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COMMISSION STAFF WORKING PAPER

IMPACT ASSESSMENT

Accompanying the document

Proposal for a Regulation of the European Parliament and of the Council amending Council Regulation (EC) 1185/2003 on the removal of fins of sharks on board vessels

{COM(2011) 798 final}
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GLOSSARY

CPUE – Catch Per Unit of (fishing) Effort

ICCAT – International Commission for the Conservation of Atlantic Tunas

IOTC – Indian Ocean Tuna Commission

MSY – Maximum Sustainable Yield; the optimal catch that may be taken from a fishing stock year after year without endangering its capacity to regenerate for the future.

RFMO – Regional Fisheries Management Organisation, e.g. ICCAT, IOTC.

STECF – Scientific Technical and Economic Committee for Fisheries

Surface Longlines – Fishing lines often several kilometres long, with baited hooks sometimes numbering in the thousands, set at fixed intervals by means of branch lines.

Procedural issues and consultation of interested parties

1.1. Organisation and timing

This Impact Assessment concerns a proposal from the Commission to the European Parliament and Council to amend Council Regulation (EC) 1185/2003 on the removal of fins of sharks on board vessels[1]. Its development is foreseen in Agenda Planning 2010/MARE/005 and aims to fulfil one of the commitments taken by the Commission within the context of EU Action Plan for Sharks[2], i.e. to amend Council Regulation (EC) 1185/2003 in a manner which contributes to enhanced conservation and management of shark stocks.

An Impact Assessment Steering Group (IASG) was set up. The following services were invited to this IASG: SG, SJ, TRADE, ENV, ENTR, ECFIN, EMPL, REGIO and CLIMA. The IASG has met twice, on 16 June 2010 and 5 May 2011 with the presence of MARE and ENV.

1.2. Adaptations to the report in line with the comments of the Impact Assessment Board

DG MARE has welcomed the comments, suggestions and questions of the Impact Assessment Board and has adapted the report so as to address these. In particular, the report has been adapted in order to provide more evidence regarding the existing problem (see Annex III), to analyse an additional set of potential policy options (Section 4.2), text has been re-arranged to improve coherence, additions were made to the specific objectives (Section 3), differentiation between vessels and their activities has been made (Section 5.1), separate analyses of the impacts of options 1(i) and 1(ii) were made (Section 5.2), the analyses of impacts of options 2 and 3 have been improved (Section 5.2), the Impacts on Conservation subsection (Section 6) has been improved, and a summary of the results of the public consultation was inserted (Annex IV).

1.3. Consultation and expertise

The relevant information was drawn partly from the Impact Assessment carried out for the preparation of the "European Community Plan of Action for the Conservation and Management of Sharks[3]", partly from direct research carried out by DG MARE services, and partly from the results of the public consultation carried out between 15 November 2010 and 21 February 2011[4]. No external consultant was engaged.

In the consultation specific emphasis was put on: which option and/or sub-option stakeholders consider the most appropriate and the least appropriate. In addition to this, DG MARE directly asked for the likely effects on the commercial operators and on the associated trade as

[1] Council Regulation (EC) No 1185/2003 of 26 June 2003 on the removal of fins of sharks on board vessels
[2] COM(2009) 40 final Communication from the Commission to the European Parliament and the Council on a European Community Action Plan for the Conservation and Management of Sharks
[3] SEC(2009) 103 Commission staff working document - Accompanying document to the communication from the Commission to the European Parliament and the Council on a European Community Plan of Action for the Conservation and Management of Sharks - Impact assessment
[4] http://ec.europa.eu/fisheries/partners/consultations/shark_finning_ban/index_en.htm

well as on the conservation of shark stocks if the vessels were to be obliged to land fins and carcasses simultaneously at the same port.

More than 5,000 contributions were received. The responses indicate that virtually all NGO's and an overwhelming majority of the public support Option 3. Part of the sector supports option 1 (either 1(a) or 1(b)), whereas other parts of the sector propose an alternative: Raising the 5% fin to live-weight ratio to 6 or 6.5% to reflect the average ratio applicable to the two main species caught by EU vessels (blue shark and shortfin mako) and to the fin-cutting and fin-retention techniques employed by these vessels.

The arguments presented by the various stakeholders vary in quality and content. The most well-informed and well-argued positions are presented by the NGO's and the fishing industry, as well as some local and national authorities and some academic and research associations. On the other hand, the vast majority of the general public seem to be poorly informed: it seems that they reacted to the consultation paper after viewing various television broadcasts on shark finning, without reading the paper itself. This led to the submission of approximately 2,500 contributions which are not useable for the purposes of the Impact Assessment.

The Scientific Technical and Economic Committee for Fisheries (STECF) states[5] that finning should not take place, because it leads to increased mortality of sharks. STECF recommends measures to eradicate finning without exemption. Regional Fisheries Management Organizations (RFMO's) have scientific committees which provide advice on stock management. The scientific committees within the International Commission for the Conservation of Atlantic Tunas (ICCAT) and the Indian Ocean Tuna Commission (IOTC) have attempted to evaluate the various geographical distinct stocks of blue shark and shortfin mako in the Atlantic and Indian Oceans. Though there is a general lack of data on all of these stocks, the ICCAT shark assessment group suggests that blue shark stocks are probably above Maximum Sustainable Yield (MSY) in the North and South Atlantic and in the Mediterranean. In the Pacific, the blue shark stock seems to be in a rather good state, whereas no conclusions can be drawn regarding the Indian Ocean stock, due to lack of data. The data necessary to carry out proper stock assessments for shortfin mako is lacking in the Atlantic and Indian Oceans as well as the Mediterranean Sea. However, reductions on the catch per unit effort (CPUE) suggest that the stocks may be declining.

2. PROBLEM DEFINITION

2.1. Scope of Council Regulation (EC) No 1185/2003

According to Article 1 (Scope) of the Regulation:

"This Regulation shall apply to the removal of shark fins, retention on board, transhipment and landing of sharks or shark fins:

1. by vessels in maritime waters under the sovereignty or the jurisdiction of Member States;

2. by vessels flying the flag or registered in Member States in other maritime waters."

2.2. Shark Finning: definition and ban

Finning is the practice of severing and retaining the fins of sharks while discarding the carcass at sea. Finning is highly wasteful and unsustainable. Recognizing that sharks, skates and rays

[5] Commission Staff Working Document 27th Plenary Meeting Report of the Scientific, Technical and Economic Committee for Fisheries (Plen-08-01) Plenary Meeting 14-18 April 2008, Hamburg https://stecf.jrc.ec.europa.eu/c/document_library/get_file?folderId=21111&name=DLFE-6501.pdf

are particularly vulnerable to overexploitation, that many shark stocks are under serious threat, and that the practice of shark finning contributes to excessive mortality and to stock depletion the Council in 2003, adopted Regulation (EC) No. 1185/2003 on the removal of fins of sharks on board vessels[1] (*hereafter referred to as "the Regulation")*. Although this Regulation aims to contribute to shark conservation, its scope is limited to banning the practice of finning and to regulating the on-board processing of sharks. The Regulation applies to all types of fishing in EU waters, and to all EU vessels fishing in non-EU waters. The EU has also taken a proactive attitude towards finning prohibitions in various international fora, namely Regional Fisheries Management Organizations (RFMO's).

The Regulation bans finning without exception, and also bans the removal of fins of sharks on board vessels. However, by derogation, shark fins may be removed from carcasses on board vessels which hold special fishing permits. This on-board removal of fins, which according to the Regulation shall not involve the discard of any carcasses, is not to be confused with the practice of finning. In order to ensure that no discarding of carcasses has occurred, the weight of the fins must never exceed 5% of the live weight of the shark catch on board. The Regulation permits landings of fins and carcasses in separate ports, which makes it difficult for inspectors to be certain that no discarding has taken place. The main identified problem with the current Regulation centres on this weakness in control, which stems from the existence of permits allowing the removal of fins on board.

Even though the current Regulation prohibits the removal of shark fins on board vessels, special permits allowing the removal of fins on board may be issued by derogation. Such permits may be issued by the competent Member State authorities to fishing vessels for which a capacity to use all parts of sharks has been demonstrated and where the need for the separate on-board processing of shark fins and of the remaining parts of sharks has been justified. The Regulation does not specify what constitutes valid justification for these purposes. This means that it is for the flag Member State to interpret this provision and accordingly to issue and manage, with associated conditions, special permits for on-board removal of shark fins. Member States must submit annual reports to the Commission on implementation of the Regulation, including the following information: (a) compliance with the prohibition to discard shark carcasses, (b) compliance with the 5% fin-to-live-weight ratio, (c) the number of special fishing permits issued and (d) the technical basis for setting the fin-to-carcass weight ratio. This reporting obligation concerns 22 Member States and covers the reference years 2004 onwards. The majority of Member States have consistently failed to meet the reporting deadline, and each year the Commission Services have had to send reminders to the relevant authorities.

The current Regulation allows for the landing of fins and carcasses in separate ports, at separate times. In order to ensure that no finning has occurred, a fin-to-carcass weight ratio has been established. Permit holders must record in a logbook the weight of shark fins and the remaining parts of sharks retained on board, transhipped or landed. The relevant documentation (as defined by Member State authorities) of landings, transhipments and sales of fins and other shark parts shall be used to complete logbook records. The weight of the fins kept from the catch shall never exceed the theoretical weight of the fins that would correspond to the remaining parts of sharks retained on board, transhipped or landed. In no case shall the theoretical weight of the fins exceed 5 % of the live[6] weight of the shark catch. Live weight is the weight of the shark before any processing has occurred. Dressed weight is the weight after processing, i.e. after beheading, evisceration, fin removal and sometimes skinning. Due to the

[6] "Live weight" is the term used throughout EU fisheries legislation to refer to the weight of the fish as soon as it has been hauled on board, and prior to any form of processing or degradation. The term "whole weight" used in other legal texts such as those of the USA and Canada generally has the same meaning as "live weight".

relatively large weight of sharks' heads and internal organs, the dressed weight may be 30 to 50% less than the live weight. RFMO's such as ICCAT and IOTC have rules stating that the weight of the fins of sharks must not exceed 5% of the weight of sharks on board. These rules do not specify whether this 5% should refer to live weight or dressed weight. Many countries which are members of these RFMO's set the limit at 5% of the dressed weight, whereas the EU Regulation goes by live weight, which is approximately double the dressed weight. As a result, NGO's have been criticizing the EU Regulation as being one of the weakest finning bans in the world. Furthermore, EU vessels subject to the 5% live weight rule and landing in third country ports have been found to be in breach of the local rules which only permit a fin weight allowance of 5% of the dressed carcass weight (see Section 5.1., Option 2, Economic Impacts).

It has become clear, via information received from national authorities, the fishing sector, NGO's and RFMO's, that the current system of weight ratios, which allows separate landings of fins and carcasses, has various flaws and weaknesses. Between the entry into force of the Regulation and today, five Member States have reported numerous instances of breach of the Regulation. These reports come predominantly from those Member States that have been issuing special fishing permits, and the infractions committed consist in their majority of violations of the 5% fin-to-carcass weight allowance. Though all RFMO's with finning bans currently use fin to carcass ratios, in recent years such systems have been challenged, mostly due to the associated difficulties in control and enforcement. An alternative, the fins-attached approach has been discussed in RFMO's over recent years, and some countries such as Costa Rica and the USA, have already adopted this system.

2.3. Shark Fisheries and shark fin trade

Due to their characteristics of slow growth, late maturity and a small number of young, shark populations are particularly vulnerable to overfishing and take a long time to recover from depletion. Sharks have been increasingly targeted by fisheries due to an increased demand for shark products (fins in particular), especially on the Asian market, where fins from the most desirable species can fetch up to 500€/kg[7]. The value of fins is generally much higher than the value of shark meat and given that on-board storage space is usually limited, there is a strong economic incentive to fin (i.e. retain fins while discarding carcasses).

European shark fisheries operate in the Atlantic, Indian and Pacific Oceans and are larger than is generally understood. The EU is possibly the world's largest shark fishing entity[9], although systematic underreporting of catches by fleets worldwide prevents one from drawing this conclusion with certainty. According to existing catch reports, European fleets accounted for more than 13% of global shark landings in 2004[8], and an average of 13.4% of the global landings reported from 2000 to 2008, i.e. the catch of the top 4 EU shark-fishing Member States (Spain, France, Portugal and the United Kingdom) accounted for 110,436 tons out of the 824,364 tons landed globally. The data pertaining to the surface longline fisheries undertaken by these four Member States in the Atlantic, Pacific and Indian Oceans, are not detailed enough to paint a detailed enough picture of the catch composition.

Table 1. Average reported landings (in tons) by vessels of the top 20 shark fishing countries from 2000 to 2008.

Rank	Country/territory	Average landings 2000 - 2008	Proportion of global catch

[7] Hareide, N.R., J. Carlson, M. Clarke, S. Clarke, J. Ellis, S. Fordham, S. Fowler, M. Pinho, C. Raymakers, F. Serena, B. Seret, and S. Polti. 2007. European Shark Fisheries: a preliminary investigation into fisheries, conversion factors, trade products, markets and management measures. European Elasmobranch Association. http://www.eulasmo.org/v.asp?level2id=6465&rootid=6465&depth=1

[8] FAO 2004 reporthttp://www.fao.org/fishery/publications/en

1	Indonesia	109,248	13.3
2	India	74,050	9.0
3	Spain	59,777	7.3
4	Taiwan	47,636	5.8
5	Argentina	35,089	4.3
6	Mexico	33,971	4.1
7	Pakistan	32,277	3.9
8	US	30,686	3.7
9	Japan	24,961	3.0
10	Malaysia	24,334	3.0
11	Thailand	22,729	2.8
12	France	21,511	2.6
13	Brazil	20,014	2.4
14	Sri Lanka	19,989	2.4
15	New Zealand	18,005	2.2
16	Portugal	15,819	1.9
17	Nigeria	14,311	1.7
18	Iran	14,001	1.7
19	United Kingdom	13,356	1.6
20	Korea	11,887	1.4
	World total	824,364	100
	EU top 4 total	110,436*	13.4

These figures exclude discarded and unreported catches, which combined worldwide, likely exceed reported catches[9].
* The total production of EU capture fisheries is 5,150,000 tons.

The FAO Fishstat Capture Production Database reports retained catches of fish species and does not include information on discards. A study[10] by FAO has estimated that more than 200,000 tons of sharks are discarded per year. Various other studies[11,12,13,14] have reported that 85-100% of sharks caught in longline and purse seine fisheries in the Pacific and Indian Oceans are discarded. Furthermore, several countries which are known to catch sharks, do not report these catches to the FAO, and significant discrepancies between catch data and export data from some countries indicate that there is significant underreporting. Estimates of the volume and species composition of shark discards remain limited, meaning that the true impact of fishing on sharks is generally unknown[15]. The Spanish and Portuguese surface longlining sector has informed the Commission in writing that they do not discard carcasses and that they market them instead. During the public consultation a Portuguese organization

[9] Fowler, S. and Seret, B. 2010. Shark fins in Europe: Implications for reforming the EU finning ban.
[10] Kelleher, K. (2005). Discards in the World's Marine Fisheries. An update. FAO Fisheries Technical Paper. No. 470. Rome, FAO.
[11] Amandé M.J., Chassot, E.,Chavance, P., Pianet, R. (2008). *Silky shark (*Carcharhinus falciformis*) bycatch in the French tuna purse-seine fishery of the Indian Ocean. (IOTC-2008-WPEB-16).*
[12] Gilman, E., Clarke, S., Brothers, N., Alfaro-Shiguetto, J., Mandelman, J., Mangel, J., Petersen, S., Piovano, S., Thomson, N., Dalzell, P., Donoso, M., Goren, M. and Werner, T. (2007). *Shark Depredation and Unwanted Bycatch in Pelagic Longline Fisheries. Industry Practices and Attitudes and Shark Avoidance Strategies.* Western Pacific Regional Fishery Management Council, Honolulu, USA.
[13] Hender, J., Ward, P., Knight, E and Darbyshire, R. (2007). *Pilot Scientific Monitoring Program for the Western Tuna and Billfish Fishery Final Report (2003–06), BRS Canberra*
[14] Xiaojie-DAI, Liu-xiong XU and Li-ming Sonng (2006). *Catch Estimation of Pelagic Sharks by Chinese Longline Observer in the Eastern Pacific Ocean* . Document SAR-7-09a IATTC Tropical Tuna Working Group to Review Stock Assessment, 7th meeting, La Jolla California (USA), 15-19 May 2006. Available at: http://www.iattc.org/PDFFiles2/SAR-7-09a-Shark-bycatch-CHN-LL-fishery.pdf
[15] Lack, M. and Sant, G. (2009). *Trends in Global Shark Catch and Recent Developments inManagement.* TRAFFIC International.

informed the Commission that in the case of blue shark, the revenue from marketing all carcasses makes up approximately 58% of the shark-derived revenue, the remaining 42% coming from fins.

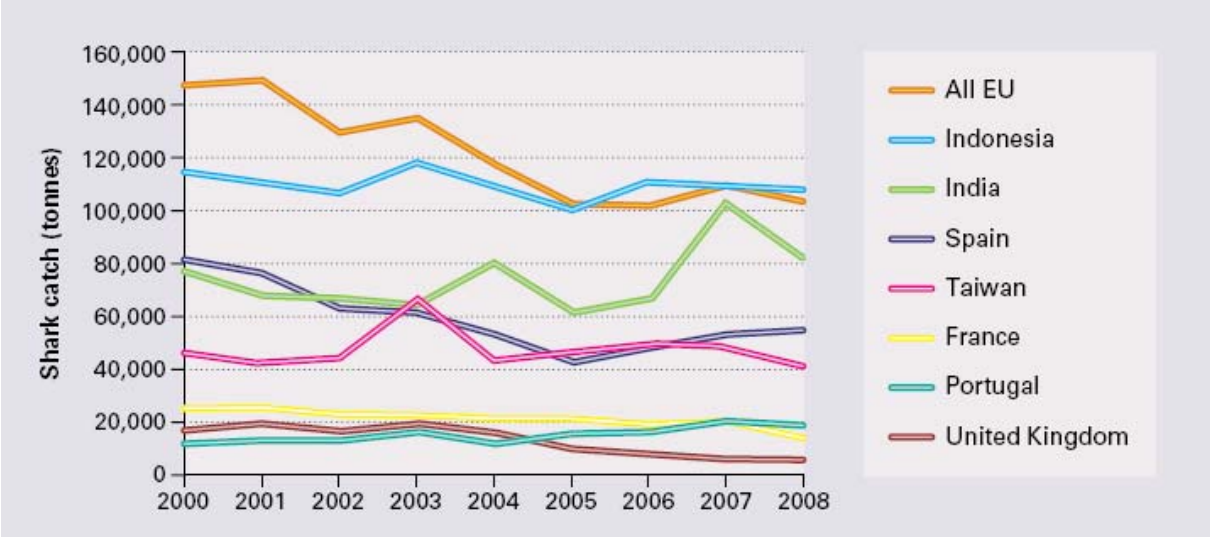

Figure 1. Trends in shark catches of various countries and the EU as a whole, between 2000 and 2008 (FAO Fishstat, taken from Fowler and Seret, 2010[9]). In general, shark catches are decreasing worldwide and apparent upward trends can often be ascribed to increased reporting of shark catches or differentiation between shark catches and catches of other species.

Considerable data deficiencies exist with regards to a lack of species-specific catch reporting and the fact that most (but not all) elasmobranch catches in EU waters and further afield, are bycatches[16] from other targeted fisheries. The mixed nature of most of the fisheries from which elasmobranch catches are made, makes it difficult to determine with any certainty how dependent individual fishermen/vessels are on catches of these species or how much value-added is made specifically from elasmobranch catches, because virtually no fleet segments rely exclusively on elasmobranch catches. Furthermore, there are no coastal communities within the EU which exclusively rely on shark fishing or processing.

Though these fisheries historically targeted primarily tunas and swordfish, longline catches of oceanic sharks are as large as or larger than the catch of tuna and swordfish, and most longliners now actively target sharks. EU surface longliner catches include between 40% (Indian Ocean) and 68% (Atlantic Ocean) of shark (mostly blue shark *Prionace glauca*).

Information concerning the involvement of EU Member States in international trade of sharks and shark fins varies according to the source. Trade statistics indicate that in 2005, Spain, France and the Netherlands[17] were involved in the shark fin trade in the Hong Kong market, which is the largest shark fin market in the world, representing 50% of the worldwide sharkfin trade. After China, Spain is the second largest exporter of shark fins to the Hong Kong market and is responsible for around 10% of the shark fins traded there[18]. The Galician port of Vigo

[16] The two main species caught by EU-flagged surface longliners are actively targeted via the use of specific gears such as steel leaders to which the baited hooks are attached, and by temporal and spatial execution of fishing activities.

[17] The Netherlands appears to be more of a transit hub rather than an actual "producer" of fins.

[18] Hong Kong Foreign Trade Statistics for Sharkfin Imports and Exports. 2005.

and the port of Las Palmas in the Canary Islands are the European centres for the shark fin trade. In Las Palmas, both Spanish and Japanese surface longliners land shark fins.

According to the annual reports submitted to the Commission by the Spanish authorities in accordance with Article 6(1) of the Regulation, between 2004 and 2008 Spanish vessels holding special fishing permits landed fins and carcasses processed in various ways in non-EU ports in Australia, Brazil, Cape Verde, Chile, Ecuador, Fiji, French Polynesia, Indonesia, Kenya, Mauritius, Namibia, New Caledonia, Panama, Peru, Senegal, South Africa, Trinidad and Tobago, and Uruguay. The annual shark landings in non-EU ports by Spanish vessels holding on-board processing permits were 8,077 tons in 2005, 9,003 tons in 2006, 8,295 tons in 2007 and 9,119 tons in 2008. The annual shark landings (EU ports and non-EU ports) by Spanish vessels holding on-board processing permits were 20,447 tons in 2003, 21,417 tons in 2004, and 18,936 tons in 2005. Of the 18,936 tons landed in 2005, 10,859 tons were landed in EU ports (i.e. 57%) and 8,077 tons were landed in non-EU ports (i.e. 43%). In 2003, 2004 and 2005, Spanish vessels with special fishing permits caught an average of 87% of the total shark catch of the Spanish fleet. According to the Portuguese 2009 report, the majority of Portuguese vessels land their catch in Portuguese and Spanish ports, though some landings take place in 3rd country ports, notably Cape Verde, Uruguay, Namibia, Togo and Mauritius. Portuguese vessels holding special fishing permits always land their fins and carcasses simultaneously in the same port.

No TAC's have been set for blue shark and shortfin mako due to the lack of relevant data. TAC's are being discussed in ICCAT for porbeagle, shortfin mako, thresher sharks and hammerhead sharks. The Commission made proposals, aligned with scientific advice, to prohibit fishing, transhipment and landing of these species and families at the annual ICCAT meeting in November 2010. The prohibition was accepted for the hammerhead family (except one species), but rejected for the thresher shark family (except bigeye thresher for which a fishing ban had already been in accepted in 2009). The Commission will continue to seek scientific advice on the state of stocks of blue shark and shortfin mako, and will look into the possibility of establishing TAC's in EU waters for these species in the future. Data collection on the status of these stocks is essential if TAC's are to be established.

2.4. Problems with the current system

The main identified problem with the current Regulation centres on the weakness in control, which stems from the existence of permits (issued at Member States' discretion) allowing the removal of fins on board, and from the use of weight ratios in an attempt to verify that finning has not occurred. Consequently the following specific problems are identified:

1. The Regulation permits processed shark carcasses and fins to be landed in separate ports at separate times, making it impossible to physically weigh fins and carcasses against each other, thus making it impossible for inspectors to be certain that finning has not occurred. Inspectors must rely on the figures recorded in the logbook. Such separate landings by EU vessels occur in ports worldwide with varying levels of control. Furthermore, the Regulation does not require that landings be made in designated ports[19], where appropriate inspection services are available at all times.

2. To verify the compliance with the 5% fin to carcass live weight ratio, inspectors must compare the total weight of landed shark carcasses and the total weight of landed fins.

[19]The designation of ports is encouraged by RFMO's or imposed by various regulations (e.g. the Mediterranean Regulation), on EU Member States and/or non-EU states.

Given that after processing sharks are no longer whole, inspectors must use conversion factors to calculate the equivalent live weight based on the dressed (processed) weight. Fin to carcass weight ratios are different for each species and may even vary within a species, depending on location and life stage. Freezing and/or drying of fins before inspection may change the weight of the fins, thus causing further deviation from the theoretical weight ratio. No single ratio can apply to all of these contingencies. Therefore the use of a single ratio adds uncertainty and considerable enforcement burden. Once again, when fins and carcasses are landed in separate ports inspectors must rely on the figures recorded in the logbook in order to make the necessary weight conversions and comparisons.

3. Fleets around the world use different fin cutting techniques and retain different fin sets from carcasses. The Spanish and Portuguese fleets predominantly catch two species: blue shark (Prionace *glauca* – 87% of the catch by weight) and shortfin mako (*Isurus oxyrinchus* – 10%). They cut fins in such a way as to retain a significant amount of flesh attached to the base of the fin. Furthermore, the Spanish and Portuguese fleets retain and market both the primary and secondary fins (first and second dorsal, pectoral, pelvic, anal as well as the entire tail and caudal peduncle, i.e. the rear part of the spine). The Spanish authorities have communicated to the Commission in their annual reports that the 5% weight ratio does not correspond to the reality of the Spanish commercial fleet, and should be raised to 6.5% for fleets catching mostly blue shark. This position of the Spanish authorities is in line with the responses of part of the Spanish longline sector to the public consultation. The Spanish authorities requested that different ratios be applied to each fishery/fleet in order to reflect the variability in ratios, depending on species, location and season. The Portuguese authorities communicated to the Commission, in their reports for the years 2004, 2005 and 2006 (the 2007 and 2008 reports have not been received yet), that given the species caught and the traditional fin-cutting method used by the Portuguese fleet, the fin-to-carcass ratio is between 5 and 6% of the live weight.

   Other fleets often retain only the primary fins i.e. the front dorsal, the pectorals and the lower, smaller lobe of the tail). These diverse practices result in significant variations in the fin-to-carcass weight ratio.

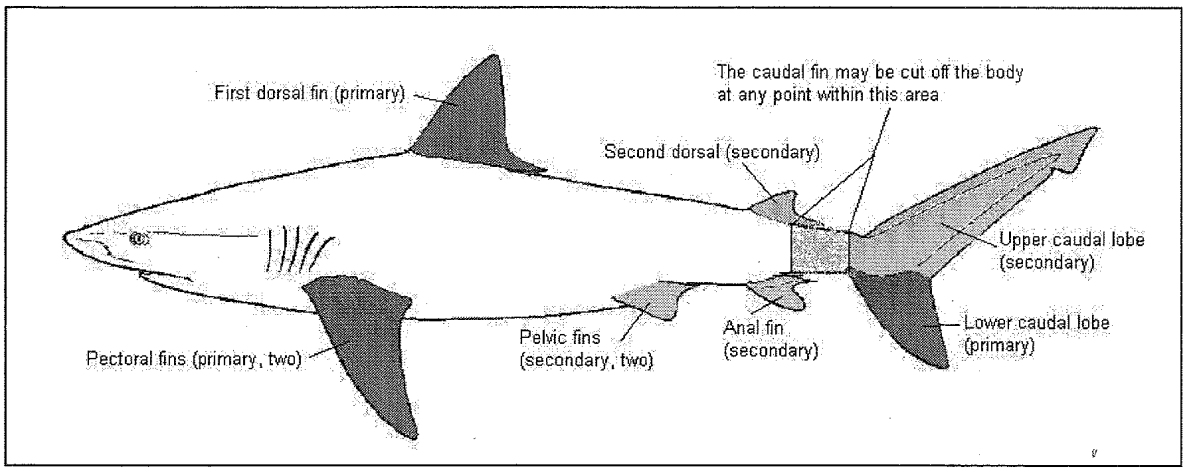

Figure 2. Shark fins retained by different fleets. The fins highlighted in dark grey constitute the primary fin set, whereas those in light grey constitute the secondary fin set. EU vessels holding special fishing permits typically cut and market all fins.

Table 2. Various fin-to-carcass weight ratios for blue shark processed in different ways, and with different fins sets being retained.

Product	Country/ Region	Fin set taken	Fin weight/ carcass live weight (%)	Fin weight/ carcass dressed weight (%)
Wet fins, live weight	USA	Primary	2.16	-
Wet fins, live weight	USA	Primary	2.06	-
Wet fins, live weight	-	-	2.06	-
Wet fins, live weight	-	-	2.16	-
Wet fins, live weight	-	-	2.08	-
Wet fins, live weight	New Zealand	-	2.08	-
Wet fins, live weight	Spain	All fins	6.53	-
Wet fins, live weight	NW Pacific	All fins	6.00	-
Wet fins, live weight	Portugal	All fins	6.66	-
Wet fins, dressed weight	-	-	-	3.74
Wet fins, dressed weight	-	-	-	4.46
Wet fins, dressed weight	USA	Primary	-	3.74
Wet fins, dressed weight	Spain	All fins	-	14.72
Wet fins, dressed weight	Portugal	All fins	6.56	-
Dry fins, dressed weight	USA	Primary	-	1.07
Dry fins, live weight	USA	Primary	0.60	-

The fin to live weight ratio for blue shark is calculated at 6.0 to 6.7% by various studies[20] based on Spanish processing and fin retention practices, as opposed to 2.1% to 2.2 % as based on US and New Zealand practices. The fin to dressed weight ratio for blue shark is calculated at 14.7% based on Spanish processing methods, as opposed to 3.7% to 4.5% based on US and other processing methods. For shortfin mako the fin-to-live-weight ratio is 4%[21] based on Portuguese processing methods, as opposed to 1.7 to 1.8 based on US, New Zealand and other processing methods[22] . The fin-to-dressed-carcass weight ratio for shortfin mako is 5.8%[5] based on Spanish processing methods, whereas it ranges from 3.0 to 4.4% based on US and other processing methods[8, 9]. Further variability in ratios is introduced depending on the state of the fins and flesh, i.e. fresh, frozen, wet and dried. Additionally, ratios vary for each shark species. According to NGO's and various researchers and academics[23], under the current weight ratio system it is possible for fishermen to fin and high-grade[24] sharks without exceeding the ratio defined in the Regulation, thereby avoiding detection or sanction. NGO's

[20] Neves dos Santos M. and Garcia A., 2004. Factors for conversion of fin weight into round weight for the blue shark (*Prionace glauca*). SCRS/2004/101 *Col. Vol. Sci. Pap. ICCAT*, 58(3): 935–941 (2005). 123.
Mejuto J. and García-Cortés B., 2004. Preliminary relationships between the wet fin weight and body weight of some large pelagic sharks caught by the Spanish surface longline fleet. *Col. Vol. Sci. Pap. ICCAT*, 56(1): 243–253.
Gordievskaya VS (1973) Shark flesh in the food industry. Israel Program for Scientific Transl. IPST Cat. No. 60080 2. Published for the National Marine Fisheries Service, National Oceanic and Atmospheric Administration, US Department of Commerce. Washington DC. USA.

[21] Santos, M.N. and Garcia, A. 2008. New data on the ratio between fin and body weights for shark species caught by the Portuguese surface longline fleet. Collect. Vol. Sci. Pap. ICCAT, 62(5): 1592-1601.

[22] NMFS/NEFSC. 1992. In literature, Jack Casey, National Marine Fisheries Service, Northeast Fisheries Science Center, Narrangansett Laboratory, USA.
BAREMORE, I.E., B. Winner, N. Kohler, and J. Mello. 2005. Differences in the ratios of fin to carcass weight among fourteen species of sharks. Joint Meeting of Ichthyologists and Herpetologists, 21st annual meeting of the American Elasmobranch Society, Tampa, Florida, USA, 6-11 July 2005 (abstract and presentation).
Cortes, E. and Neer, J.A., 2006. Preliminary Reassessment of the validity of the 5% Fin to Carcass Weight Ratio for Sharks. Col. Vol. Sci. Pap. ICCAT 59: 1025-1036.

[23] NGO's, researchers and academics have made these statements via various communications with the Commission, including the public consultation on the amendment of Council Regulation (EC) 1185/2003.

[24] High grading is a practice of selectively harvesting or landing fish (or fish products such as shark fins) fish so that those having the highest quality and/or commanding the highest prices are landed and marketed. Fish or fish products not considered of lower quality are discarded overboard.

argue that the current EU ratio is too high. The 5% fin to live weight ratio laid down in the Regulation is the most generous ratio in comparison to ratios specified by similar legislation worldwide. The annual reports of the Member States submitted in accordance with Article 6(1) of the Regulation, indicate that some finning as well as unauthorized on-board processing are taking place (see Annex III), but the extent and frequency are difficult to determine.

4. Where on-board processing involves beheading and skinning it hampers the collection and/or verification of data such as species identification, catch composition, age/size population structure etc., which are vital for the development of management and conservation measures. Where on-board processing also involves fin removal (i.e. as practised by the majority of the EU surface longline fleet), species identification becomes virtually impossible in practical terms. In contrast, simple processing which only involves evisceration, which is the norm on surface longliners lacking freezer capabilities, allows for much more of the relevant data to be collected.

5. The Regulation imposes an annual reporting obligation on the Member States. The majority of Member States have a poor compliance record with this obligation (see Annex II). Member States have never presented any reasons for the late submission or for the absence of reports. It would seem necessary to simplify the reporting obligation to facilitate Member State compliance.

6. As mentioned in Section 2.1, another problem with implementation is the fact that the Regulation does not specify what constitutes valid justifications for Member States to issue special fishing permits. Consequently there are no uniform guidelines governing the issue of permits. However, in line with the principle of subsidiarity, the evaluation of justifications presented to obtain such permits has been left to the Member States.

In their report for the reference year 2009, the UK authorities have stated that there were difficulties in identifying correct species codes for the species recorded in the log books, and with regard to the application of the conversion factors. In this report the UK authorities called for a full and thorough analysis of the regulation in view of its amendment with the aim of eliminating these problems by implementing a fins-attached landing policy (i.e. Option 3).

2.5. Evolution of the problem

The current Regulation has been in place since 2003. In accordance with Article 6(2) of the Regulation, the Commission produced in December 2005 a report[25] on the operation of the Regulation and on international developments in that field. The report concluded that the Regulation had been implemented successfully and that it was achieving its general objectives. It also stated that Member States provided no information to suggest that the sector had any significant difficulties in coping with the Regulation. As a result, it was concluded that the Regulation was not in need of amendment at that time. The obligation to produce such a report was a one-time obligation, and therefore no such reports have been produced by the Commission since 2005.

[25] COM(2005) 700: Report from the Commission to the Council and the European Parliament on the operation of Council Regulation (EC) No 1185/2003 on the removal of fins of sharks on board vessels.

Recent developments in various international fora such as the annual meetings of the International Commission for the Conservation of Atlantic Tunas (ICCAT) and IOTC[3] in 2009, increasingly point out the shortcomings of a weight-ratio-based control system. Based on information from various sources, including the Impact Assessment[3] carried out in preparation of the EU Plan of Action for Sharks, it has become clear that the current Regulation allows potential room for finning, and that obstacles remain in relation to control and data collection.

2.6. Who is affected?

Those primarily concerned are EU vessels which have received or will receive special permits, from their flag Member State, as permitted by exemption under Council Regulation (EC) 1185/2003, allowing them to remove the fins of sharks on board. According to the reports submitted annually to the Commission, in line with the Regulation, only four Member States are currently issuing special fishing permits: Spain, Portugal and Cyprus. The United Kingdom Germany and Lithuania, which issued permits in the past, stopped doing so as of 2009. Though the number of permits fluctuates annually Spain issues the largest number of permits by far (average of 181/year), followed by Portugal (average of 29/year). The Portuguese authorities issued 49 special fishing permits in 2009 and 45 in 2010, up from 28 in 2006 (The reports containing this information for 2007 and 2008 have not been submitted by the Portuguese authorities to the Commission, to date). Until 2009 the United Kingdom and Germany would respectively issue 17 and 5 permits annually, on average. Lithuania would issue one permit per year. Cyprus issued its first and, to date, only special fishing permit for 2010. Even though France ranks 12th worldwide and 2nd in the EU in terms of shark landings, the French authorities have never received requests from the French fleet to issue special fishing permits.

Depending on the choice of option, the workload of fisheries inspectors and their ability to execute effective control and enforcement could be significantly affected. The workload of national authorities responsible for reporting could also be affected, depending on the choice of option, but to a limited extent. These effects are analyzed in more detail in Section 5, Analysis of Impacts. Additionally, conservation NGO's and the general public would be especially satisfied if option 3 were to be chosen.

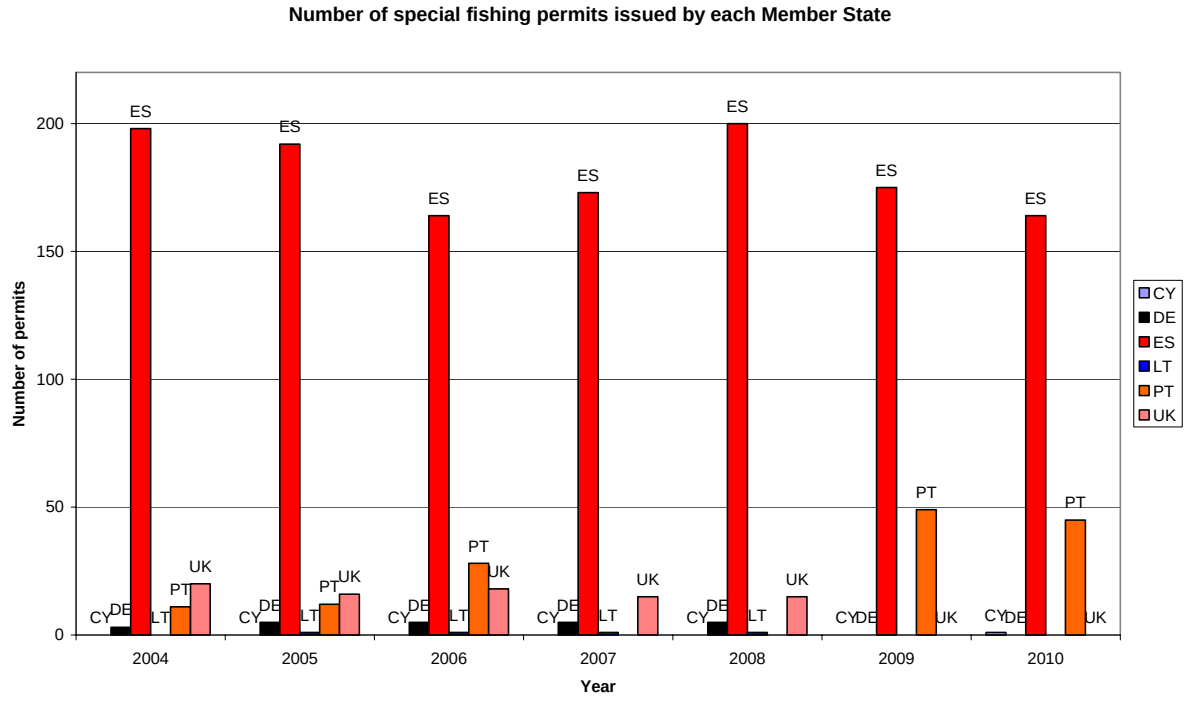

Table 4. Numbers of surface longline vessels and number of crew

	Vessels with permits (2004-2010 average*)	Crew on vessels holding permits (2004-2010 average)
Spain	181	2172 - 2715
Portugal	29	540 - 675
Lithuania	1	12 - 15
Total	230	2724 - 3405

* The Portuguese reports for 2007 and 2008 and the Lithuanian reports for 2009 and 2010 have not been submitted to the Commission yet.

The data in Table 4 are extracted from annual reports submitted by the Spanish and Portuguese authorities to the Commission, in line with the Regulation, and from documents submitted to the Commission by various Spanish and Portuguese longliner organisations in response to the public consultation. The number of employees is calculated on the basis that each permit-holding vessel (freezer vessel) carries a crew of 12 to 15, as stated by Spanish fisheries organisations. According to the same source, freezer vessels operate in the Atlantic, Indian and Pacific Oceans and typically carry out fishing trips of at least three months, they sever fins from carcasses before freezing, and land in Vigo or in various non-EU ports in the North and South Atlantic, Indian and Pacific Oceans. A smaller number of non-freezer vessels (70 - 80 Spanish and 15 – 30 Portuguese) operate in the Atlantic. Their fishing trips usually last slightly over one month and they usually land in Vigo with fins naturally attached.

Catches of elasmobranchs by the EU fleet are made in a number of different oceans. The lack of species-specific reporting by metier restricts a detailed analysis of the economic benefits of elasmobranch catches; indeed this lack of detailed information is itself one of the primary drivers of the Community Plan of Action on Sharks, adopted by the Commission in February 2009[2]. Nevertheless there would be some effects, based on the value of catches by region, and on the potential importance of these catches on an average vessel basis.

Table 5 indicates that income dependency on elasmobranch catches for individual vessels are most significant for the distant water fleets of Spain, Portugal and France. For some vessels in these distant water fleets, shark catches may represent between 20-45% of the total value of catches. For individual vessels in Northern waters and the Mediterranean, vessel dependencies on shark catches are on average much lower; while detailed quantification is not possible, taking the total value of national catches as a proxy, average individual vessel dependency may be in the order of 1.2 – 4.7%.

Table 5: Summary of current annual economic benefits from elasmobranch landings

	Value of elasmobranch landings (€ million)	Contribution to total EU-15 value of landings	Maximum EU vessels involved	Average value of catch per vessel (€)	Maximum catching sector employment	Maximum processing/ ancillary sector employment	Average value of landings per employee (€)
NE & NW Atlantic	81.19	1.22%	20 458	3 968	42274	28141	1153
Med	5.73	0.09%	32 727	175	63140	20160	69
C & S Atlantic	92.99	1.39%	200	464 946	3296	2039	17430
Indian Ocean	11.79	0.18%	103	114 501	1960	1340	3573
Pacific Ocean	4.09	0.06%	12	340853	224	140	11248
Total/ Average	195.8	2.93	53500	184889	110894	51280	6695

Assumptions and notes of relevance to the above table are as follows:

1. Gears/vessels assumed as potentially catching shark species in the North Atlantic and Mediterranean waters are passive gears (excluding traps/pots) and towed gears (excluding dredges and beach seines). Mobile gears are excluded. Country fleets and gear types based on http://ec.europa.eu/fisheries/fleetstatistics
2. Catching and processing/ancillary employment dependent on elasmobranch in North Atlantic and Med, estimated based on total country employment in a) catching and b) processing/ancillary (amended data from 2007 European Parliament study), and ratio of vessels in region to total number of vessels in each country
3. Catching sector employment for other regions based on estimated crew per vessel types, with processing/ancillary estimates based on the ratio of catching to processing/ancillary employment from 2007 European Parliament study
4. North Atlantic and Mediterranean catches valued at a basket price of euro 1 640/tonnes for skates, rays and dogfish (French price), and all other distant water catches at an average price of Euro 2 240/tonne for blue shark (based on a landed carcass value of Euro 1 490/tonne in Galicia plus a value for fins (at 5% of carcass weight) of Euro 15/kg)

To these direct economic benefits should be added indirect income multiplier benefits generated by the processing and ancillary sectors, and second-round multipliers generated by other sectors of the economy. A recent European Parliament study[26] suggests that income multipliers in the processing / ancillary sectors across the EU as a whole are in the order of 1.9 times the income made in the catching sector (France 1.87, Spain 1.77, the UK 2.9, Portugal 1.1, and Ireland 1.64). However, these economic benefits to both catching and processing/ancillary can be assumed to be of a short-term nature only, if indeed stocks are being overexploited.

Table 6. Main species caught by region, flag of vessel and gear type. The fisheries and species primarily concerned by the Regulation are in bold text.

Region (RFMO)	**Nationality**	**Main Gear type**	**Species**
NE Atlantic (ICES)	FR, UK, ES, PT, IE, BE	Trawl, nets	Various skates, rays and small shark species
NE Atlantic deep sea (ICES)	UK, DE	Gillnet & bottom-set longline	Portuguese dogfish, Gulper shark
Mediterranean	IT, EL, ES, FR	Gillnets	Smoothhound, tope, spurdog
	IT, EL, ES, FR	Trawl	Various skates, rays, guitarfish and small sharks
Atlantic (ICCAT)	ES, PT	Purse seine, **Surface longlines**	**Blue shark**
	ES, PT	Purse seine, **Surface longlines**	**Mako**, porbeagle
Indian Ocean (IOTC)	ES, PT	**Surface longlines**	**Blue shark**
		Surface longlines	**Mako**, porbeagle
		Purse seine	Unknown
Pacific Ocean (WCPFC)	ES, PT	Purse seine	Silky shark, mako, porbeagle, & oceanic whitetip
	ES	**Surface longlines**	**Blue shark, mako**
Southern Ocean (CCAMLR)*	ES, FR	Longline	*Rajiformes* & *Bathyraja* spp.

* The quantities caught annually in the Southern Ocean are negligible (approximately 100 tons).

Table 7: Estimated values of elasmobranch landings by EC fleet. Catches by fleets that are affected by the Regulation, accounting for approximately 51% of the total value of the elasmobranch catch, are highlighted in bold type.

Region	Landings volume	Unit value (€/kg)	Total Value (million €)	% of total value
North E&W Atlantic	57 913	1.64*	95	49%
Mediterranean	**3 914**	**1.64***	**6**	**3%**
C + S Atlantic	**34 084**	**2.24****	**76**	**39%**
Indian Ocean	**5 247**	**2.24****	**12**	**6%**
Pacific Ocean	**1 826**	**2.24****	**4**	**2%**
Southern Ocean	100	1.64*	0.2	0.1%
Total	103 084		194	100%

- All North Atlantic, and Southern ocean, landings are assumed to be skates, rays and dogfish.
- All landings from other regions are assumed to be blue shark. In reality 80-90% of the shark catch is blue shark
- * : average first sale price of sharks and rays species under French Auction in 2006
- ** : average price of blue shark *Prionace glauca* at first sale whole in Galicia (1.49€/kg) plus fins valued at 15€/kg and representing 5% of whole weight

The total EU catches of all fish species in 2005 were 5.6 million tons, and catches of elasmobranchs represent 1.8% of the total, 0.1 million tons. In 2006 the value of the total fish landings of the EU-15 was €6.68 billion[3], elasmobranch catches representing 2.9% of this value (i.e. approximately €194 million, based on the information in Table 7 above). Approximately 50% of this value, i.e. €97 million is derived from shark fisheries which are

affected by the Regulation, i.e. vessels which hold special fishing permits and carry out on board fin removal. The remainder is derived from vessels which land sharks with the fins naturally attached. An estimated 41% percent of the total value of all shark catches made by EU vessels consists of catches in the Northeast Atlantic, where most EU landings are skates, rays and dogfish. French vessels account for 37% of the value of shark catches made in the North Atlantic and Spanish vessels for 25%. Catches in the Central and Southern Atlantic (mainly by Spain and Portugal) represent 47% of the total value of EU catches of sharks. In the Indian Ocean, again mainly Spain and Portugal account for 6% and in the Pacific, mainly Spain accounts for 2%. Almost all landings in the Central and Southern Atlantic, Indian and Pacific Oceans are blue and mako shark. The Mediterranean accounts for 3% of the total value of EU shark catches. In the Southern Oceans the very small catches of less than 100 tonnes per year are mostly rays.

For surface longline vessels operating in the Indian and Pacific Oceans, shark catches are estimated to contribute around 40% of catch volumes and 20-25% of total incomes. In the Central and Southern Atlantic, shark catches of the Spanish surface longline fishery are around 65-70% of total catch volumes[26] (the remainder being swordfish and tuna), and may contribute between 35-45% of total catch values. In Northern waters and the Mediterranean average individual vessel dependencies are typically between 2-5% of total values. The lack of information on specific metiers catching sharks in the North Atlantic makes it impossible to have any meaningful estimates about the percentage of income that might be made up of elasmobranch catches.

3. OBJECTIVES

The general objective of the Regulation corresponds to the general objective of the EU Shark Action Plan[2], which is to enhance shark conservation. Given the vulnerability of these species to fishing and the strong financial incentive to fin, the current lack of data on stock status, and the difficulties intrinsic to the current derogation in the Regulation, which hampers the collection of data and makes control difficult to carry out, the main policy objective is to ensure that, in application of the precautionary principle, the conservation of shark stocks is enhanced. Maintaining stocks at healthy levels is key to ensuring the sustainability of the economic activities dependent on these stocks.

In order to achieve this objective more specific objectives are set:

- Facilitation of effective and reliable control.

- Enabling collection of data critical to the establishment of management measures and stock monitoring.

- Conservation of sharks (particularly blue shark and shortfin mako) by eliminating all possibility to fin. Where finning occurs, the number of sharks taken per vessel, per fishing trip could be as many as 20 times higher before the cargo hold is filled and the vessel is obliged to

[26] Mejuto, J., Garcia-Cortes, B., Ramos-Cartelle, A., de la Serna, J.M. 2008. Scientific estimations of bycatch landed by the Spanish surface longline fleet targeting swordfish (*Xiphias gladius*) in the Atlantic Ocean with special reference to the years 2005 and 2006. ICCAT Standing Committee on Research and Statistics/2008/045.

land its catch. Pursuing this objective would ensure coherence of EU legislation with international rules (in particular FAO, ICCAT and IOTC), which the EU must abide by.

- Simplification of the reporting format in order to facilitate Member State compliance with the reporting obligation. This simplification could be partly achieved by abolishing special fishing permits.

- Elimination of problems associated with the lack of uniform guidelines and justifications based on which special fishing permits are issued. This problem would be fully solved by abolishing special fishing permits.

Additionally these measures would enhance the collection of data such as species identification, catch composition, age/size population structure etc., which are vital to the development of effective management and conservation measures.

4. POLICY OPTIONS

4.1. List of options

Option 1: Maintaining the 5% fin to live-weight ratio, (i) without, and (ii) with simultaneous landings of fins and carcasses.

Option 2: Shift from the current limit of 5% fin-to-live-weight ratio to 5% fin-to-dressed-weight (gutted, beheaded, skinned) ratio.

Option 3: Fins-remain-attached approach.

Option 4: Prohibition to take sharks in surface longline fisheries.

4.2. Description of policy options

Option 1: Maintaining the use of the 5% fin to live-weight ratio

(i) The use of the 5% fin-to-carcass live weight ratio, without the requirement to land processed carcasses and fins simultaneously or at the same port.

(ii) The use of the 5% fin-to-carcass live weight ratio, combined with the requirement to land processed carcasses and fins simultaneously, at the same port.

Option 1(i) amounts to maintaining the status quo, i.e. on-board processing would still be permitted on vessels holding processing permits. Where fins and carcasses are landed simultaneously at the same port they would have to be weighed to check whether the fin weight exceeds 5% of the live weight of the sharks, in order to determine whether finning has occurred. When fins and carcasses are landed separately, the inspector must rely on the information recorded in the logbook.

Option 1(ii) allows for direct inspection and weighing of both fins and carcasses. Under this option it is not necessary to rely only on the logbooks to determine the fin-carcass weight correspondence.

Option 2: Shift from the current limit of 5% fin to live weight ratio to 5% fin to dressed (typically beheaded, eviscerated and skinned) carcass ratio and require that fins and carcasses are landed simultaneously at the same port

Given that the dressed weight can be roughly equal to half the live weight, such a shift would halve the amount of fins a vessel would be allowed to retain on board. Similarly to Option 1(ii), Option 2 would allow for direct inspection and weighing of both fins and carcasses, eliminating reliance on logbooks when checking for compliance with the maximum fin-carcass weight ratio.

Option 3: Fins-remain-attached approach:

Keeping fins naturally attached to the carcass makes it impossible for finning to take place. In order to facilitate on-board storage, the fins could be partly sliced through and folded against the carcass, as is practiced in some fisheries in North, Central and South America. Option 3 would mean that special fishing permits would no longer be issued and no derogations would be permitted under any circumstances.

Option 4: Prohibition to take sharks in surface longline fisheries

This prohibition would mean that sharks cannot be retained, transhipped or landed by longliners. Technical measures and fishing practices would have to be significantly changed to respect this prohibition, as sharks constitute 40-70% of longliners' catches by volume (25-47% of the catch value).

Options discussed and rejected in RFMO's:

At the meeting of the Indian Ocean Tuna Commission (IOTC) in Bali in April-May 2009[27], the EU and Australia jointly proposed alternatives to the IOTC fin to carcass weight ratio. One approach involved placing severed fins in plastic bags which would be physically attached to the corresponding shark body. This approach was heavily criticized by NGO's based on risks for marine pollution and wildlife entanglement as well as substantial hurdles for enforcement. It was also rejected by the fishing industry as impractical. A proposal to use biodegradable bags was also rejected, both by NGO's and by the industry. The other solution proposed by the EU involved marking severed fins and corresponding carcasses with matching serial numbers and then storing the parts separately. This approach was also heavily criticized and rejected as impractical and difficult to implement.

Other options which were considered and rejected:

1. An increase in the current fin-to-carcass weight ratio to 6.6% for blue shark, in line with the demands of the Spanish and Portuguese longlining sector: this option considered and rejected prior to formulating the public consultation document. The fin-to-carcass weight ratio established in the EU regulation (5% of the live weight) constitutes the most relaxed

[27] Report of the 13th Session of IOTC, Bali, Indonesia, 2009, http://www.iotc.org/files/proceedings/2009/s/IOTC-2009-S13-R[E].pdf

interpretation of the binding agreement established in ICCAT and IOTC, which refers to 5% of the weight of sharks on board. Other countries using ratios have interpreted this as 5% of the dressed carcass weight, which is roughly one half of the live weight. Additionally, a second ratio would have to be established for shortfin mako. Once processed, it will be difficult for inspectors to differentiate the fins and carcasses of the two species, thus making it impossible to know which ratio to apply. Furthermore, most of the shark species making up the remaining 2-5% (approx.) of the catch have a smaller fin-to-carcass weight ratio, and this would create some margin for discarding carcasses. Finally, a move from an already permissive rule to a yet more relaxed rule would evoke a strong negative reaction from NGO's and the general public.

2. Imposition of catch limits: The EU made a proposal for the establishment of a TAC for shortfin mako at the most recent ICCAT meeting (November, 2010). The establishment of TAC's would be more meaningful in the RFMO context than in EU waters or exclusively for EU vessels the bulk of blue shark and shortfin mako are caught outside EU waters.

3. Allowing only simultaneous landing at the same designated ports: A designated port is one in which inspection facilities and personnel are available 24 hours per day, 365 days per year, as necessary. Ports are designated by the national authorities of the country in question, and are designated by species according to the priorities of the concerned country. The EU does not have the authority to demand that third countries, such as the dozens of non-EU countries where the EU fleet lands shark carcasses and fins, designate ports specific to the implementation of the EU regulation. Such designations would be practically and financially difficult to sustain.

4. Changing the regulation only after internationally agreeing on one preferred option: The purpose of this Impact Assessment is to determine the best option for the EU prior to making international commitments.

5. Discontinuing the regulation: this would make finning legal. It is therefore not an option.

6. Banning longline fisheries: this measure is considered highly disproportionate as it would have significant negative social-economic impacts on the longline sector and the associated industries.

5. ANALYSIS OF IMPACTS

5.1. Economic and social importance of elasmobranch fisheries in the EU

Given the data deficiencies, the mixed nature of many shark fisheries and the other factors described in Section 2, it is difficult to make a meaningful assessment of the economic and social benefits of catches in the EU. Therefore it is impossible to make a quantitative assessment of the socio-economic impacts of the proposed policy options on the surface longlining sector, which is the sector most concerned by this Regulation.

Nevertheless, some very crude estimates of the value of landings[28] by the EU fleet are possible based on certain assumptions. A very high proportion of landings from catches in each region are made up of one species or reporting category. In the North Atlantic, most landings are skates, rays and dogfish caught by various gears, other than surface longlines. In the Central and Southern Atlantic, the Indian Ocean and the Pacific, almost all landings are mako and blue shark caught by surface longliners which hold the vast majority of the special fishing permits. In the Southern Oceans, the small catches that are made are mostly rays. The strong concentration of landings in each region of one species means that approximate values of landings can be estimated by multiplying the landings in each region by an average price for the dominant species in that region, as shown in Table 7, in Section 2.6.

The economic value, the number of vessels and employees that could be dependent upon elasmobranch catches are summarised in the tables in Section 2. Given the lack of available data and the mixed nature of fisheries in the North Atlantic and the Mediterranean, it is impossible to state with accuracy the number of vessels actually relying on shark catches in these areas. As sharks, skates and rays are often reported in the same category, it is unclear what proportion of the North Atlantic and Mediterranean catches each of these accounts for. The elasmobranch catches of surface longliners only comprise sharks.

The rate of infringement of the regulation is indicated in Annex III, based on information submitted by national authorities as part of the annual reporting obligation imposed by the regulation. Infringements are committed both by vessels which hold special fishing permits and by vessels which do not. Though the information supplied in the annual reports is not uniform or complete, the majority of infringements appear to be committed by EU vessels. Non-EU vessels which practice finning seem to avoid landing in EU ports where controls might be more difficult to evade than in certain non-EU ports.

One-off costs would be incurred by all Member State fishery departments associated with informing vessels of the new regulations and by vessel operators familiarizing themselves with the new regulations. However, these costs and the associated administrative burden would be outweighed in the long run, provided that fishing permits are abolished.

5.2. Impacts of each policy option

Option 1(i): Maintaining the 5% fin to live-weight ratio, continuing to allow separate landings of fins and carcasses

Under option 1 (i) control would remain ineffective and it would remain difficult to ensure that finning has not occurred. This applies in particular where fins and carcasses are landed separately and inspectors must rely only on the logbook.

Environmental and stock impacts

[28] The value of landings is referred to, instead of the value of catches, because discard levels are generally not known, though they are thought to be significant in some fisheries.

The use of ratios greatly hinders the work of inspectors attempting to apply these to processed carcasses which are difficult to identify at the species level. It is therefore unrealistic to attempt to establish a ratio that would apply to all species, all cutting and fin-retention methods, and to all preservation methods. Establishing several ratios to cover all permutations of species (including intra-specific variations based on life stage and location), cutting and fin-retention practices, and all preservation methods could be possible, but applying these in an attempt to ensure control and compliance would be logistically very difficult and ineffective. A major feature of the interaction of shark population and fisheries across the oceans is that it is not entirely clear what the status of the stocks of blue shark and shortfin mako is. The data gaps, particularly at species level, produce an incomplete picture. Catch, landing and trade data are poor or patchy and many of the demersal shark catches are not from targeted fisheries, but bycatch. Shark fisheries, *per se*, are consequently often not subject to direct regulation, and landings reported are thought to be significantly less than the actual catches, due to high rates of discarding by some (non-EU) fleets. No systematic data on discard rates can be found in the published domain. Some high discard rates (e.g. 60%) by non-EU fleets are reported, and this is compounded by the practice of finning and discarding the carcass. There are indications that the actual catches for finning alone might be four times higher than FAO landing data. There is little information on whether the EU surface longline fleet is finning sharks. According to industry representatives and the relevant Spanish and Portuguese authorities, these surface longliners utilize all parts of the shark. There is no relevant information on the activities of French surface longliners, and the French authorities have never received requests to issue on-board processing permits, though it is believed that the crews of the French fleet remove shark fins on board, as a source of additional income[3].
Maintaining the status quo would lead to a continuation of declines already observed in some populations and, presumably, declines suspected in others[29]. However, the true status of most elasmobranch populations remains uncertain due to lack of stock-specific information, particularly over significant time series. This has lead to disputes in some areas over the extent of stock declines, for example in the NW Atlantic[30, 31, 32, 33]). Due to a lack of information on the status of most stocks, ICES and some RMFO's have imposed catch limits based on catch trends. ICCAT (2007) reported up to a 50% catch reduction for *Isurus oxyrinchus*. It is also clear that the international trade in shark and shark products is increasing, thus providing a driver for continued fishing pressure, which is likely to continue in the future[26].

Most large pelagic sharks, including blue shark and shortfin mako, are apex predators, which typically have a significant regulatory effect on populations in the lower trophic levels. Consequently the reduction or elimination of these two species is expected to have an impact on other species and on the ecosystem as a whole. These effects can be complex and may result in a reduction in the biodiversity and the resilience of the ecosystem in question[34].

[29] Communication from the Commission to the European Parliament and the Council on a European Community Plan of Action for the Conservation and Management of Sharks. February, 2009.
[30] Kehler, B. Worm, S.J. Harley, and P.A. Doherty (2003). Collapse and conservation of shark populations in the Northwest Atlantic. *Science* 299:389–392.
[31] Baum, J. K., Kehler, D. and Myers, R. A. (2005). Robust estimates of decline for pelagic shark populations in the Northwest Atlantic and Gulf of Mexico. *Fisheries*, 30: 27–30. Baum, J.K., R.A. Myers, D.G.
[32] Burgess, G. H., Beerkircher, L. R., Cailliet, G. M., Carlson, J. K., Cortes, E., Goldman, K. J.; Grubbs, R. D., Musick, J. A., Musyl, M. K. and Simpfendorfer, C. A. (2005a). Is the collapse of shark populations in the Northwest Atlantic Ocean and Gulf of Mexico real? *Fisheries*, 30: 19–26.
[33] Burgess, G. H., Beerkircher, L. R., Cailliet, G. M., Carlson, J. K., Cortes, E., Goldman, K. J.; Grubbs, R. D., Musick, J. A., Musyl, M. K. and Simpfendorfer, C. A. (2005b). Reply to "Robust estimates of decline for pelagic shark populations in the Northwest Atlantic and Gulf of Mexico". *Fisheries*, 30: 30–31.

Option 1(i) and 1(ii) are expected to have a negative impact on sharks stocks, and probably other stocks in lower trophic levels, starting in the short term and becoming more severe in the long term.

Whilst the EU may not be the main source of fishing mortality in external waters, maintaining the status quo would diminish the influence of the EU in international fora where shark management and conservation measures are decided.

Economic impacts

Option 1(i) (continuation of the status quo) would have no immediate economic impacts on the fishing sector, or on the secondary activities associated with the fishery. However, given that declines in catches have already been observed in some areas, particularly for shortfin mako as mentioned above under "Environmental and Stock Impacts", it is likely that a negative economic impact will be observed in the medium to long term, due to diminishing catches. The magnitude of this impact is difficult to quantify due to variations in the status of shortfin mako stocks in different regions (see Annex I). A reduction in shortfin mako catches could be offset by increased catches of other species, to an unknown extent.

Of the options presented in the public consultation, Option 1(i) would be the most acceptable to the sector, though the majority of their contributions call for alternative option, i.e. an increase in the fin-to-carcass weight allowance, as described below in the "Economic Impacts" of Option 2.

Social Impacts

As stated above in "Environmental impacts" and "Economic impacts" sections, Option 1(i) is expected to lead to diminished catches of shortfin mako, which are likely to become more pronounced in the mid and long term. Blue shark stocks are likely to withstand the current fishing pressure longer than shortfin mako stocks, though not indefinitely. The impact of reduced catches on employment in the surface longlining sector is difficult to quantify, though it is not expected to be significant, especially in the in the short term. This is because shortfin mako makes up approximately 10% of the catch, and if depleted, other species would likely be caught instead. Here again it is difficult to quantify any effects on employment, though a minor negative impact is expected in the short term, perhaps becoming more pronounced in the long term as stocks decline.

Option 1(ii): Maintaining the 5% fin to live-weight ratio, but requiring simultaneous landings of fins and carcasses at the same port

Under option 1 (ii) control would become more effective as fins and carcasses can be weighed during an inspection, rather than relying on information recorded in a logbook. However, once carcasses have been processed it is extremely difficult to be sure that all the fins landed correspond to the carcasses landed. The relative value of fins and of flesh varies by species, and less valuable flesh could still be discarded, though the margin for this is restricted by the enforcement of the weight ratio.

Environmental and stock impacts

Option 1(ii) has the same disadvantages as Option 1(i) as far as the use of weight ratios is concerned, incurring the same negative environmental and stock impacts in that respect, as described above.

Economic Impacts

Option 1(ii) is likely to have similar mid and long term impacts as Option 1(i). Option 1(ii) would also have a direct negative impact in the short and medium term, which would result from the obligation to simultaneously land fins and carcasses in the same port, possibly preventing vessels from obtaining the best prices at first landing. At a meeting between the Spanish longliner representatives and Commission services in September 2010, the longliners' representatives stated that they may be willing to accept simultaneous landings at the same port. This would suggest that the negative economic impact would be moderate. This impact might be alleviated (to an unknown extent) by potentially simplified logistics and fuel savings resulting from a trip to a single port rather than two or more ports. It is expected that the magnitude of this negative impact would be reduced over time, as marketing channels adapt to the new situation.

Social Impacts

Option 1(ii) will have similar impacts as Option 1(i). Additionally Option 1(ii) might result in a moderate reduction in profit margins in the short term, which is likely to diminish over time. Here again it is not possible to quantify any effects on employment, though a minor negative impact is expected in the short term, perhaps becoming more pronounced in the long term as stocks decline.

Option 2: Shift from the current limit of 5% fin to live weight ratio to 5% fin to dressed carcass ratio. Fins and carcasses are landed simultaneously in the same port.

Given that the current processing and fin retention practices of the EU fleet would not change, Option 2 would eliminate the possibility to discard carcasses at sea[35], as it significantly reduces the fin to carcass allowance. For most species, including blue shark and shortfin mako, a shift from a limit of 5% of the live weight to 5% of the dressed weight constitutes a reduction of the fin to carcass ratio by approximately 50%. The simultaneous landing requirements would enhance the ability to measure and thereby enforce the ratio. Inspectors would not be limited to using information in logbooks. The possibility to fin is reduced, though not eliminated. All problems associated with the use of ratios, as described in the analysis of impacts of Option 1(i), also apply to Option 2.

Environmental and stock impacts

The impacts of Option 2 on the stock and subsequently on the environment are difficult to predict. Depending on the reaction of the sector to such a measure, the environmental and stock effects might be similar to the environmental and stock effects resulting from Options 1(i) and 1(ii); i.e. if the sector fails to adapt their processing practices (fins retained, types of cuts etc.) so as to bring the weight of fins on board below 5% of the dressed weight, they

[35] Given that the current catch composition, processing methods and fin retention practices of the EU fleet remain the same.

would be forced to discard an unknown proportion of the fins, thus loosing an unknown, but potentially significant amount of income as described under "Economic Impacts" below. Conversely, the sector might adapt fishing practices so as to avoid catching sharks in the first place, thus avoiding the loss of income that would be incurred by being forced to discard fins. In that case, a positive impact on the stocks and on the environment would be expected, as those stocks which have already been negatively affected would start to recover. However, in order to make up for the income lost, the sector may increasingly target stocks of swordfish, tuna etc. some of which are depleted to various extents throughout the world. Given that these species occupy a similar ecological niche as sharks, the effects of their increased mortality on the environment will be negative, and likely significant. The magnitude of these negative effects would likely increase over time. These potential effects cannot be quantified as there are a number of variables coming into play, which would dictate how much more swordfish and tuna could and would be caught, e.g. differentiation of fishing activities in space and time, differentiation of gears, effects of shifting stock abundance on inter- and intra-specific competition etc.

Economic impacts

Option 2 would only affect the Spanish and Portuguese long-distance surface longline vessels. Based on the current fin-cutting and fin-set retention practices of these fleets, the 5% fin-to-live-weight ratio is slightly exceeded for blue shark, which makes up about 85% of the total shark catch. Option 2 would reduce the fin-to-carcass ratio by about 50%, thus making it very difficult to comply with under the current circumstances. However, some studies (Fowler and Seret, 2010[9]) suggest that improving cutting techniques, i.e. cutting fins so that no flesh remains attached to the fin, can significantly reduce the fin-to-carcass weight ratio. Thus the ratio for some species may fall below 5% of the dressed carcass weight. Due to a number of other factors affecting the ratio (retaining all fins or only primary fins, drying of fins, varying practises in 'dressing' the carcass, i.e. beheading, skinning, evisceration etc), a range of different ratios could be calculated for each species. Blue shark which makes up 80 to 85% of the EU surface longliners' catch has one of the highest fin-to-carcass ratios (up to 6.5% of the live weight or 14% of the dressed weight). It must be noted that improved cutting techniques singularly employed, would not bring the fin-to-dressed-carcass ratio of blue shark below 5%. Studies (Fowler and Seret, 2010[9]) also suggest that improved cutting techniques could eliminate the necessity to re-process at a later stage (i.e. trim the flesh off the fins) and reduce the weight of fins that must be transported, thus leading to significant savings. Furthermore, buyers would pay a higher unit price for well-trimmed fins. It is, however, unclear whether the sector would be willing and able to adapt their practices in such a way as to bring the fin-to-carcass weight ratio below 5% of the dressed weight. If they fail to do so they may be forced to discard an unknown proportion of the fins on board, thus losing a portion of their income, which is difficult to calculate. However, given that none of the contributions submitted by the sector in response to the public consultation supported Option 2, and given that the sector has requested several times in the recent past that the fin-to-carcass weight allowance be raised, it can be assumed that this loss would be significant. This loss would occur in the short term and persist in the long term. Additionally, as with Option 1(ii), the obligation to land fins and carcasses simultaneously in the same port will probably incur a short to mid term negative economic impact, which is likely to be modest, and which is likely to diminish over time.

It should be noted that the Spanish longlining sector has, for several years, been calling for an increase in the fin-to-carcass ratio, from 5% of the live weight to 6.5% (i.e. 14% of the

dressed weight, according to their calculations). As a justification they cite the following: (a) approximately 85% of their catch is blue shark (which has one of the highest fin-to-carcass weight ratios), (b) they retain both primary and secondary fins, as well as the entire tail with the caudal peduncle still attached to it (see Figure 2), and (c) they cut fins in a manner which results in significant amounts of flesh remaining attached to them. The ratio proposed by the Spanish longline sector is the absolute maximum applying to blue shark, processed under the conditions described above; this ratio would be significantly higher than any ratio applicable to the remaining 15% of their catch. Such an increase would constitute a weakening of the Regulation, rather than a strengthening. In addition to the disadvantages of using ratios, described in the text above, it must be mentioned that EU vessels have been found to be in breach of the 5% dressed-weight ratio, which is applied by countries which are ICCAT and IOTC members. In 2009 and 2010 there were two such instances, where EU vessels landing in Durban (South Africa) and in Cape Verde were accused by the relevant national authorities of having significantly exceed the fin-to-carcass weight allowance. Following exchanges of letters between the European Commission and these national authorities, an interim agreement was made, allowing these vessels to carry out landings in these ports, provided they respected the 5% fin-to-live weight ratio imposed by the EU Regulation, despite the fact that other vessels landing in these and other ports are subject to the more restrictive 5% dressed-weight ratio. This interim arrangement was accepted due to the fact that the ICCAT and IOTC rules refer to 5% of the weight of the catch on board, without making any distinction between live and dressed weight of the catch. Given the interim nature of this arrangement, and the difficulty faced by the Commission in achieving it, it can be assumed that any request for further relaxation of international rules in favour of EU vessels would not be easy to justify. An increase of the fin-to-carcass weight ratio should therefore not be considered.

Social Impacts

A moderate to significant negative impact on employment might be expected if the sector fails to adapt its fin cutting methods and fin retention practices. If these practices are adjusted as described in the "Economic impacts" section above, this impact would be significantly reduced. The impact is expected to occur in the short term and persist through the long term. It is not possible to quantify the impact in terms of job losses or individual income.

Option 3: Fins-remain-attached approach

Having carried out the impact assessment and the public consultation, option 3 is the preferred option.

Environmental and stock impacts

Under Option 3, finning would become impossible. High-grading (mixing of bodies and fins from different animals and the associated discarding) would also become impossible. Data collection which is vital to establishing management and conservation measures would be greatly enhanced. The direct positive impact on shark stocks and on the environment is likely to be limited as regards the EU surface longlining fleet which seems to be discarding little or no part of their shark catch; this impact may be more significant vis-à-vis third country vessels landing part or all of their shark catch in EU ports. However, the indirect positive impact resulting from enhanced data collection, and the subsequent establishment of effective

management and conservation measures, is likely to be significant in the mid and long term. A second indirect positive impact would be the strengthened position of the EU if it where to propose the adoption of Option 3 or similar measures in the international arena, in the future. In the recent past the EU has not been in a position to create momentum or support momentum created by other parties pushing for a fins-naturally-attached policy in the RFMO arena (in ICCAT and IOTC in particular). Option 3 was unanimously supported by NGO's responding to the public consultation, as well as by the vast majority of the public.

Economic impacts

Under Option 3 control would be greatly facilitated and the enforcement burden would be greatly reduced. The administrative burden linked to the issue of on-board processing permits (under option 3 no special fishing permits would be issued) would be eliminated permanently and the associated reporting obligations would be simplified, though the associated savings would not be significant. Currently only Spain and Portugal issue significant numbers of special fishing permits. As of 2009 Germany, Lithuania and the United Kingdom have stopped issuing permits, whereas Cyprus issued its first permit in 2010. It is assumed that the Spanish and Portuguese authorities are burdened with a few man-hours or man-days of work per year in issuing permits and in producing annual reports, whereas the burden for Cyprus is estimated to be much smaller. The administrative burden for the remainder of the Member States is negligible as they simply forward short statements to the Commission, year after year, stating that they do not issue permits and in many cases that their vessels do not catch sharks.

No significant economic impact on the industry is expected in connection with Option 3, as this would not significantly affect costs related to catching, processing and on-board storage and handling for those operators that are in compliance with the current prohibition to discard carcasses. The representatives of the Spanish and Portuguese longlining industry have repeatedly pointed out (in writing and during various meetings) various potential practical problems associated with the fins-attached approach. However, they have never given an indication of the potential financial cost associated with the fins-attached approach. The problems they cite are the following:

- Cargo space would be wasted.
- Frozen sharks with their fins attached are difficult to handle and threaten the safety of the crew, as frozen fins protruding from the sharks carcasses are quite sharp.
- If carcasses are processed in third country ports their customs status changes, both for the fins and the meat.
- Removing fins from frozen carcasses in non-EU ports lacking cold-storage facilities would break the cold chain, thus causing a deterioration of the flesh as well as associated health risks to the consumer.

There are practical solutions to all of these problems. Provided that the sector is willing to partly slice through and fold fins against the body, as done in similar shark fisheries in other countries (e.g. Costa Rica), the first two problems cited by the sector can be fully solved. Slicing partly through the fins and folding them against the carcass yields a cylindrically-shaped carcass, similar to that produced when the fins are removed. This prevents loss of

storage space and associated loss of income. Given that the fins are folded against the carcass, the safety and handling issues cited by the sector are also eliminated. The third objection raised by the sector is invalid. As far as the products are destined to be reintroduced into EU territory, the Community Customs Code establishes that fishery products caught by EU vessels outside of the territorial waters of third countries are to be considered of EU origin, as are the products which have been processed on board EU vessels. The processing taking place on board surface longliners with special fishing permits does not alter the origin of the fins and carcasses. Therefore, removing fins in a non-EU port and then shipping them off to Vigo or Las Palmas, as is commonly done, is not expected to hamper Spain's current trade activity of such products. The fourth problem could be solved by landing in ports where cold storage is available, though this would limit the number of ports the Spanish fleet currently lands its catch in. The EU longlining sector is aware of these potential solutions to the problems cited, as these solutions are being employed by similar shark fisheries, in particular in North, Central and South America, and have been promoted by NGO's in the RFMO framework. The EU longlining sector has not informed the Commission of their views on these potential solutions nor have they detailed any potential costs thereof.

Considering that these issues can be effectively addressed, option 3 will not have a significant negative impact for operators that are in compliance with the current prohibition to discard carcasses. Additionally, landing sharks with their fins attached in non-EU ports where the 5% dressed weight rule applies instead of the 5% live weight rule would permanently solve the problem of EU vessels being held in breach of the dressed weight rule (See Economic Impacts of Option 2 in this Section). The current arrangement allowing EU vessels to land in two non-EU ports (Durban and Cape Verde) where the 5% dressed weight rule applies is only an interim arrangement, which is in place until a definitive agreement is made among ICCAT members. In recent years there has been increased support for a fins-attached policy by some ICCAT members.

Social impact

Option 3 is not expected to have a significant negative impact on employment in fleets which are in compliance with the current Regulation, provided that the sector is willing to employ the various adaptations listed in Section 5. In particular, the potential hazard to crews handling frozen carcasses with protruding fins can easily be eliminated as described in the "Economic impacts" section above. The effect on employment cannot be quantified, but is expected to be marginal.

Option 4: Prohibition to take sharks in surface longline fisheries

Option 4 did not feature in the public consultation. It was only conceived following after the consultation was completed, as a result of numerous calls from the public calling for rather drastic conservation measures. It would probably have the greatest positive impact on conservation of the two main species caught by surface longliners, while having the greatest negative impact on the sector. However, it goes beyond the scope of the current Regulation, which is limited to the removal, retention and transhipment of sharks and shark fins. The prohibition to take sharks is only being considered here in respect to surface longliners, as it could be implemented via relatively simple technical measures or modification of fishing practices. Such a prohibition would be virtually impossible to implement on trawlers, gillnetters, purse seiners etc. without completely shutting down those fisheries.

Environmental and stock impacts

Of the four options, Option 4 would have by far the most significant positive impact on the environment and on the two main shark stocks taken by surface longliners. However, as the Regulation would not apply to non-EU vessels fishing outside EU waters, the conservation benefit for these two species might be rather limited on a global scale. The impact would manifest itself in the medium term, becoming more significant in the long term. Furthermore, Option 4 would require taking measures to avoid targeting sharks, which if unsuccessful, could result in significant shark discards.

A rather simple selectivity measure which is already being employed by EU fleets, depending on fishing location and on season, is the alternation between steel and monofilament leaders. Whilst sharks are easily able to cut monofilament/nylon lines with their teeth and thus escape after taking the bait, they are unable to cut steel lines. Using steal leaders approximately 40cm long, to which the baited hook is attached, ensures that sharks remain on the line. When nylon/monofilament leaders are used exclusively, the catch comprises almost exclusively swordfish, tuna and other teleost species, whilst few or no sharks remain on the line. Fishermen alternate between steel and nylon leaders, or varying proportions of each, according to the fishing grounds and the time of year (personal communication with vessel operators in Vigo, September 2010). It can be inferred that in areas/seasons where sharks predominate, the use of nylon/monofilament would result in bait and hook loss with little or no catch.

Specially designed hooks could also be used in order to avoid hooking sharks. The effectiveness of such a measure is not well documented and its potential effectiveness cannot be stated here.

Alternatively, sharks could be released from the longlines upon or before being hauled on board. Rates of survival on releases can be quite high, 30 – 60 %, especially in surface longlines. Releasing live sharks from a longline can be hazardous to crew, especially if these must be hauled on board to have the leaders and hooks removed from their mouth. Alternatively, the line could be cut further from the shark's mouth so that the hook and a short length of leader remain in the shark's mouth. Sharks can survive with the hook in their mouth, though there may be a negative impact on the animal, the severity of which is unknown.

Economic impacts

Shark catches are thought to contribute around 25-47% of the catch value of EU surface longliners. As mentioned in Section 5.1, approximately 50% of the value of EU elasmobranch catch, i.e. €97 million is derived from shark fisheries which are affected by the Regulation. In the short-term, negative indirect impacts are expected through a reduction in revenues from pelagic shark catches. These impacts are likely to be most strongly felt by the catching and processing sectors associated with the longline fleet in the Central and Southern Atlantic, Indian Ocean and the Pacific. The losses would be proportionally greatest for vessels operating in the Atlantic, where the value of the shark catch is proportionally the highest, followed by those operating in the Indian Ocean and finally those in the Pacific. Given that shark taking would only be prohibited to surface longliners, vessels operating in the North Atlantic would not be affected as they predominantly use other gears such as gillnets and trawls. Depending on the measure(s) selected to implement option 4, the negative impact of this option on fleet income may vary and it may result in a disproportionate impact on EU surface longliners compared to other fleets. For example, the use of monofilament/nylon

leaders could result in significant gear damage as sharks taking baited hooks would cut such leaders. Using specialized hooks to avoid hooking sharks might lead to some loss of bait, but would presumably cause less gear damage, as sharks might be able to escape without cutting lines. Finally, live release of sharks would cause loss of hooks and leaders and presents a certain degree of risk to the crew handling live sharks either on deck or alongside the vessel.

The impact on the catching sector might diminish in the short and mid term provided that other species are successfully targeted. However, given that stocks of other target species such as swordfish and tuna are also depleted to various degrees throughout the world, and are increasingly subject to various fisheries restrictions, the surface longlining sector may be unable to compensate the loss of income from sharks, by targeting these other species. Furthermore, given that the sector has already evolved to increasingly target sharks, an offset of losses in this way would seems even less likely. There is a risk that the sector becomes unprofitable.

The impacts on the processing sector should be medium to low in most areas of the EU, but perhaps high in some especially dependent areas e.g. Galicia where most of the EU longline fleet is based[26]. The overall economic impact of Option 4 would be by far the most negative for the fishing and ancillary sectors, and could render the Spanish and Portuguese surface longlining fleets unprofitable.

Social impacts

As with economic impacts, the social impacts of Option 4 would be the most severe among all the options. Reflecting the negative economic impacts of this option, impacts on employment would be most severe in the surface longlining sector operating in the Atlantic, followed by those operating in the Indian Ocean and finally those operating in the Pacific. Once again, the impact on employment cannot be quantified, though it is could be severe, taking effect in the short term and lasting for an unknown amount of time.

6. COMPARING OF THE POLICY OPTIONS

Impacts on conservation

In terms of contributing to shark conservation, Option 4 would be by far the most effective, followed by Option 3, then 2 then 1(ii) and finally Option 1(i). Option 4 would have a significant positive effect on the two main stocks concerned, this effect being more pronounced on shortfin mako which is believed to have been depleted by fishing in some areas, and which is more vulnerable to overfishing than blue shark. Given the scarcity of data on the state of these stocks, the positive conservation impact of Option 4 cannot be quantified. Compared to Option 1(i) (status quo), Option 4 would have a significant positive impact on shark conservation. On the other hand, if measures taken to avoid catching sharks are not successful, there is a risk of significant shark discards being generated. If such measures were successful, the shark catch would most likely be replaced by swordfish and tuna, with negative impacts on these stocks which are already overfished or depleted, depending on the area and species. The potentially significant negative socio-economic impacts of option 4 render this option undesirable. The direct positive conservation impact of Option 3 would be significantly smaller than that of Option 4, especially vis-à-vis the EU fleet which discards

few or no sharks, but could be relatively larger vis-à-vis non-EU vessels landing in EU ports. However, the indirect positive impact of Option 3 would be significant, as enhanced data collection would allow for the establishment of effective management measures, which would enhance conservation in the mid and long term. In addition, implementing option 3 via an EU regulation would allow the EU to successfully promote this option worldwide, via RFMO's, with a potentially global positive effect on the shark stocks concerned. Overall, Option 3 would have a significant positive impact on conservation, in contrast with Option 1(i). Option 3 is therefore considered the preferred option. Depending on the reaction of the sector, Option 2 could result in either: (a) continued pressure and possible depletion, or (b) some conservation benefit, on the two main shark species concerned. Option 1(i) and 1(ii) are expected to have a negative impact on sharks stocks, starting in the short term and becoming more severe in the long term. Option 1(i) is likely to have the most negative impact on conservation.

Economic Impacts

Option 1(i) represents the status quo and would therefore have no economic impacts on the sector in the short term. However, in the medium to long term, stock depletion, especially of shortfin mako, is likely to result in reduced catches and reduced revenue. Option 1(ii) will have an economic impact similar to option 1(i). The sector seems to be willing and able to accept simultaneous landings (option 1(ii)) across the board, as this is already the practice in many cases. Option 2 is expected to have a moderate negative impact surface longline sector. This could be offset to a certain extent provided that the sector is willing to adapt their fin cutting practices, especially in terms of reducing flesh unnecessarily retained on the fins. Option 3 is not expected to have a significant negative impact on operators who are in compliance with the current Regulation, provided that the sector is willing to employ the various adaptations listed in Section 5. Option 4 is expected to have an immediate and significant negative impact on the sector, as the significant proportion of the total revenue attributed to sharks would be lost.

Impacts on control and enforcement

Under option 1(i) it is difficult for inspectors to be certain that no finning has occurred. Under option 1(ii) the uncertainty is significantly reduced, but not completely eliminated. Under option 2 the possibility of finning is greatly reduced, given the fin-to-carcass weight ratios of the main species caught, the fin sets retained, and the cutting techniques employed by the fleet segment concerned. Under option 3 finning cannot occur. Option 3 abolishes the use of ratios, thereby closing the debate on whether these should be increased, whether species-specific ratios should be developed and used (something which would be virtually impossible to apply to processed carcasses) and whether cutting techniques and retention of fin sets should be harmonized. Under Option 4, control and enforcement would be simplified relative to the status quo, as inspectors would simply have to verify that no sharks or shark products are retained on board, transhipped or landed.

Impacts on data collection

Under options 1(i), 1(ii) and 2, data collection is very limited due to the fact that various types of biological and physiological information (e.g. catch composition, species identification etc.) cannot be collected once carcasses have been processed. In contrast, the collection of such data essential in developing the necessary management and conservation tools would be

greatly enhanced under Option 3. Under Option 4 data collection would be virtually nil, i.e. more limited than under Option 1(i).

Impacts on simplification, administrative burden and relations with third countries

As regards impacts on (A) simplification, (B) administrative burden and (C) the relations with third countries: (A) control would be greatly simplified under Option 3 as finning would become impossible and the use of weight ratios would be abolished. (B) Depending on the option selected, the administrative burden would either remain the same or be reduced. (C) Relations with third countries would not be affected, irrespective of the choice of option; except in the event that Option 1(i) or 1(ii) were to be selected and EU vessels abiding by the 5% live-weight rule would attempt to land in non-EU ports where the 5% dressed-weight rule applies, as was the case in Durban and Cape Verde in 2009 (see Section 5.1., Option 2, economic impacts).

In conclusion, Option 4 might have the largest positive effect on shark stocks, particularly blue shark and shortfin mako, provided that shark avoidance measures are successful and that no discards are generated. On the other hand, Option 4 would have the most significant negative economic and social impacts on the fishing sector, which might cease being profitable. Furthermore, option 4 would further limit data collection, thus inhibiting the establishment of effective management measures such as a TAC and quota regime, in the future. Option 3 would also have a significant positive effect on these stocks, but a much smaller negative effect on the fishing sector than Option 4. Depending on the application of adaptive strategies (new marketing channels, new fishing, processing and transhipment patterns etc), the sector might be able to withstand the negative economic impact of Option 3. Furthermore, Option 3 would have a significant positive effect on data collection. Options 1(i), 1(ii) and 2 would not fulfil the desired policy objectives. The magnitude of the negative economic impacts of the various policy options cannot be quantified for the reasons described in Section 2.7.

Table 8. Summary comparison of the policy options – impacts of each option.

	I M P A C T S					
Option	**Economic**	**Social**	**Conservation**	**Control and enforcement**	**Data collection**	**Simplification, administrative burden and relations with non-EU countries**
1(i)	No impact in the short term, but reduced revenue due to reduced catches is possible in the medium term and likely in the	Minor impact on employment in the short term, increasing in the long term as stocks become depleted.	Negative impact increasing in the long term.	Significant difficult in ensuring compliance. EU inspectors state that this option is unacceptable.	Remains very limited	No impact on simplification or administrative burden. Probable recurrence of problems when EU vessels land in non-EU ports where the 5% dressed weight rule applies.

	long term.					
1(ii)	No impact in the short term, but reduced revenue due to reduced catches is possible in the medium term and likely in the long term.	Minor impact on employment in the short term, increasing in the long term as stocks become depleted. A minor reduction in profit margins in the short term, which is likely to diminish over time.	Negative impact increasing in the long term.	Control is facilitated, but a certain degree of uncertainty regarding compliance remains.	Remains very limited	No impact on simplification or administrative burden. Probable recurrence of problems when EU vessels land in non-EU ports where the 5% dressed weight rule applies.
2	A moderate negative impact is expected. This could be offset to a certain extent provided that the sector is willing to adapt fin cutting practices.	A moderate to significant negative impact on employment might be expected if the sector fails to adapt its fin cutting methods and fin retention practices. The impact is expected to occur in the short term and persist through the long term. If these practices are adjusted as described in the "Economic impacts" section above, this impact would be significantly reduced.	Depending on the sector's reaction, either a continuation of current trends or a positive impact can be expected, the magnitude of which is unknown.	Control is facilitated, but a certain degree of uncertainty regarding compliance remains.	Remains very limited	No impact on simplification or administrative burden. EU vessels landing in certain non-EU ports would in line with the locally applied 5% dressed weight rule.
3	No significant negative impact expected on operators who are in compliance with the	No significant negative impact on employment in fleets which are in compliance with the current	Positive impact expected, the magnitude of which is unknown, but becoming more positive in the mid to	Control is significantly facilitated and simplified, and uncertainty regarding compliance is virtually	Significantly enhanced, enabling establishment of further management measures in the future.	The abolishment of weight ratios and special fishing permits would contribute to simplification of rules and their implementation. No direct impact

	current Regulation.	Regulation, provided that the sector is willing to employ the various adaptations listed in Section 5.	long term.	eliminated.		on relations with non-EU countries.
4	A significant negative impact is expected due to the loss of a significant percentage of the current revenue of surface longliners.	A significant negative impact on employment, taking effect in the short term and lasting for an unknown amount of time.	Significant positive impact expected in the short, medium and long term.	Control is significantly facilitated and simplified, and uncertainty regarding compliance is virtually eliminated.	Data collection becomes virtually non-existent.	The abolishment of weight ratios and special fishing permits would contribute to simplification of rules and their implementation. No direct impact on relations with non-EU countries.

7. MONITORING AND EVALUATION

The nature of the monitoring regime will be determined by the choice of policy option. In case options 1(i), 1(ii) or 2 are selected, a monitoring regime similar to the current one would be implemented, i.e. the Member States will be required to submit annual reports of a nature similar to that laid down in Article 6 of the current Regulation. As mentioned in Section 2.4 the majority of Member States have a poor compliance record with this obligation (see Annex II). It would be useful to simplify the reporting obligation for those Member States not issuing special permits and for those not catching any sharks. In such cases it might be sufficient that Member States annually report that they issue no permits, and where it applies, that they catch no sharks. This would eliminate unnecessary work for the relevant National Authorities as well as the Commission.

In case option 3 or 4 is chosen, the nature of reporting would be radically different and the reporting format will be greatly simplified as special fishing permits would no longer exist. The current reporting format consists of a questionnaire, many of the questions being based on the assumption that on-board fin removal is being carried out. If on-board fin removal were to cease, these questions would no longer be present in the future follow-up questionnaire. Given that option 3 is the preferred option, any future suspected breaches of the regulation under the fins-attached regime would be much more readily detected by inspectors, and the case against those infringing upon the regulation would be more clear-cut. As reported by some Member States, in particular the United Kingdom and Germany (See Annex III), there have been cases of suspected breaches of the regulation where legal action has been difficult or impossible due to complications introduced by the use of ratios, varying conversion factors, separate landings and the consequent reliance of inspectors on logbook

records etc. Under option 3, monitoring would consist of simply observing that sharks are retained on board, transhipped and landed with their fins still attached. Inspectors will be able to ascertain a breach of the finning ban simply by simple observation, without the necessity to count and/or weigh fins and carcasses and without having to analyse figures in logbooks. The Commission will continue to analyse Member States' annual reports and will follow up on cases where violation of the regulation is detected.

The evaluation of the positive conservation effects on the two main shark species concerned will have to be monitored in the medium to long term, as their life-history characteristics are such that any positive trends in the stock would only become apparent after several years or perhaps decades.

ANNEXES

ANNEX I – SCIENTIFIC ADVICE

STECF advice

The Scientific Technical and Economic Committee for Fisheries (STECF) states[36] that finning should not take place, because it leads to increased mortality of primarily pelagic sharks, which in many instances survive capture and could be released back into the sea alive. Furthermore, without appropriate species-specific fin-weight to live weight conversion factors, this practice can lead to a distortion of the catch statistics required for stock assessment purposes. If left intact, survival rates for discarded sharks can be high. Studies show that 80 – 90 % of blue sharks are alive on longlines during hauling and about 60% of those sharks could survive if released (Campana et al., 2005)[37]. STECF recommends measures to eradicate finning without exemption. STECF suggests that this should apply to all elasmobranch species, including skates and rays, which should be landed whole or gutted, with fins/wings-still attached. STECF supports the proposal to oblige vessels to land carcases and fins simultaneously in the same port in order to improve the quality of catch statistics and to ensure that finning does not occur.

RFMO advice

Blue shark

Atlantic Ocean stocks: the ICCAT pelagic shark assessment working group (ICCAT, 2005) considers there to be a single stock of blue shark (*Prionace glauca*) in the North Atlantic, one in the South Atlantic and one in the Mediterranean (Heessen, 2003; Fitzmaurice *et al.*, 2005, ICCAT, 2004). ICCAT started collecting data on shark by-catches from the Atlantic tuna fleets only in 1994, and catch reporting of sharks has not been good. Estimates from a study of the Hong Kong shark fin trade (Clarke, 2003) showed that blue shark catches were underreported globally. Based on this information ICCAT attempted to construct a more accurate picture of shark catch and mortality in the Atlantic tuna fleets based on ratios of shark to tuna landings from fleets reporting both to ICCAT and using these ratios to reconstruct an example catch history by major gear type. The current biomass of blue shark in both the North and South Atlantic appears to be above the MSY. In many model runs, stock status appeared to be close to unfished biomass levels. However the Working Group recommended that these models be further tested and improved before drawing stronger conclusions. The Working Group stated that without improving these models, they can present neither more precise nor more accurate estimates of the status of these stocks. No reference points have been proposed for this stock.

Indian Ocean: in 2005 seven countries reported catches of blue sharks in the IOTC region although this data is not used by IOTC as its likelihood of being representative is highly uncertain. FAO landings data on elasmobranchs for the Indian Ocean are severely limited by the lack of species-specific data and data from the major fleets. There is little information on blue shark

[36] Commission Staff Working Document 27th Plenary Meeting Report of the Scientific, Technical and Economic Committee for Fisheries (Plen-08-01) Plenary Meeting 14-18 April 2008, Hamburg https://stecf.jrc.ec.europa.eu/c/document_library/get_file?folderId=21111&name=DLFE-6501.pdf

[37] Campana, S. E., Marks, L., Joyce, W. Kohler, N. (2005). Catch, by-catch, and indices of population status of blue shark (*Prionace glauca*) in the Canadian Atlantic. International Commission for the Conservation of Atlantic Tunas, *Collective Volume of Scientific Papers. ICCAT* 58(3): 891–934.

biology in the Indian Ocean and no information is available on stock structure. The catch estimates for blue shark are highly uncertain and CPUE trends are also not available as there are no surveys specifically designed to assess shark catch rates in the Indian Ocean. Due to the lack of data available no quantitative stock assessment has been undertaken by the IOTC Working Party on Ecosystems and Bycatch. There is no quantitative stock assessment or basic fishery indicators currently available for blue shark in the Indian Ocean therefore the stock status is highly uncertain. Blue sharks are commonly taken by a range of fisheries in the Indian Ocean and in some areas they are fished in their nursery grounds. Because of its life history characteristics – being relatively long-lived (16-20 years), maturing at 4-6 years, and having relativity few offspring (25-50 pups every two years), the blue shark is vulnerable to overfishing.

Pacific Ocean: blue shark is not actively managed internationally within the Pacific and there are no quotas set by any of the RFMOs. Recent studies indicate the species, which may comprise a single Pacific-wide stock, is abundant and healthy (F/FMSY < 0.5). There is some evidence for a decline of the stocks of blue shark in the central Pacific (Nakano 1996), but not yet evidence of overfishing. The north Pacific blue shark stock appears healthy (Kleiber *et al*. MS1) with a current population size that is above BMSY with F/FMSY < 0.5, and that MSY could be 1.7 - 3.0 times the catch observed in the late 80's early 90's. Sibert *et al.* estimate that the North Pacific blue shark population is at 91% of the unexploited level. In spite of being the largest component of the bycatch incidentally taken by high seas, longline fleets for over 50 years the MSY for the north Pacific stock is tentatively estimated to be approximately 120 000t. No harvest guidelines or reference points have been recommended at this time.

Shortfin mako

Atlantic Ocean stocks: historically the shortfin mako has been caught as bycatch predominantly in tuna and billfish longline fisheries. It is a high value species and as such is also targeted by recreational fisheries in both the North East and North West Atlantic. At present there is still no directed fishery towards the shortfin mako which is considered to have only a single stock in the North Atlantic. Current EU catches of the shortfin mako are predominantly by Portuguese and Spanish vessels, although records of landings Spanish vessels only exist since 2004. The UK has also reported landings, but these are negligible, being below 3 tonnes. The Portuguese report the largest landings with the maximum reported being 542 tonnes in 2003, which made up 50 % of the total North Atlantic reported landings (ICES, 2007). The catch data provided is incomplete and as such it is difficult to accurately determine catches and produce stock assessments. However, catch-per-unit-effort (CPUE) data has shown that the North Atlantic stock has been declining since 1975 although further analysis is required (ICES, 2007).

Despite the catch data available and the CPUE data indicating declining stocks there have been no recent stock assessments. A decision was taken not to undertake stock assessments as there was limited data all of which was considered poor quality. The lack of accurate precise data is emphasized by the fact that NAFO uses commercial and recreational fisheries to provide them with abundance indices (NAFO, 2007).

Mediterranean stocks: it is considered that there are two stocks of Shortfin Mako in the Mediterranean; a Northern Stock and a Southern Stock (ICCAT, 2005). A lack of available landings data and relevant catch data from commercial fisheries has resulted in no stock assessments being able to be undertaken. Increased levels of data recording are required to enable stock assessment to be achieved.

Indian Ocean stocks: historically there has been little information on the status of the Shortfin Mako fishery in IOTC waters and it is apparent that landings of shortfin mako have gone unreported in the past. Consequently, IOTC catches of Shortfin Mako sharks are highly inaccurate and have little representativeness. (IOTC, 2007) A lack of representative data is emphasized by the fact there is no extensive FAO data due to a lack of species-specific data from major fleets (IOTC, 2007). The lack of landing information means it has not been possible to carry out a stock assessment. In addition CPUE has not been available as no surveys have been carried out enabling the suitable data to be obtained to produce the relevant CPUE information.

ANNEX II - MEMBER STATES' COMPLIANCE WITH THE ANNUAL REPORTING OBLIGATION

Member States' compliance with the annual reporting obligation in line with the shark finning Regulation (EC) 1185/2003: State of play on 16 May 11. The reporting deadline for each reference year is the 1st of May of the following year. The number of fishing permits issued annually by the relevant national authorities of each Member State is shown. Red (dark) highlight = No report submitted to date. Yellow (light) highlight = Report submitted after deadline. Member States which issue, or have in the past issued special fishing permits are highlighted in light blue and the relevant information is in bold type.

MS	2004 report received	No. of permits issued	2005 report received	No. of permits issued	2006 report received	No. of permits issued	2007 report received	No. of permits issued	2008 report received	No. of permits issued	2009 report received	No. of permits issued	2010 report received	No. of permits issued	
BE	09.06.05	0	27.11.06	0	10.09.07	0	27.01.10	0	27.01.10	0	10.03.11	0			**BE**
BG	N/A*	N/A	N/A	N/A	N/A	N/A	30.04.08	0			11.05.10	0			**BG**
CY	**28.06.05**	**0**	**26.07.07**	**0**	**31.07.07**	**0**	**18.01.10**	**0**	**18.01.10**	**0**	**21.03.11**	**0**	**28.04.11**	**1**	**CY**
DE	**13.06.05**	**3**	**26.06.07**	**5**	**26.06.07**	**5**	**15.05.08**	**5**	**14.04.09**	**5**	**03.08.10**	**0**	**24.05.11**		**DE**
DK	04.07.05	0	17.09.07	0	17.09.07	0	24.07.08	0	08.01.10	0	26.01.10	0			**DK**
EE	08.06.05	2	03.05.06	0	23.05.07	0	10.04.08	0	23.04.09	0	08.04.11	0	08.04.11	0	**EE**
EL	22.07.05	0	09.01.07	0	27.08.07	0	11.07.08	0	13.05.09	0	02.06.10	0	26.05.11	0	**EL**
ES	**18.05.05**	**198**	**30.06.06**	**192**	**25.06.07**	**164**	**19.03.10**	**173**	**19.03.10**	**200**	**24.04.11**	**175**	**24.04.11**	**164**	**ES**
FI	20.9.05	0	24.01.07	0	09.01.08	0	14.07.08	0	10.03.09	0	29.03.11	0	29.03.11	0	**FI**
FR	01.07.05	0	22.10.07	0	22.10.07	0									**FR**
IE	19.01.06	0	01.02.10	0	30.04.07	0	23.04.08	0	26.03.09	0	31.03.10	0			**IE**
IT	04.11.05	0	04.05.06	0	29.05.07	0	20.05.08	0	18.01.10	0					**IT**
LT	**02.06.05**	**0**	**28.04.06**	**1**	**10.05.07**	**1**	**25.04.08**	**1**	**12.05.09**	**1**	**29.03.11**	**0**			**LT**
LV	16.06.05	0	26.01.06	0	21.08.07	0	12.01.10	0	12.01.10	0	18.04.11	0	18.04.11	0	**LV**
MT	06.06.05	0	01.10.07	0	14.12.07	0									**MT**
NL	06.06.05	0	07.04.06	0	16.02.07	0	02.02.10	0	02.02.10	0					**NL**
PL	18.07.05	0	23.11.06	0	21.08.07	0	08.01.10	0	08.01.10	0			02.03.11	0	**PL**
PT	**15.03.05**	**11**	**10.01.08**	**12**	**10.01.08**	**28**					**10.05.10**	**49**	**09.05.11**	**45**	**PT**
RO	N/A	N/A	N/A	N/A	N/A	N/A	29.04.11	0	29.04.11	0	29.04.11	0	29.04.11	0	**RO**
SE	15.05.05	0	11.05.06	0											**SE**
SI	13.12.07	0	20.04.06	0	27.04.07	0	30.04.08	0	27.07.09	0	10.05.10	0			**SI**
UK	**26.05.05**	**20**	**07.06.06**	**16**	**13.06.07**	**18**	**11.07.08**	**15**	**04.02.10**	**15**	**09.08.10**	**0**			**UK**
Total permits issued per year		**232**		**226**		**216**		**194+**		**221+**		**224**		**210**	

*N/A = Not Applicable. No report required for the years prior to 2007 for BG and RO, i.e. prior to EU membership.

ANNEX III – INFRACTIONS OF COUNCIL REGULATION (EC) No 1100/2007 REPORTED BY MEMBER STATES

The tables in this Annex show, on an annual basis, the number of inspections carried out (where available), the number of infractions detected and the nature of these infractions. According to inspectors within the Directorate General for Maritime Affairs and Fisheries, the rate of inspection is such that only a small proportion of landings are inspected. It is therefore concluded that the number of infractions detected annually would multiply if all shark landings were to be inspected.

SPAIN			
YEAR	No of inspections	No of infractions	Nature of infraction / Comment
2003	0	0	-
2004	?	9	3 instances of exceeding the 5% fin allowance and 6 instances of failure to record fins separately in the logbook
2005	88	4	3 instances of exceeding the 5% fin allowance (2 Spanish vessels and 1 Portuguese), 1 instance of a Portuguese vessel removing fins on board without a special fishing permit.
2006	149	2	1 Spanish and one Panamanian vessel removing fins without a permit and without updating the logbook
2007	19	1	1 instance of a Spanish vessel exceeding the 5% fin allowance
2008	97	7	7 instances of Spanish vessels exceeding the 5% fin allowance
2009	97	7	7 instances of Spanish vessels exceeding the 5% fin allowance
2010	78	?	Information still under scrutiny by Spanish authorities

PORTUGAL			
YEAR	No of inspections	No of infractions	Nature of infraction / Comment
2003	?	0	No separate landings of fins and carcasses were carried out.
2004			
2005	?	0	-
2006	?	0	-
2007	No report submitted	No report submitted	No report submitted
2008	No report submitted	No report submitted	No report submitted

2009	?	1	1 instance of removing fins without a special fishing permit was detected. Court proceeding were launched
2010	49	0	-

UNITED KINGDOM			
YEAR	No of inspections	No of infractions	Nature of infraction / Comment
2003	?	?	No special fishing permits were issued
2004	?		
2005	?	3	3 instances of exceeding the 5% fin allowance
2006	?	?	"A number of minor breaches occurred", but the UK authorities do not believe that finning occurred
2007	?	?	1 vessel was detained but no evidence of finning was found.
2008	?	5	5 infringements of an unspecified nature were found.
2009	?	4	4 UK-registered vessels retained on board and landed fins without a special fishing permit.
2010	No report submitted	No report submitted	No report submitted

GERMANY			
YEAR	No of inspections	No of infractions	Nature of infraction / Comment
2003			
2004			
2005	?	5	5 instances of exceeding the 5% fin allowance were detected. Court proceedings were launched.
2006	?	0	No problems detected.
2007	?	2	2 instances of exceeding the 5% fin allowance were detected. Court proceedings were launched.
2008	?	1	1 infraction was detected, but no proceedings were launched as the rules were under revision at that time
2009	?	0	-
2010	?	0	-

ITALY: One dried fin was found on board a vessel without a special fishing permit in 2009.

ANNEX IV – SUMMARY OF RESPONSES TO THE PUBLIC CONSULTATION

More than 5,000 contributions were received. The responses indicate that virtually all NGO's and an overwhelming majority of the public support Option 3. Part of the sector supports option 1 (either 1(a) or 1(b)), whereas other parts of the sector propose an alternative: Raising the 5% fin to live-weight ratio to 6 or 6.5% to reflect the average ratio applicable to the two main species caught by EU vessels (blue shark and shortfin mako) and to the fin-cutting and fin-retention techniques employed by these vessels. The vast majority of responses were sent in by private citizens (4,456), though about half of these (2,239) could not be considered useful for the purposes of the consultation. Four contributions were submitted by public authorities, 26 by registered organizations and 31 by unregistered organizations.

The arguments presented by the various stakeholders vary in quality and content. The most well-informed and well-argued positions are presented by the NGO's and the fishing industry, as well as some local and national authorities and some academic and research associations. On the other hand, the vast majority of the general public seem to be poorly informed: it seems that they reacted to the consultation paper after viewing various television broadcasts on shark finning, without reading the paper itself. This led to the submission of approximately 2,500 contributions which are not useable for the purposes of the Impact Assessment. The Spanish and Portuguese freezer vessels are those most concernced by the proposed amendment. This sector's representatives have stated that the prohibition to remove fins on board would lead to storage and handling difficulties and hazards, caused by frozen carcasses with protruding fins. These problems are eliminated by slicing partly though the fins and folding them against the carcass, as described in Section 5.2, Option 3.

Nature of reply	**Number of replies**
Option 1	9
Option 2	0
Option 3	2706
Other options	68
Unclear	2239
TOTAL	5022
Source of reply	**Number of replies**
General public	4961
Public authorities	4
Registered organization	26
Unregistered organization	31
TOTAL	5022