

Put environment at the heart of European fisheries policy

WWF Manifesto for the review of the EU Common Fisheries Policy





Throughout the European Union (EU) fish stocks are in crisis. Once thought of as a never ending supply, fish are becoming scarce. In fact, almost two-thirds of commercial fish stocks are over-exploited. Some are even on the verge of commercial extinction. In the Alboran Sea, in the western Mediterranean, the once wealthy anchovy fishery completely collapsed in the mid-1980s. The stock never recovered. The recent collapse of the cod stock in the North Sea has led to a short-term closure of the fishery and has illustrated the need for recovery plans and long-term management measures. Cod and chips, pickled herring and bacalhao (salt cod) may not be familiar national dishes for future generations.

Put environment at the heart of

"Red mullet and red sea bream used to be among the most common fish in my daily catch and are now rare inhabitants of our waters. I also used to get one or two big groupers every day. Today, a big dusky grouper provokes a discussion between us fishermen.

These days, I need to go to sea every day and use longer trammel nets and long lines in order to feed my family. I am 37 years old and I wonder whether I will be able to keep fishing in the future."

Nikos Matsios, small scale fisherman, Greece And not only fish are in crisis. For example, some species of marine mammals, seabirds and turtles as well as important habitats have also been adversely affected. The dwindling fish stocks have led to declining coastal communities, that once thrived on the abundance of fish in the oceans. Life is changing, not only for commercial fishers, but also for anglers, seafood lovers and others who appreciate the ocean.

A new opportunity

Long-term mismanagement of our fish resources has put environment, fish stocks and fishing communities at risk. Even the European Commission, responsible for administering the EU's Common Fisheries Policy (CFP), recognises in its Green Paper on the future of the CFP that the situation cannot continue.



The EU Common Fisheries Policy

The CFP was created to manage the fisheries sector in the EU. It is a policy area where the EU has exclusive competence. As well as stock management, the objectives of the CFP cover socio-economic aspects. It consists of four policy strands:

- 1) conservation and technical measures,
- 2) structural policy,
- 3) market organisation and
- 4) external policy.

European fisheries policy

A mid-term review of the CFP in 1991 highlighted a number of fundamental problems. Inadequate quota systems, poor monitoring and enforcement, and inappropriate allocations of subsidies have all led to overfishing. Today, ten years later, those same issues are in more urgent need of solutions than ever.

The 20-year old fisheries policy is now under review and will be open for debate until the end of 2002. The outcome will determine the future of our fish stocks, many other marine species and the wider marine environment, as well as the viability of many fishing communities around Europe. We have a one in ten years opportunity to ensure that the new policy will lead to sustainable and responsible fishing.

Managing Europe's diverse marine resources is a complex task and reversing the long decline of fish stocks will require changes to fisheries policy at all levels (local, national and international). All parts of the CFP have to work together to achieve sustainable management of resources. There is also a need for greater coherence between the different EU policies that aim to manage the marine resources and protect the wider environment.

To achieve this, both the Commission and the Member States must put environmental protection and long-term resource sustainability at the heart of the policy making process, whilst recognising that social and economic objectives are also integral to sustainable development.

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Fishing is subsidised

Through grants, loans, tax exemptions and other support programmes, taxpayers subsidise the commercial fishing industry – an industry that essentially is using a natural resource for free. Even overfished fisheries receive subsidies. We need to remind our decision-makers that they have a responsibility to protect and restore our public resource - the marine environment - as well as a responsibility to use our money in a sensible and sustainable way.

What's the problem?

Compared to other activities that take place in the sea, fishing has perhaps the most significant impact on the marine environment. The constant removal of a large component of the ecosystem affects other species and the marine environment as a whole.

1. Bigger boats, fewer fish

The technological development in the fisheries sector has in principle made it possible to find every last shoal of fish. Sonar fish finders, hydraulic gear, spotter planes and satellite communication systems have all made fishing more effective and led to increasing fishing effort. Fishermen now fish in areas where they could not go before. As a result, fish have become more vulnerable to commercial extinction.

The technological development is partly fuelled by badly targeted subsidies, leading to more, bigger and better boats, which put enormous pressure not only on fish stocks but on the entire marine ecosystem.

The European fleet is estimated to be 40 per cent over capacity and for years the total investment in and effectiveness of gear have exceeded what is necessary to catch the available fish. Perversely, funds supplied by the European Union and Member States continue to contribute to this development.

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Deep-sea fisheries

Deep-sea trawling techniques developed in search of increasingly elusive stocks can now fish at two kilometres below the surface. At this depth, trawlers are catching species largely unknown to science.

There are specific concerns related to deep-water fisheries. Some of the fish caught at these permanently dark depths are more than 80 years old. They live in an environment of great pressure where change and growth is extremely slow. This makes them especially vulnerable to alterations in their populations.

In 2000, the International Council for the Exploration of the Sea (ICES) report stated that "most exploited deep-water species are, at present, considered to be harvested outside safe biological limits." They

recommended immediate catch reductions. For ten deep-water species the advice given ranged from 30 per cent reduction in fishing effort to a closure of the fishery. Despite this advice and serious warnings from other fisheries scientists, deep-water fisheries have remained largely unregulated.

It is time deep-water species become a regulated resource. Their management should be governed by the application of the precautionary approach. A restrictive licensing system would drastically reduce fishing effort, and measures such as area closures and gear restrictions should be put to use. Until appropriate actions have been agreed, all fishing on deepwater species should be suspended.

The European Union has attempted to match fleet capacity and fishing opportunities through decommissioning programmes, but better technology has effectively eliminated or even reversed any effects of such attempts. Instead of a planned 15 per cent cut in capacity, the real level is likely to have increased (Commission report on MAGP IV, 2000). By the end of 2002, the Commission estimates that a 5 per cent cut will have been reached.

The current situation has led to an export of fishing capacity to the waters of countries outside of the European Union, particularly developing states in West Africa. This is done through either subsidised fisheries agreements negotiated by the European Commission on behalf of the EU, or through individual arrangements negotiated by the industry itself. In some cases, such as the Argentina hake fishery, these agreements have contributed to stock collapses in non-EU waters.



Deep-water fish like orange roughy live for many decades and do not breed until they are 34-37 years old. This makes them especially vulnerable to overfishing.

Management by quotas

Commercially important fish species are managed by a quota system, with upper catch limits called total allowable catches (TACs). Each year the **European Commission makes** proposals for TACs based largely on scientific advice. These are then subjected to political bargaining by EU Fisheries Ministers, and usually end up being higher than the scientific recommendations. The TACs are set for large areas, taking little account of local variations in the abundance of stocks or the scale and type of fishing. In 2000, the actual catches of some species did not even fill the set quota because fishermen simply could not find enough fish. For example, fishermen caught only 70 per cent of the North Sea TAC for cod. In 2001, EU Fisheries Ministers "slashed" the North Sea cod quota by 45 per cent, but compared to previous year's catches the real cut was in effect only 5 per cent. The scientific advice suggested "zero catch levels".

A 1999 survey (OSPAR, 2000) in the

North-East Atlantic showed that

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2. Overcapacity leads to overfishing

Despite ever improving fishing technology and fleets covering greater distances, catches are declining all over Europe, reflecting a worldwide pattern. A 1999 survey (OSPAR, 2000) in the North-East Atlantic showed that 40 of the 60 main commercial fish stocks were "outside safe biological limits". In other words, they are heavily overfished. Not only well-known species such as cod, bluefin tuna, sole and hake are affected, but also monkfish, megrim, common skate and great spotted catfish. Many species targeted in the Mediterranean are also overexploited, for example hake, bluefin tuna, red mullet and Norway lobster.

When more fish are taken from a population than can be replaced through natural reproduction, it is said to be overfished. The situation may be aggravated by pollutants, climate change and habitat loss that leads to a higher natural mortality or a lower recruitment – less juveniles survive until they are old enough to breed.

It is far better to prevent overfishing than to react to it after it has already happened. The latter is always costly, for the environment as well as for fishermen. And for regions dependent on the fishing industry, the social consequences of stock collapses can be disastrous.

3. Bycatch and discards

Species that are not targeted by the fishery, such as marine mammals, seabirds, turtles or other fish species may also be unintentionally caught in fishing gear. In addition, the catch commonly contains individuals of the target species that are too small to fetch a reasonable price on the market or are below the legal minimum landing sizes. Virtually all fisheries have some level of bycatch, and may therefore alter the populations of other species.



Slow-breeding animals with a limited geographical range are particularly vulnerable, and may become locally extinct. The common skate for example, which used to be common in the North Sea, has now almost disappeared. Many shark species have also declined sharply.

In the Mediterranean, historical data from bottom trawl surveys and landing statistics in the Gulf of Lions point to a sharp decline in sharks, skates and rays since the 1960s (Aldebert, 1997).

Bycatch is mainly a problem related to so-called "non-selective" gear types, such as trawls, that catch almost everything in their path. In the trawl fishery for Norway lobster along the Swedish west coast, for example, three quarters of the catch is unwanted (Olsson & Nellbring, 1996). The bycatch is a mix of undersized Norway lobster, groundfish such as cod, hake, saithe and haddock and other organisms like starfish, crabs, sea cucumbers, anemones and deadman's-hand. Most of it is thrown back to sea dead or dying. The low selectivity of trawls is also highlighted by the fact that deep-sea trawling fisheries in the NW Mediterranean capture up to 95 different species, of which 89 are discarded (Soriano & Sánchez-Lizaso, 2000).

Accidentally caught juveniles are also thrown back into the sea, and the survival rates are very low. This is a great problem, since it means that fish which could have matured and been fished later are unnecessarily killed. It also greatly reduces survival to breeding age and therefore affects reproduction. In the North Sea, up to 90 per cent of the juvenile cod expected to reach maturity in 1996 were caught and discarded. In the northern Tyrrhenian Sea trawling fishery (between the Italian west coast and Corsica), up to 34 per cent of the hake, 41 per cent of the forkbeard and 39 per cent of the poor cod are discarded (Sartor et al., 1999).

Under the current fisheries policy, bycatch has been dealt with through regulating mesh sizes. Minimum mesh sizes for nets were introduced with the hope of decreasing under-age catches by allowing smaller fish to escape. This works to some degree, but once a net starts to fill the mesh clogs with larger fish, preventing any escape.

Harbour porpoises are often caught in passive fishing gear like drift nets or bottom-set gillnets. In the North, Baltic and Celtic seas, up to 10,000 harbour porpoises are caught in fishing gear every year. In the Baltic Sea they have virtually disappeared, with fishing activities threatening to wipe out the last remnant of this unique population.

In the Mediterranean, over 60,000 turtles are caught in fishing gear every year (Lee & Poland, 1998)



ascual Calab



Cold water coral reefs, such as the Darwin Mound coral reefs off the West Coast of Scotland, which are particularly valuable habitats that provide shelter and food for an amazing number of fish and other animals, are also being damaged by trawling.



4. Effects on the wider marine environment

Bycatch is not the only problem. Fishing activities and fishing gear also affect the wider marine environment. Overfishing results in overall degradation of the marine ecosystem, both in terms of structure and functionality. The removal of large quantities of predator and prey species reverberates throughout the food web and affects interdependent populations. Declining numbers of important prey species in the North Sea, such as sandeel and Norway pout, have affected predatory fish species, seabirds and marine mammals.

Bottom trawling with weights, bobs and nets dragging along the seabed can devastate marine habitats. With the current fishing intensity, some areas of the seabed, for example in the North Sea, are swept bare of resident species more than three times a year. In many coastal areas, especially in the Mediterranean, seagrass beds – a habitat protected under the EU Habitats Directive – are destroyed by fishing activities. A medium size trawler can destroy up to 363,000 Posidonia shoots per hour (Martín et al.,1997).

Fish stocks are also suffering from habitat degradation caused by other human activities. Many important inshore areas that provide nursery grounds for juveniles and larvae have been destroyed by, for example, coastal development, pollution, sewage discharge and agricultural run-off. The combination of habitat loss and high fishing pressure is enough to cause a collapse in many fisheries.

Putting it right

The current state of European fish stocks and the marine environment calls for a radical and urgent change in management. WWF believes that unless the EU treats the health of the fish stocks and the marine environment as the single most important priority for the CFP, the industry dependent on these resources will collapse. For example, catches of cod, once supporting tens of thousands of fishermen in the EU, have crashed to levels of just 10 per cent of those recorded in the 1970s.

The way to recovery will require a combination of actions that will differ according to regional characteristics and threats. Marine biodiversity, seabed habitats, the type of fishing methods preferred by the fishing industry and other environmental impacts vary across the EU and even within Member States.

There is no shortage of conservation tools, including bigger mesh sizes, a comprehensive system of no-take zones (fishing-free zones) to protect spawning and nursery grounds, and gear modifications to allow juveniles and non-target species to escape. However, measures used must be adapted to local requirements.

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The new fisheries management system also needs to be flexible enough to respond to environmental changes and improvements in knowledge and information. For example, a quota system fixed to single species in a specific region will not be adequate if species composition changes because of climate change.

Therefore the new CFP should aim to link and integrate the different policies and legislation that protect the wider marine environment and manage human activities.





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The long-term implications of removing large quantities of fish from the food web are poorly understood, but there is evidence to suggest that it alters the structure and balance of marine life. In addition, fish stocks are under threat from other human activities. In order to retain a healthy ecosystem with abundant fish stocks, it is necessary to consider all parts of the ecosystem and strive to minimise the effects of all human activities on the wider marine environment.

The ecosystem approach should be adopted at all levels of decision-making under the CFP, including decisions concerning fleet policy, subsidies, marketing and processing and external relations. Its implementation should also be in line with environmental and international

Adopting ecosystem-based management would require an integrated and regionalised approach, allowing measures to be devolved to the most suitable level. With a more regionalised management structure, steps to increase stakeholder involvement in the decision-making process should be taken.

agreements and legislation.

A precautionary and adaptive management approach also allows readjustments depending on stock changes and fishing patterns throughout the year.

WWF key recommendations

1. Practical implementation of ecosystem-based management and the precautionary principle

An ecosystem-based management approach, taking the wider implications of fisheries for the marine environment into account, should be fundamental to EU fisheries policy. It is already embodied in the objectives of the UN Convention on Biological Diversity, the UN Agreement on Straddling Stocks and Migratory Species and the FAO Code of Conduct for Responsible Fisheries.

Rather than the traditional singlespecies approach to managing fish stocks, the EU should take the interaction of dependent stocks and species into consideration. To deal with the higher uncertainty inherent in complex systems, any ecosystembased management must apply the precautionary approach, be adaptive and use a range of different tools suitable to the particular region and situation. For biodiversity, as well as from a socio-economic point of view, the inshore area and coastal shelf are of particular importance. Tools suitable for the implementation of ecosystembased management include recovery plans, use of no-take zones (marine protected areas), technical measures such as selective gear and the use of Environmental Impact Assessments.

Market incentives can also be an important component of the ecosystem-based approach to fisheries management. Ecolabelling schemes, like the Marine Stewardship Council, are market mechanisms created to support and encourage responsible fishing. They also make it possible for consumers to affect fishing practices through their purchases.





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If cod are caught before they have had adequate time to grow, the population's capacity to reproduce will decrease. In general, a smaller fish produces fewer eggs. It takes more than 37 young female cod (3–5 years old) to produce the 15 million eggs that a single large female may produce.

2. Immediate creation of recovery plans for stocks outside safe biological limits

Comprehensive long-term recovery plans should be put into place for all fish stocks that have fallen below safe biological levels. The recovery plans should include a package of measures such as temporary area closures, bigger mesh sizes that allow juvenile fish to escape, fishing free zones, time-limited lay-up schemes and decommissioning for surplus fishing capacity.

To secure long-term sustainability, preagreed measures that come into force if a stock falls below a certain level should be decided upon for all other fish stocks.

The precautionary approach

The precautionary principle was formulated in response to the fact that difficult decisions are often rejected, delayed or watered down on the grounds of scientific uncertainty. It calls for prudent, proactive action wherever there is scientific uncertainty and its application is called "the precautionary approach". When applied to fisheries, precautionary limit and target reference points should be set for each of the commercial stocks, as well as for non-target species accidentally trapped in nets or on lines.

Unless actions are taken to reduce capacity, other measures will not be effective enough to reverse the degradation of stocks and the marine environment.

3. Putting an end to overcapacity

The size of the European fleet must be adapted to the available resources, both within European waters and wherever European fishing fleets are active. The current level of overcapacity is the root cause of many of the problems facing our marine environment. Unless actions are taken to reduce capacity, other measures will not be effective enough to reverse the degradation of stocks and the marine environment.

Improved control and enforcement are often proposed as the principal However, these actions alone overcapacity makes control and enforcement more costly and more difficult. A reformed CFP should concentrate on reducing

response to the existing overcapacity. have proved to be insufficient. In fact, fleet capacity.



A new transparent, long-term fleet plan for the control of fishing capacity should include intermediate targets for decommissioning fishing boats prioritising ecological, economic and social needs. It should aim for a fleet size appropriate for exploitation of fish resources that are sustainably managed, meaning that capacity should not be adapted to either overfished or booming fish stocks but to levels that can be expected under a sustainable management programme. For segments of the fleet that are currently oversized because of fish stocks close to collapse, such as cod in the North Sea, compensation schemes during the time of fish stock recovery might be considered. However, lay-up schemes must not be used to avoid necessary capacity reduction.

So far, technological advances have undermined all plans to reduce capacity. Any future attempts to reduce capacity must therefore specifically take this so called technological creep into account. In addition, a new longterm fleet plan ought to limit the number of vessels allowed to fish in any given area. This would allow protection of inshore fleets, where vessels often are too small to fish offshore. Finally, reducing capacity in European waters should not lead to an export of this overcapacity to the waters of third countries, the high seas or unregulated European waters.

Putting an end to European overcapacity is crucial to the future of the industry and any attempts to achieve economic and biological viability in the fishing sector.





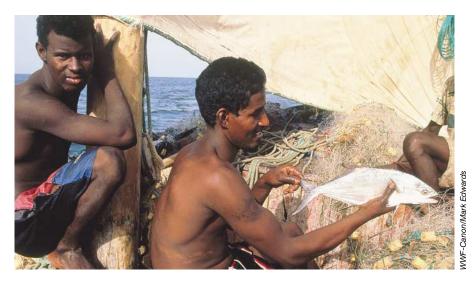
4. Reduce and reform subsidies

The European fisheries sector continues to be heavily subsidised by the EU and its Member States. In 1997, the EU fisheries sector received approximately 1.3 billion Euro, according to an OECD report. Despite the obvious failure to manage fish resources, much more of this is spent on encouraging the sector to expand and become more efficient than on reducing excess capacity or supporting measures to minimise impact on the marine environment. Subsidies therefore contribute to the current fisheries crisis, by underwriting overfishing. This has got to end.

Firstly, all subsidies that contribute to overcapacity in the fleet must be stopped. Secondly, the EU should reform the current subsidies to target environmental and social issues with payments tailored to regional and local needs. This way, subsidies can be targeted to support a reform of the sector, for example implementation of more sustainable fishing practices.

Accurate data is essential for making good policy decisions. Unfortunately, comprehensive information on subsidies is hard to obtain in many Member States. Measures to increase transparency and accountability must be taken. The impact of subsidies should also be evaluated on a regular basis to facilitate the development of subsidies designed to support sustainable, long-term fisheries management.

The question of the need for international controls on fishing subsidies has been raised in a variety of international fora, most notably the World Trade Organisation (WTO). The EU should support, and not oppose, the initiation of negotiations at the WTO towards new, binding and effective multilateral disciplines on fishing subsidies.



5. Fair and sustainable fisheries agreements

As a signatory to a number of international agreements, such as the UN Convention on Biodiversity and UN Fish Stocks Agreement, the EU also has an obligation to ensure that its fleet is operating sustainably outside the waters of Member States. This is not always the case with the EC's fisheries agreements with third countries, especially developing West African and Latin American states.

WWF is not asking for anything new just that the people responsible for our
fish resources and the marine
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A number of these agreements have proved incompatible with the EU's development and environment policies, with some resulting in overexploitation of resources and others causing competition with local artisanal fleets. In addition, a substantial share of the EU fisheries budget (28,5 per cent or 276 million Euro in 2000) is paid to third countries for the right to fish in their waters - a significant subsidy to vessel owners fishing in these waters.

A protocol for the negotiation of international agreements is needed. It should be based on international standards for conservation and responsible fisheries such as the UN Fish Stocks Agreement and the FAO Code of Conduct. WWF believes that fisheries agreements should only be negotiated when there is a clear and scientifically verified surplus of stocks. Agreements should only be signed when there is a long-term management plan in place. Some key principles should be followed: effective monitoring, control and surveillance of fishing activities and their impacts and the interests of small-scale artisanal fishers should be considered. Environmental Impact Assessments should be carried out prior to drawing up new fisheries agreements or renewing existing ones. Flag states should also be held accountable and ensure that policies extend to their citizens operating outside EU waters. In particular, the EU should support and assist third countries in their efforts to achieve conservation of biodiversity and sustainable use of resources.



6. Increase stakeholder involvement

The decision-making process in the fisheries sector has barely changed in two decades. It still operates in a top-down, species by species approach, with hardly any integration of environmental considerations into policy-making. Nor does it allow fishermen, the industry or other interested stakeholders to get directly involved in the decisionmaking processes. WWF is calling for a more integrated approach to fisheries management, with increased stakeholder participation in the decision-making process and more public debate on fisheries issues.



Why now?

The reform of the CFP offers a one in ten years opportunity to tackle unsustainable fishing in Europe. While there are still gaps in scientific knowledge, the EU and its Member States should not use them, as they have in the past, to permit excessive fishing effort. The main challenge to the management of fisheries is not the scientific question marks that remain over fish stocks, but the political intransigence that prevents proactive management measures.

While there is no single solution to the complex problems, it must be remembered that the EC Treaty requires action to begin repairing the damage. Article 6 of the Treaty states:

"Environmental protection requirements must be integrated into the definition and implementation of the Community policies and activities..., in particular with a view to promoting sustainable development."

So, in fact, WWF is not asking for anything new - just that the people responsible for our fish resources and the marine environment put the fundamental concepts of the EC Treaty into practice before it is too late.

European Ministers must seize this opportunity to reform the current inadequacies of the Common Fisheries Policy and secure the long-term future of fish populations and the wider marine environment, as well as the fishermen who depend on them.





WWF's mission is to stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature, by:

- conserving the world's biological diversity
- ensuring that the use of renewable natural resources is sustainable
- promoting the reduction of pollution and wasteful consumption.

Take action to save our oceans - visit: www.panda.org

References

Aldebert, Y. (1997). Demersal resources of the Gulf of Lions (NW Mediterranean). Impact of exploitation of fish diversity. Vie Milieu 47: 275-284.

Camiñas, J.A. (1997b). Capturas accidentales de tortuga boba (Caretta caretta L. 1758) en el Mediterráneo Occidental en la pesquería de palangre de superfície de pez espada (Xiphias gladius L.). ICCAT Collective Volume of Scientific Papers XLVI (4): 446-455.

CEC (2001). Green Paper on the future of the Common Fisheries Policy. COM(2001) 135, 20 March 2001.

CEC (2001). Elements of a Strategy for the Integration of Environmental Protection Requirements into the Common Fisheries Policy. COM(2001) 143 final, March 2001.

CEC. Preparation for a mid term review of the Multi-Annual Guidance Programmes (MAGP). COM(2000) 272 final, 10 May 2000.

De Metrio & Megalofonou, P. (1988). Mortality of marine turtles Caretta caretta (L.) and Dermochelys coriacea (L.) consequent to accidental capture in the Gulf of Taranto. Rapp. Comm. int. Mer Médit. 31.

FAO (1995). Code of Conduct for Responsible Fisheries. Food and Agriculture Organization of the United Nations, Rome.

Heaps, L. (2000). Integrating biodiversity and EU fisheries policy: rebuilding healthy and productive ecosystems. WWF-UK.

IWC (1994). Report of the workshop on mortality of cetaceans in passive fishing nets and traps. Rep. Int. Whal. Comm. 15(Special issue): 1-71.

Lee, H.A. & Poland, G.C.R. (1998). Threats by fishing. Euro turtle web page: http://www.ex.ac.uk/telematics/EuroTurtle/Martin, W., Lodge M., Caddy, J. & Mfodwo, K. (2001). A handbook for negotiating fishing access agreements. WWF. Martin, M. A., Sánchez Lizaso, J. L. & Esplá, R. (1997). Cuantificación del impacto de las artes de arrastre sobre la pradera de Posidonía oceanica (L.) Delile, 1813. Publicaciones Especiales del Instituto Español de Oceanografía 23: 243-253.

OECD (2000). Transition to responsible fisheries: economic and policy implications. OECD, Paris.

OSPAR (2000). Quality Status Report on the Marine Environment for the North East Atlantic, OSPAR Commission, London.

Olsson, I. & Nellbring, S. (1996). Fiske och vattenbruk. Ekologiska effekter. Naturvardsverket Rapport 4247. Sartor, P., Biagi, F., Mori, M. & Sbrana, M. (1999). Analysis of the discard of some important demersal species in the trawl fishery of the northern Tyrrhenian Sea. Biologia Marina Mediterranea 6: 605-608.

Soriano, S. & Sánchez-Lizaso, J.L. (2000). Discards of the upper slope trawl fishery off Alicante province (W Mediterranean). 6th Mediterranean Symposium on Seabirds. Conference on Fisheries, Marine Productivity and Conservation of Seabirds. Benidorm, Spain, 11-15 October 2000. Book of abstracts, p 73.

United Nations (1995). Agreement for the Implementation of the provisions of the United Nations convention on the law of the sea of 10 December 1982 relating to the conservation and management of straddling fish stocks and highly migratory fish stocks. United Nations Conference on Straddling Fish Stocks and Highly Migratory Fish Stocks, Sixth session, New York.

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