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EX-POST EVALUATION OF THE CURRENT PROTOCOL
TO THE FISHERIES PARTNERSHIP AGREEMENT
BETWEEN THE EUROPEAN UNION AND GREENLAND
FINAL REPORT

September 2011

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ABBREVIATIONS AND ACRONYMS USED

ACAP	Arctic Contaminants Action Program
ADAPI	Associação dos Armadores da Pesca Industrial.
AIDCO	EuropeAid Co-Operation Office
AMAP	Arctic Monitoring and Assessment Programme
AoILVET	Agency of Industry, Labour Market and Vocational Education and Training
ARVI	Cooperativa de Armadores de Buques de Pesca del Puerto de Vigo
ATQ	Autonomous Tariff Quota
CAFF	Conservation of Arctic Flora and Fauna
CETA	Comprehensive Economic and Trade Agreement
CFP	Common Fisheries Policy
CPUE	Catch Per Unit Effort
DAMOCLES	Developing Arctic Modelling and Observing Capabilities for Long-term Environmental Studies
DFHA	Department of Fisheries, Hunting and Agriculture
DFO	Department of Fisheries and Oceans Canada
DG	Directorate-General
DGPA	Direcção Geral das Pescas e Aquicultura.
DKK	Danish Kroner
DVFA	Danish Veterinary and Food Authority
EEA	European Economic Area
EEZ	Exclusive Economic Zone
EMODNET	EU Marine Observation and Data Network
EPPR	Emergency Prevention, Preparedness and Response
EU	European Union
EUR	Euro
FIDES	Fishery Information Data Exchange System
FPA	Fisheries Partnership Agreement
FTE	Full-time Equivalent
GA	Employers Association
GPB	British Pound
GDP	Gross Domestic Product
GEP	Greenland Education Programme

GFLK	Greenland Fishery and Licence Control
GHL	Greenland Halibut
GHRG	Greenland Home Rule Government
GINR	Greenland Institute of Natural Resources
GIS	Geographical Information Systems
GRT	Gross Registered Tonnage
GRL	Greenland
HACCP	Hazard Analysis and Critical Control Point
HRG	Home Rule Government
HS	Harmonised System
IA	Inuit Ataqadigiit
ICES	International Council for the Exploration of the Sea
ISK	Icelandic Kroner
IT	Information Technology
ITQ	Individual Transferable Quota
IUU	Illegal, Unreported and Unregulated
IWC	International Whaling Commission
JC	Joint Committee
KNAPK	Fishermen and Hunters association
KP	A Greenland political party known by its initials "KP"
LTU	Lithuania
MAP	Modified Atmosphere Packaging
MFN	Most Favoured Nation
MoCERC	Ministry of Culture, Education, Research and the Church
MoFFA	Ministry of Finance and Foreign Affairs
MoHFA	Market Ministry of Health and Family Affairs
MoILM	Ministry of Industry and Labour
MOU	Memorandum of Understanding
MPA	Marine Protected Area
MS	Member States
MSC	Marie Stewardship Council
MSY	Maximum Sustainable Yield
NAFO	Northwest Atlantic Fisheries Organization

NEAFC	North East Atlantic Fisheries Commission
NGO	Non Governmental Organisation
NOK	Norwegian Kroner
NWWG	North Western Working Group
OCT	Overseas Countries and Territory
OSPAR	Convention for the Protection of the Marine Environment of the NE Atlantic
PDSP	Programming Document for the Sustainable Development of Greenland
RG	Royal Greenland
SDWG	Sustainable Development Working Group
SSB	Spawning Stock Biomass
STECF	Scientific Technical and Economic Committee on Fisheries
TACs	Total Allowable Catches
UK	United Kingdom
UN	United Nations
UNCLOS	United Nations Convention on the Law of the Sea
US	United States
USD	United States Dollar
VME	Vulnerable Marine Ecosystems
VMS	Vessel Monitoring and Surveillance
WKREDS	Workshop on Redfish Stock Structure

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EXCHANGE RATES

Year	Euro	USD	DKK	NOK	ISK	GBP
2007	1	1.37	7.45	8.059	87.43	0.6819
2008	1	1.48	7.46	8.12	145.14	0.78
2009	1	1.39	7.45	8.82	172.73	0.9
2010	1	1.33	7.447	8.04	164.103	0.86

Source: InforEURO Exchange Rates, European Commission

EXECUTIVE SUMMARY

1. This report provides the findings of a study comprising an ex-post evaluation of the Fisheries Partnership Agreement between the European Union and Greenland. The study was commissioned by the Directorate General for Maritime Affairs and Fisheries of the European Commission under a framework contract “for performing evaluations, impact analyses and monitoring services in the context of Fisheries Partnership Agreements (FPAs) concluded between the European Union and non-EU member states (No. FISH/2006/20)” operated by a consortium comprising Oceanic Développement (France) and Megapesca Lda (Portugal). The study commenced on January 14th 2011 and was completed on 13th May 2011.
2. The Fisheries Partnership Agreement between the parties was initialled in June 2006, and entered provisionally into force on 1st January 2007 for a period of six years (until 31st December 2012). At the time of the study the Fisheries Partnership Agreement has therefore been operational for just over four years, and the period of evaluation covers the years 2007 to 2010 inclusive. The methodology involved review of documentation, analysis of quota, licence and catch data from different sources, and interviews/contacts with key stakeholders, including Greenland Government and industry, EU fleet interests, European Commission, European Member State and Norwegian and Faroe Island Governments (since they receive exchanged quota from the EU, supplied under the Fisheries Partnership Agreement).
3. Greenland is the World’s largest island; the northernmost point lies just 740 km from the North Pole. From north to south, Greenland extends 2,670 kilometres. In 1979 Denmark granted “Home Rule” to Greenland, which provided for autonomy over most policy areas, with the exception of foreign policy, defence and a number of other functions which were performed by Denmark, as the sovereign state. Following a referendum in 2008 a new law on Self-Government took effect on 21 June 2009, furthering devolution of powers to the newly entitled Naalakkersuisit (Government of Greenland). Denmark retains functions of defence, fishery inspection outside the territorial waters, constitutional affairs, currency and monetary policy.
4. The population of Greenland is 56,452. This includes around 6,300 resident Danes. The population is stable. The labour force in 2010 was 28,510, with an unemployment rate of 7.1%. Greenland’s has low inflation (1.4% in 2009) but suffers from a high structural unemployment rate, along with an aging population. Gross National Income was EUR 29,286/capita in 2006 but has not risen in real terms in recent years. The Government is the largest employer, accounting for 44% of all jobs. The country relies heavily on the annual block grant provided by Denmark, accounting for an estimated 32% of GDP.
5. The domestic fishery sector is the economy’s most significant earner accounting for 13% of direct Gross Value Added and 17% (5,500) of employment (including processing and other linked activities). The fishery sector accounts for 88% of tangible exports, almost all of which are to the EU (87% via Denmark). The fishery sector has witnessed a reduction in trade prices for its main export industry (frozen shrimp) as well as decline in other exports such as snow crab. The cod fishery, a major resource up to the early 1980s, has failed to recover, despite promising signs. Minerals and tourism remain only marginal contributors to incomes and employment, although there are significant hopes attached to extractive industries, offshore oil, hydro-electric schemes and aluminium smelting operations. Several major investment proposals are being considered by Government.
6. Climate change and impacts on the Greenland ice sheets bring the possibility of mineral exploitation and new maritime routes with associated costs and benefits. Greenland’s Arctic location makes it a strategically important country within the Kingdom of Denmark, and for the EU. It is an active member of the Arctic Council (currently under the chair of Denmark) and has territorial claims in the Arctic. Greenland and Canada have two unresolved territorial disputes, over Hans Island and the maritime boundary in the Arctic Ocean.

7. In 1953 Greenland ceased to be a Danish colony and became an integral part of Denmark, thus joining the then European Community with Denmark in 1973. Greenland subsequently seceded from the EU in 1985. The Fisheries Agreement was established then as an integral part of Greenland's negotiations for withdrawal from the EU. The result was that the EU's traditional fishing rights were sustained, and in return, Greenland was able to continue receiving financial support from the EU.
8. Greenland's status as one of the Member States' Overseas Countries and Territories (OCT) is guaranteed by the Greenland Treaty negotiated on secession from the EU. This confers the benefit of tariff free access for its fishery products exported to the EU (since supplemented by tariff quotas for non-originating fishery products). The Overseas Association Decision governing the EU's relations with the OCTs has been extended and expires at the end of 2013.
9. Until 31 December 2006, all EU financial assistance to Greenland (EUR 42.8 million per year) was channelled through the Fisheries Agreement between the EU and Greenland. A new approach was adopted with the introduction of the Fisheries Partnership Agreements from 1st January 2007, which focus on fisheries only. An alternative instrument was required to facilitate Greenland's development, and from 1st January 2007 the EU and Greenland therefore also entered into a Partnership Agreement for the sustainable development of Greenland. This Partnership Agreement will expire at the end of 2013. The Partnership Agreement has delivered budgetary support to Greenland valued at EUR 25 million/year, programmed via a "Programming Document for the Sustainable Development of Greenland", which focuses support on the Greenland Education Programme. A mid-term review of the programme found that it had acceptable levels of efficiency, effectiveness and sustainability, and recommended extending the areas of cooperation, to include environment, climate and indigenous peoples, thus establishing clearer links to the EU's Communication on the European Union and the Arctic Region.
10. Greenland's marine EEZ is 2,184,254 km² and can be divided into two zones: East Greenland and West Greenland. Both have rich fishery resources and fall within the remit of ICES and NAFO respectively. Around 220,000 tonnes of fish have been caught annually in the Greenland fishery in the years 2007-2010, of which 65% were shrimp, emphasising the importance of this resource to the Greenland economy. The other principal fisheries are Greenland halibut, cod, redfish, snow crab and capelin. The EU and other third country fishers (Norway, Russia, Faroes and Iceland) fish predominantly in East Greenland. Some Greenland quotas for straddling and migratory stocks (redfish and capelin) are taken in international or Icelandic waters.
11. The Greenland fishing fleet comprised some 757 vessels in 2007. Most vessels are small. There are an estimated additional 3,000 to 5,000 dinghies and sledges which are used for fishing and hunting at different times of year. The industrial fleet comprises 47 vessels operating in the EEZ and in international, Faroese and Norwegian waters.
12. The fish processing industry comprises some 56 processing establishments and 4 cold stores. The sector is dominated by two large multi-national processing and exporting companies, Royal Greenland and Polar Seafoods, which operate the industrial shrimp fleet and the 5 main shrimp processing establishments. They specialise in processing, including value added processing, of shrimp, Greenland Halibut and cod and have significant processing interests in the EU and global sales and marketing operations. The 100% state-owned company, Royal Greenland, made a loss of EUR 5.8 million in 2009/2010, and carries EUR 265 million of debt. In 2009, the company had to raise an additional capital injection of EUR 66 million, from the Government of Greenland. The Company is reported to have returned to profit in 2010. Government policy is to stabilise the company, reduce its debt and consider privatisation.
13. The fish catching sector provided employment for about 2,000 full-time equivalents (FTE) in 2004 while the processing industry provided 3,500 FTE. The fishery sector provides employment for 17% of the workforce, about half of the jobs provided by the fishing industry in the 1970s. The rate of decline in fisheries employment in the inshore fishery is about 6% due to lack of profitability and retirement.

14. Exports of fishery product to the EU over the period 2007-2009 have averaged around EUR 290 million per year. Greenland is the largest global producer of coldwater shrimp (*Pandalus borealis*). Frozen shrimps account for about 62% of the export value of fishery products, and Greenland halibut, accounts for about 27%. Cod accounted for only 4% of total export value. Greenland enjoys full access to the EU market for fishery products as a result of its status as an OCT country. The EU duty applied to whole frozen Northern shrimp from other sources is 12% (20% for cooked and peeled shrimp). The Greenland preference is supplemented by the provision of a tariff quota of 10,000 tonnes of non-originating halibut, Greenland halibut and frozen shrimp (hardly utilised by Greenland), and an additional tariff quota of 2,100 of prepared and preserved shrimp (fully utilised) to allow continuity of activity of the Greenlandic processing sector. However, these preferences have been eroded to a degree by the granting by the EU of an *erga omnes* tariff quota for frozen shrimp (currently 20,000 tonnes per year).
15. The key elements of the Fisheries Partnership Agreement are that Greenland grants access to EU vessels to fish in its EEZ in return for a financial contribution. Fishing opportunities in the form of indicative quotas for different species are set out in the Protocol. From 2008 onwards these comprised 55,000 tonnes of capelin and 36,700 tonnes of other species including cod, shrimp, Greenland halibut, redfish, Atlantic halibut and snow crab. Provision is made that the EU may employ the fishing opportunities in exchanges between the EU and other third countries, specifically Norway, Iceland and Faroe Islands. EU and third country vessels may only fish in the Greenland EEZ when they hold a valid licence, for which fees (for EU vessels only) are set in the Protocol at 5% of a specified reference price. The EU undertakes to pay Greenland EUR 85,852,464 over a six year period, payable in annual tranches of EUR 14,307,244. Each year Greenland commits to applying EUR 3,261,449 of this (slightly less in 2007) in favour of implementing a sectoral fisheries policy with a view to securing continued responsible fishing, to be managed in the light of objectives identified by mutual agreement within the frame of the joint committee.
16. Because of resource limitations, on nine occasions over the four year period from 2007 to 2010 inclusive Greenland has not been able to deliver all of the fish quotas set out in the Protocol. Deficits were in quotas for capelin in all years, halibut (both East and West Greenland) in 2009 and 2010, and cod in 2010. The average annual deficit was 35,530 tonnes, which corresponds to 39% of the annual quantity. A compensation mechanism (to allow Greenland to offer alternative opportunities) has worked well for small fluctuations in availability of quota, but has not been able to cope with the "debt" for larger quantities of capelin (a resource with a known high degree of natural variation). In 2010 the parties agreed that the debt (valued at EUR 2.6 million) should be resolved by i) reduction of the 2011 compensation payment by EUR 1.6 million and ii) expansion of the sectoral policy matrix by Greenland, to include purchase of research vessel valued at EUR 1.1 million.
17. During the period a total of 37 EU flagged vessels have benefited from the Fisheries Partnership Agreement, including 5 from Germany, 13 from Spain, 4 from UK, 6 from Portugal, 1 from Denmark, 3 from Lithuania and 2 each from Poland and Estonia (accounting for 3% of the EU fleet tonnage). A concession by Greenland to allow groups of vessels from a single Member state to purchase blocks of licence for subsequent distribution between them has significantly facilitated uptake of licences. As a result overall uptake of opportunities has been good, averaging 75% during the period. If quotas transferred by the EU in bilateral exchanges with other third countries (Norway, Faroe Islands and Iceland) are included, then overall utilisation, in terms of licences drawn, is about 90% of the available quota.
18. Quotas for EU vessels are allocated according to relative stability keys, which do not fully meet the pattern of current demand. A system of intra-community quota exchanges between Member States is well used, and has helped to maintain the level of utilisation of the Fisheries Partnership Agreement. In the first two years, some fleet segments complained about quota being released too late in the year to allow effective planning, but a system of regular and earlier swaps has evolved.

19. There are significant differences in utilisation depending on the quota. Fishing opportunities for shrimp in W.Greenland, Greenland halibut and cod are in high demand. The introduction of management measures has limited the utilisation of cod opportunities to 91% overall. Only 45% of the annual quota of 7,000 tonnes of shrimp quota in East Greenland is used, and only 46% of redfish quotas. The snow crab fishing opportunities under the FPA have never been utilised by Spain. Atlantic halibut quota allocated to Portugal has proven to be virtually unfishable to EU vessels, and of limited interest to Norwegian ones. Bycatches under the Fisheries Partnership Agreement have been minimal.
20. Overall, in an average year, the Protocol has delivered catches of 48,502 tonnes/year, of which 16,472 tonnes were caught by EU vessels, and 32,030 tonnes by third country vessels (these averages exclude years in which no capelin were caught). The annual catches taken in the Greenland zone by EU vessels are estimated to correspond to about 0.3% of total EU catches. On average EU vessels caught 63% of the quotas available to them, and third country vessels 88%.
21. Based on fish prices published in Iceland, the average revenues derived from the Fisheries Partnership Agreement were EUR 45.6 million/year, of which EU vessels derived EUR 31.9 million (70%) and third country vessels EUR 13.7 million (30%). In fact since EU vessels obtain access to fishing opportunities in a balanced exchange of Greenland quota with Norway, Faroe Islands and Iceland, the EU benefits of the Fisheries Partnership Agreement may be considered to include these latter revenues (assuming that the balanced exchange is cost/benefit neutral). The EU Member states which benefit the most are Germany (42% of the revenues under the Fisheries Partnership Agreement), Denmark (11%), Poland (7%) and UK (4%).
22. Quota obtained from Greenland has contributed respectively 89%, 37% and 100% of the quota supplied in the EU's annual balanced exchange with Norway, Faroe Islands and Iceland (the balance being from EU stocks). Overall Greenland contributed 70% of these exchanges in cod equivalent terms. Access of EU vessels to important resources, particularly in Norway and Iceland (in the context of the EEA Agreement) has therefore been highly dependent on the EU's agreement with Greenland (although EU and Iceland were not able to agree on the terms of the exchange in 2009 and 2010). Without these opportunities it is unlikely that many vessels in the distant water fleets of UK, Spain, Portugal and Germany could continue to operate.
23. For the EU, the Fisheries Partnership Agreement has delivered net value added benefits estimated at EUR 20.3 million/year, for an outlay of EUR 15.8 million, suggesting a cost benefit ratio of 1.3 (i.e. returning EUR 1.30 for every EUR 1.00 invested). This is a positive return, and equivalent to that of the Fisheries Partnership Agreements with Mauritania (which is also a "mixed" agreement). It has accounted for approximately 330 full time jobs at sea, suggesting around a total of around 500 EU jobs are dependent on fishing in Greenland under the Fisheries Partnership Agreement (but considerably more taking into account the supported activities in other third countries).
24. Therefore whilst the Fisheries Partnership Agreement has been effective in promoting EU fishing in Greenland and other third country waters, it has only been a marginally efficient means of achieving these ends, and its viability remains sensitive to externalities. The system of licence allocation is inefficient, with rigid annual limits requiring that EU vessels purchase more quota than is required (on averaging catching 16,472 tonnes out of 19,783 tonnes of quota taken, with 17% of purchased quota remaining unused at the end of the year). Third country vessels suffer no penalty by over-drawing quota.
25. Overall, including the sector support, the EU has contributed a relatively high EUR 286/tonne of fishery products produced (30% of the sales value). Moreover the EU financial contribution and licence fees represent almost 70% of the budgetary income generated by the Greenlandic fishing sector, while accounting for only 12% of the total value of the catches in the EEZ. Of the overall access costs to the resource (compensation plus licence fees, estimated at EUR 259/tonne) the EU has contributed 85% and the fleet operators 15%, which is more or less the same level of public contribution applied by EU policy in the EU's other mixed Fishery Partnership Agreements (for example 87% in Mauritania) but

considerable more than the EU's "tuna agreements" where the targeted split is typically 65/35.

26. For Greenland, the Fisheries Partnership Agreement has been an effective measure to generate income from several fishery resources which it may not otherwise have been able to exploit. In 2011 the amount of compensation was adjusted downward to partly account for the cancellation of the capelin debt accrued during the period 2007 to 2010 (corresponding to EUR 0.4 million/year). Therefore the Fisheries Partnership Agreement generated on average EUR 15.8 million per year in financial contributions, comprising EUR 13.9 million in adjusted contribution and EUR 1.9 million in licence fees. This income accounted for 1.3% of the state budget in 2010. The resource rent achieved is approximately EUR 326/tonne (35% of vessel revenue, which is high by international standards).
27. The Fisheries Partnership Agreement has not been effective in delivering any significant additional economic benefits to Greenland (such as joint ventures, employment on board, or landings into processing). A programme of sector support measures valued at around EUR 4.0 million/year has been implemented by the Ministry of Fisheries Hunting and Agriculture, in line with Article 4 of the Protocol. The FPA-linked financial contribution accounts for some 70% of the state budget contribution to the fisheries sector. About half of the money has been spent on fisheries research. The programme was found to have relevant objectives, and has achieved positive results on measures related to fisheries research, training of staff, and fisheries control, thus contributing to the improved sustainability of the Greenland fisheries sector. However, it has failed with regard to structural adjustment of coastal fisheries, and it is not always clear that the budgetary support has been used for investment, rather than current, expenditure.
28. There are concerns regarding sustainability of the three of the ten fishing opportunities specified in the Fisheries Partnership Agreement. There is clear evidence that cod, Greenland halibut in E.Greenland and redfish (deep pelagic stocks) are subject to excessive and unsustainable levels of exploitation, and that the Fisheries Partnership Agreement has contributed respectively 11%, 30% and 8% of the overall exploitation during the period of the evaluation. For cod, some management measures have been introduced in line with a cod management plan developed by Greenland, but this plan needs further modification if it is to deliver long term sustainability. For redfish, an Agreement signed in March 2011 by Greenland, the EU and other states regarding management of this species in the Irminger Sea will progressively reduce TACs and should bring sustainability in future. For Greenland halibut (East), another straddling stock, there is no Agreement between the coastal states (Greenland, Iceland and Faroe Islands); each sets autonomous TACs and catches exceed scientific advice by a factor of 5. Although there are also concerns regarding the sustainability of the levels of exploitation of shrimp in W.Greenland (considered to be at risk), here the Fisheries Partnership Agreement has contributed less than 3% of the exploitation, and an effective management plan was introduced in 2010. There is also a risk that exploitation of the Atlantic halibut has not been sustainable, although there is insufficient evidence for a definitive analysis. Other quotas (shrimp in E.Greenland, Greenland halibut in W.Greenland, capelin and snow crab) are all considered to be subject to sustainable management. All fisheries are known to have low rates of bycatch. All demersal trawl fisheries are subject to sorting grids, and discarding is prohibited. There are no known negative non-target or ecosystem impacts.
29. In general the Fisheries Partnership Agreement is coherent with EU development, trade and policies, which together deliver a range of benefits to the Government of Greenland and Greenlandic stakeholders. Except for the lack of sustainability of three key stocks, it is broadly coherent with the Common Fisheries Policy. The Fisheries Partnership Agreement is potentially coherent with the EU's emerging policy framework with regard to the Arctic region. In respect of EU trade measures in relation to seal products, which has had a negative impact on livelihoods of small scale fishers/hunters, the policy framework has lacked coherence. Overcapacity in inshore fisheries and lack of alternative employment opportunities are critical structural problems in the Greenland fishery sector, which remain to be properly addressed in future through a strengthened structural adjustment programme

under the sectoral policy support measures supported by the Fisheries Partnership Agreement.

30. Overall, the study concludes that the Fisheries Partnership Agreement has been of immense mutual benefit to the parties, and therefore recommends that the parties enter negotiations for the renewal of the protocol. It is recommended that a new protocol be for a period of just three years, to allow for a subsequent protocol to be adjusted to ensure full coherence with any renewal of the Overseas Association Decision and the Greenland Partnership Agreement. This will also allow for new measures within the reformed Common Fisheries Policy to be reflected in the design of a new Fisheries Partnership Agreement and Protocol, which are coherent with other EU policy areas, including the EU's Arctic Policy in relation to maritime and environmental matters.

RÉSUMÉ EXÉCUTIF

1. Ce rapport présente les résultats d'une étude d'évaluation ex-post de l'accord de partenariat dans le domaine de la pêche entre l'Union Européenne et le Groenland. L'étude a été lancée par la Direction Générale de la Pêche et des Affaires Maritimes de la Commission européenne sous un contrat cadre « pour la réalisation d'évaluations, d'études d'impact et des services de suivi dans le contexte des accords de partenariat dans le domaine de la pêche conclu entre l'Union Européenne et Pays non-membres de l'UE ref. FISH/2006/20 » dont le titulaire est le consortium composé d'Oceanic Développement (France) et Megapesca Lda (Portugal). L'étude a débuté le 14 janvier 2011 et s'est terminée le 13 mai 2011.
2. L'accord de partenariat dans le domaine de la pêche entre les deux parties a été paraphé en juin 2006 et est entré provisoirement en vigueur le 1^{er} janvier 2007 pour une période de six années (jusqu'au 31 décembre 2012). Au moment de cette étude, l'accord a donc été opérationnel pendant un peu plus de quatre années, et l'évaluation couvre la période 2007-2010 inclus. La méthodologie mise en œuvre comprend une revue de la documentation disponible, une analyse des données sur les quotas, les licences et les captures issues de différentes sources, and des contacts / interviews avec des parties prenantes clés dont les autorités du Groenland et son industrie de la pêche, les intérêts de l'UE dans l'armement de navires, la Commission européenne, les Etats membres de l'UE ainsi que les autorités de Norvège et des Faeroe dans la mesures où ces entités reçoivent des quotas de l'UE qui les obtient sous cet accord).
3. Le Groenland constitue la plus grande île du monde. Son point le plus septentrional est à 740 m du Pôle Nord. Du Nord au Sud, le Groenland s'étend sur 2 670 km. En 1979, le Danemark a accordé au Groenland une part d'autonomie sur la plupart des domaines, à l'exception de la politique étrangère, de la défense et de quelques autres fonctions régaliennes. A la suite d'un référendum tenu en 2008, l'autonomie a été élargie par une loi qui a pris effet le 21 juin 2009 et qui donne au nouvellement nommé Naalakkersuisit (Gouvernement du Groenland) davantage de pouvoir. Le Danemark continue d'assurer la défense, l'inspection de produits de la pêche en dehors des eaux territoriales, les affaires constitutionnelles et la politique monétaire.
4. La population du Groenland est de 56 452 habitants, incluant environ 6 300 résidents danois. La population est stable. Le nombre de personnes en âge de travailler était de 28 510 en 2010 avec un taux de chômage de 7,1%. Le taux d'inflation au Groenland est bas (1,4% en 2009) mais souffre d'un taux de chômage structurellement élevé ainsi que d'une population vieillissante. Le Produit Intérieur Brut était de 29 286 € par personne en 2006 mais n'a pas marqué de croissance en termes réels sur ces dernières années. Le Gouvernement est le plus grand employeur, absorbant 44% des emplois. Le pays est très dépendant de la subvention annuelle accordée par le Danemark qui représente 32% du PIB.
5. Le secteur de la pêche national est le premier secteur économique représentant 13% de la valeur ajoutée directe et 17% (5 500) de l'emploi (incluant la transformation et les autres activités connexes). Le secteur de la pêche est à l'origine de 88% des exportations avec une destination pratiquement exclusivement vers l'UE (87% vers le Danemark). Le secteur de la pêche a subi les effet d'une baisse de prix à l'exportation (crevettes congelées), ainsi que sur d'autres produits comme le crabe des neiges. La pêcherie de cabillaud, une ressource majeure jusqu'au début des années 80, ne s'est pas restaurée en dépit de signes prometteurs. Le minerai et le tourisme restent des secteurs faiblement contributeurs à l'emploi et aux revenus. Toutefois, il existe des perspectives pour les secteurs des mines, du pétrole offshore, de l'énergie hydroélectrique et de la fusion d'aluminium. Plusieurs projets d'investissements sont examinés par le Gouvernement.
6. Le changement climatique et son impact sur la couverture glaciaire du Groenland fait apparaître des possibilités pour l'exploitation du minerai et la création de nouvelles routes maritimes avec des coûts et des bénéfices associés. La localisation arctique du

Groenland lui donne un avantage stratégique à l'intérieur du Royaume du Danemark et pour l'UE. Le territoire est un acteur majeur du Conseil de l'Arctique (présidé en ce moment par le Danemark). Il existe des revendications territoriales dans l'Arctique. Le Groenland et le Canada ont deux cas non résolus, l'un sur l'île de Hans et l'autre sur les limites maritimes dans l'océan arctique.

7. En 1953, le Groenland a cessé d'être une colonie du Danemark et a été intégré au pays, rejoignant ainsi l'UE avec le Danemark en 1973. Le Groenland s'est séparé de l'UE en 1985. L'accord de pêche a fait partie intégrante des négociations vers le retrait de l'UE. Le résultat a été que les droits de pêche traditionnels de l'UE ont été conservés, et en retour, le Groenland a pu continuer à recevoir un soutien financier de l'UE.
8. Le statut du Groenland en tant que Pays et Territoires d'Outre-Mer (PTOM) est garanti dans le Traité négocié lors de la séparation de l'UE. Ce statut confère au Groenland le bénéfice d'un accès à tarif nul au marché de l'UE pour les produits de la pêche (complété depuis par des quotas tarifaires pour les produits non-originaux). Le Traité encadrant les relations entre l'UE et les PTOM a été prorogé et doit expirer à la fin de 2013.
9. Jusqu'au 31 décembre 2006, toute l'assistance financière de l'UE au Groenland (42,8 M€ par an) a été délivrée sous l'accord de pêche. Une nouvelle approche a ensuite été adoptée avec l'introduction d'un accord de partenariat dans le domaine de la pêche en vigueur depuis le 1^{er} janvier 2007 qui ne concerne que ce secteur. Un nouvel instrument était nécessaire pour soutenir le développement du Groenland et depuis le 1^{er} janvier 2007, l'UE et le Groenland ont conclu un accord de partenariat pour le développement durable du Groenland. Cet accord expirera fin 2013. L'accord de partenariat apporte un soutien budgétaire de 25 M€ par an mis en œuvre par le document de programmation pour le développement durable du Groenland. Le programme se concentre sur le secteur de l'éducation. Une revue à mi-parcours a montré que ce programme est raisonnablement efficace, efficace et durable, et a recommandé l'élargissement du partenariat vers les secteurs de l'environnement, du climat et des populations indigènes, créant ainsi un lien clair avec la Communication de l'UE sur la région arctique.
10. La superficie de la ZEE du Groenland est de 2 814 254 km² et peut être divisée en deux zones Est et Ouest. Les deux zones disposent de ressources naturelles et sont dans les zones couvertes par le CIEM et la NAFO respectivement. Environ 220 000 tonnes par an de poissons ont été capturées par les pêcheries groenlandaises entre 2007 et 2010, dont 65% de crevettes, ce qui souligne l'importance de cette ressource pour l'économie du pays. Les autres principales pêcheries sont celles de flétans, cabillauds, sébastes, crabe des neiges et capelan. L'UE et les autres flottes étrangères (Norvège, Russie, Faeroe) exploitent principalement la zone Est-Groenland. Quelques quotas du Groenland pour des espèces migratoires et chevauchantes (sébastes, capelan) sont pêchés dans les eaux internationales ou sous juridiction de l'Islande.
11. La flotte de pêche du Groenland comptait quelques 757 navires en 2007, dont la plupart sont de petite taille. On estime qu'il y a en plus entre 3 000 et 5 000 canoes utilisés pour la chasse et la pêche à différentes périodes de l'année. Le segment industriel est composé de 47 navires travaillant dans la ZEE, ainsi que dans les eaux internationales ou celles sous juridiction des Faeroe et de la Norvège.
12. Le secteur de la transformation des produits de la pêche compte quelques 56 unités et 4 entrepôts frigorifiques. Ce secteur est dominé par deux grandes multinationales, Royal Greenland et Polar Seafoods qui arment la flotte de pêche crevettière et contrôlent les 5 plus grands établissements de transformation. Ces sociétés transforment de crevettes, du flétan et du cabillaud et ont des intérêts dans des sociétés sur le territoire de l'UE faisant de la transformation et du négoce. La société Royal Greenland contrôlée à 100% par l'Etat a affiché une perte de 5,8 M€ en 2009/2010, et accumule 265 M€ de dettes. En 2009, la société a dû injecter 66 M€ dans son capital, apportés par le Gouvernement. La société serait redevenue profitable

en 2010. La politique du Gouvernement est de stabiliser la société, réduire ses dette et d'examiner la possibilité d'une privatisation.

13. Le secteur de la capture donnait de l'emploi à environ 2 000 personnes équivalent temps plein (ETP) en 2004, plus 3 500 ETP dans le secteur de la transformation. Le secteur emploie 17% de la force de travail, soit environ la moitié des emplois dans le secteur au cours des années 70. Le taux de décroissance de l'emploi dans le secteur de la pêche côtière est d'environ 6% du fait d'un manque de rentabilité et de retraites.
14. Les exportations de produits de la pêche vers l'UE se sont monté à environ 290 M€ par an en moyenne sur la période 2007-2009. Le Groenland est le premier producteur mondial de crevettes nordiques (*Pandalus borealis*). Les crevettes congelées représentent environ 62% de la valeur des exportations, devant le flétan avec 27%. Le cabillaud ne représente plus que 4% des exportations. Le Groenland a un accès à droits nuls au marché de l'UE pour les produits de la pêche du fait de son statut de PTOM. Le droit appliqué à la crevette nordique congelée de pays tiers est de 12% (20% pour les crevettes cuites et pelées). La préférence tarifaire accordée au Groenland est complétée par un quota tarifaire de 10 000 tonnes pour du flétan et de la crevette nordique non-originaire (peu utilisé par le Groenland), ainsi qu'un quota tarifaire additionnel de 2 100 tonnes pour des crevettes préparées et en conserves (totalement utilisé). L'intérêt de ces préférences a été érodé par la décision de l'UE d'accorder un quota tarifaire *erga omnes* pour la crevette congelée (actuellement 20 000 tonnes par an).
15. Le principal élément de l'accord de partenariat dans le domaine de la pêche est que le Groenland autorise l'accès à des navires de l'UE pour pêcher dans sa ZEE en échange d'une contribution financière. Les possibilités de pêche sous la forme de quotas indicatifs sont définies dans le protocole d'accord. Depuis 2008, elles sont constituées de 55 000 tonnes de capelan et 36 700 tonnes d'autres espèces dont du cabillaud, de la crevette, du flétan, de la sébaste, du flétan noir et du crabe des neiges. Le protocole prévoit que l'UE puisse utiliser certaines possibilités de pêche négociées sous cet accord dans ses échanges de quotas avec d'autres pays tiers, et plus précisément la Norvège, l'Islande et les Faeroe. Les navires de l'UE et ceux d'autres pays tiers ne peuvent exercer dans la ZEE que si ils détiennent une licence de pêche dont le coût pour les armateurs de l'UE est fixé dans le protocole à 5% d'un prix de référence spécifique. Sous le protocole, l'UE s'engage à payer au Groenland un montant de 85 852 464 € sur une période de six années, payable par tranche annuelle de 14 307 244 €. Chaque année, le Groenland s'engage à utiliser 3 261 449 € (un peu moins en 2007) au financement de la mise en œuvre de sa politique sectorielle visant à assurer la durabilité de l'exploitation, en ciblant des objectifs qui sont définis de manière conjointe dans le cadre de la Commission Mixte de l'accord.
16. Du fait de limites sur la disponibilité des ressources, le Groenland n'a pas été en mesure d'octroyer les quotas prévus sous l'accord pour 9 espèces entre 2007 et 2010 inclus. Les déficits concernent les quotas de capelan (chaque année), le flétan (à l'Est et à l'Ouest du Groenland) en 2009 et 2010, et le cabillaud en 2010. Le déficit annuel moyen est de 35 530 tonnes, ce qui correspond à 39% des quantités annuelles. Un mécanisme de compensation qui permet au Groenland de proposer des possibilités de pêche alternatives a bien fonctionné pour de petites fluctuations annuelles dans la disponibilité des quotas, mais n'a pas pu être utilisé pour résoudre le problème de la « dette » pour de plus grandes quantités de capelan (une ressource dont l'abondance est connue pour varier naturellement de manière importante d'une année à l'autre). En 2010, les parties se sont accordées sur le fait que la dette (évaluée à 2,6 M€) pourrait être apurée i) par une réduction de la compensation financière de l'accord de 1,6 M€ et ii) l'inscription par le Groenland de l'achat d'un navire de recherche évaluée à 1,1 M€ dans la matrice des mesures sectorielles.
17. Pendant la période, 37 navires de l'UE ont bénéficié des possibilités de pêche, dont 5 navires de l'Allemagne, 13 de l'Espagne, 4 du Royaume Uni, 6 du Portugal, 1 du Danemark, 3 de Lituanie, et 2 du Portugal et de l'Estonie. Ces navires représentent 3%

- de la capacité en jauge de la flotte de l'UE. Une concession du Groenland pour autoriser des groupes de navires d'un même Etat membre d'acheter en bloc des licences pour les redistribuer ensuite entre eux a grandement facilité la procédure de délivrance des licences. Le taux d'utilisation des possibilités de pêche négociée a été bon, de 75% en moyenne sur la période. Si l'on inclut les quotas transférés par l'UE dans le cadre de ses échanges avec d'autres pays tiers (Norvège, Islande, Faeroe), l'utilisation globale mesurée en nombres de licences utilisés se monte à 90% du nombre disponible.
18. Les quotas pour les navires de l'UE ont été distribués suivant les clés de la stabilité relative qui ne correspond pas totalement avec la demande constatée. Un système d'échanges intra-communautaire de quotas entre les Etats membres est utilisé de manière satisfaisante et a contribué à maintenir le taux d'utilisation de l'accord. Pendant les deux premières années, quelques segments de flotte ont évoqué des disponibilités tardives de quotas qui ont gêné la planification des activités, mais le système a évolué depuis pour permettre des échanges plus tôt.
 19. Il existe des différences significatives dans l'utilisation suivant les quotas. Les possibilités de pêche pour la crevette dans l'Ouest du Groenland, du flétan du Groenland et du cabillaud sont très demandées. L'introduction de mesures de gestion a limité l'utilisation globale des possibilités de pêche sur le cabillaud à 91%. Seulement 45% du quota annuel de 7 000 tonnes de crevettes dans l'Est du Groenland est utilisé ainsi que seulement 46% du quota de sébastes. Les possibilités de pêche pour le crabe des neiges sous l'accord n'ont jamais été utilisées par l'Espagne. Le quota de flétan atlantique alloué au Portugal est pratiquement impossible à pêcher et se révèle d'un intérêt limité pour la Norvège. Les prises accessoires sous l'accord sont minimales.
 20. Au total, sur une année moyenne, le protocole d'accord a permis de capturer 48 502 tonnes par an, dont 16 472 tonnes sont capturées par des navires de l'UE et 32 030 tonnes par des navires de pays tiers (ces moyennes excluent les années pendant lesquelles aucun capelan n'a été capturé). Les captures annuelles prélevées par les navires de l'UE sont estimées équivalentes à 0,3% des captures totales de l'UE. En moyenne, les navires de l'UE ont capturé 63% des quotas disponibles, et les navires de pays tiers 88%.
 21. Sur la base des prix des poissons publiés en Islande, le chiffre d'affaires annuel moyen réalisé sous l'accord a été de 45,6 M€ par an, dont 31,9 M€ (70%) par les navires de l'UE et 13,7 M€ (30%) par les navires de pays tiers. Depuis que les navires de l'UE obtiennent des possibilités de pêche dans le cadre d'un échange équilibré des quotas dans la zone Groenland avec la Norvège, l'Islande et les Faeroe, les bénéfices de l'accord pour l'UE doivent intégrer ces éléments (en faisant l'hypothèse que l'échange équilibré est neutre d'un point de vue coût-bénéfice). Les Etats membres qui bénéficient le plus sont l'Allemagne (42% du chiffre d'affaires sous l'accord), le Danemark (11%), la Pologne (7%) et le Royaume-Uni (4%).
 22. Les quotas obtenus sous l'accord avec le CRL ont contribué à respectivement 89%, 37% et 100% des quotas mis à disposition avec la Norvège, les Faeroe et l'Islande dans le cadre des échanges (le solde étant des quotas sur des stocks dans les eaux de l'UE). Au total, le Groenland contribue à 70% de ces échanges en termes d'équivalent cabillaud. L'accès de navires de l'UE à des ressources importantes en Norvège et en Islande (dans le cadre de l'Accord EEE) est par conséquent très dépendant de l'accord entre l'UE et le Groenland (bien que l'UE et l'Islande n'aient pu s'entendre sur les échanges en 2009 et 2010). Sans ces possibilités de pêche, il est improbable que les navires de pêche lointaine du Royaume-Uni, de l'Espagne, du Portugal et de l'Allemagne puisse continuer à travailler.
 23. Pour l'UE, l'accord a apporté une valeur ajoutée nette de 20,3 M€ par an pour un investissement annuel de 15,8 M€, suggérant un rapport coût-bénéfice de 1,3 (i.e. chaque 1 € investi rapporte 1,3 €). Le rapport est positif et est comparable avec celui obtenu sous l'accord avec la Mauritanie (qui est aussi un accord mixte). L'accord permet de soutenir 330 postes de travail embarqués, avec environ 500 emplois dans

- l'UE directement dépendants de l'activité de pêche sous l'accord avec le Groenland (mais probablement sensiblement plus en tenant compte des activités liées dans les autres pays tiers).
24. En conséquence, si l'accord a été efficace pour soutenir la pêche par des navires de l'UE dans les eaux du Groenland et d'autres pays tiers, il n'a été que marginalement efficace pour atteindre cet objectif, et sa viabilité reste dépendante d'externalités. Le système de distribution des licences n'est pas efficace avec des limites annuelles rigides qui exigent que les navires de l'UE achètent plus de quota que nécessaire (en moyenne, pêcher 16 472 tonnes sur un quota total de 19 783 tonnes, avec 17% du quota acheté qui reste inutilisé à la fin de l'année). Les navires de pays tiers ne sont pas pénalisés par des achats de quota en excédent.
 25. Globalement, en intégrant les montants en soutien à la politique sectorielle, l'UE a contribué à la hauteur élevée de 286 € par tonne de produits capturés (30% de la valeur commerciale). De plus, la contribution de l'UE et les paiements des armateurs représentent pratiquement 70% des recettes budgétaires générées par le secteur des pêches groenlandais alors que les captures ne représentent que 12% en valeur du total des captures dans la ZEE. Sur le coût total de l'accès à la ressource (compensation et redevances pour licences estimés à 259 € par tonne), la contribution de l'UE représente 85% et celle des armateurs 15%, ce qui est similaire à la répartition mesurée sous d'autres accords mixtes (par exemple 87% en Mauritanie) mais supérieure à la répartition sous les accords thoniers de l'UE sous lesquels la répartition recherchée est de 65/35.
 26. Pour le Groenland, l'accord a été efficace pour générer des recettes à partir de plusieurs pêcheries qui n'auraient pas pu être valorisées autrement. En 2011, le montant de la compensation a été ajusté à la baisse de manière à annuler une partie de la dette sur le capelan accumulée entre 2007 et 2010 (correspondant à 0,4 M€ par an). En conséquence, l'accord a généré en moyenne 15,8 M€ par an comprenant 13,9 M€ en compensation ajustée et 1,9 M€ en redevances licences. Ces recettes représentent 1,3% des recettes de l'Etat en 2010. La rente obtenue est d'environ 326 € par tonne (35% du chiffre d'affaires des navires, ce qui est haut par rapport aux standards internationaux).
 27. L'accord n'a pas été efficace sous son objectif de générer des bénéfices économiques additionnels pour le Groenland (comme des sociétés mixtes, de l'emploi embarqué ou des débarquements locaux à des fins de transformation). Un programme de soutien à des mesures sectorielles d'environ 4 M€ par an a été mis en œuvre par le Ministère de la Pêche, de la Chasse et de l'Agriculture suivant l'article 4 du protocole. La contribution de l'accord représente 70% des dépenses du budget de l'Etat au bénéfice du secteur de la pêche. Environ la moitié des montants ont été investis dans la recherche. Le programme est estimé correspondre à des objectifs pertinents et a donné des résultats positifs pour les mesures concernant la recherche, la formation des cadres et le contrôle des pêcheries, contribuant ainsi à l'amélioration de la durabilité du secteur de la pêche. Cependant, les mesures concernant l'ajustement structurel de la flotte côtière, et il n'est pas toujours clair de distinguer si le soutien budgétaire a été utilisé pour l'investissement ou le fonctionnement courant.
 28. Il existe des inquiétudes sur la durabilité de trois des dix possibilités de pêche spécifiées dans l'accord. On dispose d'éléments clairs indiquant que les stocks de cabillaud, de flétan du Groenland dans l'Est de l'île et de sébaste (poisson pélagique profond) sont sujets à des niveaux de pêche excessifs non soutenables, avec l'accord qui contribue à respectivement 11%, 30% et 8% du niveau global d'exploitation pendant la période couverte par l'évaluation. Pour le cabillaud, des mesures de gestion ont été introduites dans le cadre d'un plan de gestion du cabillaud mis en œuvre par le Groenland, mais ce plan devrait être modifié pour réussir à garantir la durabilité dans le long terme. Pour la sébaste, un accord signé en mars 2011 par le Groenland, l'UE et d'autres pays concernant la gestion de l'espèce dans la Mer d'Irminger diminuera progressivement les TACs et devrait aboutir à la durabilité dans le futur. Pour le flétan du Groenland (stock Est) qui est un autre stock chevauchant, il n'existe pas d'accord

entre les Etats côtiers (Groenland, Islande et Faeroe). Chaque partie fixe des TACs autonomes et les captures dépassent les recommandations scientifiques d'un facteur 5. Bien qu'il existe des inquiétudes sur la soutenabilité des niveaux d'exploitation de la crevette dans l'Ouest du Groenland (considéré comme à risques), l'accord n'a concerné que 3% des captures, et un plan de gestion efficace a été introduit en 2010. Le risque que l'exploitation du flétan atlantique n'ait pas été soutenable existe, mais les données manquent pour s'en assurer. Les autres quotas (crevettes dans l'Est du, flétan du Groenland dans l'Ouest, capelan et crabe des neiges) sont tous considérés comme étant sujet à une gestion durable. Toutes les pêcheries sont connues pour avoir des taux élevés de prises accessoires. Toutes les pêcheries démersales au chalut doivent être équipées de grilles de tri et les rejets sont interdits. Il n'y a pas d'impacts négatifs connus sur les espèces non-ciblées ou sur les écosystèmes.

29. En général, l'accord de partenariat dans le domaine de la pêche est cohérent avec les politiques de l'UE concernant le développement et le commerce qui ensemble apportent des bénéfices au Gouvernement du Groenland et aux parties prenantes nationale. A l'exception de l'absence de durabilité dans l'exploitation de trois stocks clés, l'accord est globalement cohérent avec la politique commune de la pêche. L'accord est potentiellement cohérent avec la politique en développement de l'UE pour la région arctique. Concernant les mesures prises par l'UE pour les produits à base de phoques, le cadre politique manque de cohérence. La surcapacité dans les pêcheries côtières et l'absence de possibilités d'emplois alternatifs sont l'un des problèmes structures critiques du secteur de la pêche du Groenland, qui doit être traité dans le cadre d'un programme renforcé d'ajustement structurel à introduire dans le programme des mesures de soutien sectoriel considérés par l'accord de partenariat dans le domaine de la pêche.
30. L'étude conclut que globalement, l'accord a été très bénéficiaire pour les deux parties, et recommande par conséquent que les deux parties négocient un renouvellement du protocole. Le futur protocole devrait avoir une durée de 3 années de manière à garantir une parfaite cohérence avec tout renouvellement de la décision relative à l'association des PTOM et de l'accord de partenariat avec le Groenland. Cette durée permettra également de prendre en considération dans un prochain accord de nouvelles mesures prises sous une politique de la pêche réformée, en cohérence avec d'autres initiatives communautaires incluant la politique pour l'arctique sous ses aspects maritimes et environnementaux.

1 INTRODUCTION

1.1 Background

This report provides the findings of a study comprising an ex-post evaluation of the Fisheries Partnership Agreement between the European Union and Greenland. The study was commissioned by the Directorate General for Maritime Affairs and Fisheries of the European Commission under a framework contract “for performing evaluations, impact analyses and monitoring services in the context of Fisheries Partnership Agreements (FPAs) concluded between the European Union and non-EU member states (No. FISH/2006/20)” operated by a consortium comprising Oceanic Développement (France) and Megapesca Lda (Portugal).

The Fisheries Partnership Agreement between the parties was initialled in June 2006, and entered provisionally into force on 1st January 2007 for a period of six years (until 31st December 2012). It was adopted into EU law by Council Regulation (EC) No 753/2007 of 28 June 2007. At the time of the study the Fisheries Partnership Agreement has therefore been operational for just over four years, and the period of evaluation covers the years 2007 to 2010 inclusive.

The main objective of this report is to provide the parties to the Fisheries Partnership Agreement with an analysis to help understand the associated costs and benefits, consider the progress made so far in meeting its objectives and suggest ways in which the Fisheries Partnership Agreement could better serve their mutual needs, whilst meeting policy objectives for sustainable fisheries. This information will assist the parties the negotiation of any new protocol which they may decide to enter into.

This report is broadly divided into four sections. In the first section it presents a brief description of the general political and economic context of the EU – Greenland Fisheries Partnership Agreement, which includes a detailed review of the relationship between the EU and Greenland, as well as general background of relevance, including maritime boundary issues. The second section describes Greenland’s fisheries resources and its sector. The third section describes the implementation of the EU-Greenland Fisheries Partnership Agreement (FPA), and assesses its impacts on the EU fleet, the European Union and Greenland (including the implementation of Greenland’s fishery sector policy supported by the Fisheries Partnership Agreement). The final section presents the overall conclusions and recommendations for the parties.

1.2 Methodology

The methodology adopted by the consultants included the following activities:

- Review of documentation provided by the Commission (catch data, quota swaps, Agreed Records and legal basis for the Fisheries Partnership Agreement).
- Literature review regarding Development Policy, Maritime Policy and the Arctic Dimension
- Review of work programmes of the working groups of the Arctic Council, and analysis of Greenland obligations in this respect
- Meetings and phone discussions with EU fishery sector stakeholders and EU Member State fishery administrations (in Estonia and Denmark, UK, Germany, Poland, Spain and Portugal)
- Field mission to Greenland and consultation with Greenland stakeholders (fisheries administration, fisheries control, fisheries and environmental research, fishing and processing industry interests, NGOs);
- Collection and review of data on implementation of sectoral policy measures implemented under the FPA;

- Contact with Norwegian and Faroese stakeholders regarding utilisation of fishing opportunities and implementation of the access arrangements for opportunities received as a result of the EU-Greenland Fisheries Partnership Agreement
- Meetings and discussions with European Commission Services, including DG Maritime Affairs and Fisheries, DG Development
- Analysis of licence and catch data relating to EU, Norwegian, Icelandic and Faroe Island fishing vessels, and calculation of values of catches made.
- Assessment of impacts on Greenlandic and EU fishing sectors, and economies

The methodology has drawn on relevant elements of the “Specific Methodological Guidelines for Evaluation of Fisheries Partnership Agreements” prepared by the Consultants in February 2008, and reflects the approaches set out in “*Evaluation Standards and Good Practice (C/2002/5267, 23.12.2002)*” and “*Evaluating EU activities: A practical guide for Commission services (July 2004)*”. The findings are considered in the context of the objectives of the Fisheries Partnership Agreements as set out in COM(2002) 637 Final, “Communication from the Commission on an Integrated Framework for Fisheries Partnership Agreements with Third Countries”.

2 POLITICAL AND ECONOMIC CONTEXT

2.1 Political situation

Greenland became a Danish colony in 1814 and became a part of the Kingdom of Denmark in 1953, with the passage of the new Danish constitution. In 1979 Denmark granted “Home Rule” to Greenland, which provided for autonomy over most policy areas, with the exception of foreign policy, defence and a number of other functions which were performed by Denmark, as the sovereign state. The devolution established a Home Rule Government with an elected parliament of thirty-one members. The head of government is the Prime Minister. As part of the realm of the Kingdom of Denmark, Greenlanders also elect two representatives who sit in the Parliament of Denmark.

A Joint Greenlandic-Danish Commission considered devolution of powers during the period 2004 to 2008, and proposed a new Law on Greenland Self-Governance¹ in May 2008. Following a referendum on 25 November 2008 the new law took effect on 21 June 2009. This provides for Greenland to have the option of taking over responsibility for 32 functions currently performed by Denmark, including police, justice and border control. Under the Law, Denmark retains functions of defence, fishery inspection outside the territorial waters, constitutional affairs, currency and monetary policy. The first areas (administration of mineral resources and immigration) were taken over in 2010. Danish Ministry of finance has estimate that the cost of these functions is more than EUR 40million/year. In the meanwhile, Denmark has undertaken to continue supporting the Greenland budget with an annual block grant of EUR 469 million in 2010.

Also with the passing of the new Law on Greenland Self Government on 21 June 2009, the title “Greenland Home Rule Government (GHRG/Groenlands Landsstyre) was amended to become the Naalakkersuisit (Government of Greenland).

In the meanwhile following a General Election in June 2009, the centre-left Inuit Ataqadigiit (IA) party won the election and formed a coalition. The current Naalakkersuisut therefore consists of

¹ Lov Nr. 473 af 12. Juni 2009 om Gronlands Selvstyre (Act No 473 of 12 June 2009 on Greenland Self Government. Lovtidende 13.06.2009)

nine Members. Six are the from Inuit Ataqatigiit party, two from the Democrats, and one from Kattusseqatigiit Partiaat. The Coalition Agreement 2007-2013 was signed on 10 June 2009.

Under the theme of Fisheries and Hunting the Coalition Agreement of 10 June 2009 indicated that, "a politically independent organ will be established for the allocation of fish and shellfish quota". Until now this has not been established. One notable aspect is that the FPA is not mentioned in the Coalition Agreement, although it is stated that Greenland will continue to cooperate with the EU in the context of the Partnership Agreement and Greenland's OCT status.

2.2 Economic situation

The population of Greenland is 56,452 (2010²). This includes around 6,300 resident Danes. The population is stable. The labour force in 2010 was 28,510, with an unemployment rate of 7.1%. Greenland's has low inflation (1.4% in 2009) but suffers from a high structural unemployment rate, along with an aging population. Its Gross National Income was EUR 29,286/capita in 2006. However, GDP has not risen in real terms in recent years.

The Government is the largest employer, accounting for 44% of all jobs. There are 18 communes, the largest concentration of the population being in the South and Western region of Greenland. All transport between settlements is by air or sea. This all leads to high transport costs and an inflexible and immobile labour market. The system of production is characterised by significant public intervention, with an underdeveloped private sector and reliance on transfers from Denmark.

The country relies heavily on the annual block grant provided by Denmark, accounting for an estimated 32% of GDP. Substantive difficulties facing the country include a) high dependency on fisheries b) direct and indirect subsidies to government owned enterprises c) high wage levels d) ageing population d) lack of skilled manpower e) marginalisation of the indigenous population f) slow private sector development. Significant opportunities for economic development are emerging, with oil and minerals, transport services (in relation to a potential future opening of the north west passage to the Pacific), aluminium smelting and energy. The country faces significant challenges in managing environmental and social impacts of economic development.

2.3 Fishery sector

Greenland is the World's largest island; the northernmost point lies just 740 km from the North Pole. From north to south, Greenland extends 2,670 kilometres. The marine EEZ is 2,184,254 km² and can be divided into two zones: East Greenland and West Greenland. Only about 15% of Greenland's land area is free of ice; the rest is covered by the world's second largest ice cap. The coastline is approximately 40,000 km long and has a countless number of large and small islands and fjords. It is principally a cliff coast with numerous rocky outcrops, islands, and a network of deep fjords. The seabed has a complex topography.

The domestic fishery sector is the economy's most significant earner accounting for 13% of direct Gross Value Added and 17% (4,454) of employment (including processing and other up- and downstream services). However, this sector has witnessed a reduction in trade prices for its main export industry (frozen shrimp) as well as decline in other exports such as snow crab. The cod fishery, a major resource up to the early 1980s, has failed to recover to its full capacity.

The financial crisis in Europe, Greenland's main market, has further impacted negatively on demand and prices, although these have recovered in the second part of 2010 and 2011. Fleet and processing plant rationalisation has led to some improvements productivity within the domestic fishery sector. This includes investment by the largest company (Royal Greenland, which is wholly owned by the Government of Greenland) in processing facilities within the EU

² Greenland in Figures, 2010, Statistics Greenland, Greenland Home Rule Government

(in Denmark, Poland and Germany). Whilst there are clear signs that the offshore shrimp fishery is in good financial condition, the profitability of the inshore fleet and onshore processing in Greenland remains low, with a number of structural disadvantages (low efficiency, remoteness, too many vessels for profitable and sustainable exploitation, and a lack of alternative employment possibilities).

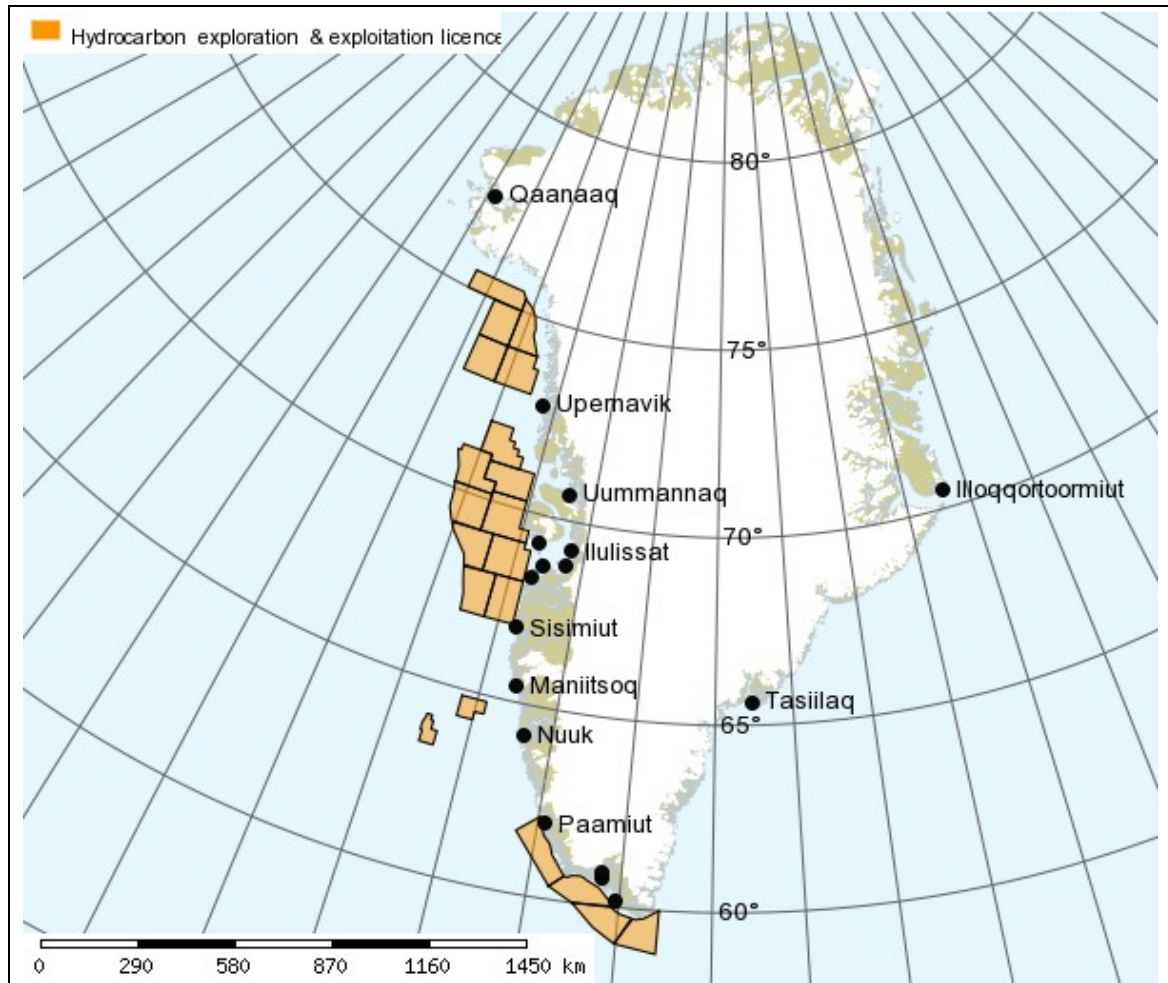
A more detailed description of Greenland's fisheries sector is provided in Section 3 and 4.

2.4 Other sectors

Other economic sectors such as minerals and tourism presently remain only marginal contributors to incomes and employment, although there are significant hopes attached to potential future investment in extractive industries and a hydro-electric scheme and aluminium smelting operation. To this end in May 2007, the Greenland Home Rule Cabinet entered into a Memorandum of Understanding with Alcoa to cooperate on a feasibility study for constructing an aluminium smelter with a 340,000 metric-ton-per-year capacity in Greenland. A feasibility study is presently being considered by the Government.

Another sector which offers potential for substantial development is the offshore oil industry. The US Geological Survey estimates that the seabed between Greenland and Canada holds a total of 17 billion barrels of oil. There may be further riches off the Eastern coast. In June 2010 Cairn Energy, a British petrochemicals company announced a significant find within the EEZ, in Baffin Bay in W.Greenland. The Government Bureau of Minerals and Petroleum is aiming to develop offshore oil wells³ and in December 2010 signed seven new licences for exploration and exploitation for gas and oil in Baffin Bay. Figure 1 shows the current concessions. The Danish Navy has since clashed with environmental campaigners who oppose the development.

³ Source: the Economist 26th August 2010



Source: Bureau of Minerals and Petroleum, Government of Greenland

Figure 1: Oil and gas exploration concessions in Greenland

2.5 International trade

In 2009, Greenland’s exports were DKK 1,923 million (EUR 258.2 million) and imports were DKK 3,669 million (EUR 492.4 million). A breakdown of the exports is shown in Table 1, which demonstrates the importance of fishery products to the overall picture, accounting for about 88% of all tangible exports in 2009. About 87% of the exports are to Denmark, reflecting the transportation linkages. About 4% are to Canada.

Table 1: Greenland Exports

	2007		*2008		*2009	
	tonnes	EURO (million)	tonnes	EURO (million)	tonnes	EURO (million)
All fishery products	125,869	255.44	117,819	281.00	104,902	227.00
Prawns	69,004	151.81	71,321	168.37	64,256	140.13
Cod	7,955	24.16	13,263	37.13	8,998	17.45
Greenland Halibut	20,351	59.33	22,450	61.13	20,831	53.42
Scallops	353	3.62	149	1.21	121	1.07
Crab	1,162	4.97	1,320	5.50	1,380	6.04
Lumpsucker eggs	962	3.36	776	3.62	776	2.95
Other fish	25,494	7.92	7,780	3.89	7,780	5.37
Other fish products	588	0.27	760	0.54	760	0.40
Seal, whale, shark	14	0.67	20	0.80	15	0.54
Sheep	87	0.13	9	0.13	2	0.00
Other livestock	30	0.94	13	0.27	18	0.00
Precious metal (gold)	150,637	31.14	122,673	20.24	50,393	10.07
Pebbles, gravel and crushed stone	0	0	343,233	9.92	160,436	4.70
Others	537,822	24.56	3,860	19.71	269	16.11
TOTAL	814,459	313,02	587,627	332.44	316,035	258.26

*Provisional Figures

Source: Greenland in Figures 2010, Statistics Greenland

2.6 Maritime boundaries

2.6.1 Canada - Greenland

Canada and Greenland signed a Treaty in December 1973, which delimits the continental Shelf between them in the Baffin Bay. It came into force in March 1974 and was amended in March 1994. It defines a boundary of length about 1,450 nautical miles, but left mute the issue of Hans Island, a small, uninhabited barren knoll (1.3 km²) located in the centre of Nares Strait which separates Ellesmere Island from northern Greenland and which straddles the equidistant point between the countries. Both countries claim Hans Island and engage in periodic demonstrations of claim. In 2006 the Canadian Minister of defence visited and erected a Canadian flag, prompting Denmark to send a warship to plant a Danish flag on the Island.

The Canada Greenland Treaty of 1973 also did not address delimitation of the EEZ and Extended Continental Shelf north of the end point. On 1 June 1980, Denmark established straight baselines around the coast of Greenland and declared limits of its EEZ in accordance with the UN Convention on the Law of the Sea, including its maritime boundary with Canada in Baffin Bay and the straits between Ellesmere Island and Greenland, based on a line equidistant from the baselines of each. Apart from disputing Greenland's claimed sovereignty over Hans

Island, Canada also has disputed the methodology by which Denmark set the baselines (in particular to the use of straight baselines). This provides Denmark with two additional areas of maritime zone. Canada formally objected to the Danish promulgation of straight baselines in the Arctic on 3 September 1980. The two sides met in March 1982 with neither side moving from their respective positions.

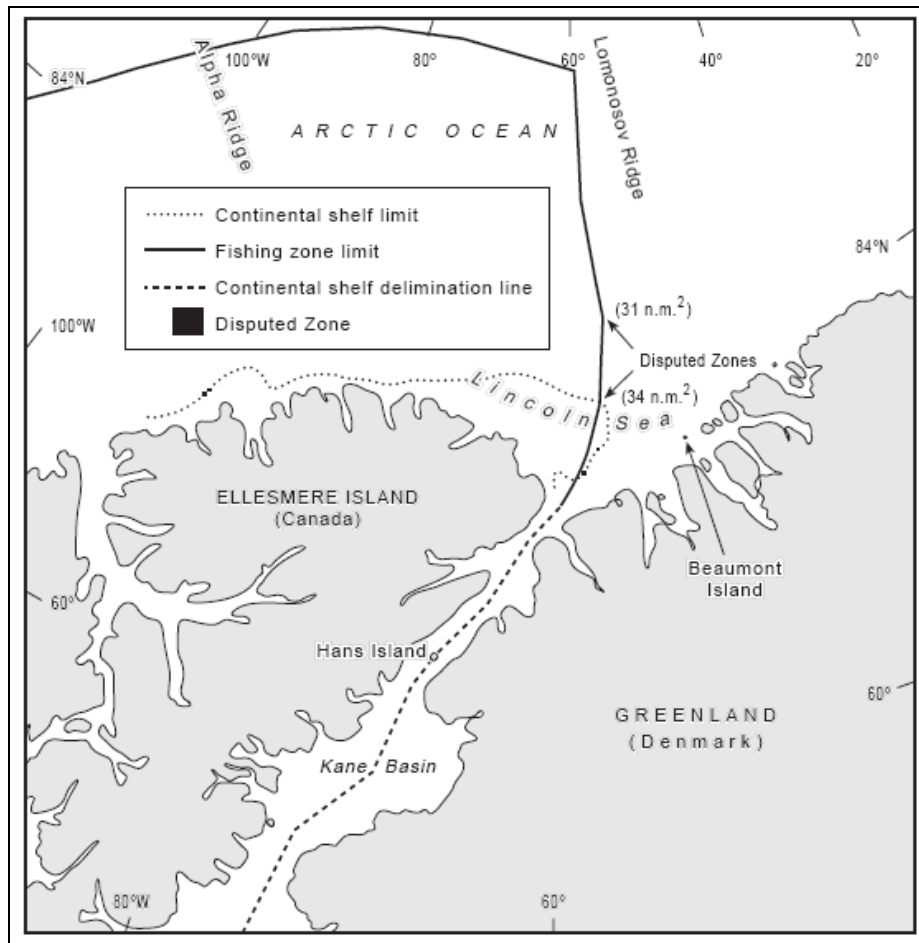


Figure 2: Greenland- Canada maritime boundary disputes in the Nares Strait and Lincoln Sea⁴

2.6.2 Maritime boundaries in the Arctic

No country or group of countries currently has sovereignty over the North Pole or significant areas of the Arctic Ocean around it. There is no specific treaty regime for the Arctic, but the 1982 UNCLOS is not excluded from application to the Arctic and it may therefore provide a relevant international legal framework for the management of maritime boundary claims. The shrinkage of the polar ice cap may provide access to previously unexploitable fishery and seabed resources and along with the threats posed by climate change there is now a renewed strategic interest in the Arctic region, which is giving rise to new claims regarding maritime boundaries.

There are several maritime borders where Arctic coastal states have not agreed upon the delimitation of Exclusive Economic Zones. Five bilateral delimitations have been negotiated but

⁴ David H.Gray, Canada's Unresolved Maritime Boundaries, IBRU Boundary and Security Bulletin, Autumn 1997. www.dur.ac.uk/resources/ibru/publications/full/bsb5-3_gray.pdf

there are a number of unresolved issues. Submissions to the UN Commission on the Limits of the Continental Shelf may result in overlapping claims. The issues are:

- Russia versus Norway in the Barents Sea, US versus Russia in the Bering Strait and US versus Canada in the Beaufort Sea. Canada and Denmark (on behalf of Greenland) have a dispute over Hans Island (as noted above). In addition, Norway and several countries, including EU Member States, interpret the applicability of the Svalbard Treaty in the 200 nm area around this archipelago differently.
- In 2001 Russia submitted a claim for a large portion of the Arctic, including the North Pole. Norway has also submitted a claim; Denmark and Canada intend to establish claims.
- Moreover, there are different interpretations of the conditions for passage of ships in some Arctic waters. The dispute involves both the delimitation of Canada's internal waters where they can fully regulate trespassing, and the right of Canada to adopt and enforce laws to prevent pollution from vessels in ice-covered waters.

UNCLOS provides a potential frame in international law for the settlement of these disputes including delimitation and rules for the use of living and non-living resources, and the protection of the environment. However, the US is not a party at present since it has not ratified the convention. Its ten year deadline for submission of claims will not commence until ratification, and this will potentially delay the submission of claims until after 2019 at the very earliest, but most probably later. Canada has until 2013 to submit claims, and Denmark until 2014. There is a lack of detailed mapping data, since the region is still largely covered with ice and survey work is ongoing.

2.7 Membership of the Arctic Council

Greenland is a member of the Arctic Council (with Faroe Islands, under the umbrella of the Kingdom of Denmark) and this plays an important part in Greenland's environmental considerations. The programme of the Arctic Council has had a clear focus on the Peoples of the Arctic and Greenland has a substantial programme of activities to implement within the frame of the six working groups of the Arctic Council (see Table 2).

In addition Greenland has taken on the chairmanship of the Sustainable Development Working Group (SDWG), which is in line with the country's specific interests in promoting the livelihoods of Arctic Peoples and sustainable economic development.

Greenland has only limited financial and staff resources to apply to these commitments and whilst Arctic Council member states undertake obligations to participate in Arctic Council activities, there is no associated additional funding, therefore Greenland is required to provide these resources from its own national budget. With regard to the funding of the activities of the SDWG, Denmark has provided a grant of EUR 134,228 and Greenland is in the process of identifying other possible sources of funds to come up to a comparable amount, however only EUR 40,268 has been identified so far⁵. There is no specific funding allocated to meet the commitments under the other working groups and up until now there appears to a lack of budgetary allocation to enable Greenlandic institutions to meet there commitments

⁵ Source: personal communication; Kai H. Andersen – Greenland Dept. of Foreign Affairs

Table 2: Summary of Greenland responsibilities to Arctic Council Working Groups

Working group	Greenland responsibilities 2009-2011
Arctic Contaminants Action Program (ACAP)	Possible study in relation to the proposed Alcoa investment in aluminium smelting. Participation in a study of contaminants such as PCBs and dioxins and the impact on human health through the food chain.
Arctic Monitoring and Assessment Programme Working Group AMAP	Presentation of a report on the Greenland Ice Sheet. Ongoing monitoring programme regarding trends in environmental parameters, human health and biological effects and contaminants (Sustaining Arctic Observer Networks).
Emergency Prevention, Preparedness and Response Working Group EPPR	Limited specific responsibilities.
Protection of the Arctic Marine Environment Working Group (PAME)	Information outreach, exchange, and in particular building of new capacity for engagement of indigenous communities.
Conservation of Arctic Flora and Fauna (CAFF)	Contribution to the 2010 Biodiversity Highlights Report to Arctic Biodiversity Assessment Scientific Report (due 2013). Joint lead for the Report on Birds of Arctic Conservation Concern (2009-2011). Lead in the Arctic Tern project (2009-2011). Contribution to launch of expert groups concerned with biodiversity of the main Arctic biomass, including marine and coastal fauna.
Sustainable Development Working Group (SDWG)	Chair and lead in programmes for participation in circumpolar surveillance, prevention and control of infectious diseases, Arctic human health initiative and advancing alcohol and drug abuse treatment. To Initiate and lead research and action plan for human health risk reduction in the Arctic. To Identify, plan and implement follow up activities and <i>new projects and activities that relate to the ecosystem approach and implementation of integrated management concepts</i> , adaptation to climate change, Arctic energy and Arctic social indicators.

Source: Reports of the Senior Arctic Officers to the meeting of the Ministers of Arctic Council Members, Tromsø, April 2009.

2.8 EU policies with respect to Greenland

2.8.1 Background of EU Greenland relations

In 1953 Greenland ceased to be a Danish colony and became an integral part of Denmark. Denmark joined the then European Community in 1973. Autonomous Home Rule (except for foreign relations, defence, justice affairs, mineral resources) was introduced in Greenland in 1979. Greenland subsequently seceded from the European Union in 1985. A Fisheries Agreement between Greenland and the EU was established as an integral part of Greenland's negotiations for withdrawal from the Community. The result was that the EU's traditional fishing rights were sustained and in return Greenland received financial compensation.

Greenland's status as an Overseas Countries and Territory (OCT) is guaranteed by the Greenland Treaty negotiated on secession from the EU. This confers the benefit of tariff and quota free access for a majority of its products, including its fishery products exported to the

EU⁶. The political agreement between the parties was that the EU be granted satisfactory possibilities for access to Greenland fisheries resources under a fisheries agreement with Greenland. At the time of secession, it was agreed that Greenland should continue to receive the same level of financial assistance as that received when it was part of the EU, and that these funds should be made available to Greenland by way of the bilateral Fisheries Agreement. Greenland's trade relationship with the EU is therefore governed by the Overseas Association Decision (2001/822/EC)⁷ which sets out *inter alia* the terms of trade between the parties. The Overseas Association Decision has been extended and expires at the end of 2013.

Until 31 December 2006, all EU financial assistance to Greenland (EUR 42.8 Million per year) was channelled through the Fisheries Agreement between the EU and Greenland. However in 2001, the EU's Court of Auditors was critical of the policy, stating that⁸:

“several of the fisheries agreements are intended both to play a commercial role and to assist in development aims. This intertwining of different purposes means that it is difficult to evaluate the agreements and makes it even harder to distinguish between the responsibilities that lie with the Community and those which belong to the third countries.”

As a result, the EU introduced a new approach to its fisheries access agreements with developing countries. This resulted in the signature of a Fisheries Partnership Agreement with Greenland (from 1 January 2007). However, under this approach, the Fisheries Partnership Agreement was to focus on fisheries only. As a result an alternative instrument was required to facilitate Greenland's development.

Furthermore in 2002, recognising the uniqueness of the Greenland situation, the Commission had published a communication in which it addressed the desirability of a free-standing partnership agreement with Greenland going beyond its OCT status. In addition, the Council of the European Union in its conclusions of 24 February 2003 on the Mid-term Review of the Fourth Fisheries protocol between the European Union, the Government of Denmark and the Home Rule Government of Greenland, agreed that there was a need to broaden and strengthen future relations between the EU and Greenland taking into account the importance of fisheries and the structural development problems in Greenland.

As a result, negotiations led ultimately to a separate political agreement which stressed the close historical links between the EU and Greenland and the need to strengthen and update them within a long-term perspective, taking into account Greenland's status as an OCT, while ensuring that Greenland continued to receive the same level of funds as in previous years. From 1st January 2007 the EU and Greenland therefore entered into a Partnership Agreement for the sustainable development of Greenland.

2.8.2 The EU-Greenland Partnership Agreement

The Partnership Agreement between the parties was ratified in June 2006 and entered into force January 1, 2007. The Agreement was ratified by the European Council by Council Decision 2006/526/EC of 17 July 2006 on relations between the European Community on the one hand, and Greenland and the Kingdom of Denmark on the other. The Agreement will expire at the end of 2013.

Without prejudice to the Overseas Association Decision, the Partnership Agreement between the EU and Greenland aims to broaden and strengthen the relationship between the EU and Greenland, and to contribute to the sustainable development of Greenland. However, the

⁶ Since supplemented by tariff quotas for non-originating fishery products

⁷ Council Decision 2001/822/EC of 27 November 2001 on the association of the overseas countries and territories with the European Community

⁸ Special report N° 3/2001 by the Court of Auditors concerning the Commission's management of the international fisheries agreements

Partnership Agreement remains explicitly linked to the existence of the access arrangements for EU vessels within the framework of the Fisheries Partnership Agreement.

The objectives of the partnership are: (a) to provide a framework for dialogue; (b) to achieve common goals by consulting on issues of common interest to ensure that the cooperation efforts have maximum effect in accordance with the priorities of both partners; (c) to provide a basis for economic, financial, scientific, educational and cultural cooperation founded on the principles of mutual responsibility and mutual support; (d) to contribute to the development of Greenland.

The Agreement provides for the EU to grant development assistance to Greenland in the form of budgetary support. Cooperation shall support sector policies and strategies that facilitate access to productive activities and resources, in particular: (a) education and training; (b) mineral resources; (c) energy; (d) tourism and culture; (e) research; (f) food safety.

Greenland and the EU in this respect developed a "Programming Document for the Sustainable Development of Greenland" (PDSD) setting up overall and specific objectives and indicators to reach within the period 2007-2013, and defining a budgetary support programme valued at EUR 25 million/year. One of the eligibility criteria for EU sector budget support was the implementation of the Greenland Education Programme (GEP). This was formulated following Greenland's Structural Reform action Plan 2000-2015 and consequent education and labour market analysis in 2004. The GEP was adopted by the Home Rule Parliament in March 2006, and comprises two phases, Phase 1 running until 2012 and Phase 2 until 2020. In its first phase (2006-2012) the GEP focuses on lower secondary school leavers who drop out of the educational system after graduation and on unskilled workers under 50 who are unemployed, in threatened trades and/or breadwinners for a family. In the second phase (2013-2020) the focus will be on higher education. Expenditure on GEP was EUR 9.0 million in 2006, EUR 26.4 million in 2007 and EUR 38,8 million in 2008 and was estimated to be EUR 51,5 million in 2009.

The (annual) Financing Agreements state a number of reporting obligations, whereby Greenland is committed to submit annual work plans to the EU on activities under the GEP planned during the year, and to set annual targets on a number of indicators agreed between Greenland and the EU. Greenland is committed to submit annual implementation reports to the EU setting out the results obtained compared to the targets set in the annual work plan and the objectives set in the education sector strategy.

In Greenland, since November 2008, the secretariat responsible for the implementation of the Partnership Agreement is placed in the Ministry of Culture, Education, Research and the Church (MoCERC). The Ministry of Finance and Foreign Affairs (MoFFA), Ministry of Industry and Labour Market (MoILM), Ministry of Health and Family Affairs (MoHFA) also participate in the implementation of the programme. There are two Steering Committees related to the Education Programme. Both of them have representation from the Ministry/Agency of Fisheries, Hunting and Agriculture.

In 2009, the Cooperation Strategy was subject to a mid-term review by consultants⁹. This found that in general the implementation of the strategy had satisfactory levels of efficiency, effectiveness and sustainability. It found that the EU support contributed some 17% of the education budget. Although educational objectives were clearly defined, the study found that there were no up-stream policy research nor down-stream data models available to continuously monitor that this targets were actually being achieved. The review recommended that whilst the decisions to support the education programme was still valid, it is important to consider extending the areas of cooperation to include environment, climate change and indigenous peoples, thus establishing clearer links to the Communication to the European Parliament and the Council on The European Union and the Arctic Region, with associated reprogramming and/or additional financial resources to be considered by the parties.

⁹ Mid-term review assessment of the EU Greenland Cooperation Strategy and its Programming, Final Report, Project No. 2009/219559 - Version 1, HTSPE Limited, 2009

2.8.3 EU Greenland Fisheries Relations

Since Greenland's secession from the EU until the end of 2006 the fisheries relations between the EU and Greenland were governed by a Fisheries Agreement that entered into force at the same time as the Greenland Treaty, on 1st February 1985. Since that date there were four Protocols to the previous agreement. The first three protocols had financial compensation levels set at EUR 26.5 million, EUR 34.25 million and EUR 37.7 million per year respectively. The fourth Protocol covered the period 1st January 2001 to 31st December 2006 with a financial compensation of EUR 42.82 million per year. However, during this period, in 2003, the review of the agreement was necessary in order to ensure consistency between all the Fisheries Partnership Agreements which included financial contributions to third countries and to respond to strong criticisms issued in the Court of Auditors Special Report of 2001¹⁰. This highlighted the lack of real justification of the financial value paid by the EU, since most of the fishing opportunities were non-existent, not available or not utilised by the EU. As a result, on 24 February 2003, the EU Council adopted a modified 4th Protocol¹¹ which covered the period from 1 January 2004 – 31 December 2006.

The Fisheries Agreement was replaced by the Fisheries Partnership Agreement, which was initialled in June 2006, and entered provisionally into force on 1 January 2007. The first Protocol entered into force on the same date for a period of six years (1st January 2007 – 31st December 2012). The Council Regulation adopting the Fisheries Partnership Agreement was finally adopted in June 2007¹², after long debates with Member States regarding the mechanism for reallocation of unutilised opportunities. The protocol foresees fishing opportunities for cod, redfish, Greenland halibut, Atlantic halibut, shrimp, capelin and snow-crab. A more detailed description of the Fisheries Partnership Agreement is provided in Section 6.

2.8.4 The European Union and the Arctic Region

EU interests in the Arctic

The European Union is linked to the Arctic region (see http://ec.europa.eu/maritimeaffairs/arctic_overview_en.html) by a combination of history, geography, economy and social features. Three Member States — Denmark (through its sovereignty over Greenland), Finland and Sweden — have territories in the Arctic (although none of the current EU Member States are coastal States with respect to the Arctic marine area). Two other Arctic states — Iceland and Norway — are members of the European Economic Area. Several countries are strategic partners of the EU (Canada, Russia and the United States). Beyond areas of national jurisdiction, the Arctic Ocean contains parts pertaining to the high seas and the seabed managed by the International Seabed Authority, which are of strategic interest to the EU in relation to access to natural resources and maritime transport. Furthermore, in view of the role of climate change as a "threats multiplier", the Commission and the High Representative for the Common Foreign and Security Policy have pointed out that environmental changes are altering the geo-strategic dynamics of the Arctic with potential consequences for international stability and European security interests, thus calling for the development of an EU Arctic policy.

Communication from the Commission on the Arctic Region

¹⁰ The Court of Auditors also made a number of additional observations, including that the costs of each agreement should be more balanced between the Community and ship owners. The European Parliament also criticised the agreement for similar reasons (European Parliament, 2003).

¹¹ Council Regulation (EC) No 1245/2004 of 28.06.2004 (OJ L 237 of 08.07.2004)

¹² Council Regulation (EC) No 753/2007 of 28 June 2007 on the conclusion of the Fisheries Partnership Agreement between the European Community on the one hand, and the Government of Denmark and the Home Rule Government of Greenland, on the other hand

The EU Communication (COM(2008) 763 final) "The European Union and the Arctic Region" was adopted in November 2008 and sets out EU interests in the Arctic, and proposes action for EU Member States and institutions around three main policy objectives:

- Protecting and preserving the Arctic in unison with its population
- Promoting sustainable use of resources
- Contributing to enhanced Arctic governance through implementation of relevant agreements, frameworks and arrangements, and their further development

This Communication builds on the Blue Book and Action on EU Maritime Policy. The following issues expressed in the Communication are of particular interest, and reflect concerns related to the EU's maritime and fisheries policy:

- a) Considering the region's sensitivity to pollution and climate change, there is a clear need to focus policy on the Arctic environmental challenges, climate change mitigation, disaster response, strategic environmental assessments considered of particular importance, ascertain environmental impacts before any decisions, monitoring of pollutants and chemicals, and noise effects on marine mammals.
- b) Hunting of marine mammals is recognised as crucial for subsistence of Arctic populations (indigenous people), but animal welfare should also be taken into account. The EU commits to continue efforts to ensure effective protection of whales through the International Whaling Commission (IWC) including in the Arctic context. The EU has since implemented restrictions on the placing seal products on the EU market (along with their import, transit and export)¹³ except for those products from hunting "traditionally conducted by Inuit and other indigenous communities and (which) contribute to their subsistence". The Regulation provides a derogation for personal use and by-products from hunting regulated by national law, and conducted for the sole purpose of the sustainable management of marine resources.
- c) On research, monitoring and assessments, it is stated that the European Union should maintain the Arctic as a priority area for research. A number of initiatives and institutions are named as providing the institutional framework for future support for research and monitoring activities. These include enhanced EU participation in initiatives supported by the Arctic Council (in which the EU is seeking permanent observer status), and EU supported research under the FP7 programme.
- d) The Arctic contains large untapped hydrocarbon reserves, some of which appear to be located outside the current Exclusive Economic Zone of Arctic states. Arctic resources could contribute to enhancing the EU's security of supply concerning energy and raw materials in general, as well as contributing to economic development of the region. Support for the exploitation of Arctic hydrocarbon resources should be provided in full respect of strict environmental standards taking into account the particular vulnerability of the Arctic (further research and development in offshore technology and infrastructures is a stated objective). Cooperation with Norway and Russia are emphasized.
- e) On fisheries, the Communication points out that climate change may bring increased productivity in some fish stocks and changes in spatial distributions of others. New areas may become attractive for fishing with increased access due to reduced sea ice coverage. Some of the Arctic high seas waters fall outside the mandate of the current international conservation and management regimes. The EU considers that a regulatory framework for the part of the Arctic high seas not yet covered by an international conservation and management regime should be put in place before new fishing opportunities, preferably by extending the mandate of NEAFC.

¹³ Regulation (EC) No 1007/2009 of the European Parliament and of the Council of 16 September 2009 on trade in seal products, which came into force in August 2010.

- f) On transport, the melting of sea ice is progressively opening opportunities to navigate on routes through Arctic waters¹⁴. This could considerably shorten trips from Europe to the Pacific, save energy, reduce emissions, promote trade and diminish pressure on the main trans-continental navigation channels. However serious obstacles remain, including drift ice, lack of infrastructure, environmental risks and uncertainties about future trade patterns, as well as legal concerns¹⁵. Hence, the development of Arctic commercial navigation will require increased international cooperation. One example is the EU's participation in the ongoing work on a new mandatory "Polar Code" for shipping, currently being developed in the framework of the International Maritime Organisation.

Response of Greenland to the Communication

In October 2009 the Government of Greenland issued a formal response to the Commission's Communication on the Arctic¹⁶, broadly welcoming the greater interest of the EU for the Arctic region, although commenting that specific references to the principles of self-determination of peoples, human rights and fundamental freedoms would be welcomed. Any EU presence in the region should be with the prior consent and acceptance of the Arctic nations and peoples. Greenland supports the EU's application for permanent observer status in the Arctic Council. Government also notes the potential for new transport routes and access to potential hydrocarbon developments, but would like to see improved Arctic maritime surveillance and recognition of the potential for renewable energy resources (including hydroelectricity).

In view of the EU's commitment to "engage Arctic indigenous peoples in a regular dialogue". the European Commission subsequently hosted an 'Arctic Dialogue' Workshop in March 2010, held in Brussels, attended by representatives of Arctic peoples, including a strong representation from Greenland.

Adoption of an EU Arctic Policy

Subsequently the European Council considered EU Arctic policy¹⁷ and passed a resolution adopting the Commission's recommended objectives and setting out the strategic approach, to be based on:

- Effective implementation by the international community of adequate measures to mitigate climate change that are required to preserve the unique characteristics of the Arctic region;

¹⁴ In summer 2009 two German owned cargo vessels, the MV Beluga Fraternity and the MV Beluga Foresight undertook a successful navigation of the Northern Sea Route (from Atlantic to Pacific Oceans via the north coast of Russia). In 2010 the route was navigated by two Russian oil-tankers, a gas tanker, a Norwegian bulk-carrier, two sail vessels, a ferry and a general cargo vessel (which sailed the route without icebreaker assistance).

¹⁵ In 2010 DG MARE supported a study "Legal aspects of Arctic Shipping" which considered the implementation of the UN Convention on Law of the Sea and various IMO instruments, as well as national legal measures, on navigation in the Arctic region. It concludes that the framework is not sufficiently tailored to the special nature and risks of marine shipping in the Arctic, and that there is disagreement on a number of substantive issues of interpretation of the international law of the sea, which could impact on Arctic navigation.

¹⁶ Note to the European Commission from Greenland representative in Brussels" Main areas of concern in the Commission Communication on "EU and the Arctic" 8th October 2009: see <http://eu.nanoq.gl/Emner/EuGI/Seminar%202009.aspx>

¹⁷ "Conclusions on Arctic Issues of 8 December 2009", 2985th Foreign Affairs Council meeting Brussels, 8 December 2009
http://ec.europa.eu/maritimeaffairs/pdf/arctic_council_conclusions_09_en.pdf

- Reinforced multilateral governance through strengthening and consistent implementation of relevant international, regional and bilateral agreements, frameworks and arrangements;
- The United Nations Convention on the Law of the Sea (UNCLOS) and other relevant international instruments;
- Formulating and implementing EU actions and policies that impact on the Arctic with respect for its unique characteristics, in particular the sensitivities of ecosystems and their biodiversity as well as the needs and rights of Arctic residents, including the indigenous peoples;
- Maintaining the Arctic as an area of peace and stability and highlighting the need for responsible, sustainable and cautious action in view of new possibilities for transport, natural resource extraction and other entrepreneurial activities linked to melting sea ice and other climate change effects.

Of particular relevance to fisheries, the Council resolution sets out the approach to the harvesting of the Arctic marine living resources, indicating that these resources should be managed on the basis of scientific advice within the ecosystem approach. It emphasises the need to promote a precautionary approach to new fishing activity in Arctic high seas, as well as measures for protecting marine biodiversity in areas beyond national jurisdiction. The Council expressed readiness to put in place a regulatory framework for the part of the seas not yet covered by an international conservation system by extending the mandate of relevant Regional Fisheries Management Organisations. Until such a framework is in place, the Council favours a temporary ban on new fisheries in those waters.

The Council requested the Commission to present a report on progress made in the implementation of the Arctic policy by the end of June 2011.

3 GREENLAND'S FISHERY SECTOR

3.1 Fishing Fleet

The Greenland fishing fleet comprised some 757 registered vessels in 2007 (according to Statistics Greenland¹⁸). Trends are shown in Table 3. Most vessels are small (only 118 vessels are above 20GT. These are widely distributed throughout West Greenland (few smaller vessels operate on the more exposed east coast where harbour facilities are limited). The industrial fleet (over 121 GT) comprises 47 vessels, registered in Nuuk, but operating in all the EEZ and in distant waters. The fleet broadly divides into the industrial vessels which can only operate outside the 3 mile limit (all freezer trawlers, mostly targeting shrimp, Greenland halibut and cod), smaller demersal trawls (mostly targeting Greenland halibut, but also cod and other species). Some of these vessels, which can operate within 3 mile limits, are freezer vessels, but most are open vessels landing fresh fish on ice. The remaining vessels are small coastal vessels, supplemented by an estimated 3,000 to 5,000 dinghies and dog sleighs which are used for fishing and hunting at different times of year.

Vessels are privately owned (except for those vessels owned by the state-owned Royal Greenland). A large proportion of the coastal fleet was financed through structural funds. The offshore fleet was financed through banks and foreign capital but with guarantees provided by the State Bank.

¹⁸ See <http://new.stat.gl/dialog/main.asp?lang=da&version=2010&link=F1&subthemecode=t6&colcode=t>

Table 3: Characteristics of and trends in dimensions of Greenland fishing fleet

Districts	No. Vessels registered									
	Year				Gross Registered tonnage (by category 2007)					
	2004	2005	2006	2007	0-10	11-20	21-50	51-80	81-120	121
Nanortalik	19	32	28	29	25	2	0	1	1	0
Qaqortoq	26	55	58	56	37	10	5	3	1	0
Narsaq	13	12	13	14	7	3	0	2	0	2
Paamiut	35	45	44	38	20	8	4	1	1	4
Nuuk	66	106	117	102	38	25	6	4	7	22
Maniitsoq	34	65	72	57	39	14	1	0	1	2
Sisimiut	41	56	66	53	29	13	2	5	1	3
Kangaatsiaq	18	21	19	19	12	5	1	0	0	1
Aasiaat	15	29	42	24	12	6	3	1	1	1
Qasigianniguit	26	20	28	21	11	8	0	0	0	2
Ilulissat	90	119	137	129	85	33	5	2	3	1
Qeqertarsuaq	21	22	30	24	8	8	3	2	0	3
Uummannaq	74	84	85	94	82	9	2	0	0	1
Upernavik	70	83	82	71	65	4	0	0	0	2
Qaanaaq	2	3	4	3	3	0	0	0	0	0
Illoqqortormiut	8	10	10	8	8	0	0	0	0	0
Tasiilaq	14	26	28	15	10	0	0	1	1	3
TOTAL	572	788	863	757	491	148	32	22	17	47

Source: Statistics Greenland (<http://new.stat.gl>)

3.1.1 The shrimp fleet

The Greenland shrimp fishery is divided into coastal and offshore fleets. Most of the activity and production takes place in W.Greenland, which accounts for some 95% of the production. Total catches reached a peak of about 130,000 tonnes in the years 2005-2007 (the 2011 TAC is 124,000 tonnes). The shrimp quota is divided between the offshore industrial fleet 57% of the quota in W. Greenland, plus all of the E.Greenland quota, and the coastal fleet taking the rest, almost all which is taken in West Greenland.

There are two main components of the shrimp fleet. In 2011, the offshore vessels consist of 10 modern factory trawlers (larger than 2,000 GRT, length 55-68m), a decrease from 21 vessels in 2001. The decrease is the result of re-structuring towards more efficient and capital intensive vessels. These vessels are obliged to land at least 25% of their shrimp catch for processing on land.

The coastal shrimp fleet is currently still in the process of re-structuring. In 2011 there are 33 shrimp trawlers in the fleet, down from 71 in 2002, but the number is expected to decrease further. Most of these trawlers are relatively small (50-150 GRT, c.20 m length) but 5 vessels are larger (400-800 GRT c.40- 50m) and 2 of these are actually large modern trawlers (>2000 GRT). Technically, all vessels in this segment are required to land all of their catch (most have no option since they do not have freezing capacity). A recent development is that 5 of these shrimp trawlers with freezers, have been authorised to process onboard while maintaining the obligation to land some of the shrimp catches to support land-based processing facilities (2 vessels have to land 30%, 3 vessels have to land 75%). The other shrimp trawlers land the

whole catch of shrimp. Most of the industrial vessels are represented by the Greenland Employers Association but the KNAPK, the Fishermen's and Hunters organisation represents 10 of the smaller shrimp vessels.

3.1.2 Other industrial vessels

The offshore demersal fishery for other species is carried out by a fleet of 4 factory trawlers operating offshore (approx. 1,200-1,400 GRT), which fish for Greenland halibut, cod and other demersal fish. Two of these vessels take advantage of the fishing opportunities for cod and haddock in the Barents Sea (under Greenland's agreements with Norway and Russia). Thus, fishing operations involve a) fishing for cod and haddock in the Barents Sea in the first months of the year (Dec-Mar), b) fishing for Greenland Halibut in East Greenland in Apr.-May, c) fishing for cod in E/W Greenland in the summer, and d) fishing for Greenland Halibut in West Greenland until the end of year (progressing northward as the ice retreats). In relation to oceanic/pelagic redfish, the only direct fishery is carried out one vessel (Polar Nanok owned by Polar Seafoods) operating in NEAFC, NAFO and Icelandic waters. However, recently it has also targeted a demersal redfish resource in East Greenland.

3.1.3 The coastal fishing fleet

The coastal fishery for Greenland Halibut is carried out by a large number of smaller vessels, including small trawl vessels, open vessels using line fishing, and dogsled and ice fishing. Smaller vessels operate a subsistence fishery. The exact number of fishermen and/or boats involved in this fishery is about 2000. About 1,100 fishermen are registered as suppliers of the Royal Greenland company. The fishery is managed by quotas. Most of the W.Greenland quota for Greenland halibut is taken by the inshore fishery. Here licensed fishermen may take as much as possible until a global quota is reached ("Olympic fishery").

The coastal fishery sector is suffering from low profitability. The Ministry for Fisheries Hunting and Agriculture wishes to re-structure the coastal fishery, in order to make it more efficient. However, there has been no coherent structural plan proposed until now. Achieving political agreements on such a plan is likely to be difficult. The Government is considering introducing individual transferable quotas for some of the larger inshore vessels, as a way of improving the efficiency of the fleet.

3.2 Greenland catches

Fisheries in Greenland are divided into inshore (coastal) and offshore fisheries. Table 4 shows an overall summary of the catches 2007 to 2009 (including foreign vessels). Total catches in recent years have averaged 220,000 tonnes, of which 65% were shrimp, emphasising the importance of this resource to the Greenland economy.

More detailed descriptions of the key fisheries are presented in the following. Thereafter, more detailed information is provided on offshore fisheries in Greenland, including the activity of foreign fleets.

Table 4: Total catches in GRL waters (including foreign vessels)

SPECIES	Catches (tonnes)			
	2007	2008	2009	Average
Cod (COD)	16,000	25,000	13,000	18,000
Snow crab (CRQ)	2,189	2,350	3,165	2,568
Greenland halibut (GHL)	42,677	39,343	40,535	40,852
Atlantic halibut (HAL)	134	144	84	121
Herring (HER)	1,552			1,552
Icelandic scallop (ISC)	1,395	666	512	858
Northern shrimp (PRA)	144,190	152,749	135,319	144,086
Pelagic redfish (RED)	908	1,368	1,724	1,333
Demersal redfish (REG)	65	29	940	345
Blue whiting (WHB)	200			200
Lumpsucker	8,801	6,436	6,559	7,265
Wolfish	1,869	2,172	2,083	2,041
Others	908	1,004	429	780
Grand Total	220,888	231,261	204,350	220,001

Source: Greenland Fishery and Licence Control

Northern shrimp

The fishery for northern shrimp started to develop in the late 60s and early 70s, which coincides with the beginning of the collapse of the cod fishery off West Greenland, and has since become of crucial importance to Greenland economy. Total catches appear to have peaked at about 157,000 tonnes in 2005-2006 and have since decreased slightly (138,500 tonnes in 2010). This is a shared stock exploited by both Greenland and Canada, but Canadian catches have become almost negligible since 2008.

Allocation of quota in Greenland specifies a 57% share to the offshore fishery and 43% to the inshore fishery in the West Greenland shrimp fishery. Total Greenland catches have varied in the range between 135,000 tonnes to 153,000 tonnes, including catches taken by foreign vessels in Greenland waters.

Cod

The cod fishery in Greenland has a long history and reached catch levels higher than 400,000 tonnes in the early 1960s. The offshore component, which was fished by a number of distant-water fishing nations, collapsed and has been severely depleted since 1990. Small catches (below 1,000 tonnes) from the inshore (fiord) component continued to be taken by the coastal fisheries during the 1990s. Signs of a possible recovery were observed in the 2000s, where catches increased from below 1,000 tonnes to 25,000 tonnes in 2008, but these have since declined to 9,000 tonnes in 2010 (Table 5),

During the 1990s, a fixed TAC of 83,250 tonnes was set for cod, representing the maximum levels that could be taken in case of stock recovery only. Only in 2001 did the Greenland Administration decide to set a variable TAC based on actual stock status. This applied to the offshore component, but it soon became evident that the inshore fishery, accounting for a large proportion of total catches, had to be regulated (which happened in 2009).

Table 5: Catches of cod in Greenland (including foreign vessels)

Year	TAC (tonnes)	Total catches (tonnes)	Inshore catches (tonnes)	% inshore
2001	83,250	2,000	2,000	100
2002	54,250	4,000	4,000	100
2003	54,250	5,000	5,000	100
2004	5,000	5,000	5,000	100
2005	5,000	7,000	6,000	86
2006	5,000	10,000	7,000	70
2007	5,000	16,000	12,000	75
2008	15,000	25,000	13,000	52
2009	20,000	13,000	8,000	62
2010	10,000	9,000		

Source: International Council for the Exploration of the Seas (ICES)

Greenland halibut

It is important to distinguish between inshore and offshore fisheries for Greenland halibut, as these concern separate stock components with specific quotas allocated. There is an inshore component off West Greenland where catches have decreased somewhat from 24,400 tonnes in 2006 to 20,618 tonnes in 2009 (TAC of 20,500 tonnes in 2011). There is also an offshore fishery in West Greenland where catches have been gradually increasing from about 11,000 to 13,000 tonnes a year during the period 2007-2009 (TAC of 13,500 tonnes in 2011), this stock is shared with Canada, and is fished in NAFO SA 0A & 1A and in the Baffin Bay.

Off East Greenland, the fishery for Greenland halibut is a pure offshore fishery where catches have been stable around 10,000 tonnes during 2007-2010 (9,974 tonnes in 2010). This is a separate stock shared between Greenland, Iceland, and the Faroe islands.

Other inshore fisheries

Coastal fisheries account for a further 10,000 tonnes annually, consisting primarily of snow crab (3,112 tonnes in 2009) and lumpsucker (6,559 tonnes in 2009), as well as minor catches of other species such as wolfish, polar cod, uvaq (polar cod), salmon, capelin, and redfish.

Other offshore fisheries

Other catches from the offshore fishery are presented in Table 6. These include various fisheries off East GRL, of which the catches of Greenland halibut, pelagic redfish and increasingly demersal redfish (mostly *S. mentella*) are important. Catches of small pelagics such as herring and blue whiting are variable, sometimes taken inside or outside GRL waters, and managed by NEAFC in the context coastal states agreements.

Off West GRL, relatively small catches are taken of snow crab and Icelandic clam. Note that major fisheries off West Greenland such as for shrimp, Greenland halibut, and cod are not included in Table 6. Total catches taken by GRL off West Greenland amount to about 181,000 tonnes in 2010 (shrimp: 138,500 tonnes; G. halibut: 24,000 tonnes; cod: 7,500 tonnes; other species: 11,000 tonnes).

Greenland vessels also take part in fisheries outside GRL in the context of fisheries agreements (i.e. Faroes, Iceland, Norway and Russia) as well as in international waters managed by NEAFC and NAFO. Total catches are variable, ranging between 16,000 tonnes and 32,000 tonnes during 2007-2010, which is linked to the variability of small pelagic catches primarily (i.e. capelin, herring, blue whiting, pelagic redfish) and whether these are taken inside or outside

GRL waters. Note that it is primarily Norway that provides fishing possibilities of demersal stocks such cod, haddock and saithe in Norwegian waters (north of 62°N; Barents Sea).

Table 6: Other catches taken by Greenland vessels inside and outside the Greenland EEZ

	Area	SPECIES	2007	2008	2009	2010
Greenland waters	Greenland East	G. halibut	2,391	1,395	2,819	1,801
		Halibut				10
		Herring	1,552			1,313
		Shrimp	1,390	14	1,223	601
		Pelagic redfish		102		1,013
		Demersal redfish	33	5	940	4,681
		Blue whiting	200			
	Greenland West	Crab			339	247
		Clams	1,395	666	512	413
		Total	6,961	2,182	5,833	10,079
Outside Greenland waters	Faroes	Bycatch	363		64	101
		Herring	3,345	1,508		
		Blue whiting				2,032
	Iceland	Capelin	9,906		4,948	14,115
		Pelagic redfish	2,009	737		1,233
	NAFO 3L	Shrimp	452	488	532	534
	NEAFC	Herring		2,302	820	
		Pelagic redfish		267		759
		Blue whiting	5,189	4,795	60	403
	Norway	Bycatch	131	131	114	115
		Cod	3,786	4,023	5,078	6,599
		Haddock	886	1,021	1,407	1,977
		Herring			2,910	3,453
		Saithe	1,451	1,401	1,624	957
	Total	27,518	16,673	17,557	32,278	

* 2010 data is preliminary.

Source: GFLK

Table 7: Catches of foreign fleets operating in Greenland waters

FLAG	AREA	SPECIES	YEAR			
			2007	2008	2009	2010
			tonnes			
EU	GRL E & W	BYC	256	308	32	228
		COD	957	3,503	1,516	560
		RED	695	386	493	664
	GRL East	GHL	6,765	6,614	6,582	6,579
		PRA	852	640	910	1,616
	GRL West	GHL	1,536	1,551	1,552	1,849
		PRA	4,001	3,887	4,069	3,927
	NAFO 3L	RED	714	218		
	NAFO1F-INT	RED			79	725
	NEAFC	BYC			14	302
		RED	564	1,012	880	2,482
EU Total			16,340	18,119	16,127	18,932
FRO	GRL E & W	BYC				2
	GRL East	BYC	533	558	310	464
		GHL	54	74	160	75
		PRA	488	628	1,354	783
		RED	168	116	206	381
	GRL West	GHL	275	275	275	279
	Iceland	RED			1,523	
FRO Total			1,518	1,651	3,828	1,984
NOR	GRL E & W	BYC	119	138	87	112
		COD	630	773	1,002	
	GRL East	GHL	355	142	132	481
		HAL	134	127	25	51
		PRA	1,419	1,518	990	898
		RED				1,894
		REG	32	24		393
	GRL West	COD				290
		GHL	1,430	1,452	1,499	1,540
		HAL		17	59	6
NOR Total			4,119	4,191	3,794	5,665
RUS	GRL E & W	RED	45	764		
	GRL East	GHL	695	767	762	1,038
		RED			1,025	399
	GRL West	GHL	1,268	1,304	1,574	1,786
	NAFO1-INT	RED				147
	NEAFC	RED			781	1,827
RUS Total			2,008	2,835	4,142	5,197
Grand Total			23,985	26,796	27,891	31,778

Source: GFLK

Catches by Foreign fleets in Greenland

Table 7 presents catches by foreign fleets operating in Greenland waters. Fishing possibilities utilised by other countries consist primarily of Greenland halibut, northern shrimp, and cod to a lesser extent (due to resource condition). Note that redfish possibilities are also utilised but this provide for quota flexibility where quotas may be taken in international waters of NEAFC and NAFO in the case of EU and Russian vessels.

EU vessels take about 16,000-19,000 tonnes annually, where the variability is related to small pelagic catches (including pelagic redfish). Total catches taken by foreign vessels have increased from 24,000 tonnes to 32,000 tonnes during the period from 2007 to 2010.

3.3 Processing industry

3.3.1 Overview

The fish processing industry comprises some 56 processing establishments and 4 cold stores. The sector is dominated by two large processing and exporting companies, Royal Greenland and Polar Seafoods, which operate the industrial shrimp fleet and five large shrimp processing establishments. They specialise in processing, including value added processing, of shrimp, Greenland Halibut and cod.

In addition there is a large number of smaller establishments which service local fishing communities, and undertake primary processing (mainly heading and gutting of Greenland halibut and cod, bulk freezing, lumpfish roe processing etc). These are spread out in smaller towns and villages along the west coast primarily, and have a capacity of between 200 and 500 tonnes per year. Some are under the direct ownership of the major companies (21 establishments are owned by Royal Greenland) and the remainder are independent. Smaller processing establishments have great difficulty in maintaining competitiveness due to high fixed costs and low volume. There is very little value added processing undertaken at the point of production.

3.3.2 Royal Greenland Seafood

The 100% state-owned company, Royal Greenland, is among the 10 largest fishing and process companies in the world with a yearly turnover of about Euro 525 million. It is highly vertically integrated, with fishing, processing, distribution and marketing/brokerage activities selling into all major global markets, including Japan, China, Europe and North America.

The Royal Greenland Seafood A/S group includes more than 30 companies operating in Greenland, the EU, Japan, Norway, China and USA. Within the EU it operates companies in six EU Member States, as follows:

- **Sweden:** Royal Greenland Sweden AB, 100%
- **UK:** Royal Greenland UK Ltd., 100%
- **France:** Royal Greenland France S.A.S., 100%
- **Italy:** Royal Greenland Italy Spa., 100%
- **Germany:** Royal Greenland GmbH, 100%
- **Denmark:** Fishinsea Denmark A/S, 47,5%, associated

The company is vertically integrated with fishing, processing, marketing and distribution activities. It had an annual turnover in 2009/2010 of DKK 4.2 billion (EUR 563 million) and more than 1,900 employees around the world (with 1,000 full-time staff in Greenland), plus about 1,500 seasonal employees, and supports some 1,100 small fishermen who supply with raw material.

In Greenland, the company operates four industrial vessels. The main target for three of the vessels is shrimp. One trawler targets Greenland halibut and Redfish (all in the Greenland zone) and cod in the Barents Sea (under the Fisheries Agreements between Greenland/Norway and

Greenland/Russia)¹⁹. The company also has some interests in coastal fishing vessels in the GRL fishery. It operates 20 factories in Greenland. These receive product from the industrial vessels (the 25% landing requirement) as well as raw material from about 1,100 vessels in the coastal fishery. Only two factories are dedicated to shrimp, the rest process Greenland Halibut and cod.

In Denmark, Royal Greenland has a re-packing plant for shrimp, which breaks bulk and repacks for retail sale. It also has a plant for packing shrimp in brine and Modified Atmosphere Packaging (MAP) which also deals extensively in warm water shrimp products sourced internationally. It also operates a smoking plant, with a significant processing of Greenland halibut, as well as salmon. All of the operations are substantially dependent on raw material from Greenland.

In Germany, Royal Greenland has a factory in Wilhelmshavn processing a range of retail packs (breaded products) from frozen fillet blocks, mainly (85%) Alaskan pollock. Raw material for this operation is purchased ex-vessel from the Russian pacific fleet, and then contract processed and packed in China. Volumes are high, about 40,000 tonnes per year. RG also has recently acquired a roe processing operation in Bremerhavn, which receives bulk lumpfish roes from Greenland, and repacks for retail sale. The company has recently established a new factory in Poland, specifically to process high value fillets (Greenland halibut, other white fish fillets).

RG has also invested in a shrimp processing and packing company in Canada, producing cooked a peeled shrimp. It buys in raw material as well as obtaining supplies from a chartered fishing vessel. RG also has shrimp re-packing facilities in Russia. It also operates sales and marketing operations in 9 countries (Japan, Russia and several EU Member States).

Annual turnover in 2010 was approximately EUR 600 million. The Greenland linked activities of the company (exports to markets from Greenland, plus the three Danish factories, and the German roe and Polish operations) are reported to account for about 30% of the volume and 40% of the revenues of the company. The fillet block products (ex-Russia and China) account for some 50% of the volume of RG business.

Royal Greenland being a publicly owned operation may have suffered from political interference in management in the past, with the resulting loss of competitiveness. There is still a need for rationalisation of the processing operations due to the higher cost of non-fish inputs in Greenland. The annual report of the company also blames strong price competition from Canadian operators supplying shrimp under the EU tariff quotas (see section 5.2.2)²⁰. This pressure has provided the rationale for investment in increased added value activities in Greenland and higher volume processing capacity within the EU. However, the company made a loss of EUR 5.8 million in the financial year October 1st 2009 – September 30th 2010, and carries EUR 265 million of debt. In 2009, the company had to raise an additional capital injection of EUR 66 million from the Government of Greenland, half in the form of loan and the balance in share capital. The Company is reported to have returned to profit in 2010, and with the continuing recovery in shrimp prices outlook for 2011 is improved.

The EU market is the preferred market, which provides highest returns. The tariff preference provided by Greenland's OCT status has been a central pillar of Royal Greenland marketing strategy. This allows Greenland to supply products free of the 20% MFN tariff rate applied to other suppliers. This preference is regarded as providing a buffer against the higher operating costs sustained by fishery enterprises in Greenland (especially in relation to costs of imported inputs, higher wages).

¹⁹ The Barents Sea activity is seen as strategically important since it allows the company to retain cod fishing capacity and skills pending the recovery of the Greenland cod fishery.

²⁰ Canadian offshore shrimp fisheries is currently undergoing certification for the MSC standard, and one or two smaller Canadian inshore shrimp fisheries were due to complete certification in 2011

3.3.3 Polar Seafood A/S

Polar Seafood owns and operates a modern fleet of nine large modern factory trawlers. These trawlers fish for shrimp, as well as cod, haddock, red fish and Greenland halibut. It also operates two factories in Greenland, in Nuuk and Aasiaat. It also has a interest in six factories in the Upernavik area in North Greenland, for the processing of Greenland halibut. In Denmark it operates two processing factories (including value added such as smoking of Greenland halibut and salmon) in Esbjerg, and prawn processing and a 6,000 tonne cold storage facility in Vester Hassing. It also operates a number of smaller distribution and sales facilities in Sweden, UK, Russia and Norway (the latter including a king crab processing operation).

3.4 Health and hygiene conditions

Greenland is presently listed in Annex II of Commission Decision 2006/766/EC establishing the list of third countries and territories from which imports are permitted of fishery products for human consumption. Administration and responsibility regarding all aspects related to the sanitary conditions for the export of food of animal origin, remains a competence of Denmark and continues to be administrated by the Danish Ministry of Food, Agriculture and Fisheries. The nominated Competent Authority is the Danish Veterinary and Food Authority (DVFA). DVFA has, by government order, given to its Regional Authority in Aalborg, Denmark ('Fodevareregion Nord') the authority to approve and inspect Greenlandic establishments and vessels. RVFA reports to DVFA four times per year on the conditions. Supervision by the central level is achieved through random checks of inspection reports. Senior RVFA officials supervise the work of inspectors in Greenland by checking in situ the performance of 50% of inspectors during inspection visits each year. All consignments from Greenland have border inspection post checks in Denmark (Aalborg). The consignments can thereafter either stay for consumption in Denmark or be sent to other Member States. The Competent Authority has approved 14 freezer vessels, 60 processing establishments (including 4 cold stores) and 4 factory vessels (March 2011). One establishment was approved for the export of bivalve molluscs ie. wild scallops (*Pectinidae*).

The Food and Veterinary Office of DG SANCO undertook a mission to Greenland in June 2010, with the objective of evaluating the control systems in place governing the export to the EU of fishery products²¹. The mission found that there were a number of deficiencies in HACCP plans in some establishments and that in some cases raw material temperatures were not properly recorded and were not in compliance with EU requirements. Certifications procedures were found to allow officers to sign certificates for consignments which they had not inspected. The report concluded that despite the deficiencies noted, the system of official controls of the fishery products production chain can be considered to be in line with the European Union sanitary requirements.

There have been just four rapid alerts for Greenlandic fishery products issued by DG SANCO since 2007. Three of these concern incorrect or insufficient labelling, and the other damage to packaging. Clearly retaining a high level of compliance with EU sanitary requirements is a strategic necessity for Greenland's export trade. This minimal level of non-compliance suggests that the system is functioning well.

Furthermore, in 2010 Greenland and the European Union expressed the intent to enter into a new sanitary arrangement on fish, fishery products, bivalve molluscs, tunicates and echinoderms (including live) for human consumption as well as by-products derived from these sources, including fish meal and fish oil. The objective of such an arrangement would be to

²¹ Final Report of a mission carried out in Greenland from 07 to 16 June 2010 in order to evaluate the control systems in place governing the production of fishery products intended for export to the European Union, DG SANCO, Directorate F - Food and Veterinary Office, DG(SANCO) 2010-8538 - MR FINAL

allow Greenland to trade these commodities with the Union on the basis of internal market rules, provided that Greenland transposes and applies within its territory, EU sanitary and, where appropriate, animal health rules on fishery products, live bivalve molluscs and by-products derived from these sources. The effect will be to provide a similar status to Greenland (in relation to fisheries products) as enjoyed by Norway and Iceland under the terms of the EEA Treaty.

The Danish Veterinary and Food Administration (DVFA), has provided official assurances that Greenland does comply with the rules of the relevant EU provisions, including import controls. Accordingly the European Parliament and the Council are considering in May 2011, a draft decision of the European Parliament and Council "laying down rules for imports into the European Union from Greenland of fishery products, live bivalve molluscs, echinoderms, tunicates, marine gastropods and by-products thereof".

In a speech to the European Parliament on 5th April 2011, European Commissioner for Maritime Affairs and Fisheries undertook to simplify the relevant sanitary measures and certification procedures as soon as the Decision was passed.

3.5 Employment in fisheries

The fish catching sector provided employment for about 2,000 full-time equivalents (FTE) in 2004 while the processing industry provided 3,500 FTE. This corresponds to 15% of the workforce, which is estimated to be about half of the jobs provided by the fishing industry in the 1970s. Table 8 shows the numbers of small scale fishermen registered with the KNAPK (Fishers and Hunters Union) in 2009 and 2010, suggesting a national annual

The Table suggests that the rate of decline in fisheries employment in the inshore fishery of about 6%. This trend for falling employment is expected to continue and is likely to be accelerated by the introduction of the proposed ITQ system to the inshore fishery.

Table 8: Numbers of small scale fishermen in four municipalities

Commune	Numbers of fishers			% decline
	2009	2010	Change	
Quaasuitsup	1,431	1,342	-89	6.2
Kujalleq	340	323	-17	5.0
Sermersooq	338	338	0	0.0
Qeqqata	327	297	-30	9.2
Total	2,436	2,300	-136	5.6

Source: Fishermen's and Hunters Union (KNAPK), Nuuk

3.6 International Trade in Fisheries Products

3.6.1 Exports from Greenland to the EU

Fisheries play an essential role in Greenland trade. Greenland's fishery exports are highly dependent on the EU market, which provides tariff-free access in the context of OCT status (see below). Greenland depends for 96% of its revenue on the EU market. The balance of the trade is with Iceland and Faroe islands (largely comprising landings into those countries by Greenlandic vessels).

Trade flows in fishery products (HS 0301 to 0307, 1604 and 1605) from Greenland to the EU are shown in Table 9. The table indicates that fishery product exports to the EU over the period 2007-2009 have averaged around EUR 290 million per year. Greenland is the largest global producer of coldwater shrimp (*Pandalus borealis*) which has become strategically important since the collapse of the cod fisheries in the early 1970s. Increased catches have compensated

for falling shrimp prices, but this is no longer possible due to the stock condition. Frozen shrimps account for about 62% of the export value of fishery products, evenly split between frozen shrimp (HS Code 030613) and prepared and preserved shrimp (HS Code 160520), the latter comprising mainly peeled shrimp, either frozen or in brine. However, Table 9 also demonstrates the importance of the Greenland halibut, which accounts for about 27% of the export value (since most of the frozen fish fillets exports are also derived from this species). Cod accounted for only 4% of total export value. The crab fishery developed quickly in the late 1990s, accounting for more than 10% of total export value, but this has now decreased to under 2% due to overfishing and falling prices.

Table 9: Imports of fishery products from Greenland to the EU

	2007		2008		2009		2010	
	tonnes	value EUR	tonnes	value EUR	tonnes	value EUR	tonnes	value EUR
Fresh fish	100	213,551	82	242,367	4	14,717	0	0
Greenland Halibut	20,000	48,010,617	18,369	44,575,082	18,931	45,267,326	22,709	56,579,707
Cod	5,126	10,845,935	8,271	18,883,357	5,747	8,889,946	5,916	8,870,614
Frozen Fish Fillets	6,560	27,840,630	7,363	35,397,662	7,748	31,546,464	8,810	32,266,561
Other frozen fish	1,326	3,614,016	1,444	3,100,004	895	2,760,448	2,292	4,659,167
Smoked, dried salted fish	1,198	3,753,725	1,654	7,239,278	1,796	6,936,780	1,434	8,431,473
Frozen shrimps	56,064	87,217,896	51,497	93,150,842	47,532	78,442,124	46,790	85,525,541
Other crustacea	1,259	5,407,102	1,285	5,602,476	2,295	7,632,128	2,233	0
Mollusca	350	3,028,116	194	1,436,776	125	1,068,815	93	911,650
Prepared/preserved fish eggs	767	3,368,731	31	195,815	25	158,407	24	240,976
Prepared/preserved prawns	21,854	89,493,894	25,725	105,456,050	24,141	91,965,297	23,949	90,998,364
Others	6	34,711	54	51,784	1,178	254	41	6,303,203
Total	114,609	282,828,924	115,968	315,331,493	110,416	274,682,706	114,291	294,787,256

Source: EUROSTAT External Trade Database²²

The main EU destination markets are shown in Table 10. Overall, Denmark accounts for 96% of fishery products imported by the EU from Greenland. However it should be considered that Aalborg in Denmark is the first port of entry for the regular Royal Arctic container service between Greenland and the EU mainland, and Greenland exports maybe distributed to final markets (EU as well as third countries such as China and Russia) by the importer (mainly Royal Greenland and Polar Seafoods) either directly, or after processing in EU based facilities. Table 10 does not therefore provide a complete picture of the pattern of demand by country.

²² See: http://epp.eurostat.ec.europa.eu/portal/page/portal/external_trade/data/database

Table 10: Principal EU market destinations

	2007		2008		2009		2010	
	EURO	tonnes	EURO	tonnes	EURO	tonnes	EURO	tonnes
Germany	2,633,374	642	115,732	57	1,699,909	1,046	256,641	110
Denmark	272,044,119	111,948	304,391,260	113,169	263,983,729	106,378	281,977,458	109,650
Spain	117,803	28	0	0	0	0	0	0
Finland	0	0	0	0	107,828	29	0	0
UK	6,488,132	1,459	6,764,150	1,399	4,587,321	1,501	6,882,534	2,534
Greece	0	0	96,097	23	0	0	0	0
Lithuania	38,472	19	161,834	78	0	0	0	0
Netherlands	1,645,892	521	3,788,713	1,060	2,921,340	1,133	4,364,202	1,830
Poland	0	0	219,953	183	0	0	0	0
Portugal	0	0	0	0	254,042	162	62,256	22
Sweden	1,142	<0.5	43,301	13	1,338,009	174	1,573,287	171
TOTAL EU	282,968,934	114,617	315,581,040	115,981	274,892,178	110,423	295,116,378	114,316

Source: EUROSTAT External Trade Database

3.6.2 Greenland access conditions to the EU market

The Fisheries Partnership Agreement forms part of a series of measures which create mutual costs and benefits to both the EU and Greenland. One part of this political agreement between the parties is the duty free access to the EU market which is enjoyed by Greenlandic fishery products as a result of the OCT status of Greenland, granted by the EU on Greenland's secession from the EU in 1985.

Whilst all Greenlandic products benefit from the tariff preference, given the high significance of shrimp in the profile of shrimp in the fishery products exported to the EU, it is the EU tariff regime for this product which is of particular interest. The EU MFN duty applied to whole frozen Northern shrimp from other sources is 12%. The EU maintains a relatively high MFN duty (20%) for cooked and peeled shrimp (sub chapter 1605), because of the existence of an EU industry for the processing of these products (mainly in Denmark). The entry of Greenlandic products at zero duty rates therefore creates a significant preference in favour of Greenland. However, the EU has modified the position on imports of shrimp to ensure supplies of raw material to the EU processing industry.

Autonomous tariff quota for frozen northern shrimp

In 2004 the EU opened a reduced tariff rate quota of 7,000 tonnes at 6% for cooked and peeled shrimp as part of a series of autonomous tariff quotas set out in Council Regulation (EC) No 379/2004. This quota was increase to 20,000 tonnes at 6% duty for the period 2007-2009 (Regulation (EC) No 824/2007. This was extended to the end of 2012 by Council Regulation (EC) No 1062/2009²³ when the duty on the tariff quota was reduced to 0%. The entire tariff quota of 20,000 tonnes is open on an *erga omnes* basis. The shrimp quota is coupled with the provision that the imported product must be destined for processing (the so-called "end-use requirement"). This measure was well utilised in 2008, 2009 and 2010 (at a rate of 81 to 100% see Table 11. The main user of the quota is reported to be Canada. Indications are that in 2011

²³ Of 26 October 2009 opening and providing for the management of autonomous Community tariff quotas for certain fishery products for the period 2010 to 2012 and repealing Regulation (EC) No 824/2007

it will continue to be well utilised. The associated preference erosion has been a source of concern to the Greenland authorities.

Table 11: Utilisation of EU's erga omnes import tariff quota on cooked and peeled shrimp

Year	Available kg	Used (kg)	Balance (kg)	% used
2008	20,000,000	16,240,621	3,759,379	81
2009	20,000,000	19,391,596	608,404	97
2010	20,000,000	20,000,000	0	100
2011*	20,000,000	2,211,757	17,788,243	11

Source: European Commission, Online Customs Tariff Database (TARIC), February 2011²⁴

Derogation for non-originating products exported from Greenland

Article 36(3)(a) of the Council Decision on the OCTs (Decision 2001/822/EC) provides that from 1 February 2002 certain non-originating fisheries products in free circulation in Greenland or Saint Pierre and Miquelon may be accepted for import into the EU free of customs duties, within certain annual limits. The annual limits were set out in Commission Regulation (EC) No 660/2002 of 17 April 2002 opening and providing for the management of tariff quotas for certain fisheries products from Greenland and Saint Pierre and Miquelon, which provides for an annual tariff quota of 10,000 tonnes of products set out in Table 12.

Table 12: Zero duty tariff quotas of non-originating products exported from Greenland to the EU

Order No	CN code	TARIC code	Description of Goods	Country or territory of transhipment	Annual volume (in tonnes)
09.0692	0303 31 10		Lesser or Greenland Halibut (<i>Reinhardtius hippoglossoides</i>), frozen	Greenland	10,000
	Ex 0304 20 95	*10	Fish Fillets, frozen: of halibut (<i>Reinhardtius hippoglossoides</i> , <i>Hippoglossus hippoglossus</i> , <i>Hippoglossus stenolepis</i>)		
	0306 13 10		Shrimps and prawns of the family <i>Pandalidae</i> whether in shell or not, frozen		

Source: Commission Regulation (EC) No 660/2002 of 17 April 2002

Even though there are no end use conditions on the import of these non-originating products, the facility is hardly use by Greenland. A maximum 80 tonnes of the quota was consumed during the period 2008-2010 (see Table 13).

²⁴ see: http://ec.europa.eu/taxation_customs/common/databases/taric/index_en.htm

Table 13: Utilisation by Greenland of the tariff quota for non-originating fishery products

Year	Available (kg)	Used (kg)	Balance (kg)	% used
2008	10,000,000	4,990	9,995,010	0.05
2009	10,000,000	79,190	9,920,810	0.79
2010	10,000,000	34,940	9,965,060	0.35
2011*	10,000,000	0	10,000,000	0.00

Source: European Commission, Online Customs Tariff Database (TARIC), February 2011

By letter of 26 June 2009 Greenland requested a new derogation from the rules of origin set out in Article 37 of Annex III to Decision 2001/822/EC, in respect of prepared and preserved shrimps and prawns of the species *Pandalus borealis*, to be exported from Greenland. This request was based on the fact that during certain periods of the year there is a shortfall in supplies of originating shrimps and prawns for local value added processing and to meet market demand.

The Commission considered that the granting of the derogation would contribute to the development and survival of the Greenland shrimp processing industry. The derogation was therefore granted for Commission Decision 0776/09 of 16 October 2009 “on a derogation from Council Decision 2001/822/EC, as regards the rules of origin for prepared and preserved shrimps and prawns from Greenland” which provides for an annual quantity of 2,100 tonnes non-originating cooked and peeled shrimp (whether or not for direct consumption or for processing), as from 1 August 2009 until the expiry of the Overseas Association Decision on 31 December 2013. This measure allows Greenland to import cooked and peeled shrimp and to use it either for processing, or to re-export directly, to ensure continuity of supply to customers. The tariff quota (code 090691) is fully utilised (and for 2011 was consumed by mid-January, suggesting a high demand for this facility). It is particularly beneficial in that it permits the Canadian flagged vessels operated by Royal Greenland to land directly into Greenland processing establishments.

The overall current position is summarised in Table 14:

Table 14: Modifications to tariff regime impacting upon trade in fishery products from Greenland

Legal basis	Application	Effect	Products	Order No.	Utilisation
Regulation 1062/09	<i>Erga omnes</i> from 2010 to 2012 ¹	Non preferential tariff quota under end use restriction for 20,000 tonnes at 0%	1605201050 1605209945 cooked and peeled <i>P. borealis</i> for processing	092794	Fully used
Regulation 660/2002	Greenland, annual until end of 2012	Derogation from rules of origin (non-preferential tariff quota of 10,000 tonnes)	0306 13 10 10 <i>P. borealis</i> whether in shell or not (also Greenland halibut and halibut)	090692	Not used
Commission Decision 0776/09	Greenland from 1 Aug 2009 to end of 2013	Derogation from rules of origin for 2,100 tonnes non-originating products	1605201050 1605209945 cooked and peeled <i>P. borealis</i> (no end use requirements)	090691	Fully used

Source: European Commission, Online Customs Tariff Database (TARIC), February 2011

Overall, the tariff preferences and derogations granted by the EU make a considerable contribution towards the competitiveness of the Greenlandic products. The measures are considered by the Government of Greenland and fishery sector to substantially compensate for the additional costs incurred due to the remoteness of Greenlandic production and processing from its main markets in the EU. Based on the values of shrimp trade alone, and current MFN duty rates (12% for frozen shrimp HS Code 030613 and 20% for prepared and preserved shrimp HS Code 160520), these benefits to Greenland are estimated by consultants to have averaged EUR 29.4 million/year during the period 2007 to 2009. However, it is claimed by Greenland that these benefits have been reduced by the erosion of the preferences as a result of the granting of the autonomous tariff quota granted under Regulation 1062/09.

3.6.3 Potential Impact of Free Trade Agreement between the EU and Canada

Also relevant to EU-Greenland relations is the potential for a Free Trade Agreement between the EU and Canada. Since January 2007, the Government of Canada and the EU and its member countries have been in discussions on this matter²⁵. At the June 2007 EU-Canada Summit, leaders agreed to carry out a joint scoping study to lay the foundation for a future trade agreement. The conclusions of this study, which was presented at the October 2008 EU-Canada Summit, persuaded the leaders to agree to begin negotiations on a Comprehensive Economic and Trade Agreement. In June 2009, the EU Trade Commissioner and Canadian Minister of International Trade released a joint statement regarding the start of negotiations for a Comprehensive Economic and Trade Agreement (CETA)²⁶. The first round of CETA negotiations took place from 19 to 23 October 2009 in Ottawa, and was considered by both sides to have been very productive, with progress made towards reaching a consolidated common text. A second round of CETA negotiations took place in Brussels in January 2010, a third round in Ottawa from 19 to 23 April, a fourth round in Brussels from 12 to 16 July, a fifth round in Ottawa from 18 to 22 October 2010, and a sixth round in Brussels from 17 to 21 January 2011.

Both negotiating partners continue to aim at a very advanced agreement, exceeding in its level of ambition any trade and economic agreement negotiated either by the EU or by Canada to date. As well as addressing tariff issues and investment, negotiations aim to address the non-tariff barriers arising from differences in regulation and to strengthen regulatory cooperation. With regard to tariffs on trade in goods, no tariff lines were excluded *a priori*. However, Canada and EU are reported to remain at odds over EU restrictions on importing seal products, and Canada's recent decision to require that Czech citizens obtain a visa to travel to Canada. The aim is to conclude the negotiations within 2 to 2½ years.

3.6.4 Trade in seal products

Greenland stakeholders continue to raise the issue of seal hunting. Although this is not directly linked to the EU-Greenland FPA, many small scale fishers in Greenland are also engaged in seasonal seal hunting activities. Seal hunting is therefore an issue linked to structural adjustment of the fisheries sector, since it potentially provides alternative and sustainable employment opportunities for fishing communities.

EU Regulation 1007/2009 on trade in seal products established restrictions in trade of seal products within and into the EU. Detailed procedures are set out in Commission Regulation 737/2010 laying down detailed rules for the implementation of the Regulation 1007/2009. From 20 August 2010 the regulation prohibits the import into the EU of products derived from seals hunted for commercial purposes and replaced disparate Member State rules previously in force.

²⁵ "Canada and Quebec Unite on EU Free Trade Accord", Paul Wells, *Maclean's*, July 30, 2007

²⁶ "Canada, EU discuss trade". AFP. Ottawa. 2 October 2009.

<http://www.google.com/hostednews/afp/article/ALeqM5jLlLcl5Gxd2bBT2ty3I2v7CZ2pg>.

The Regulation permits trade in seal products derived from hunts traditionally conducted by Inuit and other indigenous communities, and which contribute to their subsistence (the “Inuit exemption”). On the basis of this, in theory, products of Greenlandic seal hunters are therefore excluded from the trade ban. It also permits trade in product which derive from hunting conducted for the sustainable management of natural resources (the “management exemption”).

The Regulation addresses animal welfare concerns regarding seal hunting. It followed a proposal presented by the Commission in July 2008, a public consultation exercise and an impact assessment by the Commission. The impact assessment considered welfare and management aspects of seal hunting in different countries, including Greenland. In relation to Greenland the study found that the legal framework appears to be adequate, albeit with some room for improvement. However there are clear problems in terms of monitoring and control in the field to ensure animal welfare concerns are addressed.

The Regulation has met with strong criticisms from Greenland and others²⁷. Despite the exemptions which prima facie apply to the Greenland situation, operators indicate that the impact of the Regulation has been to eliminate EU demand, resulting in loss of markets, as traders/producer replace seal fur with alternative materials and products. Furthermore, attempts to apply the exemptions have been met with narrow interpretation of the regulations (for example, allowing only existing products to be fabricated from seal pelts to which the exemptions apply). The Great Greenland Company (a state-run tannery and marketing operation) now has stock of some 250,000 unsold seal pelts, whilst it continues to meet contractual obligations with fishers to purchase offered pelts at agreed prices.

As a result of this impact, the Fishermen’s and Hunters Association (see next section) is participating in a legal challenge to the Regulation in the General Court of the European Union by 16 plaintiffs (including Canadian and Norwegian interests). The basis of the claim is errors in law in applying the European Treaty provisions regarding functioning of the internal market as the basis for the regulation and breach of the UN Convention on Human rights in failing to weigh the rights and interests of the applicants. The action seeks an annulment of the implementation of the Commission Regulation and declaration of the inapplicability of the Council Regulation. The claim has been submitted and the judicial process is underway.

Despite these limitations there may be potential opportunities for Inuit communities in relation to the proposed EU regulation²⁸. A voluntary labelling system called Origin Assured (OA) was introduced in the seal fur industry in 2006, including participation from Canada, Norway, USA and Greenland. However, although Great Greenland Company has its own recognizable logo and labelling system, this has not been successful in overcoming the impacts of the Regulation.

3.7 Fishery sector organisations

3.7.1 Fishermen and Hunters Association (KNAPK)

Inshore fishermen are represented by the Fishermen and Hunters Association, which is an apex association of c.70 local associations of fishermen and mammal hunters, established in 1953. Its main functions are to engage in annual round of price negotiations with processors and exporters, and to represent interests of the small scale fishers in various national and international fora. It participates in IWC, NANCO and NASCO.

²⁷ Hunting of seals in Canada is of a much larger scale involving both traditional, small-scale and commercial hunting.

²⁸ However, as the Impact Assessment (by consultants COWI) report points out, the terms “Inuit” and “traditional hunting” are not precisely defined. This may bring about some problems of interpretation, which could be clarified, for example, by development of a Greenland standard and associated certification system.

KNAPK members hold 17.8% of the shrimp quota. KNAPK receives 1.5% of the first sale value of seals and fish produced by its members, which represented about EUR 600,000, plus about EUR 100,000 from other sources (including an annual grant from the North Atlantic Salmon Fund as compensation for a no-catch agreement). The Association is a very active campaigner on behalf of fishermen's interests, and is seeking to strengthen support for fishers undergoing structural adjustment.

KNAPK is one of the applicants in a group action (along with Canadian and Norwegian parties) being launched against the European Commission in the General Court of the European Union, with regard to the Commission Regulation 737/2010 "*laying down detailed rules for the implementation of Regulation (EC) No. 1007/2009 on trade in seal products*".

3.7.2 Employers Association

The Greenland Employers Association has approximately 400 member enterprises employing around 5,500 workers. On behalf of employers it undertakes collective bargaining with labour unions, and also represents employers and business interests to Government of Greenland through its seats on various permanent councils, committees and boards. It also provides juridical and economic counselling to its member companies. It is financed by membership fees and a pay roll levy of 0.4 or 0.5% depending on size and type of organisation. The Employers Association includes all the offshore fishing fleet operators, and 2 larger inshore vessels and thus represents almost 100% of the industrial fishery interests.

3.8 Fisheries Agreements with other third countries

Greenland has longstanding bilateral fisheries agreements with Norway, Russia, and Faroe Islands which provide for exchange of quota and reciprocal access, and a framework fisheries agreement with Iceland.

3.8.1 Greenland-Iceland-Norway (Capelin)

A trilateral agreement on capelin has been in place since 1980. The present tri-partite coastal states agreement between Greenland, Iceland, and Norway on the management of capelin in the Greenland, Iceland and Jan Mayen area was revised as of 8 July 2003, substituting the earlier agreement of 18 June 1998.

The fishery is managed according to a two-step management plan which allows for a minimum spawning stock biomass of 400,000 tonnes by the end of the fishing season. The Agreement does not specify this minimum spawning stock biomass, but indicates instead that ICES advice should be followed. The first step in this plan is to set a preliminary TAC based on the results of prospective acoustic surveys and to set a preliminary TAC for the summer/autumn period, which should correspond to approximately 2/3 of the total final TAC. The second step is based on the results of another survey conducted during the fishing season for the same year classes, used to revise the preliminary TAC.

The Agreement established national quotas according to a share of TAC as follows:

Table 15: Allocation keys for capelin

Country	% of TAC
Greenland	11
Iceland	81
Norway	8

Source: Trilateral between Greenland, Iceland, and Norway on the management of capelin in the Greenland, Iceland and Jan Mayen area, 8 July 2003

If the total TAC is not agreed upon, then it is specified that Iceland, being the most interested Party, shall establish a total TAC unilaterally. If Greenland and Norway do not make full utilisation of fishing possibilities then Iceland is allowed to fish the remaining surplus. If the final TAC established for the season is higher than expected and Greenland and Norway are not able to fish their quota in the time available, compensation is given in the following year. If Greenland and Norway fish a higher quantity than the specified quota, then this is subtracted from the following seasons quota and allocated to Iceland.

Concerning access to each others waters, the Agreement states that this access is to be agreed upon between the Parties. If no such bilateral agreement on access exists, then a total of 35% of allocated quota may be fished in each others waters.

Such a bilateral arrangement exists between Iceland and Norway, signed in July 2003, which specifies various conditions of the access to capelin in each others waters. Norwegian vessels are allowed to fish 35% of allocated quota in Icelandic waters, as well as quota transferred from the other Party, in the area north of 64°30' N until February 15th in each fishing season. When fishing in Icelandic waters, the number of Norwegian vessels is restricted to 30 until December 1. After this date, the number of Norwegian vessels is restricted to 20. Icelandic vessels are allowed to fish 35% of their allocated quota in Jan Mayen waters, as well as quota transferred from the other Party, until February 15 in each fishing season.

3.8.2 Greenland-Norway

The Fisheries Agreement between Greenland and Norway has been in force since 1991, which sets out a mutual exchange of fishing opportunities, subject to annual agreement. The latest protocol establishes quota exchanges and conditions that apply in 2011 (Table 16). Of particular relevance is flexibility provided to Greenland vessels fishing for cod and haddock in the Barents Sea, where quota provided in the context of the Greenland-Russia fisheries agreement may be fished in Norwegian waters, if prior authorisation has been given by the Russian authorities. Norwegian vessels are also given the flexibility of fishing pelagic redfish quota provided by the Agreement in NEAFC international waters, if due authorization has been given by Greenlandic authorities and Norway's NEAFC quota has been used up.

Table 16: Exchange of fishing opportunities under the Greenland-Norway Fisheries Agreement (2011)

Exchange	Species	Quota (tonnes)
Greenland vessels fishing in Norwegian waters	Cod – Barents sea (1)	2,150
	Haddock– Barents sea (1)	630
	Saithe– Barents sea (1)	1,000
	Bycatch (2)	260
Norwegian vessels fishing in Greenland waters	Greenland halibut – West	900
	Greenland halibut – East	275
	Pelagic redfish- East	300
	Halibut – East	235
	Cod – East/West	750
	Demersal redfish	400
	Bycatch	150

Source: Fisheries Directorate, Norwegian Ministry of Fisheries and Coastal Affairs

http://www.fisheries.no/management_control/Norwegian_fisheries_collaboration/collaboration_other_counties_Greenland.htm

Notes

(1) Can also be fished in Svalbard zone. Applies as long as the tri-party agreement on capelin is valid

(2) Redfish and Greenland halibut. Bycatch may not exceed 12 % i each haul and up to 7% onboard at the end of a fishing trip. Bycatch of redfish may not exceed 15% in each haul

3.8.3 Greenland-Russia Fisheries Agreement

The Fisheries Agreement between Greenland and Russia has been in force since 1992, and provides the basis for a mutual exchange of fishing opportunities. The latest protocol establishes quota exchanges and conditions that apply in 2011 (Table 17). As with the reciprocal access arrangements referred to above under the Greenland-Norway fisheries agreement, cod and haddock quota provided by the Greenland-Russia fisheries agreement may be fished by Greenland vessels in Norwegian waters, subject to prior authorisation by the Russian authorities. Russian vessels are also given the flexibility of fishing pelagic redfish quota provided by the Agreement in NEAFC international waters, if due authorization has been given by Greenlandic authorities and their NEAFC quota has been used up.

Table 17: Exchange of fishing opportunities under the Greenland-Russia Fisheries Agreement (2011)

Exchange	Species	Quota (tonnes)
Greenland vessels fishing in Norwegian waters	Cod – Barents sea	5,000
	Haddock– Barents sea	1,500
	Bycatch (1)	10%
Russian vessels fishing in Greenland waters	Greenland halibut – West S 68°N	1,225
	Greenland halibut – West N 68°N	650
	Bycatch (1)	10%
	Greenland halibut – East	1,375
	Pelagic redfish- East	3,350
	Bycatch (1)	10%

Source: Government of Greenland

Notes: (1) Bycatch of other bottom fish up to 10% of total quota

3.8.4 Greenland-Faroes Fisheries Agreement

The Fisheries Agreement between Faroe Islands and Greenland has been in force since 1997. The latest protocol under the Agreement sets out the exchange of fishing opportunities as shown in Table 18. It is important to note that there is a clear distinction in the Protocol between exchange of quota and the possibilities provided in the form of experimental fishing. The specified experimental fishing opportunities are not to be considered as quota exchanges and do not create precedence for future quota exchanges. In addition to the fishing opportunities specified in Table 18, the Protocol specifies that Faroes may fish in the Greenland zone, up to 50% of any capelin quota received under its agreement with Iceland. However, when reporting catches it must indicate whether it was fishing quota under the EU agreement (it is currently zero), Icelandic quota or quota which is purchased independently of these agreements. The parties also consider an exchange of fishing days in the NAFO area 3M (Flemish Cap) in relation to shrimp.

In the context of the Agreement, there is also an Agreed Record on the sharing of the autonomous shrimp quota set for NAFO area 3L (in disagreement with Canada). For 2009 this has been set to 2,571 tonnes for the Faroes and 530 tonnes for Greenland.

Table 18: Exchange of fishing opportunities under the Faroes-Greenland Fisheries Agreement

	Quota (tonnes)
Faroese Quotas in Greenlandic Waters	
Experimental Fishery (Greenland halibut)	100
Experimental Fishery (cod)	255 ^(a)
Experimental Fishery (shrimp)	100 ^(b)
Experimental bycatch (Greenland halibut and halibut)	275
Greenlandic Quotas in Faroese Waters	
Atlanto scandian herring	3,000
Blue whiting ^(c)	217
Experimental Fishery (demersal fish)	^(d)

Source: Government of Greenland

Notes:

(a): 3 trawl/line vessels allowed; total catches of cod may not exceed 350 tonnes; bycatch of Atlantic And Greenland. Halibut may not exceed 275 t

(b): 2 shrimp trawler allowed

(c): gives access to fish Greenland quota in Faroese waters

(d): allocation of 60 days fishing effort for one Greenland line vessel

3.8.5 Greenland-Iceland Agreement on Cooperation in Fisheries

The Agreement between Iceland and Greenland regarding mutual fishing within the EEZs of Iceland and Greenland was signed in 1998²⁹. The Agreement has no fixed term but may be terminated with 6 months notice. The Agreement is a framework agreement, which includes the principles for cooperation but does not set any exchanges of fishing opportunities. The Agreement provides Greenland vessels with the possibility of fishing its redfish quota (in the NEAFC context) in Icelandic waters. This appears to be the result of negotiations linked to the Tripartite Agreement on Capelin (Iceland, Norway and Greenland) where concessions made by Greenland formed the basis for this. Note that the fishery for pelagic redfish in Icelandic waters is considered to be more profitable (i.e. better catch rates and fewer parasites) than in the other main fishing ground in the international waters of the Irminger Sea (NEAFC and NAFO areas).

3.8.6 Consultation between Greenland, Iceland and Faroe Islands

According to the Greenland Government website, negotiations were initiated with the Faroes in 1998 on the possibility of establishing a framework for the management of shared resources of redfish and Greenland Halibut, involving the Parties Greenland, Iceland and the Faroes. However, this was not successful and there have not been any yearly negotiations. Another unsuccessful attempt took place in 2001 where the three Parties met on Greenland's initiative. Recently, renewed attempts have been made on Iceland's initiative. Although both parties, Greenland and Iceland, adopted a cooperation agreement it has not yet served its principal purpose due to the lack of agreement with the Faroes. According to the Greenland authorities, it is expected that an agreement on Greenland halibut will be in place in the near future considering recent developments in the fishery (see sections 4.1.5 and 12.1.2 for more detail).

²⁹ http://dk.nanog.gl/Emner/Erhverv/Erhvervsomraader/Fiskeri/Fiskeristyrelsen/Internationale_relationer_og_aftaler/Internationale_fiskeriaftaler.aspx

3.8.7 Consultations between Greenland and Canada on shared stocks

There have been consultations between Greenland and Canada since 1986, at senior official level, on shared stocks, primarily shrimp and Greenland Halibut in the Davis Strait and Baffin Bay. However, these consultations were terminated in 2004 by Canada because of Greenland's decision to resume fishing for shrimp in NAFO area 3L (by setting so-called autonomous quota)³⁰. Consultations appear however to continue, at least informally, in relation to Greenland Halibut in the NAFO area where there is agreement of allocation between Greenland and Canada.

In 28 September 2009 an agreement between Greenland and Canada was signed on VMS monitoring of vessels in their respective EEZs. The agreement makes provision for the direct exchange of VMS information between each country's monitoring centre as well as the exchange of information on landings. The agreement was implemented in the beginning of 2010.

3.9 Fisheries Management in Greenland

3.9.1 Legal Framework

The legal framework for the management of fisheries resources is provided primarily by Act No. 18 of 31 October 1996 on Fisheries ("Fisheries Act"), issued by the Landsting (amended by Act No. 12 of 6 November 1997, Act No. 6 of 20 May 1998, Act No. 15 of 12 November 2001, Act No. 5 of 21 May 2002 and Act No. 28 of 18 December 2003). The Act is implemented through numerous executive orders, issued in pursuance of the Act, which provide more detailed regulation in specific aspects of fisheries management and for specific fisheries.

At the time of writing the Parliament was debating the modification of the Fisheries Act, implementing the short term recommendations of the Fisheries Commission (see below).

3.9.2 Fisheries access rights

Offshore fisheries for the commercially important fish stocks are regulated by the setting of TACs and individual vessel quotas, e.g. for Greenland halibut, Atlantic halibut, snow crab, capelin, shrimp, redfish, cod. All vessels are required to be licensed.

In the coastal fisheries, all fishing is required to be subject to license. TACs and quotas are set only for a limited number of stocks including shrimp, cod, and Greenland halibut. Other species such as salmon, lumpsucker, snow crab and scallops, are not subject to TAC.

Four types of licences may be issued under Greenlandic fisheries legislation³¹:

- licences for a limited duration combined with a maximum allowable catch, used in (1) fisheries using vessels larger than 75 GRT for Greenland Halibut, Atlantic Halibut, Snow Crab, Capelin, Redfish, roundnose grenadier and Cod; (2) scallops; and (3) Greenlandic vessels fishing in third country waters; (4) EU vessels;
- licences for an unlimited duration combined with a maximum allowable catch (used in the shrimp fishery); there is a requirement that 25% of catches of industrial vessels be landed.

³⁰ http://dk.nanog.gl/Emner/Erhverv/Erhvervsomraader/Fiskeri/Fiskeristyrelsen/Internationale_relationer_og_aftaler/Internationale_fiskeriaftaler.aspx

³¹ The issuing of licences is regulated under the Fisheries Act and Executive Order No. 5 of 31 January 2002 on fisheries licences.

- licences for a limited duration not combined with a maximum allowable catch used in (1) Greenlandic fisheries where there is no biological basis for a quota; (2) Greenland Halibut and Snow Crab if the quota is a common/shared quota for the component (inshore fisheries); (3) foreign vessels where the quota is common/shared for all vessels permitted access (i.e. non-EU vessels); and (4) experimental fishing);
- licences for an unlimited duration not combined with a maximum allowable catch (not currently being used).

Each licence may indicate the species which the holder is allowed to catch, the vessels which may be used, the areas in which the fishing may be carried out and the specific conditions for the fishing. Individual transferable quotas are used in the shrimp fishery.

The Fisheries Act limits who may hold licences to persons who have permanently resided in Greenland and declared income taxes for more than 2 years, and who also have had fishing as their main occupation (i.e. more than half of income from fisheries) during the last 2 years. This means that the majority of the shares in a vessel must be owned by a seagoing fishermen. This combination of measures has limited re-investment in the fishery, and the proposed amendments to the Fisheries Act will consider a relaxation to allow non-fisheries and even foreign investment in the Greenland fishery sector.

Provision is made in the Fisheries Act for quota shares to be transferred for ownership or security, subject to approval by the *Landsstyre* and also subject to the provision that no company or individual may attain a total quota share that exceeds 33.3% in the regulated area for the off-shore fleet unit or 10% for the coastal fleet component (it is proposed to increase this to 15% in the current amendment).

Greenland has implemented a system of individual transferable quotas as the basis for its fisheries management system for shrimp. Thus rights may be transferred, but there is a maximum limit of 33% of the rights which may be held by any one individual or entity. Table 19 shows the current ITQ rights held in the offshore shrimp fishery.

Table 19: Distribution of ITQ rights in the offshore shrimp fishery of Greenland

Company	Annual quota rights held (tonnes)	
	West Greenland	East Greenland
Royal Greenland A/S	33.3	29.0
Polar Seafood Trawl A/S	28.2	33.3
Niisa Trawl ApS	13.4	7.5
Ice Trawl Greenland A/S	13.2	8.3
Qajak Trawl A/S	10.9	9.2
Sigguk Greenland A/S	1.0	12.7
Total (=100%), tonnes	63,025	5,400

Source: Fiskerikommissionens betænkning 2009.

3.9.3 Quota Flexibility

A provision for quota flexibility in Greenland fisheries was introduced in the Fisheries Law in connection the revision of 2001 (Landstingslov nr 15; 12 November 2001), which states that Government of Greenland may define the rules to be applied. This has so far only been applied to the implementation of ITQ in the shrimp fishery, starting in 2002. This allows for the use of the following year's quota as from November 15 and it also allows for the transfer of unused quota to the next year with the condition that this should be fished by April 30. There are in fact four types of mechanisms where quota flexibility applies:

- a) Advance of quota: in cases where available quota has been used up and the fisher has quota for the next year. This can be done as of 15 November.
- b) Transfer of advanced quota which was not fished up. If the above was not fished up, it is possible to transfer to the next year (by 31 December).
- c) Transfer to the next year of any unused quota. This has to be fished during the period 1 January to 30 April.
- d) If transferred quota is not fished up by 30 April, there is a possibility of transferring this back to the previous year on this date. This is in fact lost fishing possibilities, but it is in the interest of the fisher to transfer back the lost quota for accounting purposes.

Available data for 2008, from the GFLK indicates that the flexibility offered by these arrangements plays an important role in the operation of the Greenland shrimp fishing fleet. There is roughly a transfer of 20-25,000 tonnes of quota both forward and backward in time for both the offshore and inshore fishery in West Greenland, where a major part of catches are taken. In East Greenland, quota transfers are also significant at about 10,000 tonnes (transfer back and forth).

3.9.4 Fisheries Council

The Fisheries Council was established by the Fisheries Law of 31 October 1996 (Landstingslov nr. 18) which specifies that it consists of organizations representing fisheries interests and the Directorate for Fishing, Hunting and Agriculture. The Government may request advice from the Council on matters pertaining to fisheries management, such as the setting of quotas and TACs, regulation of fishing activity and licensing, conservation measures applicable to stocks, and fishing outside Greenland's fisheries territory.

The article concerning the Fisheries Council was later modified in the 2002 revision of the Fisheries Law (Landstingslov nr. 5; 21 May 2002), which further specifies that the Government of Greenland shall set the rules concerning the composition of the Council. The present composition of the Council includes GA (Employers Association), Nusuka (newer Employers Association; member of Council since 2008), KNAPK (Fishermen's and Hunters Association), Royal Greenland A/S and the Agency for Fishing, Hunting and Agriculture (under the Directorate of the same name).

According to the Government of Greenland website (www.nanok.gl), the Fisheries Council may issue statements or recommendations on its own initiative and is thus free to take up issues that have not yet been treated by the Government of Greenland. The Chair of the Council may request specific expertise from GINR and GFLK or any other institutions or persons that have relevant knowledge on specific subjects that are under discussion in the Council.

3.9.5 The Fisheries Commission Report

In 2008, the Government of Greenland appointed a Fisheries Commission (Fiskerikommissionens betækning 2009) which published a report and made recommendations for the revision of the Fisheries Act. This report may be regarded as a white paper setting out the issues raised in a review of the existing fisheries legislation and proposing a specific new approach. The Report recommended that the following principles should be adopted in the approach to the revision of the Fisheries Act:

- all fish stocks should in principle be managed by the setting of TACs
- quotas, whether absolute or relative, should be set for several years in order to facilitate financial management and investment decisions, in the interest of increasing efficiency in fisheries
- fisheries management should strive to increase profitability, both in terms of capital investments or salary levels for human resources.
- a 2-stage process is recommended for the adoption of the new Fisheries Law

The report recommended that the revision of the legislation should take place in two stages. The 1st stage (to be implemented in the short term) is to make amendments to the Fisheries Act.

In March 2011, at the time of writing, these were under consideration of the Parliament. The amendments proposed were that:

- the maximum ownership of quotas in the coastal shrimp fishery should be raised from 10% to 15%.
- The quota flexibility arrangement (“kvotefleksordningen”) applicable in the shrimp fishery should be maintained in the interest of maintaining/increasing efficiency in the fishery.
- The ITQ system is recommended for allocation of TACs in general, except in specific fisheries depending on circumstances.
- the maximum level of ownership of access rights should be established in law
- the distinction between offshore and coastal fisheries in ownership of access rights should be eliminated.
- the principle of “user pays” should be introduced.
- a formal working group should be established to formulate administrative procedures in relation to small scale fisheries
- issues concerning ownership of parastatal companies should be resolved

Revision to the Fisheries Act to implement some of the above recommendations was under consideration by Parliament at the time of this study. Concerning the 2nd stage (medium to longer term actions and amendments to the Fisheries Law), the Commission recommended that there was a need to consider:

- formulating strategic goals in terms of structural features of the fishery sector, and specifically to improve efficiency and reduce the number of fishermen/workers involved in fisheries
- providing education and training for younger generations to secure competent high-skilled workers in the sector,
- providing opportunities for alternative employment in fisheries characterized by high number of fishing units and low wages
- revising obligations to land part of the catch in Greenland for the purpose of securing land-based facilities and associated work force
- re-defining the balance between efficiency in fisheries and the socio-economic concerns.

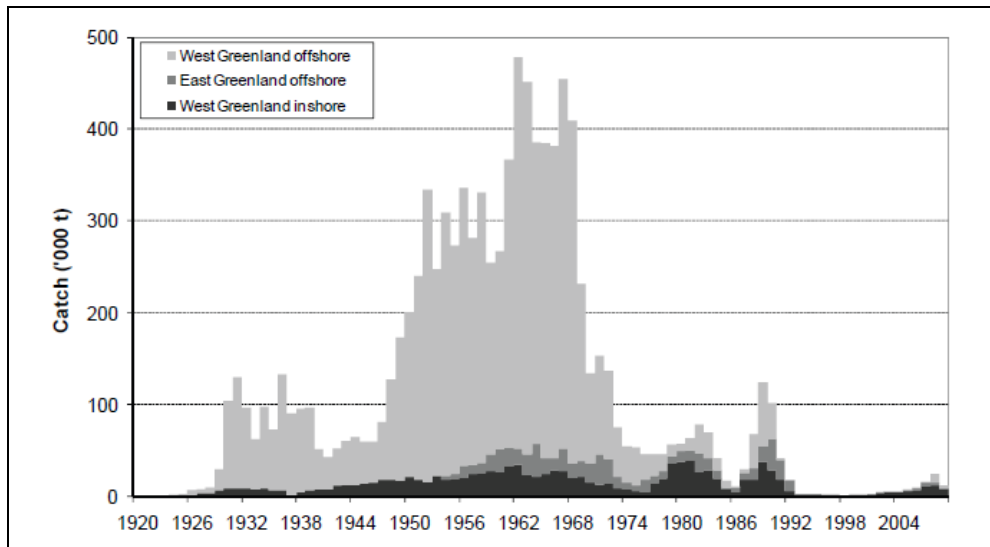
4 GREENLAND'S FISHERY RESOURCES AND MANAGEMENT

This section summarises the scientific knowledge regarding the status and management of the various commercial fish stocks in the Greenland EEZ that are of relevance to the FPA, considering the work and recommendations of ICES, NAFO, Greenland Institute of Natural Resources (GINR) and the Scientific, Technical and Economic Committee for Fisheries (STECF) of the European Commission.

4.1 Fish stocks

4.1.1 Cod (*Gadus morhua*) in Greenland waters

It is worthwhile putting the fishery for cod in Greenland in perspective. Total catches were higher than 400,000 tonnes in the early 1960s but a very strong decline was observed in the early 1970s where catches decreased to below 100,000 tonnes thereafter. The offshore component has been severely depleted since 1990. Recent increases in catches to about 25,000 tonnes in 2008 are therefore well below historical levels, and these have since decreased to 9,000 tonnes in 2010. Figure 3 shows these trends.



Source: ICES

Figure 3: Catches of cod in East and West Greenland since the 1920s.

Analytical assessment is available up to 1992, but after the stock depletion in 1992, the assessment of the stock has been based on trends in research surveys. Cod in Greenland derives from three stock components, labelled by their spawning areas: i) an offshore Greenland spawning stock, ii) inshore W Greenland fiord spawning populations, and iii) Icelandic spawned cod that drift to Greenland with the Irminger Current. These stock components are assessed together as pertaining to one stock.

During the period 2007-2011 ICES has consistently recommended each year that no fishery should take place to allow for rebuilding of the spawning stock in Greenland. Although large spawning cod have been found in East Greenland, their biomass levels are still low, particularly when compared to historical levels, and their spatial distribution is considered limited. Note that assessment is based on abundance indicators, which prevents the implementation of the MSY approach with the appropriate reference levels and limits. Analytical assessments were available up to 1992, but the collapse of the fishery resulted also in a data-limited situation in the fishery (i.e. reliable fishery data).

Greenland has not followed the available scientific advice. Instead, a TAC of 5,000 tonnes was set in 2007 and this increased to 20,000 tonnes in 2009. Actual catches increased from 16,000 tonnes in 2007 to 25,000 tonnes in 2008, far in excess of the set TACs, then falling to 13,000 tonnes in 2009 and 9,000 tonnes in 2010. A high proportion of the catches are generally taken by inshore fisheries (ranging from 50% to 75%) that were largely unmanaged before 2009, thus explaining the overshooting of TACs. In 2011, a TAC of 15,000 tonnes was set, consisting of 10,000 tonnes for coastal fisheries and 5,000 tonnes for the offshore fishery, despite the scientific advice for a closure of the fishery.

In the offshore fisheries the regulations in force include quota constraints, closed areas, minimum mesh size (trawl: 140mm) and minimum landing size (45 cm). To protect the spawning stock in the Greenland EEZ all fisheries for cod are prohibited north of 62°N latitude off East Greenland and north of 61°N off West Greenland. In 2010 the closed area was extended to include all of West Greenland west of 44°W. Furthermore, only three EU vessels are allowed to participate in a trial fishery for cod in 2011, requiring 100% observer coverage, a fishing season from July to December in East GRL, and additional obligations in terms of haul numbers per area, VMS and data reporting. The coastal fleet is managed in terms of licenses and quotas (since 2009), gears, vessel size, minimum landing size, and is mostly operating in inshore and coastal waters.

One of the main objectives of the FPA in terms of sector policy support has been the development of a multi-annual management plan for cod, which should ensure a sustainable cod fishery, special funds were allocated for this purpose. The protection of spawning grounds (i.e. northern areas specified above) and bringing inshore fisheries under management is the result of efforts in developing such a plan, but progress has been limited. A major stumbling block is that the scientific advice has not been followed during the whole period of the present protocol (due to the anticipated socio-economic impact). Agreement on the adoption of management measures appears to very difficult, involving stakeholders such as the Greenland Institute for Natural Resources (GN), the Greenland Fishing Licence Control Authority (GFLK), the Fisheries Council and the Ministry of Fishing, Hunting and Agriculture.

A draft plan has been prepared but cannot be considered a multi-annual management plan, as there are no explicit management objectives or criteria for increasing or decreasing TACs (no harvest control rules). Because of lack of agreement on basics such as the total TAC and the allocation between inshore and offshore fisheries, this plan can be considered only an interim step and there is for all practical purposes no management plan in force, only a series of ad hoc rules adjusted annually.

Considering the rules to be applied for the setting of TACs in the EU in 2011 (COM (2010) 241 FINAL), the STECF has noted that the application of these rules would imply a TAC in 2011 of 7,500 tonnes (representing a 25% reduction of 2010 TAC). These rules are not applicable to Greenland waters but indicate what would be a recommended approach in line with the CFP approach when the scientific advice recommends a zero catch or closure of the fishery.

4.1.2 Greenland Halibut (*Reinhardtius hippoglossoides*) in East Greenland

The stock found in East Greenland is considered to be part of a stock covering areas in Iceland, the Faroes, and Greenland (ICES areas Va, Vb, and XIVb respectively). Most of the fishery is a directed fishery with minor bycatches from other fisheries, such as the demersal redfish fishery in Iceland and Greenland. Total catches reached a peak of about 62,000 tonnes in the late 1980s and subsequently declined to a range between 20-30,000 tonnes in recent years (28,000 in 2009).

Previously, most of the catches were taken in Icelandic waters, but catches in Greenlandic waters have increased substantially during the last decade and account for roughly half of total catches at present (and thus Greenland's position is that it should receive 50% allocation of fishing possibilities in a regional agreement). Catches in Faroese waters, as well in the new fisheries developing in ICES areas VI and XII, are relatively low (ca. 2,000 – 3,000 tonnes). Faroese vessels account however for a relatively larger share of Greenland Halibut catches by access agreements with Iceland and Greenland, as well as through minor quota exchanges with the EU. Most of the catches by EU vessels in the North Atlantic are taken in Greenland waters, accounting for 27% of total catches from the stock (Annex 4).

The data on the Greenland halibut stock are insufficient for an analytical stock assessment. Instead, a number of indices from surveys and commercial CPUE are available (i.e. stock indicators) are used to examine stock biomass development and to define relative reference levels. On the basis of these assessments ICES had previously recommended an initial TAC of 15,000 tonnes in 2007 and 2008, as part of an adaptive management plan to be implemented, but the advice has now been revised to 5,000 tonnes, applicable in 2009, 2010 and 2011 and endorsed by the STECF.

However, as there is no agreement on allocation between the relevant countries (i.e. Iceland, Greenland, Faroes), the autonomous setting of quotas and TACs leads to excessive fishing pressure. This was particularly evident in 2009, where the scientific advice indicated a TAC of 5,000 tonnes but a total catch of 28,000 tonnes were taken (Annex 4). Greenland and Iceland have set autonomous TACs at the same level in 2010 and 2011, for example 13,000 tonnes each in 2011, while the Faroese fisheries is regulated by a fixed numbers of licenses and technical measures like bycatch regulations for the trawlers and depth and gear restrictions for the gillnetters. If no agreement is reached during the course of 2011, this is expected to result in excessive catches by a factor 6 in relation to the advice.

It is important to note that the scientific advice is contested by several parties as not well founded and overly cautious. This is particularly the case of stakeholders fishing for Greenland halibut in East Greenland, who contend that CPUE is stable, which is an indicator of a stable stock condition. Distribution of total fishing effort for Greenland halibut indicates however that the recent fishery is concentrated in a much smaller area compared to the overall fishery in the period 1991–2009. In 2005-2008 catch rates in GRL waters have maintained a high level above the average, but decreased by nearly 20% in 2009 along with a massive increase in effort (84%)³². A breakdown of the CPUE series into subdivisions, trace the 2009 CPUE decrease to the southernmost areas where most of the catches are taken. Also the total biomass in the Greenlandic survey in 2009 was estimated at 7,589 tons which is a historic low in the time series.

Greenland halibut fisheries are therefore considered not to be sustainable and an adaptive management plan is urgently needed, which should be negotiated between the main interested parties (Iceland, Greenland, Faroe Islands) and implemented as soon as possible. As Greenland Halibut nursery grounds are not known and therefore not monitored, and considering that it is a slow-growing species that first appears in the catches at age 5, a possible recruitment failure will only be detected in the fishery some 5-10 years after it occurs, highlighting the importance of applying the precautionary principle in the short-term and reaching agreement on its management.

Considering the rules to be applied for the setting of TACs in the EU in 2011 (COM (2010) 241 FINAL), STECF advises that Greenland Halibut TACs in Divisions V, VII, XII in 2011 should be 20,400 tonnes. This figure is calculated on the basis of a 15 % reduction in the 2010 TAC, when there are uncertainties in the stock assessment results.

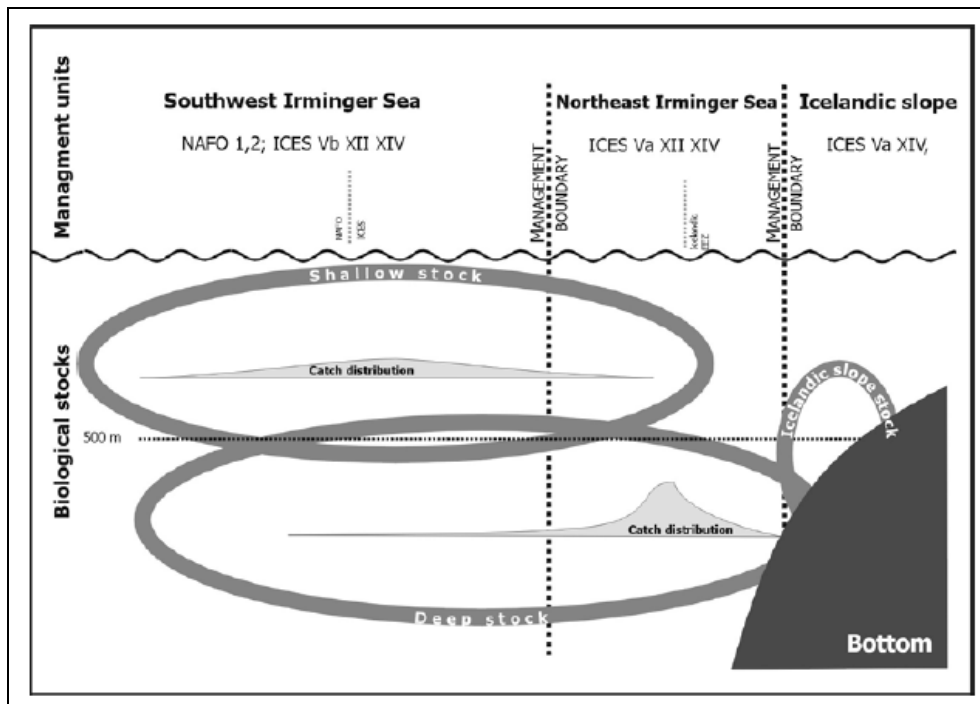
4.1.3 Redfish (*Sebastes spp.*) in Greenland waters

There are three species of Redfish commercially exploited in ICES areas V, VI, XII, and XIV; *Sebastes marinus*, *Sebastes mentella*, and *Sebastes viviparous*, the latter being of minor importance. Advice is given for these species separately, but a recent development is the revision of *S. mentella* stock structure by the “ICES Workshop on Redfish Stock Structure” (WKREDS, 22-23 January 2009, Copenhagen), which resulted in the following identification of three biological stocks of *S. mentella* in the Irminger Sea and adjacent waters (Figure 4):

- A “Deep Pelagic” stock (NAFO 1-2, ICES V, XII, XIV >500m): primarily pelagic habitats and includes demersal habitats west of the Faroe Islands;
- A “Shallow Pelagic” stock (NAFO 1-2, ICES V, XII, XIV <500m): extends to ICES I and II but primarily pelagic habitats and includes demersal habitats east of the Faroe Islands;
- An “Icelandic Slope” stock (ICES Va, XIV): primarily demersal habitats

Advice is now given separately for the stocks referred above. Note however that the linkages of the “Icelandic Slope” stock to the East Greenland continental slope (also a demersal stock) have not yet been established and agreed upon.

³² This is disputed by the German fleet stakeholders which have provided CPUE data, indicating stable if not increasing catch rates over the period 2003-2010.



Source: ICES North-Western Working Group 2009 (included is a schematic representation of the geographical catch distribution in recent years)

Figure 4: Schematic representation of biological stocks and adopted management units of *S. mentella* in the Irminger Sea and adjacent waters.

Deep pelagic Redfish (*S. mentella*)

The fishery for deep pelagic redfish started around 1991–1992 when the commercial fleet of the shallow pelagic redfish moved into deeper waters. Since 1997, the main fishing season occurred from late April to August in the so-called northeast fishing area near the Greenland and Icelandic EEZ and within the Icelandic EEZ (i.e. in the area east of 32°W and north of 61°N; Figure 5). The trawlers participating in this fishery use large pelagic trawls (Gloria type) with vertical openings of 80–150 m and operate at a depth range of 600 to 950 m. The deep pelagic fishery in the Irminger Sea only exploits the mature part of the stock. Nursery areas for the stock are found at the continental slope off East Greenland.

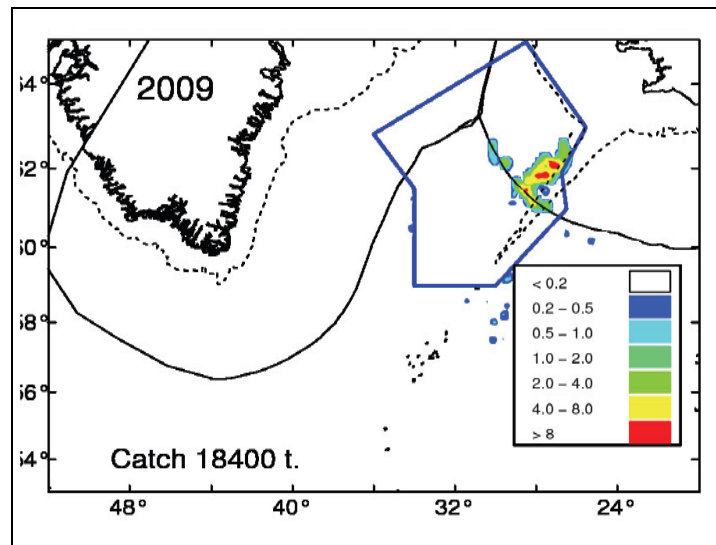
Landings of the deep pelagic redfish stock have declined from 139,000 tonnes in 1996 to 52,000 tonnes in 2009³³. EU vessels take on average (2007-2009) 15% of total catches from the stock, some of which are taken in international waters managed by NEAFC and NAFO. About 4% of EU catches of deep pelagic redfish are taken in Greenland waters. Under the flexibility scheme agreed between Greenland and the EU, redfish quotas allocated to the EU may be taken inside or outside Greenland waters.

Analytical assessments have not been possible and stock status is based mainly on the perception of stock trends derived from survey indices (available from 1991 to estimate biomass above the deep-scattering layer thus not a complete coverage of stock area)³⁴. ICES

³³ It is important to point that catches of the various redfish stocks are estimated by the ICES Northwest Working Group, as these are based on the depth and area of catches. Official statistics do not distinguish these stocks of *S. mentella*.

³⁴ Further work (and data) is needed in order to implement the MSY approach for all redfish stocks, including the definition of appropriate reference points and limits.

recommended a closure of the fishery in 2007, this included both deep and shallow pelagic components, however it has since advised a total catch of 20,000 tonnes, note however that this TAC advice concerns the deep pelagic stock only (for 2010 and 2011).



Source: ICES (NB the scale given is tonnes per nm²)

Figure 5: Fishing areas and total catch of pelagic *S.mentella* from the recommended northeast management unit in the Irminger Sea and adjacent waters in 2009.

As the stock is distributed in both NEAFC and NAFO waters, these two regional fisheries management organisations decided that NEAFC should adopt overall total allowable catches (TACs) for redfish, setting aside a part of them to be taken in the NAFO Regulatory Area.

Some specific NEAFC management measures were implemented by some Contracting Parties during the period of the protocol such as the specification of a box (Figure 5) where a recommended maximum of 70% of the TAC (i.e. autonomous TACs) could be taken. Furthermore, in order to enhance the protection of the areas of larval extrusion, no more than 15% of the TAC could be taken within the box during the period 1 April to 10 May. This definition of an area under protection is a clear improvement on the previous measure (i.e. definition of borders such as North of 59°N and East of 36°W) applied in 2008, which led to different interpretations by the EU and Greenland.

Most importantly, until 2011 there has been a lack of agreement on allocation and management of the stock, and the coastal states have set autonomous TACs for catches in their waters. This has led to catches well in excess of the scientific advice. Furthermore, due to lack of political agreement, even the NEAFC recommendation since 2007, of a total TAC of 46,000 tonnes (for both deep and shallow pelagic redfish stocks), was more than double the scientific advice, and has been largely ignored.

Greenland is one of the countries which has established autonomous quotas on this stock.

However, a major development in March 2011 was that the coastal states involved such as the Faroe Islands, Greenland and Iceland, as well as several non-coastal states such as the EU and Norway reached an agreement on the allocation of pelagic redfish fishing possibilities in the Irminger Sea and adjacent waters³⁵. This agreement is based on the assumption of two pelagic

³⁵ Agreed Record of Conclusions of Consultations between Coastal States (Faroe Islands, Greenland and Iceland) and other NEAFC Parties (European Union and Norway) on the Management of Redfish in the Irminger Sea and Adjacent Waters. Reykjavik, 17 March 2011.

redfish stocks (*Sebastes mentella*) which are distinguished in terms of depth and fishing ground: a) shallow pelagic redfish in the southwest Irminger Sea and b) deep pelagic redfish in the northeast Irminger Sea (Figure 4).

A separate Icelandic slope redfish stock has been defined (in connection with the slopes of the continental shelf), but the above-referred agreement does not include the management of this stock³⁶.

Under the agreement, a TAC of 38,000 tonnes in 2011 has been agreed for deep pelagic redfish, which will be reduced gradually to 20,000 tonnes by 2014, which is in line with the current scientific advice. The agreed allocation key (bearing in mind that Russia is not a signatory to this agreement) is:

- Faroe Islands: 6.73%
- Greenland: 22.25%
- European Union: 15.45%
- Norway: 3.85%
- Russian Federation: 20.70%

The agreement states that fishing shall not commence prior to 10 May of each year in order to protect the areas of larval extrusion and fishing shall take place only within a specific area (box shown in Figure 5), which is stricter than the measures currently implemented in the NEAFC. The agreement further states that only vessels flying the flag of a NEAFC Contracting Party or of a Cooperating non-Contracting Party can be entitled to participate in the fisheries, provided they have the proper authorisation from their flag States. Provisions are given in relation to reporting requirements and inspection and surveillance. Mesh sizes of less than 100mm are prohibited. Furthermore, the agreement states that the NEAFC will seek to establish a long-term management plan for redfish in the Irminger Sea and adjacent waters, including appropriate harvest control rules.

Although the fishery for deep pelagic redfish cannot be considered sustainable in the short term, it is expected that this agreement on allocation will be a major step in the right direction of achieving a sustainable fishery by 2014.

STECF advises that both shallow and deep pelagic stocks of *Sebastes mentella* in ICES areas Va, XII and XIV and NAFO Sub-areas 1-2 fall under Category 10 (COM (2010) 241 FINAL). Accordingly this implies a TAC reduction of only 25% in 2011, but as these two stocks have been combined in the past, this cannot be calculated separately. The agreement goes further by slashing the 2010 TAC by about 50% overall (from 72,000 tonnes to 38,000 tonnes), when considering the two stocks combined (deep and shallow).

Shallow pelagic redfish (*S. mentella*)

Russian trawlers started fishing on the shallow pelagic *S. mentella* stock in 1982 and covered wide areas of the Irminger Sea. Vessels from other nations soon joined this fishery. The main fishing area in the last decade has been in the so-called southwestern area (south of 60°N and west of about 32°W), and the area is almost entirely shallower than 500 m. Since 2000, the southwestern fishing ground extended also into the NAFO Convention Area, but in later years, the fishing area has been limited to the border area between NAFO and ICES south of Greenland. Catches have in parallel with this shrinkage declined substantially. In the period 1982–1992, the fishery was carried out mainly from April to August but since then the fishery has been conducted from July-October. Landings of the shallow pelagic redfish stock have declined from 100,000 tonnes in 1993 to 3,500 tonnes in 2009.

³⁶ Most of the catches are taken in Icelandic waters.

As mentioned in the previous section, this fishery was subject to a NEAFC TAC of 46,000 tonnes since 2007, which was given for both shallow and deep stocks combined, but largely ignored. ICES started to give separate advice for the shallow pelagic stock in 2010, consisting of a closure of the fishery, which it has reiterated in 2011.

In relation to shallow pelagic redfish, the Coastal States Agreement presented in the previous section states that the fishery should take place outside the management area specific for deep pelagic redfish. It further states that in accordance with the latest advice from ICES and in the absence of any agreed recovery plan, there shall be no fishery during 2011 in the NEAFC Convention Area. NAFO shall be informed of this prohibition (this fishery extends into the NAFO Convention Area but is managed by the NEAFC by mutual agreement). Fishing for shallow pelagic redfish during the period 2012-2014 is conditioned by the agreement on the establishment of a recovery plan in the Irminger Sea and adjacent waters.

The fishery for shallow pelagic redfish, where the Russian Federation was a major stakeholder, appears to have collapsed completely. The agreement appears to have been made too late and the major issue is now to rebuild the stocks, if possible.

Demersal Redfish (*Sebastes mentella* & *Sebastes marinus*) on the Greenland shelf

East Greenland (ICES area XIV) is an important nursery area for demersal redfish, including two species *Sebastes mentella* and *Sebastes marinus*.

In relation to *S. marinus*, the catches taken in the areas of East Greenland, Iceland and the Faroes are considered to be from one stock, but there is no agreement on allocation. Most of the catches are taken in Icelandic waters, while catches in East Greenland are almost negligible (generally less than 100 tonnes annually). No specific management advice is provided for the Greenland component. It should be noted that Iceland manages the demersal redfish fishery by setting a joint TAC for both *S. mentella* and *S. marinus* (40,000 tonnes in 2010/2011), an approach which is criticised by ICES, apart from being higher than the scientific advice.

In relation to *S. mentella*, this was formerly considered part of the complex of redfish stocks in the Irminger Sea (see above section on pelagic redfish) but is now separated from these following the revision by ICES in 2009. More importantly, it has been separated from the Icelandic slope redfish stock and for the first time in 2011, advice is given separately for *S. mentella* in East Greenland. However, ICES was not able to conduct a proper stock assessment and therefore advises that the fishery should not be allowed to expand further until proper documentation has been obtained. For 2012 the ICES advice reiterates that the fishery should not be allowed to expand beyond 1,000 tonnes, thus allowing for bycatches in the Greenland halibut and cod fisheries, and experimental fishing under the precautionary approach.

Technical measures (in the form of sorting grids in the shrimp fishery) to protect juvenile redfish have been applied by Greenland for a number of years and are considered to have reduced bycatch of juvenile redfish substantially (redfish species/stocks and cod are found in the same areas and depths as shrimp, and historically these species have been taken in the same fisheries).

In 2010 the Greenland administration set a TAC of 6,000 tonnes for demersal redfish. As a result catches in Greenland waters are expected to have been about this level. In 2011 Greenland allowed this fishery to expand further by setting a TAC of 8,500 tonnes (with expected catches of 6,000 tonnes *S. mentella* and 2,500 tonnes *S. marinus*). These levels of TAC are clearly in excess of the ICES advice and can therefore be considered to be unsustainable.

The justification for the opening up of a directed fishery for demersal redfish provided by the Greenland administration is that information from surveys indicates that the fishable stock of *S. mentella* in Subarea XIV has increased in recent years. However it should be noted that the surveys carried out do not target redfish (but target cod and Greenland halibut), and as a result the data generated on redfish biomass are not considered to be reliable by ICES.

4.1.4 Northern shrimp (*Pandalus borealis*) in East Greenland

The fishery for Northern shrimp (*Pandalus borealis*) in the Denmark Strait and off East Greenland began in 1978 and until 2005, catches in the area south of 65°N accounted for 50-60% of the total catch. Since 2006 catches in the southern area have only accounted for 25% of the total catch (the shrimp fishery in Iceland has virtually disappeared), which suggests a displacement northward of the fishery as also observed in West Greenland. Average catches have been about 4,000 tonnes (2007-2009) of which the EU takes 23%

The state of the stock is assessed on the basis of catch and effort data available from the trawler fleets involved, thus no analytical assessment is available. On the basis of the available data, the NAFO Scientific Council recommends that catches of shrimp in the Denmark Strait and off East Greenland should not exceed 12,400 tons in 2011, which is the same advice that has been given since 2004 and adopted by Greenland. This fishery can therefore be considered sustainable.

More information, on management measures in place for shrimp fisheries in Greenland, is given in the following section. It is important to note that the relatively low uptake of shrimp fishing possibilities appears to be due to the difficult fishing conditions in East Greenland.

4.1.5 Northern shrimp (*Pandalus borealis*) in West Greenland

The fishery for shrimp (*Pandalus borealis*) also takes place in Greenland's EEZ off West Greenland in NAFO subareas 1A to 1F. Besides the Greenland fishery, the stock is also fished by Canada in NAFO area 0A (SFA1). Seen from a scientific point of view, the shrimps off West Greenland are considered to be one single stock.

As can be seen in Figure 6, the fishery started to develop in the late 60s and early 70s, which coincides with the beginning of the collapse of the cod fishery off West Greenland. Total catches have been on the increase since then and appear to have peaked around 2005. This coincides with the results of surveys, indicating that total biomass appears to have peaked around 2005. Since then total biomass has shown a trend for decrease by about 20-25%, but total catches have been maintained, varying between 135-152,000 tonnes in recent years (138,500 tonnes in 2010, Annex 4).

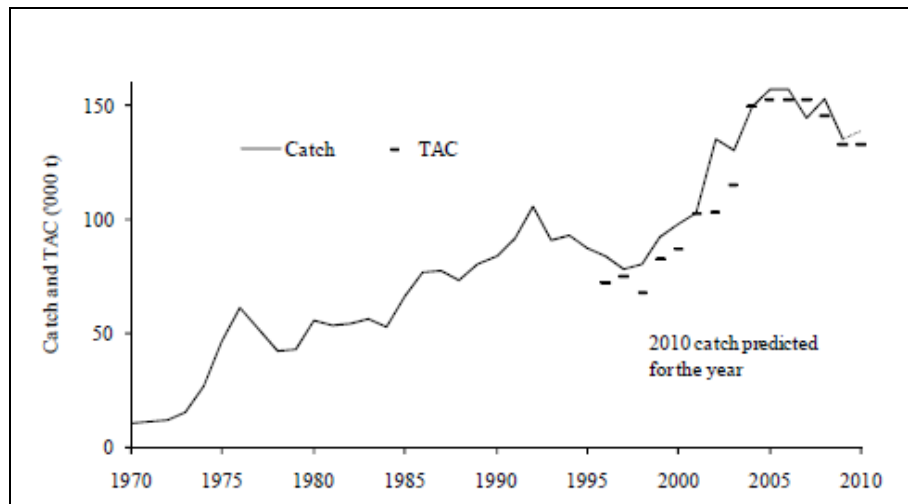


Figure 6: Catches and TACs of the shrimp fishery in NAFO SA 0+1, off West Greenland. Source: NAFO

Greenland and Canada have not agreed on allocation, which results in the autonomous setting of quota, leading to an excessive TAC in relation to the scientific advice. In 2011, NAFO has recommended a total TAC of 120,000 tonnes. Greenland has set a TAC of 124,000 tonnes, including 4,000 tonnes to provide the EU with fishing possibilities in West GRL. Canada on the other hand sets a TAC of 18,417 tonnes, which has been common practice since 2007. Thus,

the total TAC (142,500 tonnes) exceeds the scientific advice by about 22,500 tonnes, a general trend in recent years. It should be noted however that Canadian catches have been negligible since 2008, but despite this GRL catches have exceeded even the total TAC (see Table 4).

The quota offered to the EU (4,000 tonnes) is almost fully utilised, accounting for a bit less than 3% of total catches on average (2007-2010).

One of the reasons for this quota overshoot is that setting of quota does not account for differences between caught and landed weights. This is because the quantity deducted from the ship's catch quota in respect of shrimp sold for processing in onshore facilities (largely the entire catch from the inshore fishery and the statutory 25% of the offshore fishery) is based on the weight sold to the onshore facility mostly cooked and frozen and not on the weight caught. This is entirely legal, but constitutes a problem in relation to the biological advice, which is based on live catch weight³⁷.

Management measures in force for both shrimp fisheries (East & West GRL) include the flexible use of quota under an ITQ system. The provision for quota flexibility in Greenland fisheries was introduced in the Fisheries Law in connection the revision of 2001 (Landstingslov nr 15; 12 November 2001), which states that HRG may define the rules to be applied. This has so far only been applied to the shrimp fisheries in GRL, starting in 2002. This allows for the use of the next year's quota as from November 15 and it also allows for the transfer of unused quota to the next year with the condition that this should be fished by April 30.

The majority of vessels active in the shrimp fisheries are obliged to use a sorting grid (the so-called Nordmore Grid) with the objective of reducing discards, and a mesh size of 40mm. In the inshore fishery in West GRL, 23.21% may legally be fished without the use of a sorting grid (with a dispensation also given for smaller vessels).

The Greenland Parliament Act No. 5 of 21 May 2002 specifies an allocation of 57% to the offshore fishery and 43% to the inshore fishery in the West Greenland shrimp fishery. A Greenlandic Management Plan for the shrimp fishery in West Greenland (June 2010) is a recent development, specifying the management of fishery as presented above. It further specifies harvest control rules under two scenarios of low and high recruitment:

Based on the above analysis, there appears to have been a risk of overfishing in West GRL shrimp fishery. However, if the specified harvest control rules are applied in future, as intended, this is expected to lead to lower fishing pressure and thus a sustainable fishery.

4.1.6 Greenland Halibut (*Reinhardtius hippoglossoides*) in West Greenland

The Greenland halibut stock in West Greenland (offshore component) is part of a common stock distributed in the Davis Strait and southward to NAFO Subarea 3 (off Newfoundland) and thus shared with Canada. This fishery has developed from catches of about 2,000 tonnes in 1989 to 25,000 tonnes in 2009, which is also related to the discovery of new fishing grounds, mostly offshore in northern areas (Subareas 0A,1A; Baffin Bay). EU vessels catch on average about 1,500 tonnes which accounts for 6.8% of total catches off Greenland (including Canada).

Assessments are carried out on the basis of CPUE indices from the fishery, surveys³⁸, and length composition of catches (i.e. not an analytical assessment). On this basis NAFO recommends a total catch for Subareas 0 + 1 of 27,000 tonnes in 2011. This is a gradual increase from a recommended total catch of 24,000 tonnes in 2007. Greenland has approved a TAC of 13,500 in 2011, which is the normal procedure of allocating 50% of fishing opportunities in conformity with scientific advice, and Canada does the same. This is a well-managed fishery,

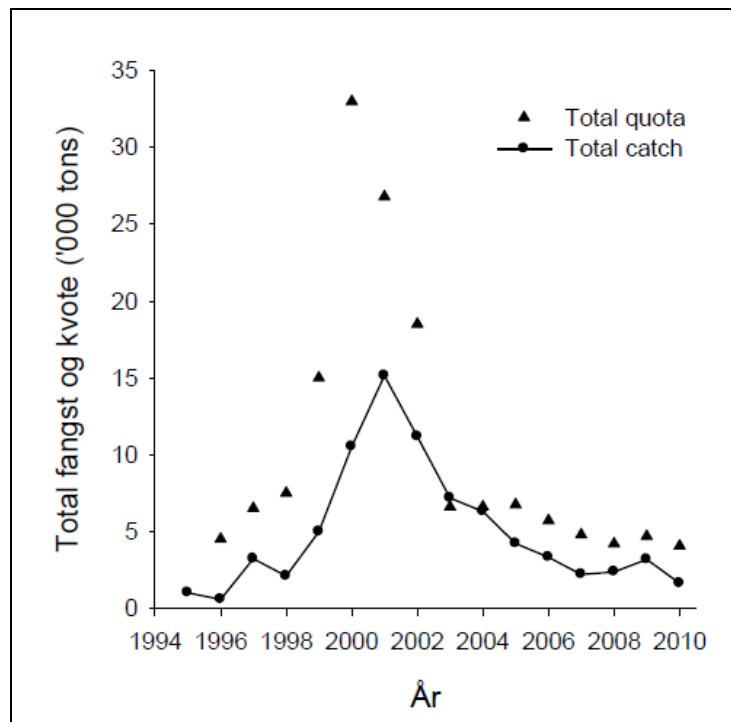
³⁷ Differences between the catch in live weight and the amounts declared against quota have ranged between 16-20% in recent years. Source: Shrimp Management Plan 2010

³⁸ These are surveys targeting other stocks such as shrimp and cod, which are used opportunistically to collect data on other species such as GHL.

where recommended TACs are generally followed and there is an agreement on allocation between Canada and Greenland.

4.1.7 Snow Crab (*Chionoecetes opilio*) in West Greenland

There was a rapid expansion of the snow crab fishery along the west coast of Greenland, starting in the mid 1990s, at a time when only limited data was available and this was primarily from the fishery itself (i.e. commercial catch and effort data). TACs were initially set too high while the fishery was developing. Figure 7 shows that total catches never reached the TAC, indicating an overly optimistic and non-precautionary approach. It is recognized now in hindsight that this was the case.



Source: Burmeister, A.D. 2010. Assessment of snow crab in West Greenland. 2011 Teknisk Rapport nr. 83. Greenland Institute of Natural Resources (GINR)

Figure 7: Catches (fangst) and quota (kvote) in the Greenland offshore and inshore fisheries for snow crab from 1994 to 2010 (year: år)

The fishery is managed by quotas for the inshore and offshore fisheries of 6 management areas in W.Greenland (Upernavik, Uummannaq-Disko Bay, Sisimiut, Maniitsoq-Kangaamiut, Nuuk-Paamiut and Narsaq-Qaqortoq). This is a seasonal fishery, open from April to July in all management areas, and designated “crab boxes”, in order to reduce discarding and associated mortality to soft-shelled crabs and to maximize recruitment to the stock. There are no specific long-term management objectives for the snow crab resource in West Greenland. However, since 2004 the main objective of recommendations from GINR has been to stop the decline in biomass of the crab resource in the different management areas.

The catches have been below the TAC for the period 2007-2009, suggesting a diminished interest in the fishery. TACs for the offshore fishery have increased from 500 tonnes in 2007 to 1,930 tonnes in 2009. In 2011 GINR has recommended a TAC of 1,000 tonnes for the inshore fisheries and 1,330 tonnes for offshore fisheries. However, the Greenland fisheries administration has decided to close all offshore fisheries and allocate a TAC of 2,430 tonnes to inshore fisheries. EU vessels are offered a small quota which has never been utilised during the period of the present protocol.

4.1.8 Capelin (*Mallotus villosus*) in the Iceland-East Greenland-Jan Mayen area

Capelin is widely distributed in the waters off West Greenland, but the catches are insignificant (20 to 430 tonnes) compared to the capelin fishery in East Greenland. This latter fishery for capelin is managed by setting preliminary catch quotas prior to each fishing season (typically July–March). The main management objective is to maintain enough spawners for the propagation of the stock and, since 1979, the target of maintaining a spawning stock biomass (SSB) of at least 400,000 tonnes has been used in the Iceland-East Greenland Jan Mayen area. There have been large fluctuations in stock abundance, but these appear to be environmentally induced and not due to excessive fishing. The fishery is considered to be sustainable.

Agreement on capelin TACs are made in the context of the Tripartite Agreement (Iceland, Norway, Greenland³⁹), which has steadily decreased from 1,300,000 tonnes in 2001 to 150,000 tonnes in the 2009/2010 fishing season. The EU is allocated capelin quota which is of particular importance as it is used for quota exchange with Iceland, as a priority, as well as with Norway and the Faroes. In the current fishing season 2010/2011, no initial TAC has been advised for the season; i.e. no fishery can open pending the results of further surveys.

Note that these TACs are respected by the Parties of the Tripartite Agreement. Greenland also maintains its right to withdraw from the Tripartite agreement should there be a general displacement of capelin stock into Greenland waters and as a condition for a new agreement, demand a greater share of the capelin stock⁴⁰.

Discards are allowed in the capelin fishery when catches are beyond the carrying capacity of the vessel. But as methods of transferring catches from vessel to vessel have been in use for a long time, discards are practically zero. Also, the fishery has recently changed from an industrial fishery towards a fishery for human consumption. A regulation calling for immediate, temporary area closures when high abundance of juveniles are measured in the catch (more than 20% of the catch composed of fish less than 13 cm) is enforced, using on-board observers.

4.1.9 Atlantic Halibut (*Hippoglossus hippoglossus*) in Greenland waters

Little is known about this species in terms of stock structure and dynamics, but it is commonly assumed that Atlantic halibut was fished down to low levels in the North Atlantic as far back as the beginning of the 20th Century. In Greenland waters, the available data show that catches in NAFO area 1 have almost disappeared, declining from around 1,000 tonnes in 1979 to 14 tonnes in 2009. In East Greenland, catches have dwindled to 59 tonnes in 2009. Many Atlantic Halibut are believed to be taken as bycatch in trawl fishing. Although sorting grids were introduced in the shrimp fishery in 2002, stock(s) of Atlantic Halibut had already been in a depressed state for a very long period, maintaining permanently low or dwindling catches of Atlantic halibut. At present, there is no directed management scheme, whether in Canada or Greenland. In Greenland, only the longline gear is allowed for a direct fishery on Atlantic halibut.

EU vessels are offered fishing possibilities for Atlantic halibut in both West and East Greenland, the latter being more substantial (1,200 tonnes), but there is no interest in this fishery when pursued by longline. There is some limited exploitation by Norwegian vessels.

4.1.10 Other stocks or possibilities:

There appear to be indications that wolffish (presumably a mixture of Atlantic wolffish, *Anarhichas lupus*, and spotted wolffish, *Anarhichas minor*) have increased in abundance in East Greenland. It is not clear if it is feasible for vessels to target this species, which until now has only been

³⁹ The agreed allocation is 81% to Iceland, 11% to Greenland, and 8% to Norway.

⁴⁰ Report on Foreign Affairs by the Dept. of Finance and Foreign Affairs. 2008; FM 2008/41; UD J.nr. 01.25-01

taken in bycatches of demersal trawls for cod and Greenland halibut, and stakeholders have not so far expressed interest.

4.1.11 Summary of fishery resources and sustainability

The following Table summaries the sustainability of fishing on each of the stocks described in the previous sections, along with scientific advice for management. Refer to Annex 4 for more detail.

Table 20: Sustainability of Greenland fisheries subject to the EU-Greenland Fisheries Partnership Agreement

Species	Stock Area		2007	2008	2009	2010	2011	Sustainability	Comment
			Quantity (tonnes)						
Cod	NAFO 1, ICES XIV	Advice	0	0	0	0	0	Not sustainable; impeding recovery of fishery	GRL stock – TAC set by GRL authorities; TAC levels do not follow the scientific advice and appear to be too high (set according to socio-economic concerns) relative to spawning stock
		TAC (GRL)	5,000	15,000	20,000	10,000	15,000		
		FPA quota	1,000	3,500	3,500	2,500	2,500		
		Total catch	16,000	25,000	13,000	9,000			
Greenland halibut	ICES V, VI, XII, XIV	Advice	15,000	15,000	5,000	5,000	5,000	Not sustainable; risk of collapse	Shared stock between Iceland, Greenland and the Faroes; GRL sets TAC at 50% of the total TAC (13,000 t in 2011); No management agreement in place and TACs set autonomously, exceeding advice
		TAC	27,000	26,000	25,000	24,000	26,000		
		FPA quota	7,946	7,500	7,500	7,500	7,000		
		Total catch	21,000	24,000	28,000				
Deep pelagic Redfish	ICES V, XII, XIV , NAFO 1, 2	Advice	0	20,000	20,000	20,000	20,000	Not sustainable; overfished	Shared stock; Following international agreement in 2011 between (Iceland, Greenland, Faroe Islands, EU and Norway), GRL allocated share of TAC is 22.35% (8,455 t), Agreed management measures will bring TAC in line with advice by 2014
		TAC	73,000	73,000	72,000	72,000	38,000		
		FPA quota	9,749	8,000	8,000	8,000	?		
		Total catch	59,000	30,000	52,000				

Species	Stock Area		2007	2008	2009	2010	2011	Sustainability	Comment
			Quantity (tonnes)						
Shallow pelagic Redfish	ICES V, XII, XIV, NAFO 1, 2	Advice	Included above	Included above	Included above	0	0	Not sustainable; collapse of fishery	Shared stock; allocation agreement signed in 2011 (Iceland, Greenland, Faroes, EU and Norway) According to the agreement the fishery should be closed (allowing for some bycatch)
		TAC	Included above	Included above	Included above	Included above	0		
		FPA quota	Included above	Included above	Included above	Included above	0		
		Total catch	6,000	2,000	3,500				
Demersal Redfish	ICES XIVb	Advice	n/a	n/a	n/a	n/a	n/a	Not known; precautionary advice not adopted	GRL stock for the newly defined GRL <i>Sebastes mentella</i> stock by ICES – TAC set by GRL authorities; Stock structure not known; no stock assessment so precautionary advice is to not allow increase until this is clarified (maintaining catches below 1,000 t); this advice is not followed by GRL authorities Mixed fishery of <i>S. mentella</i> and <i>S. marinus</i> , dominated by <i>S. mentella</i> .
		TAC (GRL)	5,000	1,000	1,000	6,000	8,500		
		FPA quota	None	None	None	None	None		
		Total catch	226	92	895				
Shrimp	ICES XIV	Advice	12,400	12,400	12,400	12,400	12,400	Sustainable	Shared stock between GRL and Iceland, but catches in Iceland have become negligible and are not regulated. Managed independently by GRL – TAC set by GRL authorities; Generally low uptake of available quota appears to be due to difficult fishing conditions in the area
		TAC (GRL)	12,400	12,400	12,400	12,400	12,400		
		FPA quota	7,000	7,000	7,000	7,000	7,000		
		Total catch	4,600	2,800	4,890	4,100			

Species	Stock Area		2007	2008	2009	2010	2011	Sustainability	Comment
			Quantity (tonnes)						
Atlantic halibut	ICES XIV	Advice	n/a	n/a	n/a	n/a	n/a	Not known; probably overfished	No stock assessment and no advice available. Direct fishery allowed with longline only in Greenland
		TAC (GRL)	n/a	n/a	n/a	n/a	n/a		
		FPA quota	1,200	1,200	1,200	1,075	1,075		
		Total catch		147	59				
Capelin	ICES XIV, IIa, V,	Advice	385,000	207,000	0	150,000	390,000	Sustainable	Shared stock (Iceland, GRL, Norway). Internationally agreed allocation of 11% of total TAC to GRL Low abundance appears to be linked to environmental conditions primarily (not overfishing)
		TAC	385,000	207,000	0	150,000	390,000		
		FPA quota	44,275	23,716	0	11,500	15,400		
		Total catch	377,000	202,000	15,000	151,000	391,000		
Shrimp	NAFO 0, 1	Advice	130,000	110,000	110,000	110,000	120,000	Risk of overfishing; GRL TAC: 124,000	Shared stock with Canada, but Canadian catches are now almost negligible. TACs set independently by Greenland and Canada therefore consistently higher than scientific advice (by about 22,500 tonnes in 2011).
		TAC (GRL)	152,400	145,700	133,000	133,000	142,500		
		FPA quota	4,000	4,000	4,000	4,000	4,000		
		Total Catch	144,200	152,700	135,300	138,500			

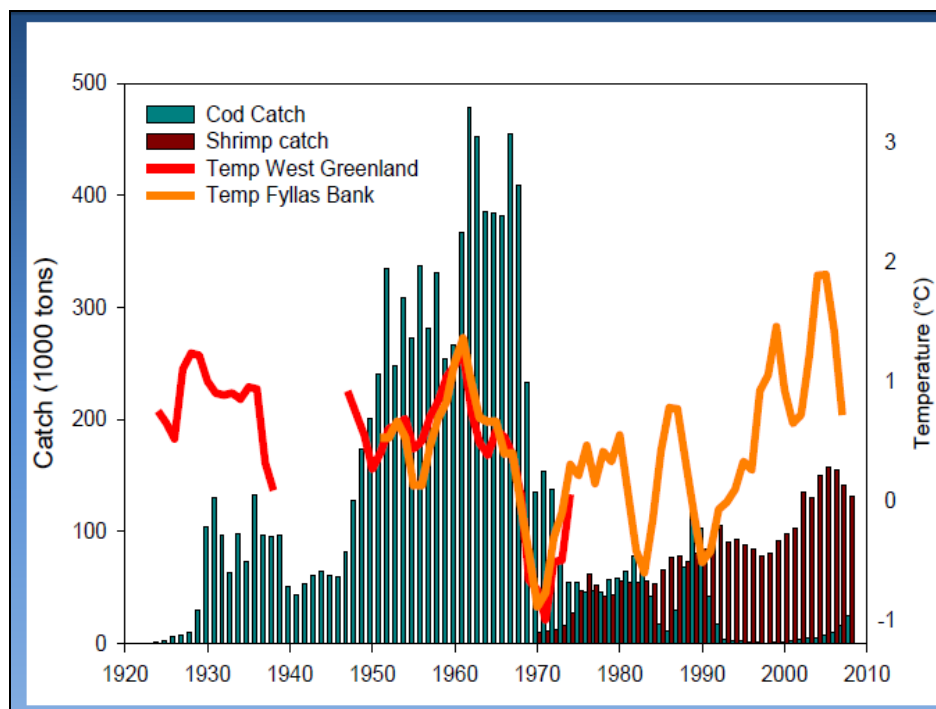
Species	Stock Area		2007	2008	2009	2010	2011	Sustainability	Comment
			Quantity (tonnes)						
Greenland halibut	NAFO 0, 1	Advice	24,000	24,000	24,000	27,000	27,000	Sustainable GRL TAC: 13,500	Shared stock between GRL and Canada (offshore component), where allocation has been agreed (50%-50%) Adopted TACs are consistent with the scientific advice
		TAC (GRL)	24,000	24,000	24,000	27,000	27,000		
		FPA quota	2,500	2,500	2,500	2,800	2,650		
		Total Catch	23,000	22,000	25,000				
Snow crab	NAFO 0, 1	Advice	4,580	3,830	3,830	2,230	2,330	Recovering from overfishing	GRL stock – TAC set by GRL authorities; Concerns the offshore component of the stock, which is recovering from overfishing; Offshore fisheries closed in 2011
		TAC (GRL)	4,580	3,830	3,830	2,230	0		
		FPA quota	500	500	500	500	499		
		Total Catch	2,189	2,350	3,165				
Atlantic halibut	NAFO 0, 1	Advice	n/a	n/a	n/a	n/a	n/a	Not known; probably overfished	No stock assessment and no advice available Direct fishery allowed with longline only in Greenland
		TAC (GRL)	n/a	n/a	n/a	n/a	n/a		
		FPA quota	200	200	75	75	75		
		Total Catch		32	14				

4.2 Non-target impacts of fisheries activity

4.2.1 Ecosystem impacts

Arctic marine shelf ecosystems are normally characterized by relatively few dominant species with strong interactions and strong impacts from oceanographic events that have major influences on fish stocks by altering recruitment, growth, and migration patterns. Excessive catches of one species may lead to the collapse of an important predator or prey in the system and may cause changes in the growth and survival patterns of other species in the food web. In West Greenland, the collapse of the cod population and the subsequent increase in shrimp and Greenland halibut biomass appears to have been the result of environmental effects coupled with fishing impacts. There is strong evidence of inter-dependence of the shrimp and cod stocks, such that it appears that both cannot be maintained at high abundance at the same time.

Figure 8 illustrates how a decrease in temperature in the late 1960s is strongly correlated with a strong decrease in cod catches. Thereafter a rise in temperature in the 1990s appears to be strongly correlated with the rise of the shrimp fishery. The near disappearance of the cod stock implies reduced shrimp predation by this species. Moreover, bycatches in the shrimp fishery may have been a significant factor in limiting the recovery of fish stocks such as cod and redfish in West Greenland. It is not entirely clear what the mechanisms behind these changes are, and it would not be appropriate to go into detail on related research in the present report, but suffice to say that ecosystem interactions are clearly implied.



Source: Rysgaard, S. 2010

Figure 8: Historical catches of cod and shrimp off West Greenland. Bycatches and discards

4.2.2 Bycatches and discards

The latest compilation on information concerning bycatch and discards appears to be in the Shrimp Management Plan for West Greenland (2010). Problems of bycatches and discards in the shrimp fishery led to the introduction of sorting grids. This has resulted in significant

reductions in bycatches, which are generally discarded in shrimp fisheries. However, there are still small bycatches, and interviews with Greenland stakeholders indicate that:

- The most common bycatches are as follows: Redfish (*Sebastes sp.*), Greenland halibut (*Reinhardtius hippoglossoides*), and, at certain times of the year, capelin (*Mallotus villosus*).
- In the northern areas, bycatches may also include arctic cod (*Arctogadus glacialis*), polar cod (*Boreogadus saida*) and roundnose grenadier (*Coryphaenoides rupestris*) – all species in very small quantities.
- In the southern areas, bycatches also include Atlantic cod (*Gadus morrhua*), American plaice (*Hippoglossoides platessoides*), Atlantic halibut (*Hippoglossus hippoglossus*) and eel-like fish for which the crew members have no name, but which may be northern sand lance (*Ammodytes dubius*).

Logbook-reported total bycatch in recent years is about 1% of shrimp catch, and shows no trend upwards or downwards in recent years. The proportion of bycatch identified as being of commercially fished species is about 0.2% of shrimp catch; this proportion has steadily decreased for the last two decades; nearly all of it is redfish.

The Greenland Executive Order nr. 28 (11 December 2008) specifies limits on bycatch for species such as cod, shrimp, GRL halibut, and Atlantic halibut, which are relevant to the operations of EU vessels. Catches of undersized fish are classified as bycatch (e.g. minimum sizes are specified for cod - 40cm and GRL halibut - 42cm) and the rule of maximum 10% bycatch on a haul basis is applied in general, although the Government of Greenland may give dispensation in special circumstances.

Knowledge on bycatches and discards for other fisheries appears to be limited. However, the available data, although fragmented, appears to indicate that fisheries in Greenland are generally clean and large bycatches are rare events. Note that discarding is prohibited in Greenland fisheries, except in shrimp fisheries, and that observer coverage is relatively high.

4.2.3 Seabirds

As highly migratory species, seabirds forage in the same pelagic and shelf-slope habitats targeted by commercial fisheries. Very little information is available on incidental catches of seabirds in Greenland, but most problems are considered to be associated with longline fisheries. The only longline fishery that operates in relation to the EU-GRL FPA are the catches of Atlantic halibut taken by Norwegian longline vessels. These are small catches involving a few vessels, but it is common practice in the North Atlantic to use a scaring device to prevent seabirds from taking bait. This device is a line with floats attached to its end, and the line is towed during setting with the floats moving in the area where birds may take bait. Studies show that this practice reduces seabird catches significantly.

4.2.4 Marine mammals

Incidental bycatches of marine mammals, for example in trawl fisheries, is considered to be limited. This should not be confused with hunting activities, which are considered to be important sustainable activities in Greenland. Cetacean bycatch in the northeast Atlantic, as elsewhere, affects mainly small cetaceans i.e. dolphins, porpoises, and the smaller toothed whales. Many countries have initiated cetacean bycatch monitoring programmes, and the results generally indicate little or no evidence that serious bycatch has occurred (Greenpeace in ICES, 2004). Entanglement in fishing gear appears to be the most important cause of marine mammal bycatches or injuries, but other interactions undoubtedly occur. Many cetaceans and seals predate on the fish covered in this report, and may be regarded as competing with the fishery, but there is little or no data on this interaction.

4.2.5 Benthic habitats

Offshore Greenland fisheries are characterised by the use of deep-water trawls for shrimp, Greenland Halibut and Redfish. The actual impact of deep-sea trawling in Greenland waters has received only limited research attention. Studies from other areas indicate that repeated trawling does have an effect on benthic habitats and this is particularly so in deeper water habitats that

are less subject to dynamic change through tidal or current movement, and where biotic colonies have slower recovery rates. The actual impact of trawling upon the marine environment and its effect upon productivity is largely unknown, including in Greenland waters, as there are few non-impacted reference sites.

Except for parts of the upper slope in mid-Norway, the continental margins of the Norwegian and Greenland Seas are not known to host large amounts of coral, as the water temperature of this North Atlantic basin is too low (Friewald *et al*, 2004).

4.3 Marine Protected Areas

The OSPAR Convention⁴¹ provides a mechanism to encourage and support Contracting Parties to establish and register a network of Marine Protected Areas, in which special protective, conservation, restorative or precautionary measures have been instituted for the purpose of protecting and conserving species, habitats, ecosystems or ecological processes of the marine environment. Contracting Parties have so far reported on the selection of 106 MPAs as components of the OSPAR network of MPAs. By September 2008 (latest version of the OSPAR database of MPAs nominated by Contracting Parties⁴²) there were no Marine Protected Area sites in Greenland.

In 2008, a proposal by Norway using new information coming out of the MARECO project with regard to vulnerable marine ecosystems (VMEs) formed the basis of discussions and resulted in a proposal for OSPAR to establish an MPA in the Charlie Gibbs Fracture Zone on the Mid Atlantic Ridge, in a location which is just outside the Greenland EEZ (see Figure 9). This proposal was adopted by OSPAR under Decision 2010/2 on the establishment of the Charlie-Gibbs South Marine Protected Area, which came into force on 12 April 2011.

NEAFC sought the advice of the International Council for the Exploration of the Sea, (ICES) which assessed the proposal against the standards and criteria for identifying vulnerable marine ecosystems (VME), developed by FAO. In April 2009, in anticipation of the MPA declarations by OSPAR, the Contracting parties to NEAFC agreed to prohibit the use of fishing gear likely to contact the seafloor in five zones⁴³. These included the Charlie Gibbs Fracture Zone⁴⁴. The measure is to remain in force until 31 December 2015 (unless there is evidence to shown that it is not required). Iceland has laid claim to a large part of the area in 2009, as part of its continental shelf. It is therefore not clear how this will impact on implementing an MPA for the Charlie Gibbs Fracture⁴⁵.

⁴¹ OSPAR is the mechanism by which fifteen Governments of the western coasts and catchments of Europe, together with the European Community, cooperate to protect the marine environment of the North-East Atlantic. It started in 1972 with the Oslo Convention against dumping. It was broadened to cover land-based sources and the offshore industry by the Paris Convention of 1974. These two conventions were unified, up-dated and extended by the 1992 OSPAR Convention. The new annex on biodiversity and ecosystems was adopted in 1998 to cover non-polluting human activities that can adversely affect the sea. Greenland is not a contracting party, but is bound by the Convention by Denmark's participation.

⁴² http://www.ospar.org/html_documents/ospar/html/ospar_mpa-db_2008-01-02_populated.zip

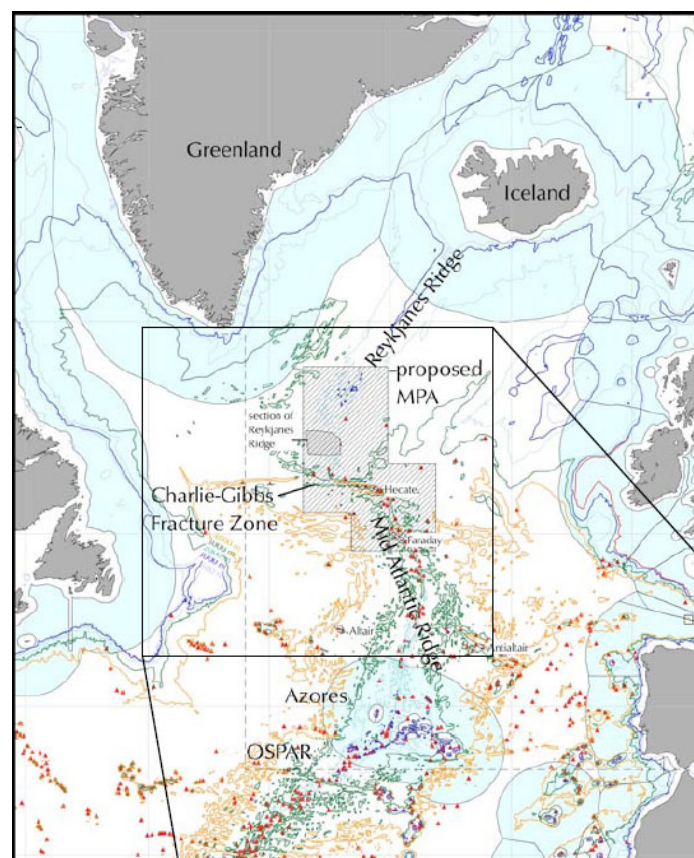
⁴³ NEAFC closes large areas to bottom fisheries on the Mid-Atlantic Ridge to protect Vulnerable Marine Ecosystems in the High Seas of the North East Atlantic, NEAFC Press Release, 27 April 2009
http://www.neafc.org/system/files/vmes_press_rel_april2009.pdf

⁴⁴ The prohibition also applies to the Northern MAR Area, the sub-Polar Frontal Region, the Southern MAR Area, the Altair Seamount and Antialtair Seamount.

⁴⁵ Report on Foreign Affairs by the Dept. of Finance and Foreign Affairs. 2010; FM 2010/14; UD J.nr. 01.25-01

Although not clear, this measure could potentially have some impacts on the exploitation on commercial fisheries since the proposed zone coincides with the seamounts Faraday, Hekate, and some sections of the Reykjanes Ridge associated with the redfish fishery in international waters. The proposal could impact on the utilisation of the Greenland quota which can be taken in international waters under the NEAFC flexibility arrangements introduced in 2008. However, at present the redfish fishery is pursued with pelagic gear, and the measures are not expected to impact on existing commercial fisheries.

At the Annual Meeting in November 2009 NEAFC also put in place a seasonal closure in an area south of the Icelandic EEZ known as a spawning ground for blue ling. A proposal for further extending the closures on the Mid-Atlantic Ridge was sent to the International Council for the Exploration of the Sea for scientific review. Following up on the FAO International Guidelines for the Management of Deep-sea Fisheries in the High Seas NEAFC has adopted additional measures in its bottom fishing regulations. NEAFC has outlined “existing bottom fishing areas” where bottom fishing has taken place and “new bottom fishing areas” where bottom fishing has not taken place.



Source: Proposal for a new MPA in the OSPAR Maritime Area, WWF Arctic Programme⁴⁶

Figure 9: Location of the proposed MPA in the Charlie Gibbs Fracture Zone

⁴⁶http://www.ngo.grida.no/wwfneap/Publication/Submissions/OSPAR2006/WWF_MASH06_HS_MPA_MAR_Annex.pdf

5 EU-GREENLAND FISHERIES PARTNERSHIP AGREEMENT

5.1 The EU-Greenland Fisheries Partnership Agreement

The EU-Greenland Fisheries Partnership Agreement was adopted by Council Regulation (EC) No 753/2007 of 28 June 2007 on the conclusion of the Fisheries Partnership Agreement between the European Community on the one hand, and the Government of Denmark and the Government of Greenland, on the other hand.

5.1.1 Key elements of the Fisheries Partnership Agreement

The Fisheries Partnership Agreement provides for economic, scientific technical and financial cooperation in the fisheries sector, it sets the conditions governing access to the Greenland EEZ by EU vessels, and specifies the arrangements for the ensuring compliance with conservation and management regulations, as well as providing for partnerships between companies (joint ventures). The principles which govern the Fisheries Partnership Agreement are specified; non-discrimination between the different fleets operating in the Greenland EEZ, the planning and implementation by Greenland of a sectoral fisheries policy with objectives to be agreed by the parties; cooperation on evaluation of activities undertaken under the Fisheries Partnership Agreement and principles of good economic and social governance.

The key elements of the Fisheries Partnership Agreement are that Greenland will grant access to EU vessels to fish in its EEZ for the six year period, from 1 January 2007 (extendable for a further six years unless notice of termination is given by one of the parties), and that the specific opportunities are set out in the Protocol to the Fisheries Partnership Agreement. Specific provision is made in the Fisheries Partnership Agreement that the EU may employ the fishing opportunities in exchanges between the EU and other named third countries, specifically Norway, Iceland and Faroe Islands. Greenland undertakes to authorise those vessels to fish in their EEZ. Greenland also remains responsible for monitoring compliance of those vessels with the Greenlandic laws, and for informing the EU of any changes to the legislation. EU vessels may only fish in the Greenland EEZ when they hold a valid licence, for which fees are set in the Protocol to the Fisheries Partnership Agreement.

The EU undertakes to grant a financial contribution in accordance with the Protocol, which comprises a) a financial contribution for access by EU vessels to Greenland fisheries and b) an element for securing continued responsible fishing and sustainable exploitation of fisheries resources in the Greenland zone. This element is to be managed by Greenland in the light of objectives identified jointly by the parties, and to be achieved in the context of Greenland fisheries policy and its programmed implementation. The financial contribution may be changed in certain defined circumstances such as a) exceptional circumstances which prevent fishing in the Greenland EEZ b) reduction of fishing opportunities agreed by the parties for the purposes of managing the stocks c) the introduction of additional fishing opportunities and d) re-assessment of EU support in the light of results of the annual and multi-annual programming or suspension of the Fisheries Partnership Agreement as a result of serious infringement. The parties undertake to promote economic, commercial and scientific cooperation in the fisheries sector, and to promote the conduct of experimental fisheries.

A key element of the management of the Fisheries Partnership Agreement is the formation of a Joint Committee as a mechanism for monitoring the agreement and ensuring its implementation. The functions of the Joint Committee are specified; key ones include acting as a forum for settlement of any disputes, reviewing and negotiating, where necessary and appropriate the level of existing and new fishing opportunities and the financial contribution; evaluating the need for management and recovery plans for fish stocks; monitoring temporary joint ventures and experimental fisheries; agreeing on administrative matters regarding licences and assessing the terms of EU financial support as warranted by the results of the annual and multi-annual programmes.

5.1.2 Protocol to the Fisheries Partnership Agreement

The Protocol to the Fisheries Partnership Agreement sets out the technical details for implementation. It requires the Joint Committee to set the annual fishing opportunities on the basis of scientific advice and the needs of the fishing industry. The opportunities refer to Annex 1 of the protocol which sets "*indicative*" quotas for seven species of fish in different fishing zones (E and West Greenland) plus bycatches. For five of these species (cod, snow crab, shrimp and redfish and Greenland halibut) minimum quantities of TAC are set, below which Greenland is absolved of the obligation to offer the opportunities. The quotas are shown in Table 22.

In the event that the quantities available are less than the indicative quantities, Greenland is required to offer compensatory opportunities either in the same or future years. If this is not feasible, then the Protocol states that financial arrangements, including the financial contribution, may be modified. Additional catch opportunities may also be offered by Greenland, with a mechanism established for the corresponding additional compensation to be paid. Greenland may issue fishing licences to EU vessels only under the terms of the Fisheries Partnership Agreement.

Article 2 of the Protocol describes the financial arrangements. The EU undertakes to pay Greenland EUR 85,852,464 over a six year period, payable in annual tranches of EUR 14,307,244. A reserve is set aside in case additional fishing opportunities for cod and capelin become available. There is provision for suspension of the payments when serious circumstances other than natural phenomena prevent fishing. The Greenland FPA is the EU's third largest in terms of budgets. The budgeted cost of the Fisheries Partnership Agreement to the EU budget is EUR 15.8 million per year, which accounts for about 10% of the EU budget expenditure on Fisheries Partnership Agreements (Mauritania accounts for 54% and Morocco 23% of the EU expenditure⁴⁷).

Each year Greenland commits to applying EUR 3,261,449 (or slightly less in 2007) in favour of implementing a sectoral fisheries policy with a view to securing continued responsible fishing, to be managed in the light of objectives identified by mutual agreement within the frame of the joint committee. From this amount EUR 500,000 and EUR 100,000 annually are to be applied to the Greenland Institute of Natural Resources and for training of fisheries officials respectively. Otherwise the parties are to agree on annual and multi-annual guidelines for the application of this financial element, and which take account of the priorities expressed in the Greenland's fisheries policy. The application of this element of the financial contribution may be changed at the request of the Commission where the evaluation of progress so warrants (Article 4.5). There is provision in the protocol for the resolution of disputes, suspension of the agreement, and for mid-term review.

The Annex to the Protocol sets the indicative fishing opportunities, rules regarding bycatch, the procedures for the application and issue of fishing licences, the zones in which EU vessel may operate, arrangements for catch reporting, technical conservation measures and the observer scheme and detailed rules for the operation of satellite vessel monitoring systems, temporary joint ventures and experimental fishing.

⁴⁷ See Bilateral fisheries partnership agreements between the EU and third countries; http://ec.europa.eu/fisheries/cfp/external_relations/bilateral_agreements_en.htm

Table 21: Level of indicative fishing opportunities established by the Protocol

Species	2007	2008	2009	2010	2011	2012
Cod (NAFO 0/1) ⁽¹⁾ W or E	1,000	3,500	3,500	3,500	3,500	3,500
Pelagic redfish (ICES XIV/V) ⁽²⁾ E/W	10,838	8,000	8,000	8,000	8,000	8,000
Greenland Halibut (NAFO 0/1) – south of 68°	2,500	2,500	2,500	2,500	2,500	2,500
Greenland Halibut (ICES XIV/V) ⁽³⁾ E	7,500	7,500	7,500	7,500	7,500	7,500
Shrimp (NAFO 0/1) W	4,000	4,000	4,000	4,000	4,000	4,000
Shrimp (ICES XIV/V) E	7,000	7,000	7,000	7,000	7,000	7,000
Atlantic Halibut (NAFO 0/1)	200	200	200	200	200	200
Atlantic Halibut (ICES XIV) ⁽⁴⁾	1,200	1,200	1,200	1,200	1,200	1,200
Capelin (ICES XIV/V)	55,000 ⁽⁵⁾	55,000 ⁽⁵⁾	55,000 ⁽⁵⁾	55,000 ⁽⁵⁾	55,000 ⁽⁵⁾	55,000 ⁽⁵⁾
Snowcrab (NAFO 0/1)	500	500	500	500	500	500
Bycatches (NAFO 0/1) ⁽⁶⁾	2,600	2,300	2,300	2,300	2,300	2,300

Source: Protocol to the EU Greenland Fisheries Partnership Agreement

¹ In the event of stock recovery, the EU may fish up to pm Tonnes, with a corresponding increase in the part of the financial compensation referred to in Article 2(1) of the Protocol. The quota for 2007 can only be fished as from 1 June. May be fished East or West

² May be fished East or West. To be fished by pelagic trawl.

³ This figure may be revised in the light of the agreement for the allocation of catch possibilities between coastal countries. The fishery shall be managed through a limitation on the number of vessels fishing at the same time.

⁴ 1,000 tonnes to be fished by no more than 6 EU demersal longliners catching Atlantic halibut and associated species. The conditions for the fishery of the demersal longliners shall be agreed upon in the framework of the Joint Committee

⁵ When catchable, the EU may fish up to 7.7% of the capelin TAC for the season going from 20 June to 30 April the following year with a corresponding increase in the part of the financial compensation referred to in Article 2(1) of the Protocol.

⁶ Bycatches are defined as any catches of species not covered by the vessels target species indicated on the licence. The composition of the bycatches shall be reviewed annually in the framework of the Joint Committee. May be fished East or West.

5.1.3 Sectoral policy support measures

In line with the Protocol the parties have agreed on a matrix of sectoral policy support measures, at their Joint Committee meeting of 2 and 4 July 2007. The matrix of measures included the following axes addressing the stated objectives:

Overall objective: to promote sustainable management and utilisation of the fisheries

- New fisheries act

Area 1: Administration of the Department of Fisheries Hunting and Agriculture

- Cod management plan
- Financial support for the coastal fisheries component
- Training of fisheries officials

Area 2: Control and enforcement- Maintain and develop efficient control and enforcement regime

- Level of administration
- Control at sea (seagoing)
- Control at sea (coastal)
- International control agreements
- Training of fisheries officials

Area 3: Greenland Institute of Natural Resources: To promote sustainable fisheries through best possible practices

- Gathering and analysis of data and international scientific cooperation in the existing fisheries
- Gathering and analysis of data and international scientific cooperation in new fisheries

Monitoring indicators were established. The structure of the matrix has been retained throughout the period of the Protocol, although there have been a number of modifications to scheduled targets and indicators as the matrix has been adapted to circumstances (such as political delays in the passage of legislation). More details on the implementation of the measures are provided in Section 7 where its impacts are assessed.

5.2 Availability of quota as per Protocol

Table 21 shows the provision of fishery opportunities by Greenland in the first five years of the Fisheries Partnership Agreement. A detailed annual breakdown showing allocations to EU and third countries is provided in Annex 3.. Because of resource limitations, on nine occasions Greenland has not been able to deliver all of the fish quotas set out in the protocol. The average annual deficit was 35,530 tonnes, which corresponds to 39% of the annual quantity. In particular the full quotas have never been available for capelin, which accounts for 55,000 tonnes per year (about 60% of the total). The quota for redfish was not available in 2007, only part of the quota for halibut was available in 2009 and 2010, and the quota for cod in 2010 was also halved.

Article 1.2 of the Protocol sets out a compensation mechanism which provides for Greenland to offer alternative fishing opportunities if some of the annual quotas foreseen by the Protocol cannot be allocated to the EU due to the situation of the stocks.

Table 22: Quotas Delivered under the EU-Greenland Fisheries Partnership Agreement 2007-2010

Species	Protocol	2007		2008		2009		2010		2011	
		Total	Difference	Total	Difference	Total	Difference	Total	Difference	Total	Difference
COD 2007	1,000	1,000	0								
COD 2008-2010	3,500			3,500	0	3,500	0	2,500	1,000	2,500	1,000
RED	8,000	9,749	-1,089	8,000	0	8,000	0	8,000	0	5,227	2,773
GHL W	2,500	2,500	0	2,500	0	2,500	0	2,800	-300	2,650	-150
GHL E	7,500	7,946	-446	7,500	0	7,500	0	7,500	0	7,000	500
PRA W	4,000	4,000	0	4,000	0	4,000	0	4,000	0	4,000	0
PRA E	7,000	7,000	0	7,000	0	7,000	0	7,000	0	7,000	0
HAL W	200	200	0	200	0	75	125	75	125	75	125
HAL E	1,200	1,200	0	1,200	0	1,075	125	1,075	125	1,075	125
CAP	55,000	44,275	10,725	23,716	31,284	0	55,000	11,500	43,500	15,400	39,600
SNC	500	500	0	500	0	500	0	500	0	500	0
BYC	2,300	2,600	0	2,300	0	2,300	0	2,300	0	2,300	0
TOTAL		80,970	9,190	60,416	31,284	36,450	55,250	47,250	44,450	47,727	43,973

Source: European Commission, DG MARE

NB. 2011 quotas for redfish were not allocated at the time of writing, due to changes following the March 2011 Redfish Agreement. Note that shaded areas indicate provision of quota less than specified in the Protocol

In the case of the deficit of redfish of 1,089 tonnes in 2007, this was compensated by the transfer of an additional 446 tonnes of Greenland halibut, under the term of Article 1.2 of the Protocol. In 2008 Greenland did offer 1,400 tonnes of Atlantic halibut (in East and West Greenland) as per the Protocol. However, only 1,200 tonnes was accepted by the EU since this was the extent of demand, as Norway only required 200 tonnes of this species in the bilateral exchange with the EU (rather than the 400 tonnes previously received). The deficit for capelin in 2009 was partially compensated by the transfer of additional quota for Greenland halibut (W.Greenland). However, over the course of the Fisheries Partnership Agreement, up to the end of 2010, a debt of 133,286 tonnes of capelin, and 2,000 tonnes of cod had built up, which the parties valued at a nominal EUR 2,782,505.

At the Joint Committee meeting of 25/26 November 2010 the parties agreed that this debt should be resolved by i) reduction of the 2011 compensation payment by EUR 1,668,503 and ii) expansion of the sectoral policy matrix by Greenland, to include purchase of research vessel valued at EUR 1,113,002.

The lack of availability of capelin quota has also impacted upon the EU Iceland Fisheries Agreement, since the Union allocates the capelin quota from Greenland as a priority to this agreement (in which is exchanged for redfish fishing opportunities for the EU fleet).

Because of limitations in the resources and lack of availability of alternative species of interest to the EU fleet, until now, the compensation mechanism has not been able to provide a solution to the deficits which arise due to stock fluctuations. However, it should also be considered that in the case of capelin, the nature of the stock is such that it is a highly variable resource, and it is foreseeable that even higher levels of capelin debt could be repaid in a single year when stock abundance is high.

5.3 Utilisation of fishing opportunities

5.3.1 EU vessels drawing licences

Table 23 shows the uptake of licences by EU vessels from 2007 to 2010. Note that that this data includes vessels under the flag of a Member State which had the potential draw on collective licences, and not necessarily those which actually fished on Greenland quota. During the period a total of 37 EU flagged vessels have therefore benefited from the Fisheries Partnership Agreement, with an average of 32 vessels each year. In 2007, the Fisheries Partnership Agreement potentially benefited 37 EU vessels, including 5 from Germany, 13 from Spain, 4 from UK, 6 from Portugal, 1 from Denmark, 3 from Lithuania, 2 each from Poland and Estonia and 1 from Latvia. In 2008 to 2010, the number of vessels drawing licences appears to fall to 23 or 24. However from 2008, it was agreed that licences could be purchased in a block and allocated to a Member State on behalf of a group of vessels, for subsequent division and sharing between them. This facility was utilised by Germany and the UK for Greenland halibut and cod licences, Spain for redfish and Poland for Greenland halibut. Furthermore, from 2008, although not expressly provided for in the Protocol, the Greenland Authorities have also allowed the transfer of licences already drawn and paid for to other vessels.

The actual numbers of vessels actually fishing was in some cases fewer than the number licensed (for example in 2007 only 3 out of 11 Spanish vessels actually fished Greenland quota). Combined with the system of intra-community transfers of quota, the revised system is reported by stakeholders to have significantly improved flexibility to utilise the opportunities, and is undoubtedly one of the reasons for the high level of utilisation.

Considering the total EU fleet of 89,129 vessels, for the period of 2004-2008, the number of EU vessels active in the Greenland FPA corresponds to about 0.04% of the total fleet⁴⁸. In terms of capacity the fleet fishing in Greenland represents about 2.8% of total EU gross registered

⁴⁸ Overall evaluation of the Fisheries Partnership Agreements. FISH/2006/20 SC17. Oceanic Développement and Megapesca Lda.

tonnage. Note that approximately one third (11) of the vessels (from UK, Germany, Poland and Estonia) are under the beneficial ownership of an Icelandic organisation.

Considering the EU distant water fleet involved in fishing in third country waters under the terms of Fisheries Partnership Agreements (assuming the capacity to be constant at 2007 values), the Greenland FPA has accounted for about 6% of the number of vessels (10% in 2007) and 14-16% of the tonnage capacity (as shown in Table 24).

Table 23: No. and capacity of EU vessels drawing licences under the Fisheries Partnership Agreement

Flag/Agreement	Number of vessels				Tonnage of vessels (GT)			
	2007	2008	2009	2010	2007	2008	2009	2010
All FPAs	374	374	374	374	275,000	275,000	275,000	275,000
Greenland FPA								
Germany	5	5	6	5	11,367	11,367	11,367	11,367
Denmark	1	1	1	1	2,223	2,223	2,223	2,223
Spain	13	8	8	6	15,220	10,252	10,252	8,661
Estonia	2	0	1	3	3,183	0	1,780	3,183
United Kingdom	4	4	4	3	6,403	6,403	6,403	6,705
Lithuania	3	1	1	1	3,886	1,943	1,943	1,943
Latvia	1	1	1	1	4,876	1,943	1,943	1,943
Poland	2	2	1	1	4,876	4,876	1,805	1,805
Portugal	6	2	0	3	11,486	4,135	0	5,838
Total Greenland	37	24	23	24	63,520	43,142	37,716	43,668
% attributable to Greenland	10%	6%	6%	6%	23%	16%	14%	16%

Source: European Commission DG MARE; Convention Spécifique N°17 - Overall Evaluation Study of Fisheries Partnership Agreements, Rapport Final Révisé, Avril 2009

5.3.2 Utilisation of quota

Table 24 shows the average annual allocated quotas, uptake of quota and catches for each species, during the period 2007 to 2010 inclusive. The table is in three parts, showing uptake and catches by all fishing vessels, and then separately by vessels from EU Member States and third countries.

The EU fleet drew licences for 81% of the available fishing opportunities in 2007, 71% in 2008, 75% in 2009 and 75% in 2010, with an overall rate of utilisation of 75%. This is regarded as a very good rate of utilisation. Third countries draw all of the licences available (since they do not pay licence fees, there is no cost advantage in drawing less than the full amount). If quotas transferred to third countries are included, then overall utilisation, in terms of licences drawn, is about 90%. Clearly the Fisheries Partnership Agreement provides a high degree of utility for the EU and third country fleet operators which benefit from the fishing opportunities provided. More details on the utilisation by third country vessels is given in the next section.

Table 24: Average annual utilisation of fishing opportunities and catches under the EU-Greenland Fisheries Partnership Agreement *

Country	Species	Available quota (tonnes)	Licenses taken (tonnes)	% of quota drawn	Av. Annual catch (tonnes)	% of quota caught
ALL	COD	2,875	2,629	91	1,727	60
	RED	8,437	6,864	81	3,864	46
	GHL NAFO	2,575	2,575	100	2,421	94
	GHL XIV	7,611	7,611	100	7,254	95
	PRA NAFO	4,000	4,000	100	3,767	94
	PRA XIV	7,000	6,088	87	3,166	45
	HAL NAFO	1,113	113	10	7	1
	HAL XIV	113	113	100	96	85
	CAP	26,103	26,103	100	26,103	100
	SNC	62	-	0	-	0
	BYC	2,435	209	9	96	4
	TOTAL	62,322	56,302	90	48,502	78
EU	COD	2,375	2,129	90	1,631	69
	RED	5,315	3,742	70	2,016	
	GHL NAFO	1,625	1,625	100	1,578	97
	GHL XIV	6,718	6,718	100	6,521	97
	PRA NAFO	4,131	4,000	97	3,767	91
	PRA XIV	2,351	1,570	67	939	40
	HAL NAFO	-	-	-	-	0
	HAL XIV	1,000	-	0	-	0
	CAP	-	-	-	-	-
	SNC	500	-	0	-	0
	BYC	2,226	-	0	20	0
	TOTAL EU	26,241	19,783	75	16,472	63
NOR	COD	500	500	100	97	19
	RED	2,875	2,875	100	1,677	58
	GHL NAFO	800	800	100	694	87
	GHL XIV	818	818	100	667	81
	PRA XIV	3,275	3,275	100	1,412	43
	HAL NAFO	113	113	100	7	7
	HAL XIV	113	113	100	96	85
	BYC	209	209	100	76	36
FRO	RED	246	246	100	171	70
	GHL NAFO	150	150	100	150	100
	GHL XIV	75	75	100	66	88
	PRA XIV	1,243	1,243	100	815	66
ICE	CAP	26,103	26,103	100	26,103	100
	TOTAL 3rd.	36,519	36,519	100	32,030	88

Source: European Commission, DG MARE

* note that data are only averaged for those years in which they are available (not over the four years period)

5.3.3 Utilisation of quota by third countries

The EU is allowed, under the terms of the Fisheries Partnership Agreement, to utilise the quota it receives from Greenland in exchanges with Norway, Iceland and Faroe Islands. This it does on annual basis within the frame of the bilateral fisheries agreements between the EU and these countries. The exchange quotas are agreed during the annual bilateral negotiations, which also include agreements on management of shared stocks and access to each others waters to fish own- quotas of shared stocks.

Table 24 and Table 28 shows the catches and quotas and values derived from the EU-Greenland FPA for fishing vessels from Norway, Faroe Islands and Iceland operating in Greenland. It should be noted that whilst EU vessels are required to pay licence fees on a pro-rata basis for fishing opportunities drawn, third country vessels which operate in Greenland using quota received from the EU-Greenland FPA via the exchanges, do not pay licence fees. They have no disincentive to draw less than 100% of the licences available.

Quota exchanged with Norway

Greenland quota has been exchanged with Norway in each year of the period 2007 to 2010. In 2007 and 2008, Norwegian vessels did not target redfish (due to the high price of fuel) and utilisation was therefore effectively nil. However in 2009 and 2010 they fished this stock again (and in 2010 the quota was fully utilised).

With regard to shrimp the Norwegian sector has continued to decline with only a few vessels left operating. They are offered more opportunities in Greenland than they can utilise (Norway also receives shrimp opportunities directly from Greenland under their bilateral agreement). The opportunities are not very interested due to the continuing poor market outlook and weak prices, with the resulting moderate to low utilisation rate (average 43%).

With regard to Greenland Halibut, the fishery in both East and West Greenland is considered to be profitable by Norwegian vessels, and was well utilised (81% and 87% respectively). Halibut is of interest to Norwegian vessels, but is only fishable in some regions, principally in E.Greenland where utilisation rate was 85% overall. Long line fishing for this species in W.Greenland is reportedly subject to predation by sperm whales, and it is therefore not considered to be a viable fishery, despite the premium prices for the product.

There are no current problems with access conditions. It was reported by Norwegian stakeholders in 2009 that the issue of licences by Greenland has been slow at times causing some inconvenience to vessels, but this is now resolved.

Quota exchanged with Iceland

Greenland quota has been exchanged with Iceland in 2007 and 2008 (and in 2011). There was no bilateral exchange in 2009 or 2010. Icelandic Authorities have stated in the past that Icelandic vessels do not use any of the capelin exchanged with them under the EU-Iceland Fisheries Agreement. The claim is that the quotas obtained under the trilateral capelin agreement (Greenland-Iceland-Norway) are used before any other quotas and that the EU-origin quotas have always been surplus. However Greenland has contributed 28,490 tonnes to Icelandic quotas for capelin of a TAC of 318,245 tonnes in 2006/7, and 23,716 tonnes out of a TAC 157,206 in 2007/8. Overall, during the years concerned Iceland has been about 11% dependent on the quota received via the EU-Greenland FPA.

Quota exchanged with Faroe Islands

Faroese received 1,150 tonnes of East Greenland shrimp quota from the EU in each of 2007 and 2008, falling to 1,335 tonnes in 2009 and 2010, through the balanced exchange of fishing opportunities under the terms of the EU Faroe Islands Fisheries Agreement. There are now only 3 shrimp vessels operating in the Faroese fleet (down from 10 in the years 2003 and 2004). The shrimp opportunities were not fully utilised during 2007 and 2008 because 2 of the shrimp vessels were laid up for repair. However in 2009, Faroese authorities report the opportunities were fully utilised, and about 50% utilised in 2010. These vessels also have fishing opportunities for shrimp in Flemish cap (NAFO 3M), Svaalbard (1,300 fishing days) and in the Barents Sea

Russian waters (around 1,000 tonnes per year). Additional quota of 100 tonnes/year of shrimp has been available under the Greenland – Faroes Fisheries agreement. The preference is to fish in East Greenland due to the higher prices, and the opportunity of landing close by in Iceland. The shrimp quota in Greenland can be regarded as being in high demand.

The Redfish quota was not fully utilised in 2007 and 2008, but was reported to be so in 2009 and 2010. The demand for the opportunities is closely linked to the fuel price, and the vessels retain a high interest in this resource. The Faroe Islands vessels have used the Greenland halibut quota to the full extent.

5.3.4 Catches under the Fisheries Partnership Agreement

Catches made by EU (and third country vessels) are also shown in Table 24, (with a summary in Table 7).

Vessel operators draw quota in advance, and are not always able to use the entire quotas. Therefore actual catches under the Fisheries Partnership Agreement are in many cases lower than the licences drawn. Overall, the Protocol has delivered average annual catches of 48,502 tonne/year in the Greenland zone, of which 16,472 tonnes were caught by EU vessels and 32,030 tonnes by third country vessels⁴⁹. On average EU vessels caught 63% of the quotas available to them, and third country vessels 88%. Since EU vessel operators pay for quota they seek to minimise the underutilisation of licences which they have drawn, but must over-purchase to guarantee that they can maintain operations. Overall about 17% of the quota available to EU vessels is paid for, but does not deliver catches. Third country vessels suffer no penalty by over-drawing quota.

Considering the results of a recent study⁵⁰, the average total catch of the EU fishery sector was estimated to be 5,084,316 tonnes in the period 2004 to 2006. The annual catches taken in Greenland by EU vessels are estimated to correspond to about 0.3% of total EU catches.

Analysis of Table 24 shows that there are significant differences in utilisation rates depending on the species and the fleet sector using the opportunity.

Greenland halibut

The Greenland halibut fishing opportunities in both East and West Greenland are in high demand and are almost fully exploited, with very small amounts of underutilisation. The main EU fleets utilising these resources are the demersal trawl sectors of Germany, Poland and UK. Eleven vessels have exploited these opportunities and the interest has been sustained over the period of the Fisheries Partnership Agreement. Greenland halibut opportunities were also transferred to Norway and Faroe Islands and have been fully exploited by these parties.

Cod

The fishing opportunities for cod, which are exploited by UK and German vessels are also in high demand in general have been exploited more or less fully (overall 91%). A low utilisation of cod opportunities by UK German vessels in 2010 is due to a change in the management regime which meant that vessels were unable to fully utilise the opportunities. Both Greenland halibut and cod may occasionally suffer from slight under utilisation, due to vessel breakdown or other ad hoc events towards the end of the season, but these are generally only minimal.

Shrimp

⁴⁹ In calculating averages the consultants have only taken account of years in which quota was available. In relation to capelin therefore, average values are calculated over the two years 2007 and 2008 (not over the period 2007 to 2010).

⁵⁰ Overall evaluation of the Fisheries Partnership Agreements. FISH/2006/20 SC17. Oceanic Développement and Megapesca Lda.

Shrimp fishing quota in West Greenland (NAFO) has also been very well utilised, with all quota draw and almost all quota drawn utilised by the single Danish vessel operating in this fishery) indicates that these opportunities are 100% utilised, and about 94% of the quota is actually caught.

However shrimp quota in East Greenland is not effectively utilised. The Danish vessel, which operates only in Greenland, drew only 64% of available quota over the period, and only caught 41%. Estonia, Lithuania and Spain have previously expressed an interest in receiving shrimp quota through a re-allocation procedure. However, in 2007 these countries did not use any of the shrimp quota available to them at all. In 2008 Estonia, Lithuania and Spain did not seek shrimp licences at all. Only in 2010 did Estonia actually start to utilise the opportunities effectively (when licences were transferred earlier in the season, thus allowing their more effective utilisation). Even so, Estonian vessels were only able to catch 47% of the quota available. In general the reason for the low utilisation is that the opportunities are less attractive since the resource is much less fishable in East Greenland, due to ice floes, poorer weather and the lower density of aggregations of shrimp. The shrimp fishery in E.Greenland is more difficult to predict and returns are more volatile. Variations in interest should also be considered in the context of a fall in prices during the first part of the protocol (reportedly with a 25% fall between 2006 and 2008) and subsequent recovery. Similarly, the Norwegian shrimp quota in E.Greenland (average 3,275 tonnes) is used only at the rate of 43%. The low utilisation of the East Greenland shrimp quota is a major concern, since it contributes a nominal 16% of the value of the Fisheries Partnership Agreement (at reference prices).

Redfish

Redfish quotas appear to have also only been partially utilised. Germany has regularly swapped out a significant proportion of the redfish quota to Spain, Portugal, Poland, Latvia and Lithuania. However it has used only used a maximum of 5% of its retained quota (in 2010). Spain drew licences for 87% of its redfish quotas available throughout the Protocol, but only caught 42%. Spain has only caught the Greenland redfish quota in international waters. Portugal drew licences for 92% of the quota and actually caught 62%, although the utilisation varies considerably (it did not fish for this species under Greenland quota in 2009). Poland only used a small proportion of the redfish quota (16% overall). The only country which utilised the redfish quotas to a moderately high level was Latvia, with 96% of licences drawn and 86% of available quota caught. A significant proportion of the redfish quota swapped out by Germany was utilised in international waters.

Small amounts of redfish quota allocated to France and to UK (averaging a few tens of tonnes only) are of no interest; utilisation of such small quantities (which must be taken by pelagic trawl) is not feasible. France and UK would be happy to transfer these quota, but there has been no interest. Overall, across all fleet segments using the Fisheries Partnership Agreement (including third countries) apparent utilisation of redfish quota was 81% of licences drawn, and 46% of quota taken as catches

The fishery has suffered from declining catch rates (attributed to levels of fishing effort which considerably exceed the scientific advice) and was at the mercy of significant fuel price increases over the course of the Protocol. Nevertheless, the introduction of the redfish flexibility scheme from the beginning of 2008 (allowing collective licences and Greenland quota to be taken in NEAFC zones) has clearly helped to improve utilisation. This is confirmed by stakeholders.

However there were also some differences in interpretation between the EU and Greenland with regard to implementation of the flexibility scheme. One of the rules of the scheme is that vessels must exhaust their NEAFC quota before starting to fish their Greenland quota in international waters. A separate NEAFC redfish management measure put in place in 2008 included the closure of fishing for redfish in the area which lies North of 59°N and East of 36°W after 15 July 2008, to protect spawning stock. Part of this area falls within the Greenland EEZ. A Portuguese vessel which had obtained Greenland redfish opportunities for use after this date, with the intention of exploiting them in Greenland waters, found that their licence applications were refused by Greenland, who applied with NEAFC rule. Since the vessel had not exhausted its NEAFC quota it was therefore not able to use the licence in the NEAFC area outside the

restricted zone (notwithstanding reservations about the availability of resource). Iceland supported this view. The issue was discussed at the EU-Greenland FPA Technical Meeting on 29-30 July 2008 but was not resolved. However the problem has not recurred due to the introduction of a clearer set of rules in relation to the management box described in Figure 5 (Section 4.1.1). Although it did cause some underutilisation, especially by the Portuguese operator concerned, the amounts concerned were low (100 tonnes) in relation to the total quota available, and it appears that this management measure was not a primary factor leading to the overall low utilisation of the redfish opportunities.

The fall in fuel prices in late 2008 has also meant that the redfish opportunities became more financially viable in 2009, but recent increases may again have impacted on utilisation. The segment remains highly sensitive to fuel costs, and excessive levels of exploitation.

Snow crab

The snow crab fishing opportunities under the FPA have never been utilised by Spain. Spain had 1 vessel in this fishery up until 2006, the last year it had a Greenland licence, when under a joint venture arrangement, it was authorised to fish inside the 12 mile limit. This opportunity is not available under the FPA arrangements. Furthermore Greenland has applied management measures resulting in closed areas and seasons to snow crab fishing. The closure of the fishery for a period during a fishing campaign (which requires fitting out for special gears) renders the fishery unprofitable for EU vessels. Whilst there is potential interest in the fishery, the present management arrangements render it commercially unviable. It is also notable that market prices have fallen significantly since 2006. A small quota allocated to Ireland appears to generate no interest.

Atlantic halibut

Some trials on Atlantic halibut in Greenland in 2005 by 2 Portuguese longliners were not successful. The fishery for this species by longline (which is the only permitted method) is not considered viable by Portuguese operators. Opportunities in E.Greenland are however utilised by Norwegian vessels, although in W.Greenland these vessels only catch 7% of their quota.

5.3.5 Bycatches

Up to 2,300 tonnes of bycatches are allowed under the terms of the Fisheries Partnership Agreement. Note that retention of bycatches of species which are specified in the Fisheries Partnership Agreement must be covered by a licence. No licences are required to be drawn for other species subject to the maximum amount not being exceeded. Reported annual bycatches averaged 20 tonnes (EU) and 76 tonnes (Norway). Overall only 4% of this was utilised, suggesting that the fisheries are relatively clean (at least in terms of commercial species).

The composition of bycatches based on the Greenlandic data is shown in Table 25. The majority of the bycatches are haddock, Greenland shark, wolffish and other non-specified marine fish. All are taken in cod, Greenland halibut and redfish trawls. There is no retained bycatch in the shrimp fishery (which is exempted from the general ban on discards due to processing onboard limitations). The quantity falls well within the limit allowed by the Fisheries Partnership Agreement, and this limit could be adjusted downwards, although this would have little material impact.

Table 25: Composition and quantity of bycatch declared by EU vessels in the Greenland EEZ (2008)

Code	Species	Bycatch (kg) (2008)	%
AES	Aesop shrimp	-	0
ALC	Baird's slickhead	1,688	1
APO	Cardinalfishes, etc. nei	800	0
BLI	Blue ling	1,410	0
CAS	Spotted wolffish	2,827	1
CAT	Wolffishes (=Catfishes) nei	17,675	6
CFB	Black dogfish	1,630	1
GSK	Greenland shark	62,390	21
HAD	Haddock	64,583	22
MZZ	Marine fishes nei	74,970	26
RED	Atlantic redfishes nei	13,399	5
REG	Golden redfish	16,027	5
RHG	Roughhead grenadier	10,900	4
RNG	Roundnose grenadier	12,172	4
SHX	Dogfish sharks, etc. nei	11,134	4
SKA	Raja rays nei	600	0
Total		292,205	

Source GFLK, 2009

5.3.6 Intra-community quota exchange

Fishing opportunities in Greenland are allocated to EU Member States within the frame of the EU's annual TACs and quota regulation, according to the relative stability keys. Fleet operators in Member States are permitted to transfer fishing quotas received under this regulation, providing certain conditions are met, with a view to ensuring efficient utilisation. Greenland quotas for three species, redfish, shrimp and Greenland halibut have been actively exchanged during the course of the FPA, as shown in Table 26.

In total some 10,024 tonnes of quotas were exchanged in 2007, and 7,377 tonnes in 2008, 9,470 tonnes in 2009 and 17,097 tonnes in 2010. These figures include the 'international swaps' of licenced quantities between Member States. The latter figure represents a rise from about 30% of the quota available to EU fleet under the Fisheries Partnership Agreement to about 65%. The major differences in 2010 were a significant increase in activity in redfish exchange (as fuel prices eased thus increasing interest in this resource) and the establishment of a new regular swap arrangement between Denmark and Estonia for shrimp in East Greenland. The main patterns of exchanges were therefore:

- the swapping away of redfish quota by Germany, to Spain, Portugal, Lithuania, Poland and Latvia. The redfish exchange has accounted for about half of the exchanges in volume terms, in each year of the Fisheries Partnership Agreement. Here the notable feature is the significantly reduced level of exchanges to Spain and Portugal in 2008. Germany mostly receives quota for small pelagic fish in EU and NEAFC waters in return (mackerel, horse mackerel and blue whiting).
- the transfer away by France of shrimp quota in E. and W.Greenland to Denmark, accounting for 3,000 tonnes per year. Since this is utilised by a vessel which has French interests, there is no return swap. However, in 2007 Denmark (and France) also

subsequently swapped away some shrimp quota in E.Greenland to Spain, Estonia and Lithuania (with no quota in return). Since they took place too late in the season these swaps were not repeated to any degree in 2008 and 2009, but from 2010 they were replaced by an agreement to transfer quota to Estonia earlier in the year.

- the transfer between Germany and Poland of quota in Greenland halibut in E.Greenland, plus small exchanges between UK and Germany, all taking place within vessels operating with common beneficial ownership.

An analysis of quota swaps indicates that some swaps are undertaken at the beginning of the year, as apart of long standing arrangements between EU Member States. These swaps are largely planned in advance by the fishing companies concerned and their implementation does not impact on utilisation. These arise mostly, but not exclusively, as a result of established arrangements between fleet segments of different EU Member States. In some cases, this takes the form of a consolidation of EU fishing interests since the relative stability keys were determined, resulting in joint ventures and co-ownership (for example co-ownership of UK, German and Polish fishing interests targeting cod and redfish in Northern waters, and French Danish joint ownership of the Danish flagged shrimp vessel operating in Greenland).

However, other exchanges depend on the MS and fishing companies to which quotas are allocated deciding at a certain point during the year that some of the allocation is surplus to requirements, and offering them for swaps. Since the quota period runs from 1 January to 31 December, if the quota is offered for swapping late in the year it is unlikely to be taken up. For this reason, in Council Regulation (EC) No 753/2007 of 28 June 2007 which adopted the Fisheries Partnership Agreement into EU law, the EU has set dates by which, if licences are not taken up by the Member State to which they are allocated, they may be re-allocated to other Member States. For the main underutilised opportunities concerned, redfish and E.Greenland shrimp, these dates are shown in Table 24.

The Regulation allows the Commission to consider applications by Member States other than those to which the opportunities are allocated, for quotas which are not drawn by the date limits set. Moreover, according to the provisions of Article 10 of Council Regulation (EC) No.1006/2008 concerning authorisations for fishing activities, the Commission is empowered in general to re-allocate non-utilised fishing opportunities to other Member States, wishing to make use of these opportunities.

In practice, the Member State (and therefore the fishing enterprise allocated the quota) is required to notify the Commission by the date specified whether it commits to taking up the entire quota. The quota in excess of requirements is then released for offer to other Member States.

In general, apart from complaints from the Estonian shrimp sector during the first two years of the Protocol, that quota was received too late to be of use. It now appears that the EU fleet interests have established patterns of exchanges (with or without a consideration of quota in return) which for the most part meets the needs of the fleet segments concerned.

Table 26: Greenland quotas exchanged between EU Member States 2007-2010

			2007	2008	2009	2010
Species	From	To	Quantity (tonnes)			
RED V, XIV	DE	ESP	3,000	1,200	900	1,400
RED V, XIV	DE	PRT	1,082	200	100	
RED V, XIV	DE	LIT	400	500	1,050	200
RED V, XIV	DE	LAT	200	0	0	
RED V, XIV	DE	POL	640	555	1,540	1,508
RED V, XIV	DE	NL	0	0	0	2,750
RED V, XIV	NL	LIT	0	0	0	1,200
RED V, XIV	PRT	LAT	0	0	0	150
RED V, XIV	NL	PRT	0	0	0	1,550
RED V, XIV	POL	LAT	70	554	938	1,508
RED V, XIV	total	MS	5,392	3,009	4,528	10,266
PRA N0,1	FR	DK	2,000	2,000	2,000	2,000
PRA V, XIV	FR	DK	875	1,000	1,082	1,282
PRA V, XIV	DK	EST	100	0	100	1,764
PRA V, XIV	DK	ESP	50	0	0	0
PRA V, XIV	DK	LTU	100	0	0	0
PRA V, XIV	FRA	EST	100	0	0	0
PRA V, XIV	FRA	LTU	100		0	0
PRA V, XIV, NO 1		MS	3,325	3,000	3,182	5,046
GHL V, XIV	DE	POL	1,217	1,366	1,002	960
GHL V, XIV	DE	UK	163	0	152	0
GHL V, XIV	UK	DE	0	2	0	95
GHL V, XIV		MS	1,380	1,368	1,154	1,055
COD	DE	UK	0	0	606	730
Total			10,097	7,377	9,470	17,097

Source: European Commission DG MARE

Table 27: Latest release dates for intra-community quota swaps (shrimp and redfish)

Species	Date beyond which the quota may be re-allocated in accordance with Regulation 753/2007
Shrimp (East Greenland)	1 August (except if the level of utilisation based on licence applications is > 65% by 1 August then the date is postponed until 1 September)
Redfish	1 September

Source: Council Regulation (EC) No 753/2007 of 28 June 2007

5.3.7 International exchange of licences

In addition to the transfers of quota between fleet operators described above, there have also been a limited number of transfers of issued licences. These took place in 2009 and 2010, following the agreement from the Greenlandic Authorities that this facility would be offered on a

limited basis. The licence transfers are set out in Table 28 below. In total, 304.5 tonnes of quota have been exchanged after issue of licences. The stakeholders concerned report their appreciation of the flexibility shown by the Greenlandic authorities for this facility, but seek to have the procedures formalised in future.

Table 28: Exchange of issued fishing licences for Greenland opportunities between Member States

Year	Quota	From	To	Quantity (tonnes)
2009	PRA V, XIV	DK	EST	100.0
2010	GHL V, XIV	GBR	DE	94.8
	GHL V, XIV	DE	POL	100.0
	GHL V, XIV	POL	DE	9.7
TOTAL				304.5

Source: European Commission, DG MARE

6 FINANCIAL AND ECONOMIC IMPACTS OF THE EU- GREENLAND FPA

6.1 Market values of species subject to the FPA

6.1.1 Sources of price data

Prices used for the valuation of the Fisheries Partnership Agreement reflect the prices obtained by the main fleets utilising the opportunities and the markets into which the catches under the Fisheries Partnership Agreement are sold. Bearing in mind the possibility of indexing the reference prices in future, ideally, the prices would be weighted according to the MS and third country shares of quota and utilisation. However, whilst theoretically possible this would require a reliable source of data for the outputs of all fleet segments using the Fisheries Partnership Agreement.

A brief review of the availability, reliability and validity of price data was undertaken by consultants for the different fleet segments operating at the time of the mid-term evaluation. The most consistent and relevant prices series data was found to be that collected by Statistics Iceland, based on landing declarations by Icelandic vessels (the exception being the price for snow crab, from a Canadian source). This data reflects the species, product form, seasonality and regional variations of the products from the Greenlandic fishery and is available online (in the form of monthly quantities and values of landings from the Statistics Iceland website at <http://www.statice.is/Statistics/Fisheries-and-agriculture/Catch-and-value-of-catch>). Snow crab prices were determined from DFO, Canada (200&) although for valuation purposes the unit price is immaterial (since catches were zero).

Prices for all species fluctuated both upwards and downwards. It was therefore decided to estimate a composite average price for each species over the period of the protocol, based on the simple arithmetic mean of the annual average prices over the four years studied. Table 29 shows the consultants' abstracts of the market prices used for the assessment of value. Full data illustrating the method of calculation and exchange rates used is shown in Annex 2.

Retained bycatches are reflected in the valuation of the compensation, with a nominal value attributed by the parties of EUR 2,204/tonne⁵¹ applied by the parties. However no reference price is attached to them for the purpose of licence fees, since there are no licence fees chargeable to operators for bycatch. There is no data on the actual market value of bycatches made under the Fisheries Partnership Agreement, but a value could be assumed. It is proposed that this is EUR 1,800/tonne, being the average price of the demersal opportunities (with the exception of Atlantic halibut).

6.1.2 Price variations over time

During the negotiation of the FPA it was agreed between the parties that were the reference prices to vary by more than 5% They could be adjusted, within the framework of the Joint Committee⁵². However the methodology for deciding on whether prices had varied by more than this criteria was not established, and as a result discussions regarding price changes could not be concluded.

As Table 29 shows, several of the average prices appear to have varied from the agreed reference prices, by a factor greater than 5%. Thus the conditions for a revision of the prices appear, to have been fulfilled in the case of in the case of redfish and capelin (undervalued by the protocol) and shrimp, snowcrab and bycatch (overvalued by the protocol). Should the parties agree, the prices indicated in the table below could have provided the basis for adjusting the reference prices of the opportunities in the Fisheries Partnership Agreement. However, no such agreement has been made and the reference prices have remained the same throughout the period of the Protocol.

However, although these levels reflect the average historic prices better than the reference prices, it does not necessarily mean that they will more accurately reflect current or future market conditions. The sources quoted could however provide the basis for indexing of reference prices in future, should the parties agree.

⁵¹ Source; DG MARE, European Commission

⁵² Agreed record on the negotiations of a fisheries partnership Agreement between the EU and Government of Denmark and the Home Rule Government of Greenland, Ilulissat, 29 May to 2 June 2006.

Table 29: Market values of fish caught under the EU-Greenland FPA

Species	Protocol reference price	2007	2008	2009	2010	Mean Market price (2007/2010)	% change	Source
	<i>EUR/tonne</i>							
Cod	1,800	2,437	1,719	1,349	1,552	1,764	- 2.0	1
Pelagic Redfish	1,053	1,078	1,005	1,041	1,301	1,106	+ 5.1	1
Shrimp	1,600	1,293	952	999	1,179	1,106	- 30.9	1
Atlantic Halibut	4,348	5,924	3,712	2,566	4,952	4,289	- 1.4	1
Greenland Halibut	2,571	2,512	2,453	2,652	3,074	2,673	+ 4.0	1
Capelin	100	165	92	171	222	163	+ 62.8	1
Snowcrab	2,410					2,112	- 12.4	2
Bycatch	2,204					1,800	- 10.0	3

Sources:

1. Iceland Statistics
2. 2006 data from DFO, Canada
3. Average of demersal prices (exc. halibut)

6.2 Financial and economic impacts on EU

6.2.1 Overview of costs and benefits

Table 30 shows a summary of the financial and economic impacts of the Fisheries Partnership Agreement on the EU (and Greenland). It is based on the catch data and estimates of unit prices described in the previous section, along with the following assumptions:

- the share of revenue generated as added value is 45%⁵³
- that EU benefits through the balanced exchange with third countries are equal to the benefits derived by those third countries fisheries in Greenland under the Fisheries Partnership Agreement

Detailed discussion is provided in the following sections.

⁵³ Mean value added of UK and German trawl vessels 2007 and 2008. derived from "The 2010 Annual Economic Report on the European Fishing Fleet" Edited by John Anderson & Jordi Guillen - Report EUR 24554 EN):

Table 30: Average annual costs and benefits to the EU and Greenland of the EU-Greenland FPA

Party	Variable	Value	Units
EU	Commission		
	Compensation	11,045,795	EUR
	Less capelin debt adjustment	417,376	EUR
	Net compensation	10,628,419	EUR
	Sector support	3,261,449	EUR
	Sub-total	13,889,868	EUR
	Vessel operators		
	Licence fees	1,930,814	EUR
	TOTAL EU Cost	15,820,683	EUR
	BENEFITS		
	Production (tonnes)	48,502	tonnes
	Revenue (EUR)	45,711,626	EUR
	Value added (45%)	20,341,674	%
	Employment ¹	330	FTE
	Average value of production (EUR/tonne)	942	EUR/tonne
Greenland			
	Compensation	11,045,795	EUR
	Less capelin debt adjustment	417,376	EUR
	Net Compensation	10,628,419	EUR
	Sector support	3,261,449	EUR
	Licence fees	1,930,814	EUR
	Total	15,820,683	EUR
	BENEFITS		
	Production (tonnes)	0	tonnes
	Revenue (EUR)	15,820,683	EUR
	Value added (=financial income)	15,820,683	EUR
	Employment	0	FTE
	Resource rent (EUR/tonne)	326	EUR/tonne
	Rent as % of sales prices	35	%
Indicators	Access costs (compensation plus licence fee)	12,559,234	EUR
	Access costs (EUR/tonne)	259	
	% Fleet contribution	15	%
	Cost advantage (EUR/tonne)	286	EUR/tonne
	Cost advantage (% of sales value)	30	%
	Cost benefit (overall)	1.3	
	Cost benefit (EU budget)	1.5	

Source: European Commission, DG MARE and consultants' estimates

*include benefits to third country vessels (proxy for EU benefits from balanced exchange)

¹ estimated at an average of 10 FTE/vessel

6.2.2 Value of catches made by EU vessels

Based on the average market prices, Table 31 below shows the annual value of the catches under the agreement attributable to each EU Member State (as well as that due to third countries).

Overall, the Fisheries Partnership Agreement generated average annual revenues to fishing fleets of EUR 45.7 million. About 70% of the revenues are derived by the EU fleet, and 30% by third countries. Overall, in EU vessels made annual catches averaging 16,452 tonnes, valued at EUR 31.96 million (average value EUR 1,942/tonne). The EU Member states that benefit the most are Germany (42% of the value of catches under the Fisheries Partnership Agreement), Denmark (11%), Poland (7%) and UK (4%). All other EU Member States each account for about 2% or less of the value of catches. About 54% of the revenues from the Fisheries Partnership Agreement are obtained by Germany and Denmark, which are the main direct EU beneficiaries of the Fisheries Partnership Agreement.

However, as noted, some of the quota received by the EU is exchanged with Norway, Faroe Islands and Iceland; the value of this is discussed below.

Table 31: Average annual value of the catches under the Fisheries Partnership Agreement

Country	Average annual catch (tonnes)	Average annual value (EUR)	% of total
Germany	7,600	19,384,746	42.4
United Kingdom	1,025	2,146,296	4.7
Denmark	4,497	4,972,294	10.9
France	-	-	0.0
Spain	684	756,900	1.7
Ireland	-	-	0.0
Portugal	431	477,208	1.0
Lithuania	98	108,646	0.2
Estonia	210	231,642	0.5
Latvia	732	809,868	1.8
Poland	1,176	3,070,681	6.7
TOTAL EU	16,452	31,958,281	69.9
Norway	4,725	7,801,379	17.1
Iceland	26,103	4,248,291	9.3
Faroe Islands	1,202	1,667,675	3.6
TOTAL 3rd COUNTRIES	32,030	13,717,345	30.0
TOTAL	48,482	45,675,626	99.9

Source: Consultants estimates based on prices in Table 29

NB: Iceland catches averaged over 2 years (2007/2008); Norway catches over 3 years (2007/2008/2010)

On the basis of the assumed estimated value of bycatches of EUR1800/tonne (described above) the average annual bycatch of 90 tonnes was about EUR 172,800 (shared between EU and Norwegian vessels).

6.2.3 EU benefits from exchange of Greenland quota with other countries

Table 32 below shows the degree of dependency of these third country exchanges on the quota received by the EU from Greenland. A more detailed breakdown is shown in Annex 3. The

dependency is shown in terms of actual quantities of quotas exchanged and in terms of cod equivalents (since the exchange with these third countries is a balanced exchange in which the parties have chosen to take account of the agreed nominal relative values of quota in different fish species, so as to ensure that the exchange reflects, to an agreed extent, the relative economic benefits to be derived from different opportunities).

In cod equivalent terms, the EU-Norway exchanges were 86 to 91% dependent on Greenland quota (overall 89%); Faroe Island exchanges were 29 to 46% dependent (overall 37%) and the Iceland exchanges (except for 2009 and 2010 when the parties were not able to conclude an Agreement) were 100% dependent (in the Agreement between Iceland and the EU species only capelin from Greenland and redfish quotas are exchanged). Overall the third country exchanges have been 70% dependent on the quota from Greenland. The exchanges within the EU-Faroe Islands Agreement became more dependent on Greenland over the four years.

In these cases, the dependency in cod equivalent terms is significantly higher than in actual quantity terms since the EU exchanges relatively low value quotas from its own waters (for example sprat and blue whiting) compared to the high value quotas derived from Greenland waters (shrimp and Greenland halibut). Therefore the exchange of quota under the EU's Agreements with Norway and Iceland is highly dependent on the EU Greenland FPA. The exchanges with Norway, which accounts for 56% of all North Atlantic exchanges by the EU, is particularly important for the EU demersal fleet segments which are able to benefit from the exchange of quota for fishing opportunities for cod and haddock in North Norway.

Without the fishing opportunities from Greenland, these elements of the EU's Fisheries Agreements could not be sustained. In 2009 and 2010, the EU was unable to accept all of the quota offered by Norway since it has not been able to provide the corresponding opportunities for the balanced exchange⁵⁴. However, with regard to the other third countries, other factors have impacted on these agreements. In 2009, the EU and Iceland were unable to agree on technical conditions of access which have prevented EU vessels from taking up fishing opportunities offered, and in 2011 EU and Faroe Islands were not able to agree on the composition of the balanced exchange. At present therefore, it is only with regard to the Agreement with Norway in which any limitation in quota availability from Greenland will directly impact on the opportunities available to the EU fleet.

Nevertheless, the value of these opportunities to the EU fishery sector should not be underestimated. The consideration in the exchange with Norway has amounted to 16,593 tonnes of cod equivalents per year, worth EUR 29.3 million, at a nominal cod value of EUR 1,784/tonne used in this study (out of a total value of exchanges in the three agreements valued at EUR 52 million). Out of these sums, the Greenland FPA has contributed fishing opportunities in terms of cod equivalents nominally valued at EUR 36.2 million, with the balance from stocks in EU waters. Thus, the economic sustainability of the so-called "EEA balance" and fleet segments which use these fishing opportunities is highly dependent on the exchange of the quota derived under the EU Greenland FPA. Without these opportunities, the fleet segments concerned would, out of necessity, be compelled to undergo a significant reduction in number of vessels.

⁵⁴ Agreement in the form of an exchange of letters between the European Economic Community and the Kingdom of Norway relating to the Agreement on fisheries between the European Economic Community and the Kingdom of Norway, Oporto, 2 May 1992, signed in parallel with the signature of the EEA Treaty, under which Norway grants the EU a share of 2.9% of the overall quota for North-East Arctic cod (including bycatches) in the Norwegian Economic Zone (allocated according to relative stability, known as "EEA cod"), and an additional quota of cod (only) corresponding to 1.24% of the TAC (allocated to EU members acceding in 1986, and known as "cohesion cod").

Table 32: Dependency on Greenland quota of bilateral exchanges of fishing opportunities with third countries

	2007	2008	2009	2010	Average 2007-10
Tonnes (cod equivalents)					
Norway					
From Greenland Stocks	15,655	14,914	15,539	13,034	14,786
From EU Stocks	2,632	1,538	1,530	1,530	1,807
Total	18,287	16,452	17,069	14,564	16,593
% from Greenland	86%	91%	91%	89%	89%
Faroe Islands					
From Greenland Stocks	3,879	3,879	4,359	4,520	4,159
From EU Stocks	9,402	7,591	6,100	5,394	7,122
Total	13,281	11,470	10,459	9,914	11,281
% from Greenland	29%	34%	42%	46%	37%
Iceland					
From Greenland Stocks	2,849	2,372	0	1,150	1,593
From EU Stocks	0	0	0	0	0
Total	2,849	2,372	0	1,150	1,593
% from Greenland	100%	100%	0%	100%	100%
Overall					
From Greenland Stocks	22,383	21,165	19,898	18,704	20,538
From EU Stocks	12,034	9,129	7,630	6,924	8,929
Total	34,417	30,293	27,528	25,628	29,467
% from Greenland	65%	70%	72%	73%	70%

Source: EU Greenland FPA; Agreed Records of negotiation between the EU and Norway, Faroe Islands and Iceland; consultant's estimates

Note: Cod equivalent ratio is a ratio of nominal values of fishing opportunities used by the EU and third countries to compute a balanced exchange in the context of bilateral fisheries agreements

6.3 Financial and economic impacts on Greenland

6.3.1 Financial contribution

Greenland has benefited from the transfer of the financial contribution of EUR 14,307,244 in each of the four years of the Fisheries Partnership Agreement so far. This comprises two elements. The first, the financial compensation relates to the compensation for the fishing opportunities transferred. This amounted to EUR 11,083,000 in 2007 and EUR 11,045,795 in subsequent years. The second relates to an element towards implementing a sectoral fisheries policy in Greenland and this amounted to EUR 3,224,244 in 2007 and EUR 3,261,449 in 2008-2010. However in 2010 the parties agreed on an adjustment to the 2011 compensation to account in part for the cancellation of the capelin and cod debt accrued during the period 2007 to 2010. This adjustment means that average annual compensation should be reduced by EUR 417,376/year. The net annual financial contribution from the EU over the period 2007 to 2010 was therefore EUR 13.9 million.

6.3.2 Licence fees

Under the terms of the Fisheries Partnership Agreement, Greenland may charge access fees to EU vessels. These are set at 5% of the “converted” unit prices of each species targeted (plus 1% administration fee), in accordance with the Protocol. Data on licence fees from the European Commission (which is summarised in Table 33) indicates that the Government of Greenland earned a net income of about EUR 1.93 million/year from the licences drawn by EU vessels. This is only slightly less than the EUR 2 million foreseen by the Protocol (see footnote to Article 2). About 50% of these fees were earned from German demersal trawl vessels and 20% from the Danish shrimp vessel.

The specification of reference prices in the Protocol which in the event differed from the average market prices has impacted on the licence fees charged by Greenland. Due to this difference, Greenland has in effect under-charged for the redfish and the Greenland halibut licences, and over-charged for cod and shrimp licences. Had licence fees been based on market prices the net overall effect would have been to reduce income to Greenland from licence fees by about EUR 100,000 in each year. This difference is due to the combined impact of the price differences and the pattern of demand for licences. Table 33 illustrates the differences.

Therefore in addition to the financial contribution Greenland has benefited from licence fees paid by EU vessels, averaging EUR1.93 million/year.

Table 33: Licence fees paid by EU vessels operating under the EU-Greenland FPA

Licence fee basis	Fees	2007	2008	2009	2010	Average
Actual payments based on protocol reference prices	Licence fees	1,962,366	1,877,862	1,902,045	1,904,527	1,911,697
	1% administration fee	19,624	18,779	19,020	19,045	19,117
	Total	1,981,990	1,896,641	1,921,065	1,923,572	1,930,814
	Licence fees					1,817,646
Hypothetical payments based on market prices	1% administration fee					18,176
	Total					1,835,823

Source: European Commission and consultants estimates

6.3.3 Financial and economic impacts

Overall, summing financial contribution and the licence income the Fisheries Partnership Agreement has delivered financial benefits to the Government of Greenland of EUR 15.8 million/year. This equates to a resource rent of EUR326/tonne of fish caught, corresponding to 35% of the ex vessel average price. This is considered to be relatively high by international standards.

Based on the 2008 Gross National Income of EUR 1.6 billion, the Fisheries Partnership Agreement has accounted for just under 1% of the national income. In terms of the national government budget (with a value of EUR 1.2 billion in 2008) the Fisheries Partnership Agreement accounts for some 1.3% of the budgetary income. The financial contribution was

received into the consolidated account of the Government of Greenland and the income is accounted for in the national budget⁵⁵.

Budgetary income from the Greenlandic fishery sector is estimated at DKK49.9 million EUR 6.6 million, due to license fees, and dispensation for not meeting the shrimp landing obligations. Accounting for the EU –Greenland FPA (net contribution of EUR 15.8 million) this indicates that total budgetary income from the fishery sector was about EUR 22.4 million in 2010. The EU and EU vessels support 70% of this, which is disproportionate to the share of catch value (12%) taken under the Fisheries Partnership Agreement.

As well general budgetary support, the Fisheries Partnership Agreement requires Greenland to allocate EUR 3.26 million/year of the contribution towards improving and implementing a sectoral fisheries policy in Greenland (EUR 3.22 million exceptionally in 2007). Annual amounts of EUR 500,000 and EUR 100,000 annually are to be applied to the Greenland Institute of Natural Resources and for training of fisheries officials respectively (plus an amount in 2007 of EUR 186,022 for the development of a cod management plan). The remaining measures to be supported by the Fisheries Partnership Agreement were discussed and agreed by the parties at the Joint Committee meeting of 3 and 4 July 2007. The Government of Greenland provided an updated status report on the implementation of the sectoral policy in November 2010, and this is summarised in Table 34.

As shown in Table 34, the budget for sector support was EUR 3.22 million in 2007 and EUR 3.26 million from 2008 onwards. These amounts include funds earmarked for specific purposes such as training, GINR, preparation of a fisheries law and the cod management plan.

Table 34: Greenland budget allocations specified in the context of FPA fishery sector support

Budget heading	Allocation EUR			
	2007	2008	2009	2010
General sector measures	2,438,222	2,661,449	2,661,449	2,661,449
GINR	500,000	500,000	500,000	500,000
Training	100,000	100,000	100,000	100,000
Cod management plan	186,022	0	0	0
Total	3,224,244	3,261,449	3,261,449	3,261,449

Source: Department of Fishing, Hunting and Agriculture

Analysis of the Status Reports (February 2009 and April 2009) and the State budget (Landstingsfinanslov 2008) indicate that Greenland has allocated an annual total budget of approximately DKK 34 million (EUR 4.55 million) for fisheries sector support and administration. This amount is the sum of the allocations by the state budget for funding of the Fish and Shrimp Department of GINR (about DKK 16 million - EUR 2.14 million) and GFLK (about DKK 18 million - EUR 2.41 million). This provides clear evidence that Greenland has therefore made the budgetary allocations for the support measures in line with the Protocol to the FPA. The FPA appears to contribute about 72% of the fisheries budget.

The FPA-linked financial contribution accounts for some 70% of the state budget contribution to the fisheries sector. The fisheries administration and fisheries research in Greenland is therefore highly dependent on the FPA for its implementation budget.

Furthermore the budget allocated from the sector support to the Fish and Shrimp Department of the Greenland Institute of Natural Resources (GINR) (EUR 2.14 million) accounts for some 40%

⁵⁵ LANDSTINGSFINANSLOV 2009, Grønlands Hjemmestyre

of the total budget (EUR 5.6 million) of this Institute. The GINR has been highly dependent on the Fisheries Partnership Agreement for its operations.

6.4 Financial and economic impacts on third countries

The market values of the catches made by third countries which receive fishing opportunities in Greenland from the EU as part of the annual balanced exchange were shown in Table 28.

Overall, vessels from Norway, Faroes and Iceland made average annual catches of 32,030 tonnes, valued at EUR 13.7 million (EUR 428 per tonne). About 80% of the average annual volume of transferred quota was capelin (this is calculated on the basis of the two years in which capelin was exchanged with Iceland). However Capelin, because of its relatively low value accounted for only about 30% of the value of third country catches. Over the four years evaluated, the relative shares of the third country exchanges by value were 57% to Norway, 31% to Iceland and 12% to Faroe Islands. Overall some 17% of the value of all catches under the Fisheries Partnership Agreement fell to Norway, 9% to Iceland and 4% to Faroe Islands.

7 IMPACTS OF THE FISHERIES SECTOR POLICY SUPPORT MEASURES

7.1 Source of data on progress against indicators

As shown in Table 34, the budget for sector support was EUR 4,010 million in 2007 and EUR 3.86 million from 2008 onwards. The consultants have reviewed the progress of implementation of the fishery sector support measures supported within the frame of the Fisheries Partnership Agreement. These were agreed by the parties in the form of a matrix of overall objectives, results, measures (activities), indicators of achievements and monitoring sources.

The sources of information regarding progress in the above measures used by the consultants was the Sector Policy Programme Document "Sector Policy for the Fisheries in Greenland 2007-2012" Agency of Fisheries Hunting and Agriculture. November 2009 (revised November 2010) submitted by the Greenland authorities to the Joint Committee 25 November 2010. This sets out progress using data from the period 2007 to 2010. The report was approved by the Joint Committee. Meetings and discussions were also held with staff in the Ministry of Fisheries Hunting and Agriculture., the Nature Institute and GFLK (Greenland Fisheries Control Agency).

7.2 Overall objectives of the measures

The overall objective of the support measures is "to promote the sustainable management and utilisation of the fisheries" This is coherent with the rationale for the financial support provided in Article 7 of the Fisheries Partnership Agreement, "securing responsible fishing and the sustainable exploitation of the fisheries resources in the Greenland EEZ". It is also coherent with the Common Fisheries Policy of the EU and Greenland fisheries policy as set out in the proposed new Fisheries Act.

Three areas of support measures were selected by the parties and defined in the matrix of measures (Administration for the fisheries, Control and enforcement, Biological advice).

The results to be achieved in each of these areas reflect important threats and opportunities identified in the evaluation of the 4th Protocol of the EU-Greenland Fisheries Agreement which took place in 2005. Some of the key findings of that study were:

- Legal framework not fully reflecting international commitments, nor precautionary approach; lack of formal stakeholder involvement in management decisions
- Overt, non-transparent and unstructured political interference from Greenland Landstinget leading to sub-optimal policy decisions

- Lack of market- orientated focus on structural adjustment of fleet (with less dependency on subsidies)
- Possible recovery of cod fishery and the need for management arrangements to be in place
- Need for training for Greenlandic indigenous personnel (external courses) leading to higher staff retention.
- Elimination of logistical weaknesses and strengthening GFLK's capacity to inspect on land to improve control efficiencies
- The need for improved catch data and stock assessment as a basis for valid fisheries management decisions, particularly in relation to Greenland halibut, cod and redfish

The measures selected and included in the matrix therefore address these key findings from the 2005 review, and they therefore contribute towards the improved sustainability of the fishery sector. However not all of the issues identified by the review are addressed in the matrix of support measures. The following matters are not addressed:

- Restructuring of shore based facilities (improved value added)
- Vocational training for fishery sector/re-training for alternative employment
- Lack of national capacity for sanitary controls

However, the consultants recognise that it is not possible, nor desirable to seek to solve all problems at one time. Furthermore, it was agreed by the parties that some measures would be deferred until the passage of the new Fisheries Act, since they would be subject to the policies decided by Parliament. Therefore, to a significant extent, the measures selected by the parties are therefore relevant to the current strategic needs of the sector.

7.3 Area 1: Administration for the fisheries 2007-2012

7.3.1 Objective: Promulgation of a Fisheries Act

The target was the adoption of a new Fisheries Act by 2007. Work started on the drafting of a new Fisheries Act in 2006. A draft Act was produced in 2007, and the European Commission was given an opportunity to comment on this in July 2007. Comments were made in relation to reporting requirements and preservation of anonymity of vessels, notice periods and communication channels for foreign fishing vessels in relation to area closures, and the possibility of offering quota which is not utilised by Greenland quota holders to EU operators.

The Government first presented the proposal for the new Act to the Greenland Parliament in the autumn of 2007. Parliament referred the proposal to the Parliamentary Commission on Fisheries Hunting and Agriculture for detailed evaluation⁵⁶. Seven working meetings were held during 2008, and the final (unanimous) report of the Commission was submitted to the Parliament in mid-February 2009.

The work of the Commission involved broad stakeholder participation from the fisheries sector as well as wider economic considerations in Greenland and has been well received. The report recommended a phased implementation of the key measures contained in the proposal. The first phase would introduce possible modifications to the ITQ system of quota management, establish new licence fee structures and set rules for concentration of quota shares (inshore fisheries). The second phase would address longer term sectoral strategy including structural adjustment and educational programmes for fishers.

⁵⁶ Fiskerikommissionens betænkning. Grønlands hjemmestyre, February 2009

It was intended that the draft bill be debated by the Greenland Parliament in the spring 2009 session, but this was postponed due to the calling of a general election in June. The re-drafting of the Act to account for the phased approach was also delayed due to the need for the incoming Government to revise policy. As a result the Act was not re-drafted until 2010. The European Commission was consulted on the draft along with other stakeholders. There were no major objections from the Commission (although some detailed comments were made in relation to year to year flexibility on shrimp quotas. The draft was submitted for Parliamentary process in 2010 and at the time of this study was passing through Committee stages.

Therefore, whilst the new Fisheries Act has not been enacted so far, there has been a significant amount of progress in the technical drafting and stakeholder consultations, with delays being at the political level.

It is noted that the delay in the passage of the Fisheries Act will further delay the design of the related sectoral policy measures foreseen in the original matrix, and in particular the structural adjustment programme. The report of Fisheries Act Commission considers structural adjustment of the sector and makes clear recommendations concerning management approach, the concentration of quota ownership, economic efficiency of fleets, and the need for further restructuring particularly in the coastal fisheries. The new Act does not contain structural adjustment measures which are deferred for future legislation. This issue is an important part of the policy matrix which has not yet been addressed in a coherent manner (see below) and remains to be addressed in future. It will however require further development of legislation.

In particular the approach required is to undertake a detailed economic analysis of the sector, as the basis for seeking a national agreement on the structural targets in terms of the fleet dimensions and capacity which are considered to deliver environmental, economic and financial sustainability. The Greenland Government will then need to prepare an operational programme which sets the targets and the measures which are to be implemented. These typically include withdrawal subsidies, grants for upgrading of quality and safety at sea, training and alternative employment or early retirement schemes for fishermen etc.

However the first task will be to build the capacity of the Greenlandic Ministry of Fisheries Hunting and Agriculture for the design and management of such a programme. EU Member States have a substantial experience of the design and implementation of fisheries structural adjustment programmes under the European Fisheries Fund. During the next protocol, the sector support funds could be usefully directed to twinning and training activities with EU Member States to help develop this capacity in the Greenlandic authorities.

7.3.2 Objective: Adoption of a cod management plan

The target indicator was for the adoption of a cod management plan by 2008. The Greenland Fisheries Council (charged with advising the Government of Greenland on fisheries matters) established a Working Group in 2006. External expertise was also hired to advise the Group. Four meetings were held in 2007. A first draft of the plan was submitted to the Fisheries Council in December 2007. Subsequently the plan was revised and a revised plan was re-submitted in February 2008. However, it was apparent that the Working Group and the experts were not able to reach agreement on the final content of the Plan. The Department of Fisheries, Hunting and Agriculture therefore prepared a recommendation for the Cod Management Plan, and submitted this for adoption by the Greenland Government, which was done in November 2008. It was also decided to introduce a specific licence requirement for the cod fishery and to issue an executive order on the regulation of the fishery. A summary of the cod management plan was submitted to the Commission on 29 April 2009 and updated in 25 November 2010. The central points of the plan⁵⁷ were described in Section 4.

⁵⁷ The source is the Status Report "Sector Policy for the Fisheries in Greenland 2007-2012, 2008 Data; Agency of Fisheries, Hunting and Agriculture, April 2009.

The Commission has commented on the cod management plan, in writing, following the November 2011 Joint Committee plan, and advised that fisheries management plan did not express a clear objective set in terms of target spawning stock biomass, had nor system of formal evaluation, had no links between stock biomass and establishment of TACs, and was not coherent with the limitations to cod fishing expressed in the November 2010 Joint Committee meeting (which set out additional conditions, in particular limiting the number of EU vessels to three). A management plan with all of these features is considered by the consultants to be the most desirable approach.

In spite of the fundamental criticisms of the plan, it is considered a second-best option from a scientific point of view. The plan provides for permanent protection of the main identified spawning grounds in East Greenland (north of 62°N) and it introduces control in coastal cod fisheries (West Greenland) which have until 2009 not been subjected to any catch constraints. The plan can thus be considered as an interim solution only.

The objective of adoption of a cod management plan has been partially achieved. However, this plan will need further revision in the short-term to address changes in stock evolution, and the need for reference targets and harvest control rules.

7.3.3 Objective: Financial support fund for the coastal fisheries

Here the specific objective is the structural adjustment of coastal fleet segment targeting Greenland halibut. The aim is to support the decommissioning of the least efficient vessels, and investment in modern and more efficient fishing technology, so as to improve the profitability of the fishery.

The structural fund was established by law in 2006⁵⁸ with the purpose of promoting development in the fisheries sector. Stated objectives include the renewal and/or modernisation of fleets, innovative pilot projects, experimental fisheries, and technological modernisation. For these various purposes, subsidies can be given on the basis of properly documented applications as follows:

- 10% of total financing in the case of shrimp fisheries
- 20% of total financing for other fisheries
- 50% of total financing in the case of innovative projects

At the Autumn 2009 session of Parliament it was decided to increase the participation of the fund in the modernisation of the coastal fleet, from 20% to 40%.

The Department of Fisheries, Hunting and Agriculture manages this fund, which was set up with an amount of EUR 5.57 million. According to the Status Report "Sector Policy for the Fisheries in Greenland 2007-2012", submitted February 2008 (2007 Data updated November 2008), EUR 1.1 million was allocated for agricultural purposes. The following Table 35 gives an overview of the amounts used during the period 2007 and 2008 (EUR 1.2 million) as well as an indication of purposes. It appears that the fund is being used primarily for re-structuring the Greenland halibut coastal fishery in accordance with the matrix, although this is not explicitly stated in the Law defining the objectives of the fund. Actions were implemented under this component in 2007 and 2009. There was no expenditure in 2009, and no details were available for 2010.

⁵⁸ Landstingslov nr. 15 af 20. November 2006 om fiskerifinansieringspuljen

Table 35: Structural adjustment projects supported in 2007 / 2008

Application	No. Projects	Financing (EUR)
Experimental fishery	1	8,451
For new/used Greenland halibut vessel	15	1,000,611
Improved technology	11	176,959
not identified	1	12,468
Total		1,198,488

Source: Sector Policy for the Fisheries in Greenland 2007-2012, Dept. of Hunting and Fisheries, February 2008

The total amount available for financing through the structural fund is reported to be DKK 23.6 million (EUR 3.16 million). Full consolidated accounts showing budgets and expenditure are not available on a year by year basis. However overall expenditure on structural adjustment appears to have been in the region of EUR 1.4 million over the period of the Protocol to the end of 2010. This along with the fact that a 2009 budget of DKK 3,500,000 (approximately EUR470,000) was not spent⁵⁹, suggests that overall there has been a significant under-spend in this area of structural adjustment. It is worthwhile noting that the total number of applications during the period since the establishment of this fund have been about 110 involving a financial amount of DKK 42 million (EUR 5.6 million) but only about 25% of these applications have been successful. Only 2 applications were granted in 2008, and none in 2009.

The number of vessels in the inshore fleet was reduced by 27 vessels, from a reported 281 in 2007 to 254 in 2008. These numbers are defined as the number of active vessels in the category of 5-75 GRT which are licensed to fish Greenland halibut. A reclassification of coastal vessels was introduced in 2008, which redefined the number as 140, which fell to 127 in 2009. No monitoring indicators were available for 2009. It is not clear how this reduction is related, if at all, to the support measure, since there is no information provided regarding the nature of the measures. In fact the associated documentation does not mention withdrawal or decommissioning as an activity to be supported. The consultants observe that the Status Report does not list the specific projects supported. There is an underlying economic model, developed by OS-Consulting, which is used to evaluate the performance of the Greenland halibut fishery. Although a number of vessels were also supplied with more modern fishing technology, the status report 2008 indicates that there was no improvement in the overall profitability in the sector. However, a 10% improvement was reported for 2009.

This analysis does not mean that the measures have had no impact. It is possible that the profitability of this sector would have declined further without them. However, there is no data to support the evaluation of the measure. The implementation of the measures is not transparent and the consultants are concerned that the measures may not be effective. The concern is that the structural adjustment programme for the fishery sector may be failing. There appears to be a remaining need for a more rapid and extensive restructuring of the sector.

There is a need to set clear structural objectives (in terms of fleet capacity and productivity targets, re-design the measures so as to improve incentives and uptake of the scheme, and significantly improve monitoring, reporting and transparency. The second phase of amendment of the Fisheries Law is expected to address a more rigorous approach. The Ministry of Fisheries, Hunting and Agriculture only has limited technical capacity to design and implement a structural adjustment programme in the fishery sector, and there is a need to strengthen the relevant departments and systems. The FPA funds should be re-directed in the short term to

⁵⁹ See Page 3, Annual Status Report 2009 Data, Agency of Fisheries Hunting and Agriculture, May 2010 (Revised November 2010).

focus on building the administrative capacity for structural adjustment (to include twinning with an EU Member State), with actual support for structural funds withdrawn until a coherent operational programme, and capacity to implement it is in place.

7.3.4 Objective: Training of fisheries officials

This measure supports joint training activities aimed at the staff of the DFHA and the GFLK officials. The annual allocation from the budget is DKK 750,000 (EUR 100,530). DKK 861,562 (EUR 115,490) was spent in 2007, DKK 716,477 (EUR 96,042) spent in 2008 and DKK 765,324 (EUR 102,043) in 2009. No data was available on the expenditure in 2010.

The numbers of courses and type of training undertaken is shown in Table 36. In addition, in 2007 a one-day staff seminar was held regarding communication methods, attended by 50 participants.

Whilst the training appears to have been well received by the participants it is difficult to understand the rationale, with specific courses identified and organised on the basis of *ad hoc* needs. This is also apparent in the lack of specific targets for the period under consideration 2007-2012, which is linked to the high turnover rate of employees in Greenland. A further complication is that it can be difficult to find adequately trained personnel to fill vacant positions, so the approach used is to hire personnel and then determine whether there is a specific need for training in various subjects/tasks.

Table 36: Training courses undertaken by Greenland Fisheries Officials 2008-2009

Course	No. participants		
	2007	2008	2009
Language training	7	2	13
IT/software (including GIS)	8	18	29
Management/communication	22	12	28
Fisheries control	32	23	21
Introductory course for new staff	3	6	6
Economics			3
Statistics			1
Personal development and safety			9

Source: Sector Policy for the Fisheries in Greenland 2007-2012, Dept. of Hunting and Fisheries, November 2009

An internal evaluation of training has not been carried out, so there are no indications on whether training is effective and if it addresses the particular needs of the fisheries authorities. Identification of training needs has been carried across the whole administrative system by the Government of Greenland, but this does not address the issue of effectiveness and needs assessment.

Furthermore, there is a change in reporting strategy where the distinction of training of administrative staff and fisheries observer/inspectors has been eliminated (Status report; April 2009). This was provided for 2008 (as shown in Table 36) and it is recommended that this distinction should be maintained (more detail provided in next section).

7.4 Area 2: Control and enforcement

The annual budget allocated to measures under Area 2 has about EUR 2.2-2.4 million, which has contributed more or less the total yearly budget allocation to GFLK, as defined in the State budget (Landstingsfinanslov). This includes fisheries control functions of offshore fisheries as

well as coastal fisheries (which is carried out by the fisheries/wildlife guards), see the following Table 37.

Table 37: Expenditure on Control and enforcement functions

Control function	Expenditure in EUR		
	2007	2008	2009
Admin	788,054	717,584	739,195
Control (seagoing)	1,348,993	1,413,154	1,455,570
Control (coastal)	287,919	30,604	308,054
Total	2,424,966	2,161,342	2,502,819

Source: GFLK, 2010

7.4.1 Objective: Level of administration

This measure concerns the routine work of GFLK in terms of registering incoming data concerning logbooks and vessel notifications, which is a condition for the updating of the GFLK in order to provide data to national and international cooperation partners.

Activities were focused on strengthening the data and information systems and establishing improved linkages between satellite VMS and catch, landing and sale databases, and in upgrading of the system in preparation for the introduction of electronic logbooks. Greenland plans to follow the same schedule for implementation as the EU; 1 July 2011 for vessels exceeding 15 meters and 1 January 2012 for vessels exceeding 24 meters. It is notable that the reported budgetary expenditure does not express the significant investment expenditure in hardware and software. A more meaningful set of account headings would help clarify the expenditure linked to the sectoral policy objectives.

7.4.2 Objective: Control at sea (seagoing)

Again, this measure concerns the routine work of GFLK in relation to observer activities in the offshore fleet. Observer coverage in the seagoing shrimp fishery was 80% in 2007, 85% in 2008 and 74% in 2009, all well above the target of 50%. The consultants have no specific comment or recommendation, except to note that this is a very high level of observer coverage for any fishery.

7.4.3 Objective: Control at sea (coastal)

This measure concerns the routine work of GFLK fisheries/wildlife guards covering the coastal fisheries. In 2008 721 inspection trips were carried out which is in line with the minimum requirement of 700 (primary target). In 2009, 765 inspections were conducted.

New reporting procedures were introduced from the beginning of 2009. The most important aspects of this procedure is that fisheries/wildlife officers now report more specifically on a wider number of areas, and that they report to GFLK after every inspection trip. The classification of infringements was also amended. In 2009 there were 11 serious infringements and 416 minor ones detected (compared to a total of 56 infractions in 2008)

7.4.4 Objective: International control agreements

The specific target under this point is to maintain the current number of agreements and, if possible, expand fisheries relations with relevant neighbouring countries. A VMS agreement with Canada was finally concluded in 2009 and establishes a framework for the monitoring of Canadian fishing vessels which use Greenland ports during parts of the year.

Another primary target is the establishment of a port state control corps. Initial steps have been taken towards implementation (with four inspectors appointed to this function). However, full

implementation still remains subject to the passing of the new Fisheries Act. This is because the necessary training and mobilisation of staff will entail significant costs and it is envisaged that this should be funded through the introduction of the “users pay” principle in the new Fisheries Act in relation to the funding of inspection and observer activities. If the new Fisheries Act is passed in 2011 as expected, implementation of the port state control is expected to commence in 2012.

Bilateral meetings which include control issues have taken place with countries such as Russia, Norway and the Faroes, which is part of the normal routine of negotiating annual quota exchanges in the context of fisheries agreements.

7.4.5 Objective: Training of fisheries officials (GFLK)

This measure concerns the training of personnel in the field of fisheries control, including fisheries observers, covering the offshore fisheries, fisheries/wildlife guards in coastal fisheries, and administrative personnel covering fisheries control support functions.

Discussions with GFLK gave further information on specific training needs and activities of the agency. This includes courses in:

- IT & Statistics: this concerns training in a database query language for the purpose of making use of and maintenance of the GFLK database (Oracle) on fisheries control
- GIS (Map info): this concerns training in geographical applications, again making use of the GFLK database, VMS data in particular. According to the latest data provided (Table 36), this training was not delivered to GFLK personnel but to others. However this is assumed to be an error in the reporting process.
- Control & enforcement (also called the observer seminar): this is usually a 5-day annual meeting, which is used for introduction to new legislation and procedures as well as a workshop to discuss any relevant issues concerning the day-to-day work of observers and guards.
- Biological sampling: observers/guards receive training at the Greenland Institute of Natural Resources (GINR) but this is not considered in the budget as it does not entail payments.

All of the above referred training appears to be relevant and essential for the proper functioning of the GFLK. Although specified in the Status Report (Feb. 2009), the latest Status Report (November 2010) does not make any distinction between training in fisheries control functions or fisheries administrative functions. Thus, specific training for e.g. observers, guards, port state controllers is no longer specified, although these had been defined as key indicators in the agreed matrix. The consultants recommend that this distinction is maintained as previously agreed (following the structure of Table 36) and in order to give a clear picture of training efforts/needs in relation to fisheries control and other areas.

It is worth noting that the new Fisheries Act is expected to introduce fees such as for access to resources as well as the payment of costs associated with observers. There is a clear intention of formulating a longer-term training course (2 years spread over various stays in Denmark) in cooperation with fisheries inspection services in Denmark in order to provide a sound training of Greenland observer personnel including competencies in more authoritative aspects, which are needed for port state controllers.

7.5 Area 3: Biological advice

Each year of the Protocol, approximately EUR 2.4 million has been allocated to gathering and analysis of fisheries data by GINR. Budget is allocated by areas concerned with the different fisheries with the following shares (based on 2009 figures): fish & shrimp in general (37%); shrimp (29%); Greenland halibut (20%); cod, herring, redfish, salmon and capelin (5%); salmon (0.3%) crab (8%) and others (1.5%). It is not clear whether, or indeed how, the fisheries research allocations are linked to the management priorities of the Greenland authorities.

7.5.1 Objective: Gathering and analysis of data/scientific cooperation in existing fisheries

One of the primary targets is to produce scientific advice for management purposes in respect to 20 stocks. This activity, undertaken by GINR, has been undertaken in line with the plan; advice was provided for 22 stocks in both 2007 and 2008 and 25 in 2009. The following Table 38 presents an overview of commercially important fish stocks and the production of management advice. There are 30 stocks listed but some of these stocks are not assessed due to their limited importance and in some cases, advice is produced over 2-3 year intervals.

The other primary target indicator is the production of annual review publications. This concerns the production of scientific peer-reviewed articles in the primary literature on original research. Performance has been slightly below the target of 5 articles per year (4 articles published in 2007 and 2008).

Results in relation to secondary targets have been lower than expected, which was due to a breakdown in one of the research vessels (Adolf Jensen) in 2007. Inshore surveys were thus carried out with chartered ships, but not all surveys were successful. A new vessel is in the process of being purchased in 2011 as a substitution for RV Adolf Jensen, and the parties agreed that the sectoral policy matrix should be extended to cover this purchase, as part of Greenland's contribution to the cancellation of the "capelin debt" built up over the course of the protocol (see section 5.2).

Table 38: Production of management advice for commercially important fish stocks

No.	Stock	Area	Advice	Context	Stock shared with
1	Shrimp (<i>P. borealis</i>)	West	Yearly	NAFO	Canada
2		East	Yearly	NAFO	Iceland
3	Greenland halibut	West - Davisst.	Yearly	NAFO	Canada
4		West - Baffin	Yearly	NAFO	Canada
5		East offshore	Yearly	ICES	Iceland, Faroes
6	<i>Coastal</i>	Diskobugt	Every 2 yrs	NAFO	none
7		Uummanaq	Every 2 yrs	NAFO	none
8		Upernavik	Every 2 yrs	NAFO	none
9	Snow crab	Offshore	Yearly	GINR	none
10	<i>Coastal</i>	Sisimiut	Yearly	GINR	none
11		Diskobugt	Yearly	GINR	none
12	Cod	Offshore East/West	Yearly	ICES	Iceland
13	<i>Coastal</i>	Sisimiut	Yearly	ICES	None (Iceland?)
14		Nuuk	Yearly	ICES	None (Iceland?)
15		Qaqotoq	Yearly	ICES	None (Iceland?)
16	Capelin	West	None	-	n/a
17		East	Yearly	ICES	Iceland-Norway
18	Pelagic redfish - Irminger	East	Yearly	ICES	North Atlantic
19	Salmon	West	Yearly	ICES	North Atlantic
20	Grenadier	West	Every 3 yrs	NAFO	Canada
21		East	None	-	Iceland
22	American plaice	West	Every 3 yrs	NAFO	n/a
23	Skate	West	Every 3 yrs	NAFO	n/a
24	Wolfish	West	Every 3 yrs	NAFO	n/a
25	Lumpsucker	West	From 2004	GINR	none
26	Scallops	West	From 2004	GINR	None (Iceland?)
27	Uvaq	West	None	-	none
28	Atlantic halibut	West	None	-	n/a
29		East	None	-	n/a
30	Greenland shark	West/East	None	-	n/a
31	Trout	West/East	None	-	none
32	Polar cod	West/East	None	-	none

Source: Greenland Institute of Natural Resources

7.5.2 Objective: Gathering and analysis of data/scientific cooperation in new fisheries

The specific target is to obtain new knowledge on potential new fisheries through funding of specific projects carried out by GINR. Projects have been undertaken in relation to a) biological survey of cod in East Greenland b) spawning of cod in West Greenland c) pilot bycatch project in Disko Bay and d) tagging of Greenland halibut and cod. The yearly allocated budget has been in the region of EUR 500,000, which corresponds to funds earmarked for GINR in the context of the FPA.

There has been an emphasis on carrying out projects that contribute data and information on cod stocks, which reflects on the perspective that cod may become an important fishery again in Greenland after a long period of collapse. The activities undertaken therefore respond to a strong interest in strengthened fisheries management in general, and of the cod stock in particular, rather than development of new fisheries. It therefore appears that these funds have not been used for the purpose agreed by the parties, however worthy and valuable the outputs of the research conducted.

7.5.3 Objective: Purchase of research vessel and IUU implementation

This combined measure was added to matrix of measures to be supported at the meeting of the Joint Committee 25/26 November 2010. The allocation was EUR 1,1 million. The Greenland authorities report that the purchase of the vessel is well advanced and delivery is expected in 2011. Discussions with GFLK indicate that IUU measure is fully implemented, and that catch certificates are now being issued on a regular basis in line with EU Regulation 100572008. This measure can therefore be considered to have been implemented successfully.

7.6 Summary of progress on implementation of the measures

With regard to the implementation of the sectoral support measures:

1. The budgetary support programme under the FPA has clearly contributed to advancing the drafting of a new fisheries law and significant steps have been made. However the objective of a new fisheries law has not yet been met due to political concerns in Greenland⁶⁰.
2. The budgetary support programme under the FPA has also significantly supported the development of the cod management plan. Despite several revisions and comments from the Commission, the current plan remains defective and does not, in the opinion of the consultants, constitute a full and final plan. It should therefore be regarded as an interim step. A scientifically comprehensive cod management plan (with defined criteria) is still required. It is recommended that the parties consider that the adoption of a scientifically sound plan by Greenland should be a pre-condition for any future consideration of extension of cod quotas within the frame of the Fisheries Partnership Agreement.
3. The financial support fund for the coastal fisheries has been implemented by Greenland, in accordance with the matrix time scale and 28 projects have been implemented. The number of vessels in the inshore sector targeting Greenland halibut has fallen from 281 in 2007 to 254 in 2008. However, the support measures are not defined, there are no structural targets set, there is no specific link established between the measures and the outcomes, and no evidence that sectoral restructuring has been beneficially advanced by the support measure. No list of specific projects is published and there is a risk that the subsidies for new vessels and improved technology result in increases fishing capacity in excess of withdrawals. The consultants recommend that

⁶⁰ The adoption of a new fisheries law has been promised by the Government of Greenland since the revision of the 4th Protocol of the Fisheries Agreement in 2004

there should be redrafting of the measure with quantifiable fleet targets, and a more rigorous monitoring by the Joint Committee of the implementation of this measure to include a) measurement of fleet capacity in relevant segments (tonnage and engine power) on an annual basis and b) presentation in the status report of the list of specific projects supported. However, before this, there is a need to significantly strengthen the administrative capacity of the MFHA with respect to design and implementation of an structural plan and operational programme for the fisheries sector.

4. The measures have clearly helped with the delivery of beneficial training courses which are well executed and received by participants. However the effectiveness is limited by the *ad hoc* approach and lack of a coherent structure to the programme with clear overall objectives. The consultants consider that the training programme would benefit from a formal training needs assessment, and preparation of training objectives, which can be incorporated into the matrix and a more structured planning of training activities (taking into account the problem of high-turnover, budgets, technical capacity for delivery of training and language skills). The reporting approach adopted in the 2008 status report (dated April 2009) should be maintained.
5. With regard to Area 2 (Control and enforcement) and the implementation of the electronic logbook systems, Greenland has proposed that this be postponed until 2010/2011, in line with the implementation dates with the EU fleet. The agreed matrix does not set an implementation date, and the parties should agree one in the near future. The Greenland proposal would seem to be reasonable, but it is desirable to establish some interim indicators (such as specification of the system, commencement of procurement, training of staff, drafting of legal regulation etc) to ensure that the relevant budgetary and administrative preparations are undertaken in a timely manner.
6. Targets in relation to control at sea activities (in terms of extent of observer coverage and coastal fishery inspection visits) have been achieved, and here the budgetary support provided under the FPA has been very effective in enabling GFLK to develop and strengthen control services in this area. However, financial monitoring does not give a clear picture of the investments made. Monitoring is also weak in terms of the secondary indicators, and indicators drawn from reports submitted by observers/inspectors should be extended. Given the high rates of compliance obtained, and the high level of observer coverage, there may also be opportunities for improved efficiency in the utilisation of the limited control resources by introduction a risk-based approach to control decisions.
7. The Fisheries Partnership Agreement has also contributed significantly to strengthening international integration of the Greenland fishery sector, by helping progress agreements between Greenland and Canada with regard to VMS and port state control arrangements. The VMS agreement can be regarded as an effective outcome of the FPA. Port state control arrangements will remain subject to the new fisheries law (because of the budgetary changes required), and in this respect the FPA has not yet been effective.
8. The FPA has been very effective in supporting the ongoing programme of fisheries research, and has met primary targets in terms of the stocks for which data is obtained. The efficiency of the measure has however been limited by breakdown in research vessels, limiting the quality of biological data for scientific basis for management recommendations. This problem is addressed by the extension of the matrix of measures supported by the FPA contribution, to partially compensate for the non-delivery of certain fish quotas. This allows Greenland, in 2011, to fund the purchase of a new research vessel which should ensure better continuity of data in future. The current structure of the measures (which differentiates between new and existing fisheries) is not relevant. The measure should be amended to remove this distinction and cover research on fish stocks and marine ecosystems, to bring it into line with the ecosystem approach. Allocation of research priorities should be closely linked to the information needs for fisheries management.

9. Finally, the parties may wish to consider the overall relevance of the measures in the context of the budgetary allocations and strategic development of Greenland's management of the sector. The First Protocol has substantially provided for the strengthening of the control system, and funded fisheries research functions. As a result there are good levels of compliance and clear management recommendations in place. However, the structural adjustment elements of matrix of fisheries policy measures have not been addressed. They have been poorly defined and weakly managed, with the result that they have been ineffective. The coastal fisheries sector therefore remains in crisis, largely due to its structural inefficiencies. There is a need to seriously re-appraise the objectives of the policy support measures, to establish a new matrix on the basis of the re-appraisal, with a much stronger priority focused on structural adjustments, even if this compromises control and research functions. In the re-design of the matrix for any new Protocol the parties are advised to consider that objective of the partnership approach is that the budgetary support should fund fishery sector investments with longer term impacts, rather than provide direct subsidies for current expenditure.
10. Whilst the adjustment of the policy support measures to (partially) accommodate the capelin debt provided a pragmatic contribution to the solution of the problem, the use of the matrix of support measures in this way provides no additional benefits to either party. Greenland had already complied with the EU's IUU catch certification requirements since 1 January 2010, and the new research vessel had already been commissioned. The adjustment is an administrative convenience, rather than meaningful recompense to the EU budget for the overpayment of compensation.

8 RESOURCE AND ENVIRONMENTAL IMPACTS

8.1 Impacts on target fishery resources

8.1.1 Overall impacts

Table 39 shows a summary of the sustainability of each of the stocks which are the subject of the Protocol to the Fisheries Partnership Agreement, and the contribution of the EU fishing conducted under the agreement to the overall level of exploitation. A more complete picture is shown in Annex 4.

Overall the Fisheries Partnership Agreement has accounted for 48,405 tonnes of catches from a total of 450,371 tonnes caught on the stocks subject to the Fisheries Partnership Agreement, accounting for just under 11% of the exploitation. The Fisheries Partnership Agreement has therefore had a moderate overall impact on the stocks which it considers. However, within this average, there are some stocks where the Fisheries Partnership Agreement contributes a significantly higher level of the overall of exploitation. Furthermore, Section 4 has shown that at least three of the important stocks are exploited at a level which is not sustainable (cod, Greenland halibut in East Greenland and deep pelagic redfish). More details are provided in the following sections.

Table 39: Overview of impacts on stocks of relevance to the EU Greenland Fisheries Partnership Agreement during the period of the current protocol (2007-2011)

Species	Area	Average Annual catch (tonnes)		% impact	Sustainability of fishery
		Total from stock	Under FPA		
Cod	NAFO 1, ICES XIV	15,750	1,727	11.0	No
Greenland halibut	ICES V, VI, XII, XIV	24,333	7,254	29.8	No
Deep pelagic Redfish	ICES V, XII, XIV, NAFO 1, 2	47,000	3,864	8.2	No
Shallow pelagic Redfish	ICES V, XII, XIV, NAFO 1, 2	3,833	0	0.0	No
Demersal Redfish	ICES XIVb	404	0	0.0	Not known
Shrimp	ICES XIV	4,098	3,166	77.3	Yes
Atlantic halibut	ICES XIV	103	96	93.2	Not known
Capelin	ICES V, XIV, IIa	186,250	26,103	14.0	Yes
Shrimp	NAFO 0, 1	142,675	3,767	2.6	At risk
Greenland halibut	NAFO 0, 1	23,333	2,421	10.4	Yes
Snow crab	NAFO 0, 1	2,568	0	0.0	Recovering
Atlantic halibut	NAFO 0, 1	23	7	30.4	Not known
Overall		450,371	48,405	10.7	

Sources: ICES, 2011; European Commission, DG MARE & consultants estimates

Note: Refer to section 4.1 for a full explanation of the sustainability of the fisheries. Important to bear in mind that exploitation levels depend on various fleets and the contribution of EU vessels to overall exploitation can be negligible (e.g. the case of shallow pelagic redfish)

8.1.2 Cod (*Gadus morhua*) in Greenland waters

During the period 2007-2011 ICES has consistently recommended each year that no fishery should take place to allow for rebuilding of the spawning stock in Greenland. Greenland has continued to offer cod quotas under the Fisheries Partnership Agreement, reaching 3,500 tonnes in 2008 with almost full utilisation. Allocated quota decreased to 3,000 tonnes in 2009 and 2,000 tonnes in 2010 with a sub-optimal utilisation below 50% due to late announcement to changes in the quotas. Catches under the Fisheries Partnership Agreement (mainly EU, but some from Norway) account for an average of 10% of total catches from the stock. Note that Greenland has introduced increasingly restrictive measures in an attempt to improve stock status, but has not closed the fishery as advised. The Fisheries Partnership Agreement has therefore supported about 10% of overall level of exploitation of this resource against scientific advice and cannot therefore be considered sustainable in this respect. However, during the last Joint Committee Meeting to establish 2011 quotas the EU did not accept an initial offer from Greenland of opportunities which was above the scientific advice. Reduced quotas were agreed; although more sustainable than those offered, these quotas however are still not in line with scientific advice.

Cod opportunities are in high demand by both Greenland and EU fishers. The current TAC is below the minimum quantity of 30,000 tonnes set out for maintaining Greenlandic fishing activities as set out in the Protocol (Article 7). Greenland would therefore be justified in withdrawing these quotas from the Fisheries Partnership Agreement at present if it wished to do so.

8.1.3 Greenland Halibut (*Reinhardtius hippoglossoides*) in East Greenland

Despite concerns from stakeholders that the scientific advice does not reflect the true state of the resource, there is emerging, albeit not comprehensive, scientific evidence that the stock exploitation is not sustainable. In 2009, the scientific advice indicated a TAC of 5,000 tonnes but a total catch of 28,000 tonnes were taken (as shown in Annex 4). Greenland and Iceland have set autonomous TACs at the same level in 2010 and 2011, for example 13,000 tonnes each in 2011. There is no agreement between the coastal states in whose waters the stock is exploited (Iceland, Greenland and Faroe Islands). The Fisheries Partnership Agreement has delivered on average 7,611 tonnes of Greenland halibut quota per year in East Greenland, all of which has been utilised, which has accounted for about 30% of the total level of exploitation on the stock. Most of the exploitation (27%) was by EU vessels. The EU-Greenland Fisheries Partnership Agreement has supported the ongoing exploitation of this resource against scientific advice, and cannot be regarded as sustainable in this respect.

8.1.4 Redfish (*Sebastes spp.*) in Greenland waters

The vessels operating under the Fisheries Partnership Agreement have not exploited shallow pelagic redfish (*S. mentella*) nor demersal Redfish (*Sebastes mentella* & *Sebastes marinus*) in the Greenland zone, and have therefore had no impacts on the sustainability of these components of the redfish stock. The vessels have however exploited the deep pelagic Redfish (*S. mentella*).

During most of the protocol period, there was no agreement on the allocation of quotas for deep pelagic redfish (as well as other redfish possibilities), leading to autonomous TACs exceeding the scientific advice by far. It should be noted however that the TACs were set according to NEAFC recommendations. This fishery is clearly not sustainable and the EU has contributed to this by taking about 15% of the total catch, of which 8% is taken in the context of the FPA.

However, an agreement has been reached in March 2011 on the allocation of pelagic redfish stocks between coastal and non-coastal States in the Irminger Sea and adjacent waters. This agreement is expected to lead to a strong reduction in TACs for deep pelagic redfish. A TAC of 38,000 tonnes will be set in 2011 down from a total of "autonomous" TACs of 78,000 tonnes in 2010. TACs are to be reduced gradually down to 20,000 tonnes in 2014, which would be in line with the current scientific advice. This is a major step in the right direction, but it remains to be seen whether it can be implemented successfully, as not all stakeholders have signed the agreement (the Russian Federation is not a party). Whilst the prospects for the future are improved, this does not however change the finding that the exploitation of deep pelagic redfish has not been sustainable during the current protocol period.

8.1.5 Northern shrimp (*Pandalus borealis*) in East Greenland

Catches have generally been below the set TAC (12,400 tonnes since 2004) in this fishery. In this case, this is considered to be the result of difficult fishing conditions in East Greenland. A significant 77% of the catches are taken in the context of the FPA, which is also related to limited interest amongst Greenland stakeholders. Trends and indicators continue to show a relatively stable stock, if not increasing abundance, which indicates a sustainable fishery. The inclusion of these resources in the Protocol has therefore been sustainable.

8.1.6 Northern shrimp (*Pandalus borealis*) in West Greenland

The fishery for northern shrimp off West Greenland is a substantial fishery taking an average of 143,000 tonnes/year during the protocol period. There has been a consistent trend of setting TACs in excess of the advice by at least 22,500 tonnes in recent years due to the autonomous setting of TACs (by Greenland and Canada). It also appears that the quota allocated to the EU (4,000 tonnes) by Greenland, is added to the TAC recommended by the scientific advice (i.e. it may not be a surplus stock). Nonetheless, the main concern is that there is a substantial difference (16-20%) between catches in live weight and the quota accounted for which is based on landed weights. This generally leads to overshooting of the TAC. This may have carried only limited risks at the peak of the fishery (2005-2006), when biomass was at its highest, but this risk of overfishing is considered to be increasing. Harvest control rules adopted in connection

with the 2010 shrimp management plan are expected to bring about improvements and stricter control. Whilst there are concerns regarding sustainability, EU vessels take only a limited share (2.6%) of the total catches from this stock. Inclusion of this fishery in the Protocol can thus be considered to have been sustainable, albeit with an indeterminate but small risk of contribution to modest level of excessive exploitation.

8.1.7 Greenland Halibut (*Reinhardtius hippoglossoides*) in West Greenland

There is an agreement between Canada and Greenland on allocating 50% of the fishing opportunities to each party, which is adopted in complete conformity with the scientific advice. It should be noted that this concerns an offshore stock (Davis Strait and Baffin Bay) which is assessed separately from the inshore stock of Greenland halibut fished off West Greenland. The offshore stock is considered to be a well-managed and sustainable fishery, where fishing opportunities have increased in recent years (increased from 24,000 tonnes in 2009 to 27,000 in 2010 and 2011). FPA related catches have accounted for about 10% of the total catches taken from the stock, and can be regarded as sustainable.

8.1.8 Snow Crab (*Chionoecetes opilio*) in West Greenland

There was a rapid expansion of the snow crab fishery along the west coast of Greenland, starting in the mid-1990s, which resulted in overfishing. In an attempt to improve the stock situation, and as better data became available, more restrictive measures started to be imposed starting in the mid-2000s. Some fishing opportunities for the offshore component of the snow crab stock are offered in the context of the EU-GRL FPA, but limitations imposed in terms of fishing areas and seasons make this of little interest to EU stakeholders (nil catches during the protocol period). TACs and catches continue to be relatively low and the fishery for the offshore component has been closed in 2011. Recovery of this fishery appears to be progressing slowly. The application of the management measures, combined with the zero utilisation suggests that the inclusion of these opportunities in the Protocol has been sustainable.

8.1.9 Capelin (*Mallotus villosus*) in the Iceland-East Greenland-Jan Mayen area

Quotas for capelin are set according to the criteria of maintaining enough spawners for the propagation of the stock and, since 1979, the target of maintaining a spawning stock biomass (SSB) of at least 400,000 tonnes has been used in the Iceland-East Greenland Jan Mayen area. Depending on the abundance identified by annual surveys, quota are then set and allocated according to the Tripartite Agreement on Capelin (Iceland, Greenland and Norway). There have been large fluctuations in stock abundance and in recent years there has been a strong trend for a reduction in abundance (probably connected to displacements), but this is considered to be a result of environmental conditions. Greenland has not always been in a position to offer capelin fishing opportunities to the EU (exchanged with Iceland), because of the management arrangement in place. On average, capelin catches under the Fisheries Partnership Agreement have accounted for a relatively high 14% of total catches from the stock (in 2007 and 2008). This can be regarded as a sustainable fishery, albeit at lower abundance.

8.1.10 Atlantic Halibut (*Hippoglossus hippoglossus*) in Greenland waters

Little is known about the stock structure and abundance of Atlantic halibut, both in West and East Greenland, but it is assumed that these stocks have been fished down over the course of a century. There is no stock assessment available for these stocks and quotas appear to be set at too high a level, to meet demand from the sector. Nonetheless, catches taken in the context of the EU-GRL FPA (exchanged with Norway) take a substantial part of total catches (77% in East Greenland and 30% in West Greenland). The sustainability of these fisheries is not known, but it is probable that these stocks are overfished and have been kept at low levels due to the lack of regulation (and possible indirect effects of bycatches in trawl fisheries). There is a risk that the inclusion of these resources in the Protocol has not been sustainable.

8.1.11 Impacts on non target species and ecosystem

Fishing in Greenland is generally characterised by being “clean”, where catches of non-target species is limited, even in trawl fisheries. Discarding is prohibited in Greenland and bycatch quotas are defined in order to allow for the retention on-board of non-target species which are generally commercial species. Shrimp fisheries are exempted from this discard ban (to facilitate requirements for processing and handling) but use of sorting grids has been mandatory since 2002, bringing down bycatch substantially. This is estimated to be about 1% presently, consisting of at least 20% commercial fish species. Other impacts, concerning other possible effects of fishing such as bycatches of seabirds and mammals, appear to be limited when considering the trawl fisheries conducted in the context of the EU-GRL FPA.

9 FINDINGS OF THE EX-POST EVALUATION

9.1 Relevance

A broad assessment of the implementation of the first protocol of the Fisheries Partnership Agreement should first recognise that, since 2007, it has ensured the continuation of a high level of financial support to Greenland. As well as contributing to general budgetary income, this support has contributed towards establishing sustainable fisheries. Reciprocally, the EU has retained strategically important fishing opportunities in the Greenland zone, and the possibility of obtaining additional capelin and/or cod quotas if stocks become available in future. The Fisheries Partnership Agreement therefore complements and extends the formal relationship of the parties in terms of the EU-Greenland Partnership Agreement, and the Greenland's participation in the Overseas Association Agreement. Furthermore for the EU, the Fisheries Partnership Agreement through its provision of quota for exchange, supports EU fishing in the waters of other third countries, and (particularly in the case of access to the Norwegian zone) thus makes an important contribution to the Common Fisheries Policy objective of supporting employment in fisheries dependent areas of the EU. The Fisheries Partnership Agreement has been, and remains, a highly relevant instrument for both parties.

9.2 Effectiveness

The Fisheries Partnership Agreement has been effective in providing fishing opportunities of interest and utility for certain segments of the EU fishing fleet, with overall some 37 vessels drawing 75% of the fishing opportunities offered by Greenland. It has ensured an average annual production of fish from Greenland waters of 48,502 tonnes valued at EUR 45.7 million, a substantial proportion of which is delivered to the EU market, either directly (via EU catches, valued at EUR 32.0 million) or indirectly (via third country catches, valued at EUR 13.7 million). The estimated value added of the opportunities received is in the region of EUR 18.7 million/year. Because the opportunities are either used directly by EU vessels, or exchanged with other third countries for fisheries access to their waters, their full value represents the benefits to the EU economy.

However, the effectiveness of the Fisheries Partnership Agreement has been limited by the non-availability on several occasions of sufficient fishery resources (notably capelin, but also cod). Approximately 39% of the resources (in volume terms) could not be delivered (although these mainly concern large volumes of capelin, a highly variable resource). The compensation mechanism defined in the Fisheries Partnership Agreement with a view to offering alternative fishing opportunities has only been partially effective in dealing with such a substantial deficit, and the parties have had to make *ad hoc* adjustments to compensation and support measures.

For Greenland, the Fisheries Partnership Agreement has been an effective measure to generate income from several fishery resources which it may not otherwise have been able to exploit. On average Greenland has generated net EUR 15.8 million per year in financial contributions from the EU and licence fees, which has contributed slightly over 1% of the state budget. The average resource rent generated is estimated at EUR 326/tonne, which is about 35% of the first sale value of the products generated. Whilst Greenland had other options for exploitation of several of the stocks considered by the Protocol, by its own, or other third

country, vessels (particularly of shrimp, cod and Greenland halibut) it is unlikely that they would have generated a similar level of financial income. The Fisheries Partnership Agreement has therefore been an effective method for Greenland to optimise financial benefits from its surplus fisheries resources. However the Fisheries Partnership Agreement has not been effective in delivering any significant additional economic benefits (such as joint ventures, employment on board, or landings into processing).

9.3 Efficiency

For the EU, the Fisheries Partnership Agreement has delivered net economic benefits estimated at EUR 18.7 million/year, for an outlay of EUR 15.8 million, suggesting a cost benefit ratio of 1.3 (i.e. returning EUR 1.30 for every EUR 1.00 invested). This is a positive return, but represents only a small net benefit compared to some other Fisheries Partnership Agreements (for example in the tuna sector, where cost-benefit ratios of 2 to 6 are not uncommon). The fact that the relatively low ratio is in parallel with a good rate of utilisation of the opportunities (75%) suggests that the Fisheries Partnership Agreement has been more or less cost neutral, but could have easily resulted in a net cost to the EU (for example if there had been no recovery in prices after 2008/2009). Therefore whilst the Fisheries Partnership Agreement provides a positive net benefit, it has only been a marginally efficient means of achieving these ends, and its viability remains sensitive to externalities.

The system of licence allocation, with rigid annual limits, requires that EU vessels, when buying quota, make realistic estimates of the quota they expect to use. This requires vessel operators to make an accurate estimate of future catches, which in the event is not always possible to fulfil, due to variations in weather, catch rates etc. Since the vessels must continue to operate, operators therefore over-purchase quota, but seek to keep the excess to a minimum. In an average year over the course of the Protocol, they caught 16,472 tonnes out of 19,783 tonnes of quota drawn, representing 17% of purchased quota remaining unused at the end of the year. For the fleet operators, this represents an economic inefficiency in the design of the licence system, since they are required to buy more quota than they will use.

Overall, including the sector support, the EU has contributed EUR 286/tonne of fishery products produced (30% of the sales value). The financial amounts paid by the EU are considered to be high. Moreover the EU financial contribution represents almost 70% of the budgetary income generated by the fishing sector, while only accounting for an estimated 12% of the total catch volume, and an even lower percentage of the value of the catches in the EEZ. The parties agreement to discount 40% of the capelin debt (representing an agreed value EUR 1.1 million) in return for extension of the sectoral policy support measures (to purchase a research vessel) was not found to deliver additional benefits, and has not represented an efficient use of EU financial resources.

Of the overall access costs to the resource (compensation plus licence fees, estimated at EUR 259/tonne) the EU has contributed 85% (in the form of compensation) and the fleet operators 15% (in the form of licence fees)⁶¹, which is more or less the same level of public contribution applied by EU policy in other mixed Fishery Partnership Agreements (for example Mauritania 87%) but considerably less than the EUs "tuna agreements" (where the targeted split is typically 65/35).

9.4 Sustainability and environmental impacts

Through the sector support measures, the Fisheries Partnership Agreement has allowed a substantial level of budget support for fisheries research, administration and control. In all of these areas there have been significant sustainable developments in terms of improved fisheries management advice, strengthened fisheries monitoring surveillance and control, and implementation of measures against IUU fishing. In this respect, the Fisheries Partnership Agreement has made a significant contribution to the sustainability of Greenlandic fisheries.

⁶¹ based on calculations based on data in Table 29

However, there are concerns regarding sustainability of the Fisheries Partnership Agreement, in terms of its contribution to excessive levels of exploitation of some of the stocks considered in the Protocol. There is clear evidence that cod, Greenland halibut in E.Greenland and redfish (deep pelagic stocks) are subject to excessive and unsustainable levels of exploitation, and that the Fisheries Partnership Agreement has contributed respectively 11%, 30% and 8% of the overall exploitation during the period of the evaluation. Although there are also concerns regarding the sustainability of the levels of exploitation of shrimp in W.Greenland (considered to be at risk), here the Fisheries Partnership Agreement has contributed less than 3% of the exploitation, and it has therefore not had such a major impact on sustainability. There is also a risk that exploitation of the Atlantic halibut has not been sustainable, although there is insufficient evidence for a definitive analysis.

There are no concerns regarding the impact on resource sustainability of other opportunities contained in the Protocol, since they are either sustainably exploited, or the opportunities are not effectively utilised. There are no notable impacts of the Fisheries Partnership Agreement on non-target resources or on the ecosystem.

9.5 Coherence and complementarity

In general, the parties to the Fisheries Partnership Agreement have sought to ensure the sustainability of fisheries activity undertaken, in line with the principles of responsible fishing, as set out in the Common Fisheries Policy. However, due to the lack of sustainability of some of fishing opportunities considered in the Protocol, this has not always been achieved, and the Fisheries Partnership Agreement cannot therefore be regarded as fully coherent with the Common Fisheries Policy.

There are also concerns regarding coherence with regard to the EU policy on trade in seal products. The EU's restrictions on the placing seal products on the EU market (along with their import, transit and export)⁶² has, according to Greenlandic stakeholders, impacted strongly on trade in sealskins. The exemption for those products from hunting "traditionally conducted by Inuit and other indigenous communities and (which) contribute to their subsistence" has largely been found to be unworkable and the measure has resulted in the loss of markets, thus undermining the livelihoods of small scale hunter/fishers in Greenland. It may be argued that measure is not coherent with the Fisheries Partnership Agreement (which supports sustainable development of the Greenland fishery sector). On the other hand, there may be an opportunity to re-design sectoral support measures to lessen the negative impact of the seal trade restrictions, thus strengthening coherence.

The EU has a complex and multi-dimensional relationship with Greenland. This is governed by the Fisheries Partnership Agreement under the Common Fisheries Policy, the EU Greenland Partnership Agreement (which has delivered significant financial support to the Greenland education system), and the OCT Treaty (the Overseas Association Decision, which has establishes terms of trade between the parties). In general, there has, until now, been a substantial level of coherence between these EU policies as they intersect in Greenland.

However, all of these policies are subject to review pending renewal in the near future, and there will be a need to ensure that any new protocol under the EU Greenland FPA remains coherent with the new approaches, as well as with the EU Arctic policy, to be adopted by the European Council, following the Commission's Communication on the EU and the Arctic Region.

9.6 EU added value

The opportunities have been applied by the Commission to a balanced exchange of opportunities in annual negotiations under Fisheries Agreements with Norway, Faroe Islands

⁶² Regulation (EC) No 1007/2009 of the European Parliament and of the Council of 16 September 2009 on trade in seal products, which came into force in August 2010.

and Iceland. The opportunities thus obtained, along with the direct opportunities in Greenland are all distributed between EU Member States, according to relative stability keys. The Agreements specifically permit opportunities for exchanges of quotas between Member States fleet segments, and EU legislation mandates that opportunities unused by certain dates be offered to other potential users. Furthermore, the term of the protocol (6 years) provides for a ongoing guaranteed access for EU and third country operators, thus allowing for longer term financial planning.

The involvement of the EU in this system thus ensures an increased utilisation, stable investment environment and improved efficiency compared to any system in which individual Member States or private vessel operators would negotiate and purchase opportunities directly from Greenland. The added benefits of EU involvement are thus clear.

10 CONCLUSIONS AND RECOMMENDATIONS

During the period 2007 to 2010, the EU-Greenland Fisheries Partnership Agreement has clearly been of immense mutual benefit to the parties. It is highly relevant to the policy objectives of both. The Fisheries Partnership Agreement has been effective, with a good level of utilisation of the fishing opportunities provided with associated financial and economic benefits, and has allowed the implementation of a much strengthened policy framework for sustainable fisheries by Greenland (particularly in terms of research and fisheries control). The Fisheries Partnership Agreement has not been as efficient as it could have been, due to the inclusion of some quotas which are not available, or not commercially viable, and due to rigidities in the licensing system, all of which have contributed to underutilisation of some fishing opportunities. The Fisheries Partnership Agreement has not been sustainable with regard to three of the 10 stocks concerned, and it has not therefore been in line with the principles of responsible fishing. However there are positive steps underway to address this concern in relation to two of the stocks. Given the major achievements in ensuring the functioning of the Fisheries Partnership Agreement, and the goodwill and mutual benefits this has generated, all efforts should be made to keep it in place by renewal of the Protocol, and to ensure a more sustainable implementation of the Fisheries Partnership Agreement in future.

The parties are therefore recommended to consider establishing a renewed protocol for a period of three years from 2014. This would allow for timely introduction of a subsequent protocol which will be adjusted to ensure full coherence with any renewal of the Overseas Association Decision and the Greenland Partnership Agreement. This will also allow for new measures within the reformed Common Fisheries Policy to be reflected in the design of a new Fisheries Partnership Agreement and Protocol, and also allow adjustment to achieve coherence with other emerging EU policy areas, including the EU's Arctic Policy in relation to maritime and environmental matters.

11 ANNEXES

Annex 1: Quotas Delivered under the EU-Greenland Fisheries Partnership Agreement

Table 1: Quotas Delivered under the EU-Greenland Fisheries Partnership Agreement 2007

	2007 QUOTAS								
	PROTOCOL	EU	NOR	FRO	ICE	TOTAL	DIFFERENCE	REF PRICE	VALUE
COD	1,000	1,000	0			1,000	0	1,800	0
RED	10,838	6,049	3,500	200		9,749	1,089	1,053	1,146,717
GHL W	2,500	1,550	800	150		2,500	0	2,571	0
GHL E	7,500	7,071	800	75		7,946	-446	2,571	-1,146,666
PRA W	4,000	4,000	0			4,000	0	1,600	0
PRA E	7,000	2,600	3,250	1,150		7,000	0	1,600	0
HAL W	200	0	200			200	0	4,348	0
HAL E	1,200	1,000	200			1,200	0	4,348	0
CAP	55,000	0	0		44,275	44,275	10,725	100	1,072,500
SNC	500	500	0			500	0	2,410	0
BYC	2,600	2,123	477			2,600	0	0	0
TOTAL	92,338	25,893	9,227	1,575	44,275	80,970	11,368		1,072,551

Source: European Commission; FIDES database; consultants estimate

Table 2: Quotas Delivered under the EU-Greenland Fisheries Partnership Agreement 2008

	2008								
	QUOTAS OFFERED								
	PROTOCOL	EU	NOR	FRO	ICE	TOTAL	DIFFERENCE	REF PRICE	VALUE
COD	3,500	3,500	0			3,500	0	1,800	0
RED	8,000	4,300	3,500	200		8,000	0	1,053	0
GHL W	2,500	1,550	800	150		2,500	0	2,571	0
GHL E	7,500	6,601	824	75		7,500	0	2,571	0
PRA W	4,000	4,000	0			4,000	0	1,600	0
PRA E	7,000	2,600	3,250	1,150		7,000	0	1,600	0
HAL W	200	0	200			200	0	4,348	0
HAL E	1,200	1,000	200			1,200	0	4,348	0
CAP	55,000	0	0		23,716	23,716	31,284	100	3,128,400
SNC	500	500	0			500	0	2,410	0
BYC	2,300	2,180	120			2,300	0	0	0
TOTAL	91,700	26,231	8,894	1,575	23,716	60,416	31,284		3,128,400

Source: European Commission; FIDES database; consultant's estimates

Table 3: Quotas Delivered under the EU-Greenland Fisheries Partnership Agreement 2009

	2009								
	QUOTAS OFFERED								
	PROTOCOL	EU	NOR	FRO	ICE	TOTAL	DIFFERENCE	REF PRICE	VALUE
COD	3,500	3,000	500			3,500	0	1,800	0
RED	8,000	4,800	3,000	200		8,000	0	1,053	0
GHL W	2,500	1,550	800	150		2,500	0	2,571	0
GHL E	7,500	6,601	824	75		7,500	0	2,571	0
PRA W	4,000	4,000				4,000	0	1,600	0
PRA E	7,000	2,165	3,500	1,335		7,000	0	1,600	0
HAL W	200		75			75	125	4,348	543,500
HAL E	1,200	1,000	75			1,075	125	4,348	543,500
CAP	55,000	0				0	55,000	100	5,500,000
SNC	500	500				500	0	2,410	0
BYC	2,300	2,300	120			2,420	-120	0	0
TOTAL	91,700	25,916	8,894	1,760	0	36,570	55,130	22,401	6,587,000

Source: European Commission; FIDES database; consultant's estimates

Table 4: Quotas Delivered under the EU-Greenland Fisheries Partnership Agreement 2010

	2010								
	QUOTAS OFFERED								
	PROTOCOL	EU	NOR	FRO	ICE	TOTAL	DIFFERENCE	REF PRICE	VALUE
COD	3,500	2,000	500			2,500	1,000	1,800	1,800,000
RED	8,000	6,115	1,500	385		8,000	0	1,053	0
GHL W	2,500	1,850	800	150		2,800	-300	2,571	-771,300
GHL E	7,500	6,601	824	75		7,500	0	2,571	0
PRA W	4,000	4,000				4,000	0	1,600	0
PRA E	7,000	2,565	3,100	1,335		7,000	0	1,600	
HAL W	200		75			75	125	4,348	543,500
HAL E	1,200	1,000	75			1,075	125	4,348	543,500
CAP	55,000	0			11,500	11,500	43,500	100	4,350,000
SNC	500	500				500	0	2,410	0
BYC	2,300	2,180	120			2,300	0	0	0
TOTAL	91,700	26,811	6,994	1,945	11,500	47,250	44,450	22,401	6,465,700

Source: European Commission; FIDES database; consultants estimates

Table 5: Quotas Delivered under the EU-Greenland Fisheries Partnership Agreement 2011

	2011								
	QUOTAS OFFERED								
	PROTOCOL	EU	NØR	FRO	ICE	TOTAL	DIFFERENCE	REF PRICE	VALUE
COD	3,500	2,500				2,500	1,000	1,800	1,800,000
RED	8,000	5,227				5,227	2,773	1,053	287,469
GHL W	2,500	1,850	800			2,650	-150	2,571	-385,650
GHL E	7,500	6,176	824			7,000	500	2,571	1,285,500
PRA W	4,000	4,000				4,000	0	1,600	0
PRA E	7,000	3,900	3,100			7,000	0	1,600	0
HAL W	200		75			75	125	4,348	543,500
HAL E	1,200	1,000	75			1,075	125	4,348	543,500
CAP	55,000	5,326			10,074	15,400	39,600	100	3,960,000
SNC	500	500				500	0	2,410	
BYC	2,300	2,300				2,300	0	0	0
TOTAL	91,700	32,779	4,874	0	10,074	47,727	43,973	22,401	8,034,319

Source: European Commission; FIDES database; consultants estimates

Annex 2: Annual catches and values of catches

Table 1: Average annual prices

	2007			2008			2009			2010 ²		
	Catch (tonnes)	Values (1,000 ISK)	Average price (EUR/tonne) ³	Catch (tonnes)	Values (1,000 ISK)	Average price (EUR/tonne) ³	Catch (tonnes)	Values (1,000 ISK)	Average price (EUR/tonne) ³	Catch (tonnes)	Values (1,000 ISK)	Average price (EUR/tonne) ³
Cod	32,434	6,911,508	2,437	28,855	7,197,761	1,719	33,125	7,719,350	1,349	130,647	33,264,590	1,552
Redfish	26,345	2,484,029	1,078	38,256	5,579,387	1,005	30,189	5,429,833	1,041	40,139	8,569,136	1,301
Oceanic redfish	19,919	1,835,621	1,054	6,785	921,254	935	15,140	3,527,325	1,349	14,794	3,478,874	1,433
Halibut	68	35,221	5,924	85	45,800	3,712	69	30,588	2,566	380	308,819	4,952
Greenland halibut	9,049	1,987,342	2,512	11,121	3,960,195	2,453	14,750	6,755,801	2,652	10,888	5,493,336	3,074
Capelin ¹	294,066	4,247,190	165	138,089	1,845,507	92	13,929	412,334	171	37,052	1,351,953	222
Shrimp ¹	2,026	229,006	1,293	2,193	303,156	952	4,716	813,752	999	6,514	1,259,785	1,179

Notes:

Source statistics Iceland (<http://www.statice.is/Statistics/Fisheries-and-agriculture>) with prices taken for landings of fish frozen at sea.

¹ Capelin and shrimp prices based all on landings fresh/frozen

² Other species based on frozen at sea only, except 2010 data preliminary only (all based on landings fresh/frozen)

³ Exchange rates used (Exchange 1 EUR=ISK)

2007	2008	2009	2010
87.43	145.14	172.73	164.103

Annex 3: Dependency of EU bilateral exchanges with third countries on the EU Greenland FPA

Table 1: Dependency of EU bilateral exchanges with Norway

	Species	CE Ratio	2007		2008		2009		2010		Norway
			Actual	Cod equiv	Actual	Cod equiv	Actual	Cod equiv	Actual	Cod equiv	2007-10
Greenland stocks	CAPELIN	0.1		0		0	0	0	0	0	
	PRA	3	3,250	9,750	3,250	9,750	3,500	10,500	3,100	9,300	
	GHL W	0.8	800	640	800	640	800	640	800	640	
	GHL E	0.8	800	640	824	659.2	824	659	824	659	
	RED	0.87	3,500	3,045	3,500	3,045	3,000	2,610	1,500	1,305	
	HAL E	3.8	200	760	100	380	75	285	75	285	
	HAL W	3.8	200	760	100	380	75	285	75	285	
	BYC	0.5	120	60	120	60	120	60	120	60	
	COD	1	0	0	0	0	500	500	500	500	
TOTAL Greenland Stocks			8,870	15,655	8,694	14,914	8,894	15,539	6,994	13,034	59,143
EU stocks	LING/B.LING	1		0		0		0	0	0	
	B.LING	1		0		0		0	0	0	
	MAC	0.3		0		0		0	0	0	
	HERRING	0.8		0		0		0	0	0	
	HORSE MACK	0.1		0		0		0	0	0	
	BLUE WHTING	0.125		0		0		0	0	0	
	HERRING	0.8		0		0		0	0	0	
	Sprat	0.125	18,812	2,351.5	10,063	1,258	10,000	1,250	10,000	1,250	
	GHL	0.8	350	280	350	280	350	280	350	280	
	SANDEEL	0.1									
	OTHER BYC	0.5									
Total EU Stocks			19,162	2,631.5	10,413	1,538	10,350	1,530	10,350	1,530	7,229
TOTAL			28,032	18,286.5	19,107	16,452	19,244	17,069	17,344	14,564	66,372
% from Greenland			32%	86%	46%	91%	46%	91%	40%	89%	89%

Source: European Commission, Agreed records of bilateral fisheries negotiations, 2007 to 2010.

Table 2: Dependency of EU bilateral exchanges with Faroes

	Species	CE Ratio	2007		2008		2009		2010		Faroes 2007-10
			Actual	Cod equiv	Actual	Cod equiv	Actual	Cod equiv	Actual	Cod equiv	
Greenland stocks	CAPELIN	0.1		0		0	0	0	0	0	
	PRA	3	1,150	3,450	1,150	3,450	1,335	4,005	1,335	4,005	
	GHL W	0.8	150	120	150	120	150	120	150	120	
	GHL E	0.8	75	60	75	60	75	60	75	60	
	RED	0.87	200	174	200	174	200	174	385	335	
	HAL E	3.8		0		0	0	0	0	0	
	HAL W	3.8		0		0	0	0	0	0	
	BYC	0.5	150	75	150	75	0	0	0	0	
	COD	1	0	0	0	0	0	0	0	0	
TOTAL Greenland Stocks			1,725	3,879	1,725	3,879	1,760	4,359	1,945	4,520	16,637
EU stocks	LING/B.LING	1	250	250	250	250	250	250	200	200	
	B.LING	1	200	200	200	200	200	200	150	150	
	MAC	0.3	3,955	1,187	3,605	1,082	4,798	1,439	4,536	1,361	
	HERRING	0.8	660	528	660	528	660	528	660	528	
	HORSE MACK	0.1	2,550	255	2,550	255	5,000	500	2,000	200	
	BLUE WHITING	0.125	43,500	5,438	29,850	3,731	10,500	1,313	9,000	1,125	
	HERRING	0.8	500	400	500	400	500	400	450	360	
	Sprat	0.125	9,160	1,145	9,160	1,145	9,160	1,145	9,160	1,145	
	GHL	0.8	0	0	0	0	0	0	0	0	
	SANDEEL	0.1					2,500	250	2,500	250	
	OTHER BYC	0.5					150	75	150	75	
Total EU Stocks			60,775	9,402	46,775	7,591	33,718	6,100	28,806	5,394	28,486
TOTAL			62,500	13,281	48,500	11,470	35,478	10,459	30,751	9,914	45,123
% from Greenland			3%	29%	4%	34%	5%	42%	6%	46%	37%

Source: European Commission, Agreed records of bilateral fisheries negotiations, 2007 to 2010.

Table 3: Dependency of EU bilateral exchanges with Iceland

	Species	CE Ratio	2007		2008		2009		2010		Iceland 2007-10
			Actual	Cod equiv	Actual	Cod equiv	Actual	Cod equiv	Actual	Cod equiv	
Greenland stocks	CAPELIN	0.1	28,490	2,849	23,716	2,372	0	0	11,500	1,150	
	PRA	3		0		0	0	0	0	0	
	GHL W	0.8		0		0	0	0	0	0	
	GHL E	0.8		0		0	0	0	0	0	
	RED	0.87		0		0	0	0	0	0	
	HAL E	3.8		0		0	0	0	0	0	
	HAL W	3.8		0		0	0	0	0	0	
	BYC	0.5		0		0	0	0	0	0	
	COD	1		0		0	0	0	0	0	
TOTAL Greenland Stocks			28,490	2,849	23,716	2,372	0	0	11,500	1,150	6,371
EU stocks	LING/B.LING	1		0		0	0	0	0	0	
	B.LING	1		0		0	0	0	0	0	
	MAC	0.3		0		0	0	0	0	0	
	HERRING	0.8		0		0	0	0	0	0	
	HORSE MACK	0.1		0		0	0	0	0	0	
	BLUE WHTING	0.125		0		0	0	0	0	0	
	HERRING	0.8		0		0	0	0	0	0	
	Sprat	0.125		0		0	0	0	0	0	
	GHL	0.8		0		0	0	0	0	0	
	SANDEEL	0.1		0		0					
	OTHER BYC	0.5									
Total EU Stocks			0	0	0	0	0	0	0	0	0
TOTAL			28,490	2,849	23,716	2,372	0	0	11,500	1,150	6,371
% from Greenland			100%	100%	100%	100%	0%	0%	100%	100%	100%

Source: European Commission, Agreed records of bilateral fisheries negotiations, 2007 to 2010.

Annex 4: Scientific advice, adopted TACs, and catches for stocks of relevance to the FPA during the period of the current protocol (2007-2011).

Note that quotas offered to the EU may be used in exchanges with other third countries, so catches are given for these 3rd countries (i.e. Norway, Iceland, Faroe Islands) and total catches taken in the context of the FPA should account for these.

Species	Stock Area	TAC & Catch	2007	2008	2009	2010	2011	Sustainability	Comment
Cod	NAFO ICES XIV 1,	Advice	0	0	0	0	0	Not sustainable; impeding recovery of fishery	GRL stock – TAC set by GRL authorities; TAC levels do not follow the scientific advice and appear to be too high (set according to socio-economic concerns) relative to spawning stock
		TAC (GRL)	5,000	15,000	20,000	10,000	15,000		
		Total catch	16,000	25,000	13,000	9,000			
		FPA quota	1,000	3,500	3,500	2,500	2,500		
		EU catch (GRL)	953	3,435	1,522	613			
		Other countries ^{3rd}	0	0	0	290			
		FPA catch	953	3,435	1,522	903			
Greenland halibut	ICES V, VI, XII, XIV	Advice	15,000	15,000	5,000	5,000	5,000	Not sustainable; risk of collapse	Shared stock between Iceland, Greenland and the Faroes; GRL sets TAC at 50% of the total TAC (13,000 t in 2011); No management agreement in place and TACs set autonomously, exceeding advice by far
		TAC	27,000	26,000	25,000	24,000	26,000		
		Total catch	21,000	24,000	28,000				
		GRL TAC	13,500	13,000	12,500	12,000	13,000		
		FPA quota	7,946	7,500	7,500	7,500	7,000		
		Total EU catch	n/a	n/a	n/a	n/a			
		EU catch (GRL)	6,670	6,517	6,448	6,449			
		Other countries ^{3rd}	406	898	61	899			
		FPA catch	7,076	7,415	6,509	7,348			

Species	Stock Area	TAC & Catch	2007	2008	2009	2010	2011	Sustainability	Comment
Deep pelagic Redfish	ICES V, XII, XIV, NAFO 1, 2	Advice	0	20,000	20,000	20,000	20,000	Not sustainable; overfished	Shared stock; Following international agreement in 2011 (Iceland, Greenland, Faroe Islands, EU and Norway) GRL allocated share of TAC is 22.35% Agreed management measures will place TAC in line with advice by 2014
		TAC	73,000	73,000	72,000	72,000	38,000		
		Total catch	59,000	30,000	52,000				
		GRL TAC	14,812	14,812	14,812	14,812	8,500		
		FPA quota	9,749	8,000	8,000	8,000	?		
		Total EU catch	9,592	5,013	7,116				
		EU catch (GRL)	1,376	1,219	2,180	3,291			
		Other countries ^{3rd}	199	3,616	200	1,700			
FPA catch	1,575	4,835	2,380	4,991					
Shallow pelagic Redfish	ICES V, XII, XIV, NAFO 1, 2	Advice	Included above	Included above	Included above	0	0	Not sustainable; collapse of fishery	Shared stock; Allocation agreement signed in 2011 (Iceland, Greenland, Faroes, EU and Norway) According to the agreement the fishery should be closed (allowing for some bycatch)
		TAC	Included above	Included above	Included above	Included above	0		
		Total catch	6,000	2,000	3,500				
		FPA quota	Included above	Included above	Included above	Included above	0		
		Total EU catch	n/a	n/a	n/a				
		FPA catch	n/a	n/a	n/a				
Demersal Redfish	ICES XIVb	Advice	n/a	n/a	n/a	n/a	n/a	Not known; precautionary advice not adopted	GRL stock for the newly defined GRL <i>Sebastes mentella</i> stock by ICES – TAC set by GRL authorities; Stock structure not known; no stock assessment so precautionary advice is to not allow increase while this is clarified (maintaining catches below 1,000 t); this advice is not followed by GRL authorities Mixed fishery of <i>S.mentella</i> and <i>S.marinus</i> , dominated by the first.
		TAC (GRL)	5,000	1,000	1,000	6,000	8,500		
		Total catch	226	92	895				
		FPA quota	None	None	None	None	None		
		FPA catch	0	0	0	0			

Species	Stock Area	TAC & Catch	2007	2008	2009	2010	2011	Sustainability	Comment
Shrimp	ICES XIV	Advice	12,400	12,400	12,400	12,400	12,400	Sustainable	Shared stock between GRL and Iceland, but managed independently by GRL authorities with setting of national TAC Catches in Iceland have become negligible and are not regulated Generally low uptake of available quota appears to be due to difficult fishing conditions in the area
		TAC (GRL)	12,400	12,400	12,400	12,400	12,400		
		Total catch	4,600	2,800	4,890	4,100			
		FPA quota	7,000	7,000	7,000	7,000			
		EU catch (GRL)	968	603	803	1,383			
		Other countries ^{3rd}	2,334	2,145	1,351	1,665			
		FPA catch	3,302	2,748	2,154	3,048			
Atlantic halibut	ICES XIV	Advice	n/a	n/a	n/a	n/a	n/a	Not known; probably overfished	No stock assessment and no advice available Direct fishery allowed with longline only in Greenland
		TAC (GRL)	n/a	n/a	n/a	n/a	n/a		
		Total catch		147	59				
		FPA quota	1,200	1,200	1,200	1,075	1,075		
		EU catch (GRL)	0	0	0	0			
		Other countries ^{3rd}	131	100	0	56			
		FPA catch	131	100	0	56			
Capelin	ICES V, XIV, IIa	Advice	385,000	207,000	0	150,000	390,000	Sustainable	Shared stock (Iceland, GRL and Norway). Internationally agreed allocation of 11% of total TAC to GRL Low/variable abundance appears to be linked to environmental conditions primarily, not overfishing
		TAC	385,000	207,000	0	150,000	390,000		
		Total catch	377,000	202,000	15,000	151,000	391,000		
		GRL TAC		33,880	0	16,610	42,900		
		FPA quota	44,275	23,716	0	11,500	15,400		
		Total EU catch	0	0	0	0			
		EU catch (GRL)	0	0	0	0			
		Other countries ^{3rd}	28,490	23,716	0	0			
		FPA catch	28,490	23,716	0	0			

Species	Stock Area	TAC & Catch	2007	2008	2009	2010	2011	Sustainability	Comment
Shrimp	NAFO 0, 1	Advice	130,000	110,000	110,000	110,000	120,000	Risk of overfishing; GRL TAC: 124,000	Shared stock between GRL and Canada, but there is no agreement on allocation; Canadian catches are now almost negligible. Managed independently by GRL authorities - set TACs are consistently higher than scientific advice (by about 22,50 tonnes), as Greenland and Canada set TACs independently
		TAC (GRL)	152,400	145,700	133,000	133,000	142,500		
		Total Catch	144,200	152,700	135,300	138,500			
		FPA quota	4,000	4,000	4,000	4,000	4,000		
		EU catch (GRL)	3,520	3,803	3,883	3,863			
Greenland halibut	NAFO 0, 1	Advice	24,000	24,000	24,000	27,000	27,000	Sustainable GRL TAC: 13,500	Shared stock between GRL and Canada (offshore component), where allocation has been agreed (50%-50%) Adopted TACs are consistent with the scientific advice
		TAC (GRL)	24,000	24,000	24,000	27,000	27,000		
		Total Catch	23,000	22,000	25,000				
		FPA quota	2,500	2,500	2,500	2,800	2,650		
		EU catch (GRL)	1,517	1,516	1,511	1,766			
		Other countries ^{3rd}	950	950	150	631			
		FPA catch	2,467	2,466	1,661	2,397			
Snow crab	NAFO 0, 1	Advice	4,580	3,830	3,830	2,230	2,330	Recovering from overfishing	GRL stock – TAC set by GRL authorities; Concerns the offshore component of the stock, which is recovering from overfishing; Offshore fisheries closed in 2011
		TAC (GRL)	4,580	3,830	3,830	2,230	0		
		Total Catch	2,189	2,350	3,165				
		FPA quota	500	500	500	500			
		EU catch (GRL)	0	0	0	0	0		

Species	Stock Area	TAC & Catch	2007	2008	2009	2010	2011	Sustainability	Comment
Atlantic halibut	NAFO 0, 1	Advice	n/a	n/a	n/a	n/a	n/a	Not known; probably overfished	No stock assessment and no advice available Direct fishery allowed with longline only in Greenland
		TAC (GRL)	n/a	n/a	n/a	n/a	n/a		
		Total Catch		32	14				
		FPA quota	200	200	75	75	75		
		EU catch (GRL)	0	0	0	0			
		Other countries ^{3rd}	5	17	0	0			
		FPA catch	5	17	0	0			

Sources: ICES, European Commission, DG MARE, GFLK Greenland, Greenland Statistics and consultants estimates.

Note: Catches by 3rd countries in 2009, taken in the context of the FPA, are low because of nil uptake of fishing opportunities by Norway in 2009. This is considered to be an exceptional year, so 3rd country average catches do not consider 2009 (when calculating impacts).