird Protection Society of New Zealand. Accessed Sept 2005 at: [www.forestandbird.org.nz/bestfishguide/](http://www.forestandbird.org.nz/bestfishguide/)
- 56 AMCS (2004). *Australia's sustainable seafood guide*. Yeronga, QLD, Australia: Australian Marine Conservation Society.
- 57 BOI (2005). Guide to ocean friendly seafood. *Blue Oceans Institute website*. Cold Spring Harbour, NY, USA: Blue Oceans Institute. Accessed Sept 2005 at: [www2.blueocean.org/Seafood\\_Detail/36](http://www2.blueocean.org/Seafood_Detail/36)
- 58 EDN (2005). Best & worst seafood choices. *Environmental Defence Oceans Alive website*. New York, NY, USA: Environmental Defence Network. Accessed Sept 2005 at: [www.oceansalive.org/eat.cfm?subnav=bestandworst](http://www.oceansalive.org/eat.cfm?subnav=bestandworst)
- 59 MBA (2005). Seafood watch. *Monterey Bay Aquarium website*. Monterey Bay, CA, USA: Monterey Bay Aquarium. Accessed Sept 2005 at: [www.mbayaq.org/cr/seafoodwatch.asp](http://www.mbayaq.org/cr/seafoodwatch.asp)
- 60 The Fish List (2005). *The Fish List website*. Washington, DC, USA: Seafood Choices Alliance. Accessed Sept 2005 at: [www.thefishlist.org](http://www.thefishlist.org)
- ### 3. SUSTAINABILITY OF SEAFOOD SOLD IN UK SUPERMARKETS
- 1 UK Parliament (2003). *The fish labelling (England) regulations 2003*. Statutory Instrument 2003 No. 461. London, UK: Her Majesty's Stationery Office. Accessed Sept 2005 at: [www.legislation.hmso.gov.uk/si/si2003/20030461.htm](http://www.legislation.hmso.gov.uk/si/si2003/20030461.htm)
- 2 Froese R, Pauly D (editors) (2005). *FishBase. FishBase website*. Electronic version (06/2005). Accessed Sept 2005: [www.fishbase.org](http://www.fishbase.org)
- 3 ICES (2005). ICES advice on fish stocks. *ICES website*. Copenhagen, Denmark: International Council for the Exploration of the Sea. Accessed Sept 2005 at: [www.ices.dk/iceswork/acfm.asp?topic=acfmreports](http://www.ices.dk/iceswork/acfm.asp?topic=acfmreports)
- 4 ICES (2005). About us: ICES areas maps. *ICES website*. Copenhagen, Denmark: International Council for the Exploration of the Sea. Accessed Sept 2005 at: [www.ices.dk/aboutus/icesareas.asp](http://www.ices.dk/aboutus/icesareas.asp)
- 5 Clarke B (2002). *Good fish guide*. 2nd Edition. Ross-on-Wye, UK: Marine Conservation Society.
- 6 MCS (2005). *FISHONLINE*. Ross-on-Wye, UK: Marine Conservation Society. Accessed Sept 2005 at: [www.fishonline.org](http://www.fishonline.org)
- 7 MSC (2005). Fisheries. *MSC website*. London, UK: Marine Stewardship Council. Accessed Sept 2005 at: [www.msc.org/html/content\\_463.htm](http://www.msc.org/html/content_463.htm)
- 8 Weeber B, Szabo M (2004). *Best fish guide. Part One: Summary of ecological rankings of New Zealand commercial fisheries*. Wellington, New Zealand: Royal Forest and Bird Protection Society of New Zealand. Accessed Sept 2005 at: [www.forestandbird.org.nz/bestfishguide/gettheguide.asp](http://www.forestandbird.org.nz/bestfishguide/gettheguide.asp)
- 9 AMCS (2004). *Australia's sustainable seafood guide*. Yeronga, QLD, Australia: Australian Marine Conservation Society.
- 10 MBA (2005). Seafood watch. *Monterey Bay Aquarium website*. Monterey Bay, CA, USA: Monterey Bay Aquarium. Accessed Sept 2005 at: [www.mbayaq.org/cr/seafoodwatch.asp](http://www.mbayaq.org/cr/seafoodwatch.asp)
- 11 BOI (2005). Guide to ocean friendly seafood. *Blue Oceans Institute website*. Cold Spring Harbour, NY, USA: Blue Oceans Institute. Accessed Sept 2005 at: [www2.blueocean.org/Seafood\\_Detail/36](http://www2.blueocean.org/Seafood_Detail/36)
- 12 IUCN (2004). 2004 IUCN redlist of endangered species. *IUCN website*. Cambridge, UK: International Union for Conservation of Nature and Natural Resources. Accessed Sept 2005 at: [www.redlist.org](http://www.redlist.org)
- 13 OSPAR (2004). *2004 Initial OSPAR list of threatened and/or declining species and habitats*. Ref. No: 2004-06. London, UK: The Oslo and Paris Convention for the Protection of the Marine Environment of the North-East Atlantic. Accessed Sept 2005 at: [www.ospar.org/eng/html/welcome.html](http://www.ospar.org/eng/html/welcome.html)
- 14 Koberstein P (2005). Breaking point in the Bering Sea: Can collapsing wildlife withstand America's biggest fishery? *Cascadia Times* 56: 3-9. Accessed Sept 2005 at: <http://cascadia.times.org>
- 15 Castner J, Maiss A, Sheard W, Eviskov G (2005). *Hook, line, and trawler: Gear impacts and international co-operation in the Bering Sea*. San Francisco, CA, USA: Pacific Environment. Accessed Sept 2005 at: [www.pacificenvironment.org/reports/gear\\_report.htm](http://www.pacificenvironment.org/reports/gear_report.htm)
- 16 European Commission (2005). *Bay of Biscay anchovy: Scientific advice recommends extending current ban*. Press release, 13 Sept 2005. Brussels, Belgium: European Commission. Accessed Sept 2005 at: [http://europa.eu.int/comm/fisheries/news\\_corner/press/inf05\\_45\\_en.htm](http://europa.eu.int/comm/fisheries/news_corner/press/inf05_45_en.htm)
- 17 Personal communication with John West Foods, Liverpool, UK, 23 September 2005.
- 18 Watson R, Hoshino E, Beblow J, Revenga C, Kura Y, Kitchingman A (2004). Fishing gear associated with global marine catches. *Fisheries Centre Research Reports* 12 (6). Vancouver, BC, Canada: Fisheries Centre, University of British Columbia. Accessed Sept 2005 at: [www.fisheries.ubc.ca/publications/reports/12-6.pdf](http://www.fisheries.ubc.ca/publications/reports/12-6.pdf)
- 19 Jarempornnirat A, Pedersen O, Jensen KR, Boromthananat S, Vongvisessomjai S, Choncheanob P (2004). Sustainable management of shellfish resources in Bandon Bay, Gulf of Thailand. *Journal of Coastal Conservation* 9(2): 135-46.
- 20 FAO (2005). Aquatic species: Species fact sheet – Conger conger. *FAO Fisheries Global Information System (FIGIS) website*. Rome, Italy: Food and Agriculture Organisation of the United Nations. Accessed Sept 2005 at: [www.fao.org/figis/Servlet/FiRefServlet?ds=species&fid=2994](http://www.fao.org/figis/Servlet/FiRefServlet?ds=species&fid=2994)
- 21 Dekker W (2004). Marine world: Articles – Eel stocks dangerously close to collapse. *ICES website*. Copenhagen, Denmark: International Council for the Exploration of the Sea. Accessed Sept 2005 at: [www.ices.dk/marineworld/eel.asp](http://www.ices.dk/marineworld/eel.asp)
- 22 Powers J, Japp D, Tingley G, Hough A (2004). *Final certification report for South African hake fishery*. Derby, UK: Moody Marine Ltd. Accessed Sept 2005 at: [www.msc.org/assets/docs/South\\_African\\_hake/Final\\_Report.pdf](http://www.msc.org/assets/docs/South_African_hake/Final_Report.pdf)
- 23 CCAMLR (2005). Scientific committee: Fisheries monitoring. *CCAMLR website*. Hobart, Tasmania, Australia: Convention on the Conservation of Antarctic Marine Living Resources. Accessed Sept 2005 at: [www.ccamlr.org/pu/e/sc/fish-monit/fm-intro.htm](http://www.ccamlr.org/pu/e/sc/fish-monit/fm-intro.htm)
- 24 Environment Australia (2002). *Assessment of the Heard Island and McDonald Islands fishery for the purposes of Part 10, Part 13 and Part 13A of the Environment Protection and Biodiversity Act 1999*. Canberra, ACT, Australia: Australian Government, Department of the Environment and Heritage. Accessed Sept 2005 at: [www.deh.gov.au/coasts/fisheries/commonwealth/heard-mcdonald/report/](http://www.deh.gov.au/coasts/fisheries/commonwealth/heard-mcdonald/report/)
- 25 FAO (2001). Information on the fisheries management in the Republic of South Africa. *FAO Fisheries website*. Rome, Italy: Food and Agriculture Organisation of the United Nations. Accessed Sept 2005 at: [www.fao.org/fi/fcp/en/ZAF/body.htm](http://www.fao.org/fi/fcp/en/ZAF/body.htm)
- 26 Booth AJ, Hecht T (2000). Utilisation of South Africa's living marine resources. In: Durham BD, Pauw JC (editors). *Marine Biodiversity Status Report for South Africa: At the end of the 20th Century*. Pretoria, South Africa: National Research Foundation. Accessed Sept 2005 at: [www.nrf.ac.za/publications/marinerep/utlise.htm](http://www.nrf.ac.za/publications/marinerep/utlise.htm)
- 27 Britz PJ, Sauer WHH, Mather D, Oellerman LK, Cowley PD, Ter Morshuizen L, Babela N (2001). *Baseline study of the utilization of living marine resources in the Eastern Cape Province*. Grahamstown, South Africa: Rhodes University. Accessed Sept 2005 at: [www.envirofishafrica.co.za/projects.php](http://www.envirofishafrica.co.za/projects.php)
- 28 Sauer WHH, Hecht T, Britz PJ, Mather D (editors) (2002). *An economic and sectoral study of the South African fishing industry. Volume 2: Fisheries profiles*. Grahamstown, South Africa: Rhodes University. Accessed Sept 2005 at: [www.envirofishafrica.co.za/projects.php](http://www.envirofishafrica.co.za/projects.php)
- 29 CPT Canada (2005). *Esgenoôpetitj First Nation (Burnt Church): CPT in Canada*. CPT website. Toronto, ON, Canada: Christian Peacemakers Team Canada. Accessed Sept 2005 at: [www.cpt.org/canada/can\\_esgenp.htm](http://www.cpt.org/canada/can_esgenp.htm)
- 30 Rowley SJ (2005). Biology and sensitivity: Species information: Crustacea: A squat lobster – *Galathea squamifera*. *Marine Life Information Network (MarLIN) website*. Plymouth, UK: Marine Biological Association of the United Kingdom. Accessed Sept 2005 at: [www.marlin.ac.uk/species/Galatheasquamifera.htm](http://www.marlin.ac.uk/species/Galatheasquamifera.htm)
- 31 Young's (2005). Family fun: The top 10 fish used by Young's. *Young's consumer website*. Grimsby, Lincolnshire, UK: Young's Bluecrest Seafood Ltd. Accessed Sept 2005 at: [www.youngsfish.co.uk/launch.asp](http://www.youngsfish.co.uk/launch.asp)
- 32 Marine Research Institute (2005). English summary of the state of marine stocks in Icelandic waters 2004/2005 – Prospects for the quota year 2005/2006. In: *State of marine stocks in Icelandic waters*. Reykjavik, Iceland: Marine Research Institute. p169-74. Accessed Sept 2005 at: [www.hafro.is/Astand/2005/engl-sum-05.pdf](http://www.hafro.is/Astand/2005/engl-sum-05.pdf)
- 33 Stansbury DE (2002). *Lumpfish in NAFO division 3P*. Stock Status Report A2-17. St John's, NL, Canada: Fisheries and Oceans, Canada. Accessed Sept 2005 at: [www.dfo-mpo.gc.ca/CSAS/CSAS/status/2002/SSR2002\\_A2-17e.pdf](http://www.dfo-mpo.gc.ca/CSAS/CSAS/status/2002/SSR2002_A2-17e.pdf)
- 34 Perez JAA, Pezzuto PR, de Andrade HA (2005). Biomass assessment of the monkfish *Lophius gastrophysus* stock exploited by a new deep-water fishery in southern Brazil. *Fisheries Research* 72:149-62.
- 35 Lloyd BD (2003). *Potential effects of mussel farming on New Zealand's marine mammals and seabirds: A discussion paper*. Wellington, New Zealand: New Zealand Department of Conservation. Accessed Sept 2005 at: [www.doc.govt.nz/Publications/004-Science-and-Research/Miscellaneous/071-2003.asp](http://www.doc.govt.nz/Publications/004-Science-and-Research/Miscellaneous/071-2003.asp)
- 36 Personal communication with Barry Weeber, New Zealand Royal Forest and Bird Protection Society, Wellington, New Zealand, dated 6 April 2005.
- 37 Tyedmers P (2000). Quantifying the energy consumed by North Atlantic Fisheries. In: Pauly D, Pitcher TJ (editors). *Methods for evaluating the impact of fisheries on marine ecosystems of the North Atlantic*. *Fisheries Centre Research Reports* 8(2): 64-78. Accessed Sept 2005 at: [www.searounds.org/report/method/tyedmers10.pdf](http://www.searounds.org/report/method/tyedmers10.pdf)
- ### 4. SEAFOOD POLICIES OF UK SUPERMARKETS
- 1 Seafish (2005). *Seafood market overview: May 2005*. Edinburgh, UK: Sea Fish Industry Authority. Accessed Sept 2005 at: [www.seafish.org/upload/file/market\\_insight/TNSMay2005summary.pdf](http://www.seafish.org/upload/file/market_insight/TNSMay2005summary.pdf)
- 2 Tesco (2005). Inside Tesco. Our history. *Tesco website*. Cheshunt, UK: Tesco Plc. Accessed Sept 2005 at: [www.tescocorporate.com/insidetesco.htm](http://www.tescocorporate.com/insidetesco.htm)
- 3 Tesco (2005). *Annual review and financial summary statement 2005*. Cheshunt, UK: Tesco Plc. Accessed Sept 2005 at: [www.tescocorporate.com/images/Tesco\\_review.pdf](http://www.tescocorporate.com/images/Tesco_review.pdf)
- 4 Tesco (2005). *Tesco Plc preliminary results 2004/5. 52 weeks ended 26 February 2005*. Press release, 12 April 2005. Cheshunt, UK: Tesco Plc. Accessed Sept 2005 at: [www.tescocorporate.com/page.aspx?pointerid=401CA512F5314805AC6456FA62FD1D21](http://www.tescocorporate.com/page.aspx?pointerid=401CA512F5314805AC6456FA62FD1D21)
- 5 Tesco (2005). *Tesco corporate responsibility review 2005*. Cheshunt, UK: Tesco Plc. Accessed Sept 2005 at: [http://81.19.58.74/crreport05/downloads/tesco\\_crr.pdf](http://81.19.58.74/crreport05/downloads/tesco_crr.pdf)
- 6 Meeting between Susie Hills, Corporate Responsibility Manager, and David Oliver, Fish Buyer, Tesco, and Greenpeace, Cheshunt, UK, 8 July 2005.
- 7 Tesco (1999). Memorandum submitted by Tesco Stores Ltd (J63). In: *Sea Fisheries. The House of Commons Agriculture Committee Eighth Report of Session 1998-99*. Vol II, p173. London, UK: The Stationery Office Ltd. Accessed Sept 2005 at: [www.parliament.the-stationery-office.co.uk/pa/cm199899/cmselect/cmagric/141/9060910.htm](http://www.parliament.the-stationery-office.co.uk/pa/cm199899/cmselect/cmagric/141/9060910.htm)
- 8 Tesco (2005). *Tesco corporate responsibility review 2005*. Cheshunt, UK: Tesco Plc. Accessed Sept 2005 at: [http://81.19.58.74/crreport05/downloads/tesco\\_crr.pdf](http://81.19.58.74/crreport05/downloads/tesco_crr.pdf)
- 9 Kirby A (1999). Fears for Antarctic fish. *BBC News Online*, 1 Nov 1999. London, UK: British Broadcasting Corporation. Accessed Sept 2005 at: <http://news.bbc.co.uk/1/hi/sci/tech/493407.stm>
- 10 Letter from Jeremy Hooper, Category Technical Manager (Fish, Poultry and Eggs), Tesco Stores Ltd, to Chris Butler Stroud, CEO Whale and Dolphin Conservation Society, dated 28 August 2003.
- 11 Greenpeace (2004). *Conservationists welcome Tesco's decision to end sale of whale meat in Japan*. Press release, 9 Nov 2004. London, UK: Greenpeace UK. Accessed Sept 2005 at: [www.greenpeace.org.uk/oceans/media/pressrelease.cfm?ucidparam=20041109141332](http://www.greenpeace.org.uk/oceans/media/pressrelease.cfm?ucidparam=20041109141332)
- 12 Bite-back (2005). *Tesco turns the tide for vulnerable fish*. Press release, 23 June 2005. Bite-back. Accessed Sept 2005 at: [www.bite-back.com/news/tesco.htm](http://www.bite-back.com/news/tesco.htm)
- 13 Personal communication with Susie Hills, Corporate Responsibility Manager, Tesco, dated 8 Aug 2005.
- 14 Personal communication with Susie Hills, Corporate Responsibility Manager, Tesco, dated 19 Aug 2005.
- 15 Council of the European Union (2004). *2633rd Council Meeting, Agriculture and Fisheries, Brussels, 21-22 December 2004*. Press release: 15873/04 (Presse 245). Brussels, Belgium: Council of the European Union. Accessed Sept 2005 at: [http://ue.eu.int/ueDocs/cms\\_Data/docs/pressdata/en/agricult/83281.pdf](http://ue.eu.int/ueDocs/cms_Data/docs/pressdata/en/agricult/83281.pdf)
- 16 ICES (2005). Elasmobranch fishes. In: *Report of the ICES Advisory Committee on Fishery Management and Advisory Committee on Ecosystems, 2004*. Volume 1, Number 2, p958-73. Accessed Sept 2005 at: [www.ices.dk/products/icesadvice/Book2Part3.pdf](http://www.ices.dk/products/icesadvice/Book2Part3.pdf)
- 17 Personal communication with Susie Hills, Corporate Responsibility Manager, Tesco, dated 8 Aug 2005.
- 18 Tesco (2004). *Cod advertisement*. *Metro*, 25 Oct 2004, p18.
- 19 Meeting between Susie Hills, Corporate Responsibility Manager, and David Oliver, Fish Buyer, Tesco, and Greenpeace, Cheshunt, UK, 8 July 2005.
- 20 ASDA (2004). *ASDA wins prestigious BBC Food and Farming Award*. Press release, 30 Nov 2004. Leeds UK: ASDA.
- 21 ASDA (2005). All about ASDA. *ASDA website*. Leeds, UK: ASDA. Accessed Sept 2005 at: [www.asda.co.uk](http://www.asda.co.uk)
- 22 Personal communication with Chris McCann, Ethical Trading Manager, ASDA, 26 May 2005.
- 23 ASDA (2005). *ASDA to bring its 'Every Day Low Prices' to Northern Ireland shoppers*. Press release, 6 June, 2005. Leeds, UK: ASDA.
- 24 Retail Bulletin (2005). *ASDA sales growth lags rivals*. *The Retail Bulletin* Issue 308: 3 June 2005. Redhill, Surrey, UK: Retail Bulletin Ltd. Accessed Sept 2005 at: [www.thetailbulletin.com/index.php?page=5&id=6686&cat=rese](http://www.thetailbulletin.com/index.php?page=5&id=6686&cat=rese)
- 25 Personal communication with Gordon Madden, Regulatory Affairs Manager, ASDA, dated 27 May 2005.
- 26 Greenpeace (2005). *Garden furniture guide*. *Greenpeace UK website*. London, UK: Greenpeace. Accessed Sept 2005 at: [www.greenpeace.org.uk/Products/GFG/home.html](http://www.greenpeace.org.uk/Products/GFG/home.html)
- 27 Personal communication with Chris McCann, Ethical Trading Manager, ASDA, 15 Sept 2005.
- 28 ASDA Stores Ltd (1999). Memorandum submitted by ASDA Stores Ltd (J55). In: *Sea Fisheries. The House of Commons Agriculture Committee Eighth Report of Session 1998-99*. London, UK: The Stationery Office Ltd. Vol II, p 171. Accessed Sept 2005 at: [www.parliament.the-stationery-office.co.uk/pa/cm199899/cmselect/cmagric/141/9060909.htm](http://www.parliament.the-stationery-office.co.uk/pa/cm199899/cmselect/cmagric/141/9060909.htm)
- 29 Personal communication with Chris McCann, Ethical Trading Manager, ASDA, 23 Aug 2005.
- 30 Clover C (2005). Supermarkets 'are selling fish that face extinction'. *The Daily Telegraph*, 6 June 2005, p8.
- 31 Bite-back (2004). *Sharks off hook at Asda*. Press release, 7 Nov 2004. Bite-back. Accessed Sept 2005 at: [www.bite-back.com/news/](http://www.bite-back.com/news/)
- 32 Personal communication with Gordon Madden, Regulatory Affairs Manager, ASDA, dated 27 May 2005.
- 33 Seafish (2005). About us: Seafish board. *Seafish website*. Edinburgh, UK: Sea Fish Industry Authority. Accessed Sept 2005 at: [www.seafish.org/about/board.asp](http://www.seafish.org/about/board.asp)
- 34 Seafish (2005). About us. *Seafish website*. Edinburgh, UK: Sea Fish Industry Authority. Accessed Sept 2005 at: [www.seafish.org/about/default.asp](http://www.seafish.org/about/default.asp)
- 35 Seafish (2005). *Conservation projects 2004/05*. Edinburgh, UK: Sea Fish Industry Authority. Accessed Sept 2005 at: [www.seafish.org/pdf.pl?file=seafish/news/Conservation%20Sheet.pdf](http://www.seafish.org/pdf.pl?file=seafish/news/Conservation%20Sheet.pdf)

- 36 Letter from Andrew Bond, President, ASDA to Stephen Tindale, Executive Director, Greenpeace, dated 12 May 2005.
- 37 Cabinet Office (2004). *Net Benefits: A sustainable and profitable future for UK fishing*. London, UK: Strategy Unit, Cabinet Office. Accessed Sept 2005 at: [www.strategy.gov.uk/downloads/su/fish/index.htm](http://www.strategy.gov.uk/downloads/su/fish/index.htm)
- 38 Greenpeace (2004). *Rescuing the North and Baltic seas: Marine reserves – a key tool*. London, UK: Greenpeace UK.
- 39 Sainsbury's (2005). About us: Company overview – Our history. *J Sainsbury Plc website*. London, UK: J Sainsbury Plc. Accessed Sept 2005 at: [www.j-sainsbury.co.uk/index.asp?pageid=188](http://www.j-sainsbury.co.uk/index.asp?pageid=188)
- 40 Sainsbury's (2005). *J Sainsbury Plc: Annual report 2005*. London, UK: J Sainsbury Plc. Accessed Sept 2005 at: [www.j-sainsbury.co.uk/ar05/index.asp?pageid=1](http://www.j-sainsbury.co.uk/ar05/index.asp?pageid=1)
- 41 Sainsbury's (2005). About us: Company overview. *J Sainsbury Plc website*. London, UK: J Sainsbury Plc. Accessed Sept 2005 at: [www.j-sainsbury.co.uk](http://www.j-sainsbury.co.uk)
- 42 Sainsbury's (2005). *Sainsbury's retains position as 1st in food retail sector in BITC Corporate Responsibility Index*. Press release, 1 April 2005. London, UK: J Sainsbury Plc. Accessed Sept 2005 at: [www.j-sainsbury.co.uk/index.asp?PageID=424&subsection=&Year=2005&NewsID=537](http://www.j-sainsbury.co.uk/index.asp?PageID=424&subsection=&Year=2005&NewsID=537)
- 43 Fishupdate (2005). News: Retail – Sainsbury's sweeps first prize for Seafood Retailer of the Year second year running, 30 September, 2005. *Fishupdate website*. Edinburgh, UK: Special Publications. Accessed Sept 2005 at: [www.fishupdate.com/news/fullstory.php/aid/3147](http://www.fishupdate.com/news/fullstory.php/aid/3147)
- 44 Sainsbury's (2005). *J Sainsbury Plc corporate responsibility report 2005*. London, UK: J Sainsbury Plc. Accessed Sept 2005 at: [www.j-sainsbury.co.uk/files/reports/cr2005/files/pdf/report.pdf](http://www.j-sainsbury.co.uk/files/reports/cr2005/files/pdf/report.pdf)
- 45 Sainsbury's (2004). Sainsbury's supports Devon farming. *J Sainsbury's Plc Advertisement*. *Western Morning News*, 24 May 2004, p.20.
- 46 Bite-back (2004). *Sea change at Sainsbury's*. Press release, 5 Oct 2004. Bite-back. Accessed Sept 2005 at: [www.bite-back.com/news/story8.html](http://www.bite-back.com/news/story8.html)
- 47 Bloomfield S, Carrell S (2004). Fat Lady calls Naked Chef 'whore' over Sainsbury's salmon. *The Independent*, 19 December 2004. Accessed Sept 2005 at: [http://news.independent.co.uk/uk/this\\_britain/article25253.ece](http://news.independent.co.uk/uk/this_britain/article25253.ece)
- 48 SFPG (2005). *The Salmon Farm Monitor website*. Lairg, UK: Salmon Farm Protest Group. Accessed Sept 2005 at: [www.salmonfarmmonitor.org](http://www.salmonfarmmonitor.org)
- 49 MSC (2003). *New wine launched during National Seafood Week*. Press release, 19 Sept 2003. MSC website. London, UK: Marine Stewardship Council. Accessed Sept 2005 at: [www.msc.org/html/ni\\_89.htm](http://www.msc.org/html/ni_89.htm)
- 50 Personal communication with Fiona Wheatley, Environment Manager, Sainsbury's, 16 August 2005.
- 51 Farlex (2005). Safeway (UK). *The Freedictionary.com website*. Huntingdon Valley, PA, USA: Farlex, Inc. Accessed Sept 2005 at: <http://encyclopedia.thefreedictionary.com/Safeway%20%28UK%29>
- 52 BBC (2003). The battle for Safeway. *BBC news online*. London, UK: British Broadcasting Corporation. Accessed September 2005 at: <http://news.bbc.co.uk/1/shared/spl/hi/business/03/safeway/html/players.stm>
- 53 Farlex (2005). Wm Morrisons Supermarkets. *The Freedictionary.com website*. Huntingdon Valley, PA, USA: Farlex, Inc. Accessed Sept 2005 at: <http://encyclopedia.thefreedictionary.com/Wm%20Morrison%20Supermarkets>
- 54 Morrisons (2004). *Wm Morrison Supermarkets Plc: Report and financial statements 2004*. Wakefield, UK: Wm Morrison Supermarkets Plc. Accessed at Sept 2005: [www.morrisons.co.uk/2004AnnualReport.pdf](http://www.morrisons.co.uk/2004AnnualReport.pdf)
- 55 Hobson R (2004). Morrisons Supermarkets. *Hemscott Today*, 10 August 2004. *Hemscott website*. London, UK: Hemscott Investment Analysis Ltd. Accessed Sept 2005 at: [www.hemscott.com/hstoday/focus\\_2004/Morrison\\_1008\\_2004.htm](http://www.hemscott.com/hstoday/focus_2004/Morrison_1008_2004.htm)
- 56 Morrisons (2005). *Wm Morrison Supermarkets Plc: Report and financial statements 2005*. Wakefield, UK: Wm Morrison Supermarkets Plc. Accessed at Sept 2005 at: [www.morrisons.co.uk/2005AnnualReport.pdf](http://www.morrisons.co.uk/2005AnnualReport.pdf)
- 57 Safeway (2002). *Safeway joins the FTSE4GOOD UK index*. Press release, 20 Mar 2002. Hayes, UK: Safeway Stores Ltd. Accessed Sept 2005 at: <http://production.investis.com/safewayplc/pressreleases/2002/2002-03-20/?v=1>
- 58 Morrisons (2005). Company information: Corporate social responsibility. *Morrisons website*. Wakefield, UK: Wm Morrison Supermarkets Plc. Accessed Sept 2005 at: [www.morrisons.co.uk/61.asp](http://www.morrisons.co.uk/61.asp)
- 59 Personal communication with Ellen Malinski, Public Relations Manager, Morrisons, dated 2 August 2005.
- 60 Morrisons (2005). Stores and Services: Market street – Fishmonger. *Morrisons website*. Wakefield, UK: Wm Morrison Supermarkets Plc. Accessed Sept 2005 at: [www.morrisons.co.uk/33.asp](http://www.morrisons.co.uk/33.asp)
- 61 Marks & Spencer (2005). About us: Our history. *Marks & Spencer website*. London, UK: Marks & Spencer. Accessed Sept 2005 at: [www2.marksandspencer.com/thecompany/whoware/our\\_history/index.shtml](http://www2.marksandspencer.com/thecompany/whoware/our_history/index.shtml)
- 62 Marks & Spencer (2005). *Marks & Spencer annual review and summary financial statement 2005*. London, UK: Marks & Spencer. Accessed Sept 2005 at: [www2.marksandspencer.com/thecompany/investorrelations/downloads/2005/Complete\\_Annual\\_review.pdf](http://www2.marksandspencer.com/thecompany/investorrelations/downloads/2005/Complete_Annual_review.pdf)
- 63 Marks & Spencer (2004). *Corporate social responsibility report 2003/04*. London, UK: Marks & Spencer. Accessed Sept 2005 at: [http://www2.marksandspencer.com/thecompany/investorrelations/downloads/2004/csr/MS\\_CSR\\_2004.pdf](http://www2.marksandspencer.com/thecompany/investorrelations/downloads/2004/csr/MS_CSR_2004.pdf)
- 64 Marks & Spencer (2005). Services: Producing our food – Fish. *Marks & Spencer website*. London, UK: Marks & Spencer. Accessed Sept 2005 at: [www2.marksandspencer.com/foodmagazine/ProducingFoods/Fish/index.shtml](http://www2.marksandspencer.com/foodmagazine/ProducingFoods/Fish/index.shtml)
- 65 Marks & Spencer (2005). *M&S policy on sustainable sourcing of fishery products*. London, UK: Marks & Spencer.
- 66 Personal communication with Mike Barry, Sustainable Development Manager, Marks & Spencer, dated 25 April 2005.
- 67 Northern Foods (2005). Locations: Cavaghan & Gray. *Northern Foods website*. Hull, UK: Northern Foods Plc. Accessed Sept 2005 at: [www.northern-foods.co.uk/index.asp?docid=1000152](http://www.northern-foods.co.uk/index.asp?docid=1000152)
- 68 Marks & Spencer (2002). *Kirkwall skipper secures Marks & Spencer's first fishing supplier badge*. Press release, 19 June 2003. London, UK: Marks & Spencer. Accessed Sept 2005 at: [www2.marksandspencer.com/thecompany/mediacentre/pressreleases/2003/fo02003-06-19-02.shtml](http://www2.marksandspencer.com/thecompany/mediacentre/pressreleases/2003/fo02003-06-19-02.shtml)
- 69 Marks & Spencer (2005). *M&S policy on sustainable sourcing of fishery products*. London, UK: Marks & Spencer.
- 70 Marks & Spencer (2004). *Corporate social responsibility review 2003*. London, UK: Marks & Spencer. Accessed Sept 2005 at: [www2.marksandspencer.com/thecompany/ourcommitmenttosociety/ms\\_csr\\_2003.pdf](http://www2.marksandspencer.com/thecompany/ourcommitmenttosociety/ms_csr_2003.pdf)
- 71 Personal communication with Mike Barry, Sustainable Development Manager, Marks & Spencer, dated 25 April 2005.
- 72 Personal communication with Andrew Mallison, Seafood Procurement Manager, Marks & Spencer, dated 5 June 2005.
- 73 Personal communication with Andrew Mallison, Seafood Procurement Manager, Marks & Spencer, dated 29 Sept 2005.
- 74 Personal communication with Mike Barry, Sustainable Development Manager, Marks & Spencer, dated 16 Sept 2005.
- 75 BBC (2005). BBC: TV: BBC Four documentaries – The price of prawns. *BBC website*. London, UK: British Broadcasting Corporation. Accessed Sept 2005 at: [www.bbc.co.uk/bbcfour/documentaries/features/price-of-prawns.shtml](http://www.bbc.co.uk/bbcfour/documentaries/features/price-of-prawns.shtml)
- 76 Royal Commission on Environmental Pollution (2004). *Turning the tide: Addressing the impact of fisheries on the marine environment*. 25th Report. Norwich, UK: The Stationary Office.
- 77 Personal communication with Mike Barry, Sustainable Development Manager, Marks & Spencer, dated 16 Sept 2005.
- 78 Marks & Spencer (2002). *Marks & Spencer invests in a unique renewal programme for Scottish wild salmon*. Press release, 18 Mar 2002. London, UK: Marks & Spencer. Accessed Sept 2005 at: [www2.marksandspencer.com/thecompany/mediacentre/pressreleases/2002/fo02002-03-18-00.shtml](http://www2.marksandspencer.com/thecompany/mediacentre/pressreleases/2002/fo02002-03-18-00.shtml)
- 79 Personal communication with Andrew Mallison, Seafood Procurement Manager, Marks & Spencer, dated 5 June 2005.
- 80 Marks & Spencer (2003). *Securing sustainable Scottish haddock stocks*. Press release, 19 June 2003. London, UK: Marks & Spencer. Accessed Sept 2005 at: [www2.marksandspencer.com/thecompany/mediacentre/pressreleases/2003/fo02003-06-19-01.shtml](http://www2.marksandspencer.com/thecompany/mediacentre/pressreleases/2003/fo02003-06-19-01.shtml)
- 81 Marks & Spencer (2005). Services: Producing our food – Fish. *Marks & Spencer website*. London, UK: Marks & Spencer. Accessed Sept 2005 at: [www2.marksandspencer.com/foodmagazine/ProducingFoods/Fish/index.shtml](http://www2.marksandspencer.com/foodmagazine/ProducingFoods/Fish/index.shtml)
- 82 Somerfield (2005). About us. *Somerfield website*. Bristol, UK: Somerfield Group Plc. Accessed Sept 2005 at: [www.somerfield.plc.uk/index.asp?sid=1](http://www.somerfield.plc.uk/index.asp?sid=1)
- 83 Somerfield (2005). *Somerfield Plc: Preliminary statement of results for the 53 weeks ended 30 April 2005*. Bristol, UK: Somerfield Group Plc. Accessed Sept 2005 at: [www.somerfield.plc.uk/download/reports/prelim05.pdf](http://www.somerfield.plc.uk/download/reports/prelim05.pdf)
- 84 Somerfield (2005). Corporate social responsibility. *Somerfield website*. Bristol, UK: Somerfield Group Plc. Accessed Sept 2005 at: [www.somerfield.plc.uk/index.asp?sid=4](http://www.somerfield.plc.uk/index.asp?sid=4)
- 85 Somerfield (2004). *Somerfield fish sourcing policy*. Issue 1, 4 Feb 2004. Bristol, UK: Somerfield Group Plc.
- 86 Somerfield (2004). *Somerfield fish sourcing policy*. Issue 1, 4 Feb 2004. Bristol, UK: Somerfield Group Plc.
- 87 Meeting between Stephen Ridge, Technical Director, and Vicky Wichard, Technical Manager, Somerfield, and Greenpeace UK, Bristol, UK, 26 July 2005.
- 88 Meeting between Stephen Ridge, Technical Director, and Vicky Wichard, Technical Manager, Somerfield, and Greenpeace UK, Bristol, UK, 26 July 2005.
- 89 Personal communication with Mark Berman, Earth Island Institute, dated 2 Aug 2005.
- 90 Somerfield (2005). Corporate social responsibility: Policies – Prawns. *Somerfield website*. Bristol, UK: Somerfield Group Plc. Accessed Sept 2005 at: [www.somerfield.plc.uk/index.asp?sid=407&policy\\_id=1036](http://www.somerfield.plc.uk/index.asp?sid=407&policy_id=1036)
- 91 Personal communication with Vicky Wichard, Technical Manager, Somerfield, 17 May 2005.
- 92 Somerfield (2000). *I can't believe it's not cod! Or is it a load of pollack?* Press release, 15 December 2000. Bristol, UK: Somerfield Group Plc. Accessed Sept 2005 at: [www.somerfield.plc.uk/index.asp?sid=201&press\\_ID=918](http://www.somerfield.plc.uk/index.asp?sid=201&press_ID=918)
- 93 Somerfield (2005). *Somerfield Plc: Annual report and accounts 2004/05*. Bristol, UK: Somerfield Group Plc. Accessed Sept 2005 at: [www.somerfield.plc.uk/annualreport2004-2005/pdf/01\\_report\\_2004-2005.pdf](http://www.somerfield.plc.uk/annualreport2004-2005/pdf/01_report_2004-2005.pdf)
- 94 The Co-operative Group (2005). About us: Our history. *The Co-operative Group website*. Manchester, UK: The Co-operative Group Ltd. Accessed Sept 2005 at: [www.co-op.co.uk/](http://www.co-op.co.uk/)
- 95 The Co-operative Group (2005). *Annual report and accounts 2004*. Manchester, UK: The Co-operative Group Ltd. Accessed Sept 2005 at: [www.co-op.co.uk/corporate\\_pdfs/pdfs/annual\\_report\\_2004.pdf](http://www.co-op.co.uk/corporate_pdfs/pdfs/annual_report_2004.pdf)
- 96 The Co-operative Group (2004). Values in action. Manchester, UK: The Co-operative Group Corporate Communications. Accessed Oct 2004 at: [www.co-op.co.uk](http://www.co-op.co.uk)
- 97 The Co-operative Bank (2005). Ethical policy statements. Our ethical policy. *The Co-operative Bank website*. Manchester, UK: The Co-operative Group Corporate Communications. Accessed Sept 2005 at: [www.co-operativebank.co.uk/servlet/Satellite?cid=1077610044297&pagename=CoopBank%2FPage%2FtptPageStandard&c=Page](http://www.co-operativebank.co.uk/servlet/Satellite?cid=1077610044297&pagename=CoopBank%2FPage%2FtptPageStandard&c=Page)
- 98 The Co-operative Group (2004). *Shopping with attitude*. Manchester, UK: The Co-operative group Ltd. Accessed Sept 2005 at: [www.co-op.co.uk](http://www.co-op.co.uk)
- 99 The Co-operative Group (2005). Our viewpoint. *The Co-operative Group website*. Manchester, UK: The Co-operative Group Corporate Communications. Accessed Sept 2005 at: [www.co-op.co.uk/Ext\\_1/viewpoint.nsf/DocsByTitle?OpenForm](http://www.co-op.co.uk/Ext_1/viewpoint.nsf/DocsByTitle?OpenForm)
- 100 Personal communication with Ian Burgess, Group Quality Assurance Manager, Co-operative Retail, dated 4 May 2005.
- 101 The Co-operative Group (2005). Information: Diet & health: Fish – It's your right to know. *The Co-operative Group website*. Manchester, UK: The Co-operative Group Corporate Communications. Accessed Sept 2005 at: [www.co-op.co.uk](http://www.co-op.co.uk)
- 102 Personal communication with Ian Burgess, Group Quality Assurance Manager, Co-operative Retail, dated 4 May 2005.
- 103 Waitrose (2005). About us. *Waitrose website*. Bracknell, UK: Waitrose Ltd. Accessed Sept 2005 at: [www.waitrose.com/about/index.asp](http://www.waitrose.com/about/index.asp)
- 104 John Lewis (2004). *John Lewis Partnership Plc: Annual report and accounts 2005*. London, UK: John Lewis Plc. Accessed Sept 2005 at: [www.johnlewispartnership.co.uk/assets/financial/pdf/jlp\\_anrep\\_05.pdf](http://www.johnlewispartnership.co.uk/assets/financial/pdf/jlp_anrep_05.pdf)
- 105 Compassion in World Farming (2004). *Supermarkets and farm animal welfare: Compassion in World Farming Trust supermarket survey 2003-2004*. Petersfield, UK: Compassion in World Farming. Accessed Sept 2005 at: [www.ciwf.org.uk/publications/reports/Supmart2003.pdf](http://www.ciwf.org.uk/publications/reports/Supmart2003.pdf)
- 106 Seafish (2005). *Top seafood businesses in the UK announced*. Press release, 10 Mar 2005. Edinburgh, UK: Sea Fish Industry Authority. Accessed Sept 2005 at: [www.seafish.org/whatsnew/detail.asp?p=ca&id=1011](http://www.seafish.org/whatsnew/detail.asp?p=ca&id=1011)
- 107 Fishupdate (2005). News: Retail – Sainsbury's sweeps first prize for Seafood Retailer of the Year second year running, 30 September, 2005. *Fishupdate website*. Edinburgh, UK: Special Publications. Accessed Sept 2005 at: [www.fishupdate.com/news/fullstory.php/aid/3147](http://www.fishupdate.com/news/fullstory.php/aid/3147)
- 108 Personal communication with Jeremy Ryland Langley, Specialist Fish Buyer, Waitrose, dated 15 April 2005.
- 109 Waitrose (2005). Food & drink: Food expertise: Meat, fish & poultry at Waitrose – Sustainable fishing. *Waitrose website*. Bracknell, UK: Waitrose Ltd. Accessed Sept 2005 at: [www.waitrose.com/food\\_drink/foodexpertise/meatandpoultryatwaitrose/sustainablefishing/index.asp](http://www.waitrose.com/food_drink/foodexpertise/meatandpoultryatwaitrose/sustainablefishing/index.asp)
- 110 Waitrose (2005). *Flummoxed by Fish? Waitrose reinforced commitment to sustainable fishing policy*. Press release, 26 Sept 2005. Bracknell, UK: Waitrose Ltd. Accessed Sept 2005 at: [www.waitrose.com/about/press\\_resources/pr\\_news\\_releases/240.asp](http://www.waitrose.com/about/press_resources/pr_news_releases/240.asp)
- 111 Agriculture and Agri-Food Canada (2004). *UK Fish Market Update*. Jan 2004 online edition. London, UK: Canadian High Commission. Accessed Sept 2005 at: [http://atn-riae.agr.ca/europe/3702\\_e.htm](http://atn-riae.agr.ca/europe/3702_e.htm)
- 112 Personal communication with Jeremy Ryland Langley, Specialist Fish Buyer, Waitrose, dated 15 April 2005.
- 113 Sealord (2005). Sealord New Zealand: Frequently asked questions – Our shareholders. *Sealord NZ website*. Nelson, New Zealand: Sealord Group Ltd. Accessed Sept 2005 at: [www.sealord.co.nz/xml/default.asp?globalPage=sharehold1](http://www.sealord.co.nz/xml/default.asp?globalPage=sharehold1)
- 114 Sealord (2005). Your world wide net: Caistor. *Sealord website*. Nelson, New Zealand: Sealord Group Ltd. Accessed Sept 2005 at: [www.sealord.co.nz/xml/default.asp?globalSubPage=world3c](http://www.sealord.co.nz/xml/default.asp?globalSubPage=world3c)
- 115 EIA (2004). *Tesco, C-Two Network and the sales of cetacean products in Japan*. London, UK: Environmental Investigations Agency. Accessed Sept 2005 at: [www.eia-international.org/cgi/reports/report-files/media71-1.pdf](http://www.eia-international.org/cgi/reports/report-files/media71-1.pdf)

- 116 Waitrose (2005). Food & drink: Food expertise: Meat, fish & poultry at Waitrose – Sustainable fishing. *Waitrose website*. Bracknell, UK: Waitrose Ltd. Accessed Sept 2005 at: [www.waitrose.com/food\\_drink/foodexpertise/meatandpoultryatwaitrose/sustainablefishing/index.asp](http://www.waitrose.com/food_drink/foodexpertise/meatandpoultryatwaitrose/sustainablefishing/index.asp)
- 117 Waitrose (2005). *Flummoxed by Fish? Waitrose reinforced commitment to sustainable fishing policy*. Press release, 26 Sept 2005. Bracknell, UK: Waitrose Ltd. Accessed Sept 2005 at: [www.waitrose.com/about/press\\_resources/pr\\_news\\_releases/240.asp](http://www.waitrose.com/about/press_resources/pr_news_releases/240.asp)
- 118 Personal communication from Jeremy Ryland Langley, Specialist Fish Buyer, Waitrose, dated 15 April 2005.
- 119 ICES (2004). ICES advice on fish stocks: Anglerfish in Division IIIa (Skagerrak and Kattegat), Sub-area IV (North Sea) and Sub-area VI (West of Scotland and Rockall). *ICES website*. Copenhagen, Denmark: International Council for the Exploration of the Sea. Accessed Sept 2005 at: [www.ices.dk/committe/acfm/comwork/report/2004/oct/ang-ivvi.pdf](http://www.ices.dk/committe/acfm/comwork/report/2004/oct/ang-ivvi.pdf)
- 120 ICES (2004). ICES advice on fish stocks: Anglerfish in Divisions VIII–k and VIIIa, b, d (*L. piscatorius* and *L. budegassa*). *ICES website*. Copenhagen, Denmark: International Council for the Exploration of the Sea. Accessed Sept 2005 at: [www.ices.dk/committe/acfm/comwork/report/2004/oct/ang-78ab.pdf](http://www.ices.dk/committe/acfm/comwork/report/2004/oct/ang-78ab.pdf)
- 121 Weeber B, Szabo M (2004). *Best fish guide. Part two: Criteria for ecological rankings of New Zealand commercial fisheries*. Wellington, New Zealand: Royal Forest and Bird Protection Society of New Zealand. Accessed Sept 2005 at: [www.forestandbird.org.nz/bestfishguide/gettheguide.asp](http://www.forestandbird.org.nz/bestfishguide/gettheguide.asp)
- 122 Personal communication with Jeremy Ryland Langley, Specialist Fish Buyer, Waitrose, dated 15 April 2005.
- 123 Waitrose (2005). *Flummoxed by Fish? Waitrose reinforced commitment to sustainable fishing policy*. Press release, 26 Sept 2005. Bracknell, UK: Waitrose Ltd. Accessed Sept 2005 at: [www.waitrose.com/about/press\\_resources/pr\\_news\\_releases/240.asp](http://www.waitrose.com/about/press_resources/pr_news_releases/240.asp)
- 124 Waitrose (2005). Food and drink: Waitrose food illustrated. *Waitrose website*. Bracknell, Berkshire, UK: Waitrose Ltd. Accessed Sept 2005 at: [www.waitrose.com/food\\_drink/wfi/foodissues/index.asp](http://www.waitrose.com/food_drink/wfi/foodissues/index.asp)
- 125 Waitrose (2005). Food & drink: Recipes: Glossary A–Z: Food glossary – Fish. *Waitrose website*. Bracknell, UK: Waitrose Ltd. Accessed Sept 2005 at: [www.waitrose.com/food\\_drink/recipes/glossary/foodglossary/fish.asp](http://www.waitrose.com/food_drink/recipes/glossary/foodglossary/fish.asp)
- 126 Iceland (2005). Corporate information. *Iceland website*. Deeside, UK: Iceland Foods. Accessed Sept 2005 at: [www.iceland.co.uk/iceland/corporate.nsf/\(websearch\)/corporatehomepage](http://www.iceland.co.uk/iceland/corporate.nsf/(websearch)/corporatehomepage)
- 127 Baugur (2005). Companies: UK investments – Iceland. *Baugur Group website*. Reykjavík, Iceland: Baugur Group. Accessed Sept 2005 at: [www.baugur.is](http://www.baugur.is)
- 128 Personal communication with Emma Ford, Food Legislation Manager, Iceland Foods, dated 5 Sept 2005.

## 5. OTHER SEAFOOD SUPPLIER POLICIES

- 1 Young's Bluecrest (2005). Company information: Heritage. *Young's Bluecrest's corporate website*. Grimsby, UK: Young's Bluecrest Seafood Ltd. Accessed Sept 2005 at: [www.youngsbluecrest.co.uk/web/company\\_section/heritage.htm](http://www.youngsbluecrest.co.uk/web/company_section/heritage.htm)
- 2 Young's (2005). Family fun: Our heritage. *Young's consumer website*. Grimsby, UK: Young's Bluecrest Seafood Ltd. Accessed Sept 2005 at: [www.youngsfish.co.uk/launch.asp](http://www.youngsfish.co.uk/launch.asp)
- 3 Personal communication with Mike Parker, Deputy Chief Executive, Young's Bluecrest, dated 14 Sept 2005.
- 4 Young's Bluecrest (2005). Responsible manufacturing: Our policies – Sustainable fisheries. *Young's Bluecrest's corporate website*. Grimsby, UK: Young's Bluecrest Seafood Ltd. Accessed Sept 2005 at: [www.youngsbluecrest.co.uk/web/responsible\\_section/sustainable.htm](http://www.youngsbluecrest.co.uk/web/responsible_section/sustainable.htm)
- 5 Young's Bluecrest (2005). Responsible manufacturing: Our policies – Sustainable fisheries. *Young's Bluecrest's corporate website*. Grimsby, UK: Young's Bluecrest Seafood Ltd. Accessed Sept 2005 at: [www.youngsbluecrest.co.uk/web/responsible\\_section/sustainable.htm](http://www.youngsbluecrest.co.uk/web/responsible_section/sustainable.htm)
- 6 Personal communication with Mike Parker, Deputy Chief Executive, Young's Bluecrest, dated 14 Sept 2005.
- 7 Young's Bluecrest (2005). Responsible manufacturing: Procurement. *Young's Bluecrest's corporate website*. Grimsby, UK: Young's Bluecrest Seafood Ltd. Accessed Sept 2005 at: [www.youngsbluecrest.co.uk/web/responsible\\_section/procurement.htm](http://www.youngsbluecrest.co.uk/web/responsible_section/procurement.htm)
- 8 Polarfrost (2005). *Polarfrost Seafoods website*. Grimsby, UK: Polarfrost Seafoods Ltd. Accessed Sept 2005 at: [www.polarfrost.co.uk/frames.htm](http://www.polarfrost.co.uk/frames.htm)
- 9 Young's (2005). Family fun: The top 10 fish used by Young's. *Young's consumer website*. Grimsby, UK: Young's Bluecrest Seafood Ltd. Accessed Aug 2005 at: [www.youngsfish.co.uk/launch.asp](http://www.youngsfish.co.uk/launch.asp)
- 10 Personal communication with Mike Parker, Deputy Chief Executive, Young's Bluecrest, dated 14 Sept 2005.
- 11 Personal communication with Mike Parker, Deputy Chief Executive, Young's Bluecrest, dated 14 Sept 2005.
- 12 Young's Bluecrest (2005). Responsible manufacturing: Our policies – Sustainable fisheries. *Young's Bluecrest's corporate website*. Grimsby, UK: Young's Bluecrest Seafood Ltd. Accessed Sept 2005 at: [www.youngsbluecrest.co.uk/web/responsible\\_section/sustainable.htm](http://www.youngsbluecrest.co.uk/web/responsible_section/sustainable.htm)
- 13 MSC (2005). About MSC: Board members. *MSC website*. London, UK: Marine Stewardship Council. Accessed Sept 2005 at: [www.msc.org/html/content\\_473.htm](http://www.msc.org/html/content_473.htm)
- 14 MSC (2005). About MSC: Governance – Technical Advisory Board. *MSC website*. London, UK: Marine Stewardship Council. Accessed Sept 2005 at: [www.msc.org/assets/docs/Governance/TABmembers.pdf](http://www.msc.org/assets/docs/Governance/TABmembers.pdf)
- 15 Personal communication with Mike Parker, Deputy Chief Executive, Young's Bluecrest, dated 14 Sept 2005.
- 16 Unilever (2005). Company: About Unilever – Our history. *Unilever website*. London, UK: Unilever Plc. Accessed Sept 2005 at: [www.unilever.com/ourcompany/aboutunilever/history/default.asp](http://www.unilever.com/ourcompany/aboutunilever/history/default.asp)
- 17 Unilever (2005). *Unilever review and summary financial statements 2004*. London, UK: Unilever Plc. Accessed Sept 2005 at: [www.unilever.com/Images/Annual\\_Review\\_Eng\\_04\\_tcm13-11959.pdf](http://www.unilever.com/Images/Annual_Review_Eng_04_tcm13-11959.pdf)
- 18 Unilever (2003). *Fishing for the future II: Unilever's Fish Sustainability Initiative*. London, UK: Unilever Plc. Accessed Sept 2005 at: [www.unilever.com/ourvalues/environmentandsociety/sustainability/fish/default.asp](http://www.unilever.com/ourvalues/environmentandsociety/sustainability/fish/default.asp)
- 19 Porritt J, Goodman J (2005). *Fishing for good*. London, UK: Forum for the Future.
- 20 Porritt J, Goodman J (2005). *Fishing for good*. London, UK: Forum for the Future.
- 21 Meeting between Unilever and Greenpeace, Hamburg, Germany, 20 July 2004.

## 6. CONCLUSIONS AND RECOMMENDATIONS

- 1 FSA (2005). Healthy diet: Nutrition essentials: Fish and shellfish. *FSA's Eat Well website*. London, UK: Food Standards Agency. Accessed Sept 2005 at: [www.eatwell.gov.uk/healthydiet/nutritionessentials/fishandshellfish/](http://www.eatwell.gov.uk/healthydiet/nutritionessentials/fishandshellfish/)
- 2 Dorey CN (2003). *Chemical legacy: Contamination of the child*. London, UK: Greenpeace. Accessed Sept 2005 at: [www.greenpeace.org.uk/MultimediaFiles/Live/FullReport/6037.pdf](http://www.greenpeace.org.uk/MultimediaFiles/Live/FullReport/6037.pdf)
- 3 Royal Commission on Environmental Pollution (2004). *Turning the tide: Addressing the impact of fisheries on the marine environment*. Twenty-fifth report. London, UK: The Stationery Office. Accessed Sept 2005 at: [www.rcep.org.uk/fishreport.htm](http://www.rcep.org.uk/fishreport.htm)
- 4 Scott L (2003). *Fishing for facts: Why public health strategy should promote plant oils in preference to fish oils*. Bristol, UK: The Vegetarian & Vegan Foundation. Accessed Sept 2005 at: [www.vegetarian.org.uk/fish/reporttext.htm](http://www.vegetarian.org.uk/fish/reporttext.htm)

## ACKNOWLEDGEMENTS

Many thanks to the following people and organisations for their help with this report:  
This report was written for Greenpeace Environmental Trust by Catherine N. Dorey.  
Walter Anzer, European Dolphin Safe Monitoring Organisation, and Mark Berman and Mark Palmer, Earth Island Institute, for their help in untangling 'dolphin safe' issues in Europe.  
Bernadette Clarke and the Marine Conservation Society for their *Good fish guide* and *FISHONLINE* website.  
James Goodman, Forum for the Future, for his helpful comments on the report.  
Mel Littlestone for her assistance with research and general fishy support.  
Bruce Sanderson, Salmon Farm Protest Group, for his advice on salmon farming in the UK.  
Rob Sykes for his great editing skills and encyclopaedic brain.  
Barry Weeber, Royal Forest and Bird Protection Society of New Zealand, for his insights into New Zealand's fisheries.  
Amy Williams, Marine Stewardship Council, for her updates on the MSC certification programme.  
Our seafood researchers for spending hours scribbling notes at fish counters and freezer cabinets around the UK: Liz Baker, Ann Bowling, Alison Broady, Jane Burd, Andy Clements, Paul Collins, Miranda Cox, Vicky Dunn, Sam Farley, Keith Farnish, Anna Flower, Rhiannon Forster, Danny Foulstone, Barbara Hack, Emily Hall, John Halpinon, Margaret Hamilton, Dave Hubble, Alison Hunt, Hannah Lucas, Rachel MacHutchon, Cathy Mackle, Andy Naslas, Isobel Nelson, Steve Pullam, Keith Richards, Carole Shorney, Chris Suttie, Sofia Valle Guerrero, and Emma Watson.





Greenpeace is committed to defending the health of the world's oceans and the plants, animals and people that depend on them

Greenpeace  
Canonbury Villas  
London N1 2PN  
[www.greenpeace.org.uk](http://www.greenpeace.org.uk)

October 2005