COMMERCIAL FISH

including COMMON SKATE *(Raja batis)*

STATUS: ***Because of their wide geographical range, very few if any commercial fish species exploited by UK fishermen are in danger of extinction. However, within this wide distribution, there are local fish stocks subject to excessive exploitation and risk of collapse. Such a collapse would mean a reduction in the natural range of these species and the BAP process needs to take action at a national and local level, with the action aimed at particular stocks. The relevant stocks are those which have been assessed by the International Council for the Exploration of the Seas (ICES) as being below "Safe Biological Limits" (SBL). The fish with stocks at or below SBL for the North Sea are as follows: cod, herring, hake, mackerel, plaice, saithe and sole. The common skate is extremely rare in the North Sea.***

Other action plans and statements covering issues relevant to the commercial fish:-

- REEFS AND WRECKS***
- KELP BEDS***
- SUBLITTORAL SANDS AND GRAVELS***
- MUDFLATS***
- BASKING SHARK***
- HARBOUR PORPOISE***
- TOOTHED WHALES***
- MINKE WHALE***

What are COMMERCIAL FISH?

Commercial fish are those species which are exploited for food, production of fish meal for animal feed or as fertiliser in the agricultural industry. Fish are classified according to where they live in the oceans. Pelagic fish live in the upper layers of the sea where food is plentiful and include herrings, pilchards, mackerel, horse mackerel, sardines and sharks. Demersal fish live near the sea floor and include cod, haddock, pollack, whiting, saithe and a wide range of flatfish including common skate, lemon sole and dover sole. They are the basis of substantial fisheries. Shellfish live on or in the seabed of the continental shelf. They are divided into two main groups, crustaceans and molluscs, and include many species of commercial value such as lobsters, crabs, prawns, shrimps, mussels, oysters, whelks, cuttlefish and squid. This plan is relevant to pelagic and demersal fish.

Where are they found in the UK?

Commercial fish species are found in the seas all around the UK.

Why are commercial fish of CONSERVATION IMPORTANCE?

In heavily exploited stocks, such as cod, haddock and plaice in the North Sea, fishing mortality is higher than natural mortality. At current rates of exploitation, only 4% of fish aged 1 will survive to the age of 4, the age at which they breed. If they are exploited to the point of collapse, this may be irreversible.

Commercial fish are of conservation importance because they are species which play an important role in the marine ecosystem. Removing species means that the natural food chain becomes unbalanced.

COMMERCIAL FISH IN THE DURHAM AREA

How HEALTHY are the local populations?

Stocks of herring and mackerel collapsed spectacularly in the North Sea during the 1970s. Mackerel landings are now relatively insignificant along the north east

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coast, whilst herring is slowly recovering. Cod and haddock are at historically low levels. Currently there is an estimated 70,000 tonnes of cod in the North Sea compared to 250,000 tonnes in the 1960s. Plaice, haddock, whiting, sole and hake are in steep decline. The common skate is commercially extinct in the North Sea.

The North Sea harbours an intensive fishing industry which removes 30 - 40% of the biomass of commercial fish species every year. It is one of the most productive fishing grounds in the world, with an annual harvest of 2-3 million tonnes.

This figure represents 3% of the world's total catch.

Fishing stocks must be managed in a sustainable manner for two main reasons:-

- To ensure good supplies of marketable fish, profitability for the future and the support of the communities that depend on them.
- Conservation of biodiversity.

How much do we know about commercial fish in the DURHAM AREA?

In 1929, 236,000 cwt of herring was landed off the coast of the DBAP area, but in 1979, a total catch (by-catch only) of 227 cwt was landed. Numbers slumped so low in 1995 that fishing for them was banned. Herring stocks are now recovering slowly. Catches of hake have always been small as this fish has never been common off the coast. Saithe was formerly common throughout the year and a valuable sporting fish in the DBAP area.

WHERE have they been found in the Durham area?

The common skate was formerly considered a common species off the coast of the Plan area. However by 1980, it had already been fished beyond sustainable levels and, even then, was rarely seen. Herring was formerly widespread, with major summer and autumn spawning grounds off the north-east coast. Hake has always been present, in low numbers only, off the coast of north-east England. Historically, cod has been the most important commercial species in the DBAP area and records from 1938, state that it was "very common". In 1979, 108,152 cwts were still being landed at North Shields. Plaice were formerly very abundant in the south North Sea. In 1979, 6045cwts were landed at North Shields. Mackerel shoal have always been unpredictable off the Plan area's coast and catches have varied. In 1938, 6650cwts was landed at North Shields, but by 1979, this was down to 915 cwts. By the start of the twentieth century, numbers of sole were already falling and the decline continued until the present day, with only very small quantities being landed. Numbers of saithe remained good until 1980.

Commercial fish are at RISK from:

OVERFISHING - the threats to fish stocks arise from the sheer scale of exploitation. There are two main types of overfishing. Growth overfishing occurs when the fishing intensity is so high that all the larger fish are removed from the population and the fishery exploits smaller and smaller fish; this means that fish are removed before they have reached their full growth potential. This type of overfishing has had the greatest impact in mixed fisheries such as the North Sea. Recruitment overfishing occurs when fishing intensity is so high that the population is reduced to a level at which it cannot produce enough eggs to regenerate itself.

INCREASED EFFICIENCY IN THE FISHING INDUSTRY - increasing mechanisation, the use of synthetic fibres in nets and ropes, the introduction of electronic fish finding-equipment, aircraft, satellite and microprocessor technology, the use of ice to preserve catches and freezing have all superseded traditional methods and local knowledge. Commercial factory fisheries use increasingly large vessels that can stay at sea for months and process catches at sea. This ever increasing efficiency means that the ability of fisheries to catch fish is going far beyond sustainable levels.

COMBINATION VESSELS - these vessels are able to use several fishing methods during different seasons and in different fisheries. They are increasing in size and number and are enabling deeper waters to be fished, and new species harvested.

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FISHING METHODS - modern methods of fishing affect not only commercial fish, but also have an impact of other marine organisms. Beam trawling for flatfish has a devastating and destructive effect on habitats and species; slow growing organisms are being smothered by sediment. Some areas of the North Sea are trawled up to seven times a year.

GLOBAL WARMING AND POLLUTION - the abundance and composition of plankton in the seas surrounding the UK is changing in response to global warming during the last 50 years, which may have a significant effect on fish stocks. Commercial fish are vulnerable to the effects of pollution at various stages in their lifecycle. Research has shown that that the toxicity of polyaromatic hydrocarbons, released by the burning of fossil fuels, to planktonic fish larvae may be substantially increased by exposure to UV light. Unique changes in the plankton in the North Sea ecosystem have occurred which may have implications for the future management of commercial fish.

BY-CATCH - whenever targeted fish species are caught, it is inevitable that other species will be caught as well. This by-catch is usually discarded if it is not of commercial value or a protected species. However, it is rare for by-catch to survive. The common skate is now so rare in British waters that it is seldom directly targeted by fisheries, but it is still caught as by-catch and may become biologically as well as commercially extinct around the UK.

DISCARDS - this includes unwanted by-catch and, more importantly, juvenile and undersized fish. Most of these are dead by the time they reach the sea and account for 30% of the total diet of sea birds in the North Sea.

GHOST FISHING - lost and discarded nets do not biodegrade and continue to fish for many years. The nets fill with fish which die and cause it to sink to the sea bed. As the catch rots, so the net rises and the cycle begins again.

Commercial fish BENEFIT from:

PROPER MANAGEMENT - if managed properly, fishing can be an entirely sustainable activity.

REFORM OF THE COMMON FISHERIES POLICY.

MINIMUM MESH SIZES -mesh sizes can be increased to a minimum size to allow juvenile fish to escape. Current mandatory square mesh panelling in nephrop trawls is to be extended to whitefish trawls below 119mm (mesh size). Square mesh panels maintain their shape during trawling, facilitating the escape of juvenile fish and thus reducing discarding.

NO TAKE ZONES - these are areas permanently closed to fishing which can offer safe havens for breeding if they include nursery grounds. This would promote recruitment to the population.

SPAWNING SEASON CLOSURES - this involves the identification and closure of breeding grounds during the spawning season. They will soon be introduced in the North Sea to protect cod stocks.

MINIMUM LANDING SIZES - this is an attempt to reduce the size of fish landed by both commercial and recreational fisheries to allow juvenile fish to mature and reproduce.

CLOSED AREAS - certain types of gear are restricted in their use to specified areas or specified times or both.

FOOD LABELLING - market-based mechanisms such as the labelling scheme being developed by the Marine Stewardship Council will encourage the purchase of sustainably caught fish.

FURTHER RESEARCH into the biology of marine fish.

Important HABITATS for commercial fish include:

SUBLITTORAL SANDS AND GRAVELS

SHALLOW SEAS

MUDFLATS

WRECKS AND REEFS

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TARGETS for commercial fish in the Durham area

1 *Work towards the sustainable harvesting of commercial fish in the North Sea to meet economic and social needs, whilst maintaining viable populations of fish species.*

(ONGOING)

ACTION PLAN

ACTION	DATE	Possible PARTNERS	Meets TARGET No.
POLICY AND LEGISLATION			
1. Lobby for reform of the CFP Lobby for:- i. A change of management regime from quotas to vessel licensing to limit the activity of fleets and their effective size. ii. A change in the design of fishing gear plus the introduction of different techniques and the prohibition of some types of equipment. iii. The establishment of Marine Protected Areas to act as fish sanctuaries. iv. A precautionary approach to fisheries management. v. A total ban on the use of drift nets. vi. Regional management of fisheries on a broad geographical basis with decision-making devolved to the most appropriate level e.g. the North Sea. vii. The representation of smaller scale fishermen in the management process.	ONGOING	All Partners, Local Communities	1

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ACTION PLAN

ACTION	DATE	Possible PARTNERS	Meets TARGET No.
POLICY AND LEGISLATION continued			
1.viii. Reform of subsidies and other financial instruments to facilitate long term sustainable fishing. Consider the possibility of fiscal instruments to permit the suspension of fishing activities in the short term to enable recovery plans to be enacted.			
SPECIES MANAGEMENT AND PROTECTION			
2. Consumers should demand fish from sustainable sources and eat less of species that are under pressure e.g. cod and haddock.	2001	All Partners, Local Communities	1
3. Support sustainable produce labelling.	2001	All Partners, Local Communities	1
4. Regulate fisheries in inshore waters. Make and enforce by-laws for management and conservation of district fisheries such as engine-size restrictions, closed seasons and Minimum Landing Size.	ONGOING	NESFC	1
5. Take part in measures to reduce the impact of global warming.	ONGOING	LA 21, All Partners, Local Communities	1
RESEARCH AND MONITORING			
6. Take account of the work and findings of current research with regard to the status of commercially exploited fish stocks, their population biology, recruitment and sustainability.	ONGOING	All Partners	1
COMMUNICATIONS AND PUBLICITY			
7. Inform the Marine Conservation Society of incidents of dumped fish, wildlife entanglement in nets and damage to the seabed.	ONGOING	All Partners, Local Communities	1
8. Take part in the Ocean Vigil campaign run by MCS.	ONGOING	All Partners, Local Communities	1