



# European Commission

EuropeAid Cooperation Office

## Framework contract Beneficiaries LOT 6 - Environment

Country: Overseas Countries and Territories

Project title: OCT Environmental Profiles

Request for services no. 2006/12146

### Final Report

#### Part 2 - Detailed Report

#### Section C - North Atlantic Region

January 2007



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# **OVERSEAS COUNTRIES AND TERRITORIES**

## **ENVIRONMENTAL PROFILE**

### **PART 2 - Detailed Report**

#### **Section B –**

#### **North Atlantic region**

This study was financed by the European Commission and executed by the Joint-Venture of NIRAS PINSISI Consortium partners. The opinions expressed are those of the consultants and do not represent any official view of the European Commission nor of the governments of the territories involved.

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## LIST OF ABBREVIATIONS AND ACRONYMS USED

ACAP	Agreement on Conservation of Albatrosses and Petrels
ACOR	Association Française pour les Récifs Coralliens
ACS	Association of Caribbean States
AEPS	Arctic Environmental Protection Strategy
AFL	Aruba guilders
AI	Ascension Island
AIG	Ascension Island Government
AIWSA	Ascension Island Works & Services Agency
AMAP	Arctic Monitoring and Assessment Programme
ANG	Anguilla
ANRD	Agricultural & Natural Resources Department
AOSIS	Alliance of Small Island States
APEC	Asia-Pacific Economic Cooperation
ARU	Aruba
BAS	British Antarctic Survey
BAT	British Antarctic Territory
BIOT	British Indian Ocean Territory
BRGM	Bureau de Recherches Géologiques et Minières
BVI	British Virgin Islands
CARICOM	Caribbean Community and Common Market
CAFF	Conservation of Arctic Flora and Fauna
CAY	Cayman Islands
CCAMLR	Convention on the Conservation of Antarctic Marine Living Resources
CCC	Cod and Climate Change Programme
CDB	Caribbean Development Bank
Caribank	Caribbean Development Bank
CARICOM	Caribbean Community
CARIFORUM	Caribbean Forum
CBD	Convention on Biological Diversity
CCAMLR	Convention on the Conservation of Antarctic Marine Living Resources
CDERA	Caribbean Disaster Emergency Response Agency
CDS	Catch Documentation Scheme
CEHI	Caribbean Environmental Health Institute
CESC	Conséil Economique, Social et Culturelle (FP)
CIA	(US) Central Intelligence Agency
CITES	Convention on International Trade in Endangered Species
CMS	Convention on the Conservation of Migratory Species of Wild Animals
CNRS	Centre National de Recherche Scientifique
COLTO	Coalition of Legal Toothfish Operators
CoP	Conference of the Parties
CPA	Country Poverty Assessment
CPACC	Caribbean Planning for Adaptation to Climate Change
CR	critically endangered (IUCN classification)
CRISP	Coral Reefs in the South Pacific
CROP	Council of Regional Organizations of the Pacific
CSD	Commission on Sustainable Development
CSM	Caribbean Single Market
DAF	Direction de l'Agriculture et de la Forêt (Mayotte)
DCNA	Dutch Caribbean Nature Alliance
DEACI	Department of Economic Affairs, Commerce and Industry
DEFRA	(UK) Department of Environment, Food and Rural Affairs
DEPD	Development & Economic Planning Department (St Helena)
DfID	(UK) Department for International Development
DIP	(Aruba) Directorate of Infrastructure and Planning

DK	Denmark
EC	European Community
ECE	Economic Commission for Europe
ECCB	Eastern Caribbean Central Bank
EDF	European Development Fund
EEZ	Exclusive Economic Zone
EIA	Environmental Impact Assessment
EIB	European Investment Bank
EIS	Environmental Impact Statement
EN	endangered (IUCN classification)
ENSO	El Niño Southern Oscillation
EPA	Economic Partnership Agreement
EPD	environment, planning and development
EU	European Union
F	France
FAO	Food and Agriculture Organisation
FCO	(UK) Foreign and Commonwealth Office
FDA	Aruba Development Foundation
FEA	Fonds pour l'Environnement et l'Agriculture
FI	Falkland Islands
FIG	Falkland Islands Government
FP	French Polynesia
GCRMN	Global Coral Reef Monitoring Network
GDP	gross domestic product
GEF	Global Environment Facility
GGF	Good Governance Fund
GHG	greenhouse gas(es)
GIWA	Global International Water Assessment
GoA	Government of Anguilla
GR	Greenland
GSGSSI	Government of South Georgia and South Sandwich Islands
HMS	His Majesty's Ship
IAATO	International Association of Antarctica Tour Operators
IBA	Important Bird Area
ICCAT	International Commission for the conservation of tuna-like fish in the Atlantic
ICES	International Council for the Exploration of the Sea
ICES-CCC	ICES Cod and Climate Change Programme
ICRI	International Coral Reef Initiative
IFRECOR	Initiative Française pour les Récifs Coralliens
IIED	International Institute for Environment and Development (UK)
IMF	International Monetary Fund
IPCC	International Panel on Climate Change
IRD	Institut de Recherche pour le Développement (France)
IUCN	International Union for Conservation of Nature
IUU	illegal, unregulated and unreported (fishing)
JCNB	Joint Commission on Narwhal and Beluga
JNCC	(UK) Joint Nature Conservation Committee
LPO	Ligue pour la Protection des Oiseaux
LSB	Landbased Sources of Marine Pollution (protocol of the Cartagena Convention)
MAB	Man and Biosphere (Reserve)
MACC	Mainstreaming Adaptation to Climate Change
MAHLE	(Montserrat) Ministry of Agriculture, Lands, Housing and Environment
MAY	Mayotte
MDGs	Millennium development goals
MEA	Multilateral environmental agreement
MINA	(NL Antilles) Ministry of Public Health and Social Development

MON	Montserrat
MoU	Memorandum of Understanding
MRAG	Marine Resources Assessment Group
MVO	Montserrat Volcano Observatory
n.a.	not available
NACRI	Netherlands Antilles Coral Reefs Initiative
NAFO	North Atlantic Fisheries Organisation
NAMMCO	North Atlantic Marine Mammal Commission
NC	New Caledonia
NDP	National Development Plan (St Pierre & Miquelon)
NEMS	National Environmental Management Strategy
NGO	non-governmental organisation
NL	Netherlands
NLA	Netherlands Antilles
NNR	National Nature Reserve
NT	National Trust
NZ	New Zealand
NZ\$	New Zealand dollars
OECS	Organisation of Eastern Caribbean States
OCT	Overseas Countries and Territories
OCTA	Overseas Countries and Territories Association
OTCC	(UK) Overseas Territories Consultative Council
OTD	Overseas Territories Department (of UK FCO)
OTEF	(UK) Overseas Territories Environment Fund
OTEP	(UK) Overseas Territories Environment Programme
PADD	Plan d'Aménagement et de Développement Durable (Mayotte)
PAME	Protection of the Arctic Marine Environment
PEP	Poverty and Environment Partnership
PGA	Plan Général d'Aménagement
PGEM	Plan de gestion de l'Espace Maritime
PID	Pacific Islands Development Programme
PNG	Papua New Guinea
POP	persistent organic pollutant
PROE	Programme régional océanien de l'environnement
PWSD	Public Works and Services Department
RFMO	Regional Fisheries Management Organisation
RSP	Regional Seas Programme or Regional Strategy Paper
RSPB	(UK) Royal Society for the Protection of Birds
SAWG	South Atlantic Working Group (of the UK OTCF)
SCOR	Scientific Committee on Oceanic Research
SCP	Strategic Country Programme
SD	sustainable development
SDP	Sustainable Development Plan
SEA	Strategic Environmental Assessment
SEAFO	South-East Atlantic Fisheries Organization
SEF	Service de l'Environnement et de la Forêt (Mayotte)
SGSSI	South Georgia and South Sandwich Islands
SHI	St Helena Island
SIDS	Small Island Developing States
SIDSNet	Small Island Developing States Information Network
SITAS	Service d'Inspection du Travail et des Affaires Sociales (Wallis & Futuna)
SMOC	(NL Antilles) Stichting Schoon Milieu Curaçao
SOPAC	South Pacific Applied Geoscience Commission
SPA	Specially Protected Area
SPAW	Protocol concerning Specially Protected Areas and Wildlife
SPEM	Service de la Pêche et de l'Environnement Marin (Mayotte)

SPD	Single Programming Document
SP&M	St Pierre & Miquelon
SPREP	South Pacific Regional Environment Programme
SPT	South Pacific Tourism Organisation
STH	St Helena
TAAF	Terres Australes et Antartiques Françaises
TAC	total allowable catch
TCI	Turks & Caicos Islands
TDC	Tristan da Cunha
TEAP	Taxe pour l'environnement, l'agriculture et la pêche
TERV	taxe pour l'enlèvement et le recyclage des véhicules
UK	United Kingdom
UKOTCF	United Kingdom Overseas Territories Conservation Forum
UN	United Nations
UNCED	United Nations Conference on Environment and Development
UNDP	United Nations Development Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNECLAC	United Nations Economic Commission for Latin America and the Caribbean
UNEP	United Nations Environment Programme
UNESCO	United Nations Educational, Social and Cultural Organisation
VMS	Vessel Monitoring System
VROM	Netherlands environment ministry
VU	vulnerable (IUCN classification)
W&F	Wallis & Futuna
WH	World Heritage
WRI	World Resources Institute
WTO	World Trade Organisation
WW2	second world war

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# 1 Environmental profile of North Atlantic OCTs - Regional

## 1.1 Introduction

This volume is part of a 6-volume report made at the request of the European Commission. It presents environmental profiles for the two overseas countries and territories (OCTs)<sup>1</sup> in the North Atlantic region. There are companion volumes for the OCTs in the South Atlantic, Caribbean, Pacific Indian Ocean regions. The purpose of the environmental profiles is to feed discussions on the environment and possible consequences environmental trends may have on OCTs' socio-economic development, and more specifically, to assist the EU in programming its EDF assistance to the OCTs.

This volume comprises an overall profile in which the territories are treated in the context of the North Atlantic region as a whole, followed by the environmental profiles for the individual territories (Annexes A and B). The regional findings are brought together and consolidated in Part 1 - Main Report.

## 1.2 Description of the region

The North Atlantic region here refers to a residual category of two OCTs - Greenland (linked to Denmark) and St Pierre & Miquelon (linked to France) lying in the (cold) North (West) Atlantic. These two OCTs are geographically and geologically part of North America, but politically linked to Europe.



Left: The two OCTs and Canada. Right: North Atlantic.

The other small (non-OCT) territories which can be regarded as forming part of this region are

- Iceland
- Faroe Islands (also linked to Denmark)

## 1.3 Relevant regional organisations and programmes

There are a number of regional organisations and denominations important in a technical or financial sense for the purpose of these environmental profiles. These include:

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<sup>1</sup> The term overseas countries and territories refers to the 20 countries and territories which, although falling within the sovereignty of a member state of the European Union are wholly or partly autonomous

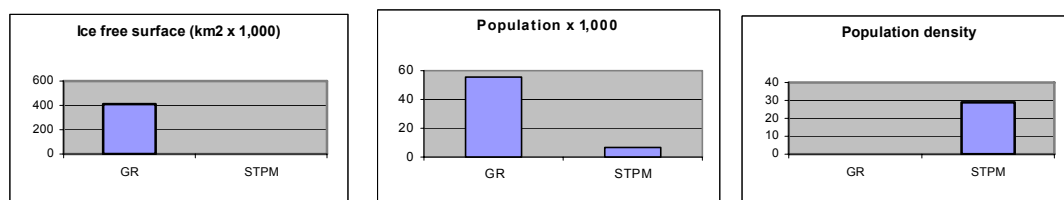


Name	OCT members	Other members	Remarks
NAFO- North West Atlantic Fisheries Organisation	F for SP&M DK for GR	Many nations with an interest in NW Atlantic fisheries	<b>Created</b> in 1978 as part of the Convention on Future Multilateral Cooperation in the Northwest Atlantic Fisheries. <b>Goal:</b> optimum utilization, rational management and conservation of the fishery resources of the Convention Area (outside EEZs). <b>Tasks:</b> RFMO for NW Atlantic
NASCO- North Atlantic Salmon Conservation Organization	DK for GR	Canada, Denmark (for Faroe), EU, Iceland, Norway, Russia, USA	<b>Created</b> in 1982 as part of the Convention for the Conservation of Salmon in the North Atlantic Ocean. <b>Goal:</b> conservation, restoration, enhancement and rational management of salmon stocks of the Convention area, taking into account the best scientific evidence available to it.
ICCAT- International Commission for the conservation of tuna-like fish in the Atlantic	F for SP&M UK (for OTs)	EU plus 40 countries	<b>Created</b> as an Inter-governmental fishery organization in 1969, under the International Convention for the Conservation of Atlantic Tunas. <b>Goal:</b> responsibility for the conservation of tunas and tuna-like species in the Atlantic Ocean and its adjacent seas.
NAMMCO- North Atlantic Marine Mammal Commission	GR	Iceland, Norway, the Faroe islands	Created in 1992. International body for conservation, management and study of marine mammals in the North Atlantic. Focuses on modern approaches to the study of the marine ecosystem as a whole, and to better understanding the role of marine mammals in this system. Provides a mechanism for cooperation on conservation and management for all species of marine mammals in the region, many of which were not previously covered by an international agreement.
JCNB- Joint Commission on Narwhal and Beluga	GR	Canada	
Arctic Council and AEPS- Arctic Environmental Protection Strategy	GR	Canada, Denmark, Finland, Iceland, Norway, Russia, Sweden, USA	<b>Agreed</b> in 1991 as a reaction to transboundary pollution from the industrialised countries and accumulation in the food chain. In 1996 the Arctic Council was created to include working groups on other issues too. <b>Task:</b> Provide scientifically based advice on necessary measures to improve the state of the environment in the Arctic. Prepared ACIA report (Arctic Climate Impact Assessment)
AMAP- Arctic Monitoring and Assessment Programme	GR	As above	Monitoring programme of the Arctic Council
CAFF- Conservation of Arctic Flora and Fauna		As above	A working group of the Arctic Council, advises Arctic governments on conservation and sustainable use issues.
UN-ECE- United Nations Economic Commission for Europe		Europe, North America, Central Asia and Israel	The Committee on Environmental Policy is the Executive Body for the Convention on the Protection and Use of Transboundary Watercourses and International lakes and for the Convention on long range air pollution. Addresses environmental and human settlement issues, EIA, air and water pollution.
ICES- International Council for the exploration of the sea		20 countries inc. Belgium, Canada, Denmark, France, Netherlands, USA	<b>Created</b> in 1902, in Denmark, is the oldest intergovernmental organisation in the world concerned with marine and fisheries science. <b>Goal:</b> exchange of information and ideas on the sea and its living resources, and promotion and coordination of marine research. <b>Tasks:</b> advice to members and international regulatory bodies (incl. EC) on protection of marine environment and fisheries conservation.

Name	OCT members	Other members	Remarks
ICES - CCC Cod and Climate Change Programme			CCC aims to advance understanding and prediction of variability in cod recruitment (= increase in stock, taking into account existing adult stock, number of eggs and other factors in the environment), both in the short term (annual recruitment forecast) and in the long term (climate effects)
SCOR- Scientific Committee on Oceanic Research			Scientists from thirty-five nations participate in SCOR working groups and steering committees. Approximately 250 scientists participate in SCOR activities on a voluntary basis at any given time. Is part of ICSU- International Council for Science- ICSU

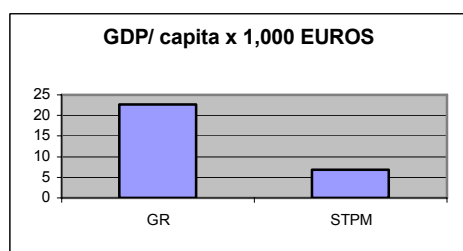
## 2 The territories: present situation and trends

### 2.1 Population



St Pierre & Miquelon and Greenland have populations of: 7,000 and 56,000 respectively. Much of Greenland is covered by ice, and the territory has the lowest population density of all OCTs and indeed of all inhabited countries in the world (0.14/km<sup>2</sup> for ice-free lands). The population lives in settlements along the coastal areas. The population is declining slightly. The population of St Pierre & Miquelon came originally from Europe (Basque, Norman and Breton fishermen) and is increasing slightly (1,9% growth rate).

### 2.2 Economic



GDP per capita is €7,000 in St Pierre & Miquelon and €23,000 in Greenland. For both OCTs fishing is an important source of income. For Greenland it represents 94% of all exports and around 6,000 people are employed in fishing, processing and other related part-time jobs. When the cod catch declined, new shrimp fisheries were developed, but halibut, salmon and redfish are also important.

Although fishing is still important to St Pierre & Miquelon the fisheries have taken a double hit: the collapse of the cod fishery and a dispute with Canada over fishing rights and quotas which culminated in a settlement whereby both rights and quotas were drastically reduced for St Pierre & Miquelon. Aquaculture of a new variety of scallop (coquilles St Jacques) is being successfully developed, while snow crab, lumpfish and whelks now also form part of the overall catch.

The collapse of the cod fishery on the Grand Bank and associated industries is estimated to have adversely impacted 30,000 people on the islands (GIWA, 2004) However, recent increases in the value of crab and shrimp landings are approaching the annual value of the cod fishery in this area as a whole.

Importance of fishing to North Atlantic Ocean OCTs	
GR	SP&M
●	●
○ Unimportant ● Mainly important for tourists and anglers ● Moderate economic activity ● Major economic activity	

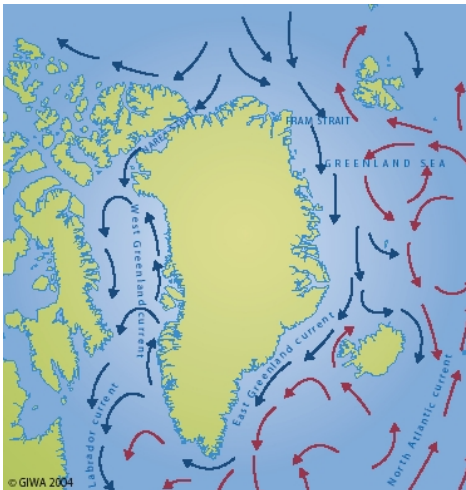
Other sources of income for the two OCTs are services, construction (for St Pierre & Miquelon) and hunting (for Greenland). More than 100,000 seals and several hundred whales are harvested every year for consumption.

Oil exploration is ongoing in both OCTs, but without great financial benefits yet. There is also expanding mineral exploration (gold, olivine). Tourism is seen as a possible further source of income, but access to these territories is costly and the season short. There were some 16,500 visitors

from cruise ships in 2005. St Pierre & Miquelon is also small, so more suited to short stays (cruise ships). The mixing of the cold and warm currents in the Grand Banks area of St Pierre & Miquelon, often causes fog.

## 2.3 Nature of islands, habitats

Both Greenland and St Pierre & Miquelon are located in areas where warm and cold currents meet each other and conditions are created for rich fishing grounds. On the Grand Bank near St Pierre & Miquelon the sea is relatively shallow, ranging from 25 to 100 m in depth. The cold Labrador Current mixes with the warm waters of the Gulf Stream and given the shape of the ocean bottom, nutrients are lifted to the surface.



Left: currents around Greenland (blue = cold, red= warm) from GIWA (2004). Right: Currents around St Pierre & Miquelon (Wikipedia).

## 2.4 Flora and fauna

Fish species include Atlantic cod, Greenland halibut, haddock, redfish and capelin. Shellfish include scallop, snow crab, shrimp and lobster.

The Grand Bank off Newfoundland used to be the richest cod waters of the world, but overexploitation led to a moratorium on cod fishing in 1992. Overfishing of cod, haddock, redfish and major flatfish in the 1960s and 1970s led to the collapse of these fisheries. The 1985-1993 fishery collapses were different from the earlier ones, and may have been due to ecosystem dynamics (GIWA, 2004). The species of invertebrates that are now showing increased populations are less preyed upon by cod and other major predators.

The Newfoundland–Labrador area also supports large colonies of sea birds such as Northern Gannets, shearwaters and sea ducks. On St Pierre & Miquelon the sand isthmus between the islands of St Pierre & Miquelon and the salt lagoon Le Grand Barachois have been identified as being valuable nature areas by the French *Conservatoire de l'Espace Littoral et des Rivages Lacustres*. The marine mammals of St Pierre & Miquelon include the seals, dolphins and whales. The silver fox has disappeared due to hunting

and one bird species is endangered.

On Greenland, the polar bear, musk ox, polar wolf, lemming, Arctic hare and reindeer are the main land mammals. Marine mammals include walruses, seals and whales.

	<b>Biodiversity- Number of recorded species</b>				
	<b>Birds</b>	<b>Land Mammals</b>	<b>Marine mammals</b>	<b>Fish</b>	<b>Plants</b>
<b>GR</b>	210	8	25	125	500
<b>SP&amp;M</b>	112 (incl. 1 endangered)	7	18	about 50	446

### 3 Issues and threats

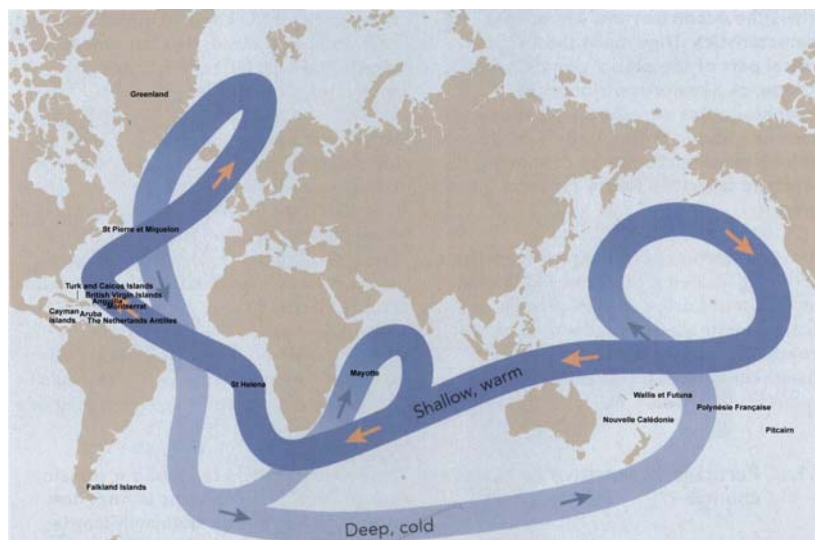
#### 3.1 Introduction

The main environmental issues and threats to the territories are:

- For Greenland: climate change, transboundary pollution and ensuring sustainable use of natural resources;
- For St Pierre & Miquelon: management of waste and wastewater, water supply, protected areas and threats from the exploration for and transport of hydrocarbons. These are explored further below.

#### 3.2 Climate change and energy

Greenland plays a crucial role in the global warming phenomenon. The ice-cap which covers four-fifths of the island contains nearly 3 million km<sup>3</sup> of water (an estimated 9% of the world's freshwater). This is equivalent, if it were all to melt, to a rise in sea-level of 7 metres worldwide. The impact of climate change on the region is therefore of global as well as local interest. The interchanges between the global climate and the Arctic system are such that the region is particularly sensitive to the changes which are occurring (more sensitive than Antarctica), and the impact of climate change is already making itself felt. Greenland's ice sheet has thinned visibly around its southern and eastern margins, and Arctic sea-ice extent decreased by approximately 3% per decade between 1978 and 1996.



On a global level the impact will not only be a rising sea-level. The large flux of freshwater into the world's oceans may affect the thermohaline circulation in the oceans (see diagram below), which may mean further disruptive effects for climate, ecosystems and marine life.

World wide currents and how OCTs are linked by the seas.

Turbot like cold waters, cod may benefit from warmer waters. Seals use ice sheets for resting, pup-rearing and moulting. Bears live on seals. If break-up of annual ice occurs too early, bears will have less

access to seals and might not survive. This would also disturb indigenous livelihoods as hunting seasons would shorten.

More locally, climate change may have effects on the size and composition of fish stocks, very important in this economy so heavily based on fishing. The reduction in sea-ice may have profound effects on species such as seals (for which this is their habitat) and polar bears which predate them. This in turn would affect the way-of-life and livelihood of indigenous people for whom hunting is important. A melting of the permafrost could also have an effect on infrastructure and buildings some of which depend for their structural integrity on this permafrost. And finally Arctic warming may open new navigational possibilities and provide access to new areas along the Greenland coast.

In St Pierre & Miquelon the effects of climate change will probably be less dramatic, but more frequent and energetic storms and a rising sea-level may mean further erosion of coasts and the submergence of low-lying lands. Changes in sea temperature may affect nutrients and fish catch.

On the energy use side, houses in Greenland are relatively poorly insulated, an important factor since 85% of energy is used for space-heating. The country intends to expand its hydropower capacity. In St Pierre & Miquelon much energy is used for transport and fishing.

### 3.3 Waste management

The management of waste in both territories poses problems. The issues involved are summarised in the following table:

Territory	Description
GR	The very low density and physical fragmentation of the population of Greenland poses particular problems for waste management. The population is mainly distributed over small coastal settlements which are separated from one another because there are no roads between them. It is difficult for such small communities to support modern waste management facilities. The chosen solution is to build incinerators in various communities, but attention will be needed to ensure that the local environment is not contaminated (dioxins, heavy metals, etc.).
SP&M	Existing waste management system is unsatisfactory, and the existing waste dumps are full. Plans to implement new waste management appear to be stalling. The hydrocarbons depot for used oil is being upgraded. Waste from fish processing is posing a problem.

### 3.4 Conservation and sustainable use of biodiversity

Hunting of marine mammals, birds and fish has always been a crucial activity in the Greenland economy and society. However over the decades there have been reductions in populations of many of the species hunted. In Greenland there are differences between hunters and conservationists about precisely what the trends are, and therefore the level of hunting quotas which need to be set to conserve stocks sustainably. Quotas for beluga and narwhal are set at levels several times higher than recommended by the scientific institutes. In addition, given the low population density, enforcement of conservation policy is extremely difficult. There is concern, for example, about the populations of narwhal, beluga, polar bear, some seals and some birds.

Following UNCED in Rio de Janeiro in 1992, 188 nations ratified the Convention on the Conservation of Biological Diversity, undertaking to fight to slow the inexorable extinction of species of flora and fauna which the world has been witnessing for centuries. This Convention is one of a series of multilateral environmental agreements (MEAs) which are designed to protect natural habitats and threatened species. The OCTs cannot sign MEAs in their own right, but they can take on the responsibilities of an MEA if the associated sovereign state (here Denmark or France) is a signatory and asks, at the request of the OCT, for the MEA to be extended to its territory. If this happens, and if the OCT complies with the obligations of the treaties concerned and implements them fully, it can be an effective way of protecting its natural capital.

The situation with regard to some of the most relevant MEAs is as follows:

OCT	CBD	CITES	Ramsar	World H	UN-ECE	Whales	Oslo	Remarks
GR	+/-	+/-	+/-	✓	✓	+/-	✓	Although Greenland participates in quite a number of MEAs, in many cases the agreement has not been fully implemented in terms of enacting the necessary legislation, making the necessary management plans, carrying out the necessary research. Until recently Greenland was issuing CITES permits for export of specimens from designated animals without being able to certify the export was non-detrimental. This is now changing however, and as a result, work has been carried out on the export of narwhal and resulted in a ban on export of narwhal products from Greenland in 2006.
SP&M	✓	✓	✓	✓	✓	✓	✓	St Pierre & Miquelon follows France in all French environmental obligations, including MEAs, but no mention of such obligations in national plan or in legislation. The lagoon Le Grand Barachois has been listed to become a Ramsar site.

CBD = Convention on Biological Diversity

CITES = Convention on International Trade in Endangered Species of Wild Flora and Fauna

Ramsar = Ramsar Convention on Wetlands

World H= UNESCO World Heritage sites

UN-ECE= Long-Range Transboundary Air Pollution Protocols on Persistent Organic Pollutants and Heavy Metals, in the framework of the United Nations Economic Commission for Europe.

Whales= International Whaling Commission

Oslo= Oslo Convention on Polar Bears

+/- = participates, but not fully implemented / compliant

In both territories the MEAs need to be fully implemented if they are to be effective in their objective of protecting wildlife stocks and ensuring that their use is sustainable.

### 3.5 Transboundary pollution

Pollution is being transported into the Arctic region, including Greenland, by airstreams and rivers. The Arctic Ocean drains many rivers in Eastern Europe, Central Asia and North America. Of particular concern are persistent organic pollutants and heavy metals. These are bio-accumulating in the food chain and may represent a health risk to marine mammals (including polar bears) and people with a heavy dietary dependence on hunted animals.

The Global International Waters Assessment (GIWA, 2004) assesses that chemical pollution of the sea is moderate to the west of Greenland and severe in the ocean to the east of Greenland.

### 3.6 Water supply and wastewater

In St Pierre & Miquelon the distribution of drinking water has been regulated since 2000. Considerable supply water is being lost because of old pipes freezing, breaking and leaking. Better materials and cold weather technology are needed for the supply network. Lack of water has led to plans to conserve water, improve water catchment, renovate the Goeland water dam and manage and protect rivers and forests. There are also concerns about the pollution of rivers.

In Greenland there is no waste water treatment, and raw sewage is pumped out into the sea. The quality of the ground water and of surface waters is generally good. Most pollution comes from other regions (Asia, Northern America, Northern Europe).

### 3.7 Impacts of mining and extraction

There is at present very little mining in either of the territories, although mining was carried out on a larger scale in the past in Greenland (two mines have opened in West Greenland in the last couple of years and 3 more may be opened within the next 3 – 4 years). But oil prospecting is being carried out in the seas around St Pierre & Miquelon and this may lead to extraction in the future. Oil exploration is going on in the offshore areas west of the capital Nuuk in Greenland, and drillings may take place in 2008. Greenland has just completed a licensing round in the Disko-Nuussuaq offshore region in West Greenland. 4 of the worlds largest oil companies have applied for licences in the area. Exploration in the Disko-Nuussuaq region will commence in the summer of 2007. Concerning EIA, French legislation applies in Saint-Pierre et Miquelon (Loi sur l'eau", "Règlementation sur installations classées"). The Greenland Bureau of Minerals and Petroleum in 2006 issued regulations and guidelines for EIA to be carried out by mining and oil companies.

### 3.8 Environmental governance

To be able to effectively protect the environment, a number of means are needed:

- human resources dealing specifically with environmental issues
- financial resources
- policy plans (for the environment but also for physical planning/ land –use and integration of environmental issues in economic and social development plans)
- action plans (with priorities, timetables, manpower and budgets)
- legislation (among others for Environmental Impact Assessments (EIA))
- monitoring, policing, sanctions/ fines
- reporting / information
- participation of stakeholders

The following table summarizes the findings on the two North Atlantic Ocean OCTs:

OCT	Policy plan?	Env. action plan?	Legislation?	EIA?	Protected areas?	Remarks
GR			✓	+/-	✓	<ul style="list-style-type: none"> <li>• Basic legislation in place for protected areas and protection of species but needs strengthening to meet MEA obligations.</li> <li>• A general requirement for EIA for infrastructural projects is contained in the law, but there are detailed regulations only for the oil, gas and minerals sectors.</li> <li>• There are protected areas but some of these are not very actively managed.</li> <li>• Good information on the environment</li> </ul>

OCT	Policy plan?	Env. action plan?	Legislation?	EIA?	Protected areas?	Remarks
SP&M	+/-		+/-		+/-	<ul style="list-style-type: none"> <li>• The decentralised (French governmental) services and staff deal with specific aspects of the environment, but there is not a separate service for ecology and sustainable development.</li> <li>• Specific (small) budgets.</li> <li>• There is a National Development Plan with a section on the environment. No time table or budgets, though.</li> <li>• Some legislation for fisheries, forestry, hunting, protection of birds, maritime pollution, but not specifically related to MEAs. Concerning EIA, SPM applies French legislation which provides notably 2 important laws: La "Loi sur l'eau" (EIA for infrastructural projects near water: e.g. dams, bridges, airports etc. ) and rules on location of polluting industries (e.g. agriculture, oil, quarrying, fish processing etc.).</li> <li>• 2 officers plus volunteers monitor hunting.</li> <li>• There are (locally) protected areas but on a voluntary basis.</li> <li>• Once a year Environment week. No General Council website, no regular information material on the environment.</li> <li>• No environmental NGOs.</li> </ul>

Clear environmental policy frameworks with budgets and allocated responsibilities have not yet been established in either territory. The creation of protected areas is not backed up by legal provisions in St Pierre & Miquelon, or for some of the areas by active management in the case of Greenland. Greenland has made progress in recent years in creating instruments for the protection of species, but hunting quotas are not yet being set on the basis of scientific recommendations. A comprehensive system of EIA has not been established in Greenland, although there are regulations for oil, gas and minerals.

#### 4 Recommendations for cooperation in the environment between the EC and the North Atlantic OCTs

The consultants were asked to make recommendations about possible areas of cooperation between the EC and the OCTs. Recommendations with regard to individual OCTs are made at the end of the individual OCT environmental profiles, and recommendations on the group as a whole are made in Part 1 - Main Report. This section considers possible cooperation at the regional level.

Although St Pierre & Miquelon and Greenland have some shared environmental problems and issues, the concept of a North Atlantic OCT region is a rather artificial one. Apart from anything else, travel between the two territories is extremely difficult, and this alone places a practical limitation on their cooperation.

St Pierre & Miquelon lies close to its giant neighbour of Canada. Many of its key environmental areas are ones where its most important international interlocutor is Canada. These include fisheries issues and the issue of mineral and hydrocarbon rights and the threat of oil spills from the marine transport of oil. Like Canada, Saint-Pierre et Miquelon is seeking an extension of its EEZ to 370 miles according to the Montego Bay agreement. There are undoubtedly other environmental problems which are of joint concern to St P & M and Canada.

Similarly Greenland has much more in common, environmentally, with its Arctic Council partners, and is cooperating fruitfully in that forum.

There are a number of areas of common interest which the territories share by virtue of their small populations and non-sovereign status, but these are issues which are perhaps better addressed in the



framework of OCTA as a whole, rather than at the level of the North Atlantic region. One exception to this is possibly within fisheries organisations such as NAFO, where the two territories could concert their policies in coordination with France, Denmark and the EU representatives.

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Organisation	Website address	Remarks
ACOR- French Coral Reefs Association	<a href="http://www.univ-perp.fr/ephe/acorweb/francais/menu.html">http://www.univ-perp.fr/ephe/acorweb/francais/menu.html</a>	Association Française pour les Récifs Coralliens
ADEME- French energy conservation Agency	<a href="http://www2.ademe.fr/servlet/getDoc?id=11433&amp;m=3&amp;cid=96">http://www2.ademe.fr/servlet/getDoc?id=11433&amp;m=3&amp;cid=96</a>	Agence de l'Environnement et de la Maîtrise de l'Energie
Caribbean Development Bank	<a href="http://www.caribank.org/Publications.nsf/EReview2005_turkscaicos/\$File/ECReview2005_turkscaicos.pdf?OpenElement#se arch=%22pier%20construction%20turks%20caicos%22">http://www.caribank.org/Publications.nsf/EReview2005_turkscaicos/\$File/ECReview2005_turkscaicos.pdf?OpenElement#se arch=%22pier%20construction%20turks%20caicos%22</a>	
CEDRE- French documentation centre for accidental water pollution	<a href="http://oceanprevention.free.fr/cedre2.htm">http://oceanprevention.free.fr/cedre2.htm</a>	Centre de documentation, de recherche et d'expérimentations sur les pollutions accidentelles des eaux
CIA	<a href="http://www.cia.gov/cia/publications/factbook/index.html">www.cia.gov/cia/publications/factbook/index.html</a>	Info per OCT
CITES or Washington Convention on trade in endangered species (1973)	<a href="http://www.cites.org">www.cites.org</a>	
Coalition of legal toothfish operators	<a href="http://www.colto.org">http://www.colto.org</a>	Fisheries, particularly Southern Hemisphere
CRED- Centre for Research on the Epidemiology of Disasters	<a href="http://www.em-dat.net/disasters/country.php">http://www.em-dat.net/disasters/country.php</a>	Interesting database on disasters
EU- Indicative programmes VIII EDF	<a href="http://ec.europa.eu/comm/development/oct/ind_prog_en.htm">http://ec.europa.eu/comm/development/oct/ind_prog_en.htm</a>	
EU- on all OCTs	<a href="http://ec.europa.eu/comm/development/oct/index_en.htm">http://ec.europa.eu/comm/development/oct/index_en.htm</a>	
EU- on individual OCTs	<a href="http://ec.europa.eu/comm/development/oct_new/oct_en.cfm">http://ec.europa.eu/comm/development/oct_new/oct_en.cfm</a>	
EU- Regional strategy papers:	<a href="http://ec.europa.eu/comm/development/body/csp_rsp/rsp_en.cfm">http://ec.europa.eu/comm/development/body/csp_rsp/rsp_en.cfm</a>	
EU- Single programming documents IX EDF	<a href="http://www.ec.europa.eu/comm/development/body/csp_rsp/spd_en.cfm">www.ec.europa.eu/comm/development/body/csp_rsp/spd_en.cfm</a>	

Organisation	Website address	Remarks
European Commission	<a href="http://ec.europa.eu/comm/development/body/development_policy_statement/docs/edp_summary_en.pdf">http://ec.europa.eu/comm/development/body/development_policy_statement/docs/edp_summary_en.pdf</a> (English) <a href="http://ec.europa.eu/comm/development/body/development_policy_statement/docs/edp_summary_fr.pdf">http://ec.europa.eu/comm/development/body/development_policy_statement/docs/edp_summary_fr.pdf</a> (French)	Summary of EDP
FAO regional fisheries bodies	<a href="http://www.fao.org/fi/body/rfb/index.htm">http://www.fao.org/fi/body/rfb/index.htm</a>	
French Centre for Biodiversity Convention	<a href="http://biodiv.mnhn.fr/">http://biodiv.mnhn.fr/</a>	Centre d'Echange français pour la Convention sur la diversité biologique. Portail de la biodiversité en France pour la Convention sur la diversité biologique
French Fund for the global environment	<a href="http://www.ffem.net/jahia/Jahia/lang/fr/pid/224">http://www.ffem.net/jahia/Jahia/lang/fr/pid/224</a>	Fonds Français pour l'environnement mondial
French Ministry Ecology and SD	<a href="http://www.ecologie.gouv.fr">www.ecologie.gouv.fr</a> general site On overseas: <a href="http://www.ecologie.gouv.fr/rubrique.php3?id_rubrique=970">http://www.ecologie.gouv.fr/rubrique.php3?id_rubrique=970</a>	Ministère de l' Ecologie et Développement durable
French National Inventory of Species	<a href="http://www.inpn.mnhn.fr">www.inpn.mnhn.fr</a> general site <a href="http://inpn.mnhn.fr/inpn/fr/inpn/diversity_DT.htm">http://inpn.mnhn.fr/inpn/fr/inpn/diversity_DT.htm</a> on biodiversity overseas	Inventaire National du patrimoine naturel (INPN)
French Overseas Ministry	<a href="http://www.outre-mer.gouv.fr/outremer/front?id=outremer/decouvrir_outre_mer">http://www.outre-mer.gouv.fr/outremer/front?id=outremer/decouvrir_outre_mer</a> <a href="http://www.outre-mer.gouv.fr/outremer/front">http://www.outre-mer.gouv.fr/outremer/front</a>	Ministère de l'Outre-Mer on Overseas countries and territories and 2007 budget
French Prime minister's office	<a href="http://www.premier-ministre.gouv.fr/information/actualites_20/transferts_fonds_europeens_collectivites_57080.html">http://www.premier-ministre.gouv.fr/information/actualites_20/transferts_fonds_europeens_collectivites_57080.html</a>	Transfer of EU funds to French OCTS
Futura Sciences	<a href="http://www.futura-sciences.com/comprendre/d/index.php">http://www.futura-sciences.com/comprendre/d/index.php</a>	Dossier on coral reefs
GIWA- Global assessment of international waters	<a href="http://www.giwa.net">www.giwa.net</a>	A UNEP/ GEF / Kalmar university project
Global Ocean Ecosystem Dynamics	<a href="http://www-cger.nies.go.jp/cger-e/db/info-e/InfoDBWeb/prog/globec.htm">http://www-cger.nies.go.jp/cger-e/db/info-e/InfoDBWeb/prog/globec.htm</a>	Global Ocean Ecosystem Dynamics
ICRI	<a href="http://www.icriforum.org">http://www.icriforum.org</a>	ICRI international coral reef initiative
IFEN- French institute for the environment	<a href="http://www.ifen.fr">http://www.ifen.fr</a>	
IFREMER Institut français de recherche pour l'exploitation de la mer	<a href="http://www.ifremer.fr/francais/index.php">http://www.ifremer.fr/francais/index.php</a> <a href="http://oceanprevention.free.fr/ifremer2.htm">http://oceanprevention.free.fr/ifremer2.htm</a>	
Info on cities threatened by hurricanes	<a href="http://www.hurricanecity.com">http://www.hurricanecity.com</a>	Info on hurricanes by country
Innovation Centre, University of Exeter	<a href="http://www.innovation.ex.ac.uk/imm/Disaster_management.htm">http://www.innovation.ex.ac.uk/imm/Disaster_management.htm</a>	Climate change and the poor
Innovation Centre, University of Exeter	<a href="http://www.innovation.ex.ac.uk/imm/PovertyAndReefsProgress.htm">http://www.innovation.ex.ac.uk/imm/PovertyAndReefsProgress.htm</a>	Poverty and Reefs
Inventaire National du patrimoine naturel (INPN)	<a href="http://www.inpn.mnhn.fr">http://www.inpn.mnhn.fr</a>	
IPIECA	<a href="http://www.ipieca.com">www.ipieca.com</a>	On oil spills

Organisation	Website address	Remarks
IRD- French research institute for development	<a href="http://www.ird.fr">www.ird.fr</a>	Institut de recherche pour le developpement
Island Resources Foundation	<a href="http://www.irf.org/">http://www.irf.org/</a>	Foundation is dedicated to solving the environmental problems of development in small tropical islands
Island vulnerability	<a href="http://www.islandvulnerability.org">http://www.islandvulnerability.org</a>	Good data on all territories except Greenland
IUCN	<a href="http://www.iucn.org">www.iucn.org</a>	International Union for the Conservation of Nature
London Convention on prevention of marine pollution by dumping of waste and other matter	<a href="http://www.londonconvention.org/">http://www.londonconvention.org/</a>	
NOAA	<a href="http://www8.nos.noaa.gov/bioge_public/reef_photos.aspx">http://www8.nos.noaa.gov/bioge_public/reef_photos.aspx</a> <a href="http://www.oceanservice.noaa.gov/education/kits/corals/coral09_humanthreats.html">http://www.oceanservice.noaa.gov/education/kits/corals/coral09_humanthreats.html</a>	Centre for coastal monitoring and assessment of coral reefs
NOAA- National Oceanic and Atmospheric Administration	<a href="http://www.noaa.gov">http://www.noaa.gov</a>	General site
OCTA	<a href="http://www.octassociation.org">www.octassociation.org</a>	Organisation of OCTs
POLMAR	<a href="http://oceanprevention.free.fr/polmar2.htm">http://oceanprevention.free.fr/polmar2.htm</a> <a href="http://www.polmar.com">www.polmar.com</a>	French institute and rules for action in case of pollution of seas
Reefbase	On reefs in all countries: <a href="http://www.reefbase.org/global_database/default.aspx?section=s1">http://www.reefbase.org/global_database/default.aspx?section=s1</a>	
Reefbase	<a href="http://www.reefbase.org/references/ref_Literature.asp?searchactive=yes&amp;ID=13887">http://www.reefbase.org/references/ref_Literature.asp?searchactive=yes&amp;ID=13887</a>	Search facility reefs database
Reefbase	<a href="http://www.reefbase.org">http://www.reefbase.org</a> <a href="http://www.reefbase.org/references/ref_Literature.asp?searchactive=yes&amp;ID=13887">http://www.reefbase.org/references/ref_Literature.asp?searchactive=yes&amp;ID=13887</a>	Search facility reefs database
Relief Web	<a href="http://www.reliefweb.int">www.reliefweb.int</a>	On disasters
RFO	<a href="http://www.rfo.fr">www.rfo.fr</a>	Radio site for French OCTs (Reseau France Outre –mer) with info on OCTs
Scientific Committee on Oceanic Research (SCOR)	<a href="http://www.jhu.edu/%7EEscor/">http://www.jhu.edu/%7EEscor/</a>	
Smithsonian Institute volcano site	<a href="http://www.volcano.si.edu">http://www.volcano.si.edu</a>	
UK DFID (Department for International Development)	<a href="http://www.dfid.gov.uk/countries/allcountries.asp?view=region">http://www.dfid.gov.uk/countries/allcountries.asp?view=region</a>	Country Profiles
UK FCO (Foreign and Commonwealth Office)	<a href="http://www.fco.gov.uk/servlet/Front?pagename=OpenMarket/Xcelerate/ShowPage&amp;c=Page&amp;cid=1013618138295">http://www.fco.gov.uk/servlet/Front?pagename=OpenMarket/Xcelerate/ShowPage&amp;c=Page&amp;cid=1013618138295</a>	On overseas territories
UN Millenium Developmentt Goals	<a href="http://mdgs.un.org/unsd/mdg/Data.aspx">http://mdgs.un.org/unsd/mdg/Data.aspx</a>	Situation per country and territory
UN-ECE	<a href="http://www.unece.org/">http://www.unece.org/</a>	

Organisation	Website address	Remarks
UNEP	<a href="http://www.unep.net/profile/">http://www.unep.net/profile/</a> <a href="http://www.un.org/esa/sustdev/natlinfo/natlinfo.htm">http://www.un.org/esa/sustdev/natlinfo/natlinfo.htm</a>	Country profiles (not on OCTS)
UNEP	<a href="http://www.unep.ch/">http://www.unep.ch/</a>	Register international environmental conventions secretariats based in Geneva
UNEP on sustainable tourism	<a href="http://www.uneptie.org/pc/tourism/policy/about_principles.htm">http://www.uneptie.org/pc/tourism/policy/about_principles.htm</a>	
UNEP on waste management	<a href="http://www.unep.fr/pc/pc/waste/waste.htm">http://www.unep.fr/pc/pc/waste/waste.htm</a>	
UNEP World Conservation Monitoring Centre	<a href="http://www.unep-wcmc.org">www.unep-wcmc.org</a>	for instance on coral reefs, mangroves and sea grasses, etc.
World Resources Institute	<a href="http://reefsatrisk.wri.org/casestudy.cfm">http://reefsatrisk.wri.org/casestudy.cfm</a> <a href="http://earthtrends.wri.org/features/view_feature.php?theme=1&amp;fid=12">http://earthtrends.wri.org/features/view_feature.php?theme=1&amp;fid=12</a>	On reefs at risk- country reports
World resources institute	<a href="http://www.wri.org/">http://www.wri.org/</a>	General site
World Resources Institute	<a href="http://earthtrends.wri.org/select_action.php?tool=3">http://earthtrends.wri.org/select_action.php?tool=3</a>	Statistical data per country and territory, on biodiversity, energy, coastal and marine ecosystems, economics, population, etc.

## NORTH ATLANTIC REGION

ACIA- Arctic Climate Impact Assessment (2004), Arctic Council. An assessment made by 300 leading Arctic researchers, indigenous representatives and other experts from fifteen nations.  
<http://nmml.afsc.noaa.gov/PolarEcosyst/arctic.htm>, <http://www.amap.no/acia/index.html>

ICES (2002), International Council for the Exploration of the Sea- Report of the Report of the ICES/GLOBEC Working Group on Cod and Climate Change, Hillerød, Denmark.  
<http://www.ices.dk/reports/occ/2002/WGCCC02.PDF>

ICES (2003), International Council for the Exploration of the Sea- Report of the ICES/GLOBEC Working Group on Cod and Climate Change, New Bedford, USA.

Pedersen, S.A., Madsen, J. and Dyhr-Nielsen, M., 2004: Global International Waters Assessment (GIWA) - Regional assessments nr. 1b – Arctic Greenland, 15 – East Greenland Shelf, 16 – West Greenland Shelf. UNEP/ GEF/ Kalmar University, Kalmar, Sweden.

Reykjavík Declaration - Fourth Ministerial Meeting of the Arctic Council, 2005.

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Organisation	Website address	Remarks
AFSC	<a href="http://www.afsc.noaa.gov/NMML/education/pinipeds/arcticseals.htm">http://www.afsc.noaa.gov/NMML/education/pinipeds/arcticseals.htm</a>	On Arctic Seals
AMAP-	<a href="http://www.amap.no/">http://www.amap.no/</a>	Arctic Monitoring and Assessment Programme
Arctic Council	<a href="http://www.arctic-council.org">http://www.arctic-council.org</a>	

Organisation	Website address	Remarks
CCC- Cod and Climate Change	<a href="http://codresearch.org/Relevant_Publications/ICES_CM_2003-C-11_WG_CCC.pdf">http://codresearch.org/Relevant_Publications/ICES_CM_2003-C-11_WG_CCC.pdf</a> <a href="http://www.globec-canada.mun.ca/globec/index.html">http://www.globec-canada.mun.ca/globec/index.html</a> <a href="http://www.codresearch.org">www.codresearch.org</a>	On cod in the North Atlantic
ICCAT-	<a href="http://www.iccat.es/">http://www.iccat.es/</a>	International Commission for the conservation of tuna-like fishes in the Atlantic Ocean
ICES-	<a href="http://www.ices.dk">www.ices.dk</a>	International Council for the Exploration of the Sea
NAFO-	<a href="http://www.nafo.int/">http://www.nafo.int/</a>	North West Atlantic Fisheries Organisation
NAMMCO-	<a href="http://www.nammco.no/">http://www.nammco.no/</a>	North Atlantic Marine Mammal Commission
NASCO-	<a href="http://www.nasco.int/">http://www.nasco.int/</a>	North Atlantic Salmon Conservation Organization
Newfoundland – Labrador shelf	<a href="http://na.nefsc.noaa.gov/lme/text/lme9.htm">http://na.nefsc.noaa.gov/lme/text/lme9.htm</a> <a href="http://www.edc.uri.edu/lme/text/newfoundland-shelf.htm">http://www.edc.uri.edu/lme/text/newfoundland-shelf.htm</a>	
News Areas on the Net	<a href="http://www.providence.edu/net/newsarec.htm">http://www.providence.edu/net/newsarec.htm</a>	Overview news sites for Greenland, St-Pierre & Miquelon and Canada
UN-ECE	<a href="http://www.unece.org/env/lrtap/welcome.html">http://www.unece.org/env/lrtap/welcome.html</a>	On long range transboundary air pollution
UN-ECE	<a href="http://www.unece.org/env/water/welcome.html">http://www.unece.org/env/water/welcome.html</a>	On the Protection and Use of Transboundary Watercourses and International Lakes

## Greenland

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Organisation	Website address	Remarks
AMAP-	<a href="http://www.amap.no/">http://www.amap.no/</a>	Arctic Monitoring and Assessment Programme
CIA	<a href="https://www.cia.gov/cia/publications/factbook/geos/gl.html">https://www.cia.gov/cia/publications/factbook/geos/gl.html</a>	
General info	<a href="http://www.thearctic.is/articles/overviews/changing/enska/kafi_0200.htm">http://www.thearctic.is/articles/overviews/changing/enska/kafi_0200.htm</a>	a website of human-environment relations in the Arctic
GIWA	<a href="http://www.giwa.net/areas/area16.phtml">http://www.giwa.net/areas/area16.phtml</a>	On West GR shelf
GIWA	<a href="http://www.giwa.net/areas/area15.phtml">http://www.giwa.net/areas/area15.phtml</a>	On East GR shelf
GIWA- Global International Waters Assessment	<a href="http://www.giwa.net/areas/area6.phtml">http://www.giwa.net/areas/area6.phtml</a>	On north east shelf
Greenland's Bureau of mineral law and petroleum	<a href="http://www.bmp.gl">www.bmp.gl</a>	
On Inuit Circumpolar Conference	<a href="http://www.icc.gl/index.asp?lang=eng&amp;num=280">http://www.icc.gl/index.asp?lang=eng&amp;num=280</a>	

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Préfecture de St-Pierre et Miquelon, 2006: Plan de développement pour St-Pierre-et-Miquelon.

Organisation	Website address	Remarks
Academic site	<a href="http://www.ac-st-pierre-miquelon.education.fr/">http://www.ac-st-pierre-miquelon.education.fr/</a>	Site academique de St P et Miq
Chez noo	<a href="http://www.cheznoo.net/portaildata/home/index.php">http://www.cheznoo.net/portaildata/home/index.php</a>	Popular site
CIA	<a href="http://www.fags.org/docs/factbook/geos/sb.html">http://www.fags.org/docs/factbook/geos/sb.html</a>	On St Pierre & Miquelon
French Overseas ministry on St Pierre & Miquelon	<a href="http://www.outremer.gouv.fr/outremer/front?id=outremer/decouvrir_outre_mer/st_pierre_miquelon">http://www.outremer.gouv.fr/outremer/front?id=outremer/decouvrir_outre_mer/st_pierre_miquelon</a>	
GIWA on Newfoundland shelf	<a href="http://www.giwa.net/areas/area9.phtml">http://www.giwa.net/areas/area9.phtml</a>	
IEDOM	<a href="http://www.iedom.fr/dom/spierre/publications.asp">http://www.iedom.fr/dom/spierre/publications.asp</a>	Institut d'émission des départements d ' outre-mer
IUCN	<a href="http://biodiv.mnhn.fr/information/outre_mer/foi088503/06_St_Pierre_et_Miq.pdf">http://biodiv.mnhn.fr/information/outre_mer/foi088503/06_St_Pierre_et_Miq.pdf</a>	On Biodiversity in SpM
Le Grand Colombier	<a href="http://www.grandcolombier.com/">http://www.grandcolombier.com/</a> <a href="http://www.grandcolombier.com/instit.html">http://www.grandcolombier.com/instit.html</a>	General site on St Pierre & Miquelon and page on institutions
Le Mathurin	<a href="http://www.mathurin.com/">http://www.mathurin.com/</a>	News
Milenium development goals	<a href="http://mdgs.un.org/unsd/mdg/Data.aspx">http://mdgs.un.org/unsd/mdg/Data.aspx</a>	Data on SpM
Political site	<a href="http://www.capsurlavenir-expression.net/ds_pages/page2.html">http://www.capsurlavenir-expression.net/ds_pages/page2.html</a> <a href="http://www.gerardgrignon.com/">http://www.gerardgrignon.com/</a>	
Quid France	<a href="http://www.quid.fr/departements.html?mode=detail&amp;dep=975&amp;style=map">http://www.quid.fr/departements.html?mode=detail&amp;dep=975&amp;style=map</a>	
Regional Committee for Tourism	<a href="http://www.st-pierre-et-miquelon.info/">http://www.st-pierre-et-miquelon.info/</a>	Cte regional du tourisme
RFO	<a href="http://Spierremiquelon.rfo.fr/">http://Spierremiquelon.rfo.fr/</a>	Radio France Outre- Mer
SODEPAR- Development Agency	<a href="http://www.sodepar.com/">http://www.sodepar.com/</a>	Societe de developpement et de promotion de l'archipel
Sources site	<a href="http://www.st-pierre-et-miquelon.com/">http://www.st-pierre-et-miquelon.com/</a>	
SP&M local government	<a href="http://www.St-pierre-et-miquelon.pref.gouv.fr/">http://www.St-pierre-et-miquelon.pref.gouv.fr/</a>	Prefecture
SP&M local government	<a href="http://www.mairie-spierre.fr/">http://www.mairie-spierre.fr/</a>	Mairie St Pierre
Wikipedia	<a href="http://en.wikipedia.org/wiki/St_Pierre_and_Miquelon">http://en.wikipedia.org/wiki/St_Pierre_and_Miquelon</a>	

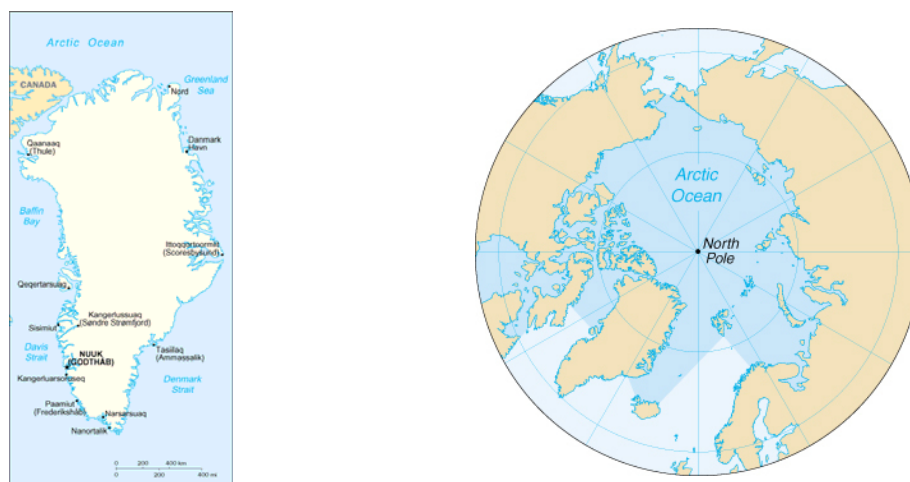


# **ANNEX A: ENVIRONMENTAL PROFILE - GREENLAND**

## 0. Summary

Greenland is a self-governing territory of Denmark, the world's largest island with an Arctic climate, occupied by a population of 56,000. Most of the island is covered by the world's second largest ice-sheet (after Antarctica). The island has a large indigenous population, and the predominant economic activities are fishing and hunting. The interchanges between the global climate and the Arctic system are such that the region is particularly sensitive to the changes which are occurring, and the impact of climate change is already making itself felt. The ice-sheet is already shrinking and calculations suggest that this tendency is likely to accelerate, which in the long-term (centuries) will have a major impact on the world's sea-level. However climate change will also have great effects in Greenland, including major changes in ecosystems as a result of milder temperatures, greater precipitation, reduction in sea-ice, greater UV radiation. The melting of the permafrost in some areas may cause problems for the existing infrastructure. These factors will in turn impact on people's livelihoods and ways-of-life. Another environmental challenge, also outside Greenland's direct control, is the widespread presence of contaminants, in particular heavy metals and persistent organic pollutants in the Arctic environment generally and Greenland in particular. Although this contamination is relatively low-level, because of the long food-chains it bio-accumulates in the tissues of birds and the higher mammals such as seals, whales and polar bears, and may reach high levels in humans who consume these animals. Little is known, however, about the effects of these contaminants on humans or animals. There are also concerns about declines in certain species of marine mammal and bird, due to or exacerbated by overexploitation.

## 1. Background information



### 1.1 Key facts and statistics

Name of Territory	Greenland
Region	North Atlantic
Land area	2,166,000 km <sup>2</sup> (410, 000 sq km ice-free, 1,756,000 sq km ice-covered)
Exclusive economic zone	territorial sea: 3 nm continental shelf: 200 nm or agreed boundaries or median line exclusive fishing zone: 200 nm or agreed boundaries or median line
Population	56,000 (2005 est.), i.e. 0.026 / km <sup>2</sup>
GNP/capita	€22600 / capita
Literacy rate	100%
Unemployment rate	10% (2000, est.)
% below poverty line	NA

## 1.2 Constitution

Greenland has been a self-governing overseas administrative division of Denmark since 1979. The Home Rule Act provides that the Danish government retains responsibility for foreign policy, defence and security policy, the legal and judicial system and monetary policy. Greenland participates actively in international agreements which relate to it. It has a 31-member unicameral parliament (*Landsting*) and a premier and sends two representatives to the Danish *Folketing*. The Home Rule Government is elected by the *Landsting* based on the strength of the parties. Around half of all Greenland's public expenditure is covered by a block grant of about €370 million from the Danish state. This amount, agreed by the Danish Folketing, is transferred to Greenland Home Rule to be administered by the Greenland government.

Greenland joined the European Community with Denmark in 1972 but withdrew in 1985, when it was given OCT status. Greenland and the EU also negotiated a fisheries agreement which allows the EU fishing quotas in exchange for a fixed payment and allows Greenland duty free access of its fishery products to the EU market so long as the EU has a satisfactory fisheries agreement with Greenland.

## 1.3 Physical geography

Greenland (Kalaallit Nunaat, Grønland) is the largest island in the world, and is related geologically to North America. Two-thirds of the island lies within the Arctic Circle. It is surrounded by the Arctic Ocean in the north; the Greenland Sea in the east; the Denmark Strait in the southeast; the Atlantic Ocean in the south; and Davis Strait and Baffin Bay in the west.

Most (80%) of the island is covered by the Greenlandic ice sheet: a collection of ice caps and glaciers covering respectively mountains and valleys. In its central part the Greenlandic ice sheet can be 3 km thick. The thickness decreases towards the ocean, and on the fringes it is only a few hundred meters thick. The weight of the ice sheet has depressed the central land area to form a basin, parts of which lie more than 1,000 ft [300 m] below sea level. Two drilling operations on the highest part of the ice sheet in 1992 and 1993 both reached bottom, with the deepest core measuring 3,053 m from surface to bottom. Studies of the composition of the ice cores have permitted new insights into the climatic history of the last 200,000–300,000 years. The ice moves outward from the centre, entering the sea in walls or debouching in glaciers, of which Humboldt Glacier is the largest and Jakobshavn Glacier the most calf-ice productive. These glaciers calve large icebergs, notably into the Davis Strait, through which they frequently reach Atlantic shipping lanes. The thickness of the ice sheet is slightly increasing, but the surface area as a whole is decreasing as the ice is melting at the fringes, with chunks of ice breaking off the sheet.

More than 50% of the ice-free area of Greenland consists of Precambrian rock, mostly granites and gneisses. Mountain chains run along Greenland's east and west coasts, Mt. Gunnbjørn (3700 m) in SE Greenland being the highest peak. The entire coastline of Greenland is deeply indented by fjords. There are many offshore islands, of which Disko, on the west coast, is the largest. The extreme northern peninsula (Peary Land) has no ice sheet but does have local ice caps.

Much of the soil in Greenland is characterised by permafrost, the layer of earth which is perpetually frozen. Only the surface thaws during the summer. This phenomena, found in all of northern Greenland and in parts of South Greenland, can make construction difficult, but the integrity of some infrastructure also depends on the permafrost.

Large parts of the sea around Greenland freeze over for greater or shorter parts of the year. Normally it is only the western coast, between Sisimut and Paamiut, that remains free of ice all year round.

## 1.4 Flora and fauna

Greenland's ecosystem is influenced by the Arctic climate: low temperatures, low humidity, long dark winters, light summers and permafrost. Greenland lies north of the tree line. There are no forests in

Greenland; dwarf trees are found in the southern coastal areas. Forest-like brush exists in many places. The sunniest valleys in South Greenland have stands of strong, upright birch trees up to 7 metres in height. Greenlandic ash and various species of willow, evergreen, fern and several species of herbs also grow in South Greenland. Other vegetation includes mosses, lichens, heather, crowberry, grasses and sedge.

Some 500 species of wild plants are found in Greenland. The little plant cultivation that exists is confined to the southwest.

Birds constitute by far the majority of species of fauna, about 210. There are about 125 species of fish. There are 25 species of marine mammal and eight species of land mammal. Sledge dogs and imported mammals are also found.

The polar bear, musk ox, polar wolf, lemming, Arctic hare, and reindeer are the chief land mammals. Marine mammals include walruses, various species of seal and whale.

The Greenland National Park, covering 956,000 km<sup>2</sup> and established in the north and northeast of Greenland in 1974, is the largest National Park in the world and includes a marine component. In addition to the National Park, there are nine other protected areas (marine and terrestrial) in Greenland (Home Rule legislation no. 11 of 12 November 1989), covering about 8100 km<sup>2</sup>. Furthermore executive orders for the protection of three more areas are expected to enter into force in 2007.

## **1.5 Demography, socio-economy**

Nearly all Greenlanders live along the fjords in the south-west of the main island, which has a milder climate. About 85% of the people are Inuits, locally born people of European descent or mixed; the balance are mainly Danish. The population is currently estimated to be declining slightly, partly as a result of a net outward migration (8.4/1000 in 2005). Social change has been rapid, and there has been a considerable exodus from small communities into towns.

*Fishing* is the mainstay of the Greenlandic economy, and accounts for 94% of all exports. Arctic fisheries are among the most productive in the world. It is estimated that about 2,500 people are employed directly in fishing with a further 3,000 employed in the fish processing industry, in addition to part-time workers and those employed in derivative businesses. The most important fishery resource is now shrimp, and the once important cod has now virtually disappeared.. Some of the world's largest shrimp beds are in Disko Bay. Shrimp fishing seems to have peaked with an annual haul of just over 70,000 tonnes. Halibut stocks have been more stable and are now an important resource. Salmon and redfish are also important. Of the varieties of shellfish found, shrimps, crabs and scallops are also harvested.

Many processing plants have been constructed in the southern and south-western areas. Royal Greenland Ltd. is both the largest company involved in fishing and fish processing in Greenland and the country's largest company with over 3,000 employees.

The fisheries for prawns and Greenland halibut are regulated by quota and license regulations decided on by the Cabinet on the basis of the biological advice regarding sustainability.

Greenland has always been a *hunting* society, and hunting continues to be a very important economic and cultural activity. There are some 2,700 professional hunters in Greenland and 8,300 people hold a recreational hunting permit. Hunting is of great importance to the population, especially in the settlements and in outlying districts. The primary targets for hunters are seals, birds and mountain trout. Other important, although limited, resources are large and small whales, reindeer and musk ox. Hunting in Greenland requires a professional hunting permit or a recreational hunting permit, both subject to a range of conditions. All specimens caught must be reported. Furs and sealskins are exported.

In the past *mining* was important in Greenland, and deposits of cryolite, iron, zinc, and lead, have largely been worked out. Uranium, copper, coal, and molybdenum have also been detected, but are difficult to

extract. Considerable exploration activities have taken place in West and South-West Greenland where, since the middle of the 1990s, and the region between Kangerlussuaq and Maniitsoq has emerged as promising for diamonds. Deposits of gold have been discovered in several areas, and there is also potential for zinc, lead and silver. In the past *mining* was important in Greenland, and deposits of cryolite, iron, zinc, and lead, have largely been worked out. Uranium, copper, coal, and molybdenum have also been detected, but are difficult to extract. Considerable exploration activities have taken place in West and South-West Greenland where, since the middle of the 1990s, and the region between Kangerlussuaq and Maniitsoq has emerged as promising for diamonds. Deposits of gold have been discovered in several areas, and there is also potential for zinc, lead and silver. Two mines have opened in West Greenland in the last couple of years and 3 more mines may be opened in Greenland within the next 3 – 4 years. Oil exploration is going on in the offshore areas west of the capital Nuuk in Greenland, and drillings may take place in 2008. Greenland has just completed a licensing round in the Disko-Nuussuaq offshore region in West Greenland. 4 of the worlds largest oil companies have applied for licences in the area. Exploration in the Disko-Nuussuaq region will commence in the summer of 2007.

The government wishes to expand the *tourist industry*. Air transportation and telecommunications have greatly improved in recent years. Tourists can buy a temporary license to fish or hunt. Paid trophy hunts for musk ox and polar bears are envisaged. The prospects for tourism are however limited due to a short season and high costs.

Little *agriculture* is possible. The growing season is too short to allow even wheat to mature. There is some cultivation of horticultural and greenhouse vegetables and husbandry of sheep and reindeer;

Other industries include handicrafts, hides and skins and small shipyards. Many Greenlanders are employed in the service sectors.

## **1.6 Other**

The Arctic countries generally, and Greenland in particular, regard sustainable development as having a fourth 'pillar' in addition to the economic, social and environmental pillars, and that is that opportunities must be taken to protect and enhance the culture and health of indigenous communities.

## **2. Main environmental challenges**

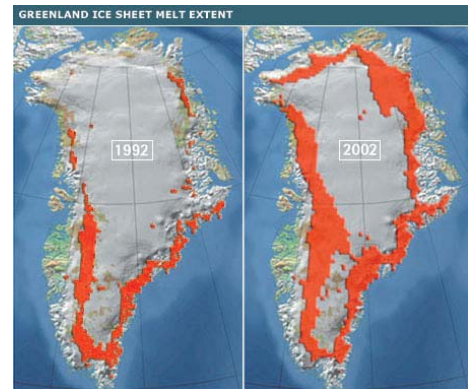
### **2.1 Overview**

Greenland is a large island with a very low overall population density. There is very little industry or (for the time being) mineral extraction on the island, and vehicle ownership is low (since there are no roads between settlements). Although there is no treatment of waste water, so that raw sewage is pumped out into the sea untreated, the quality of the air, surface waters, groundwater (often permafrost) and soil are generally relatively free of contamination, although there is an issue of low-level but generalised pollution by various contaminants brought into the area from the mid-Northern latitudes and which are accumulating in the food chain. Greenland intends to deal with its waste by a network of incinerators situated in the various communities. 80% of energy is used for space heating. Many houses are relatively poorly insulated, but a programme is in progress to refurbish and improve the energy performance of the housing stock. Greenland intends to expand its hydropower capacity.

## 2.2 Main challenges

### Challenge 1 Climate change SEVERE

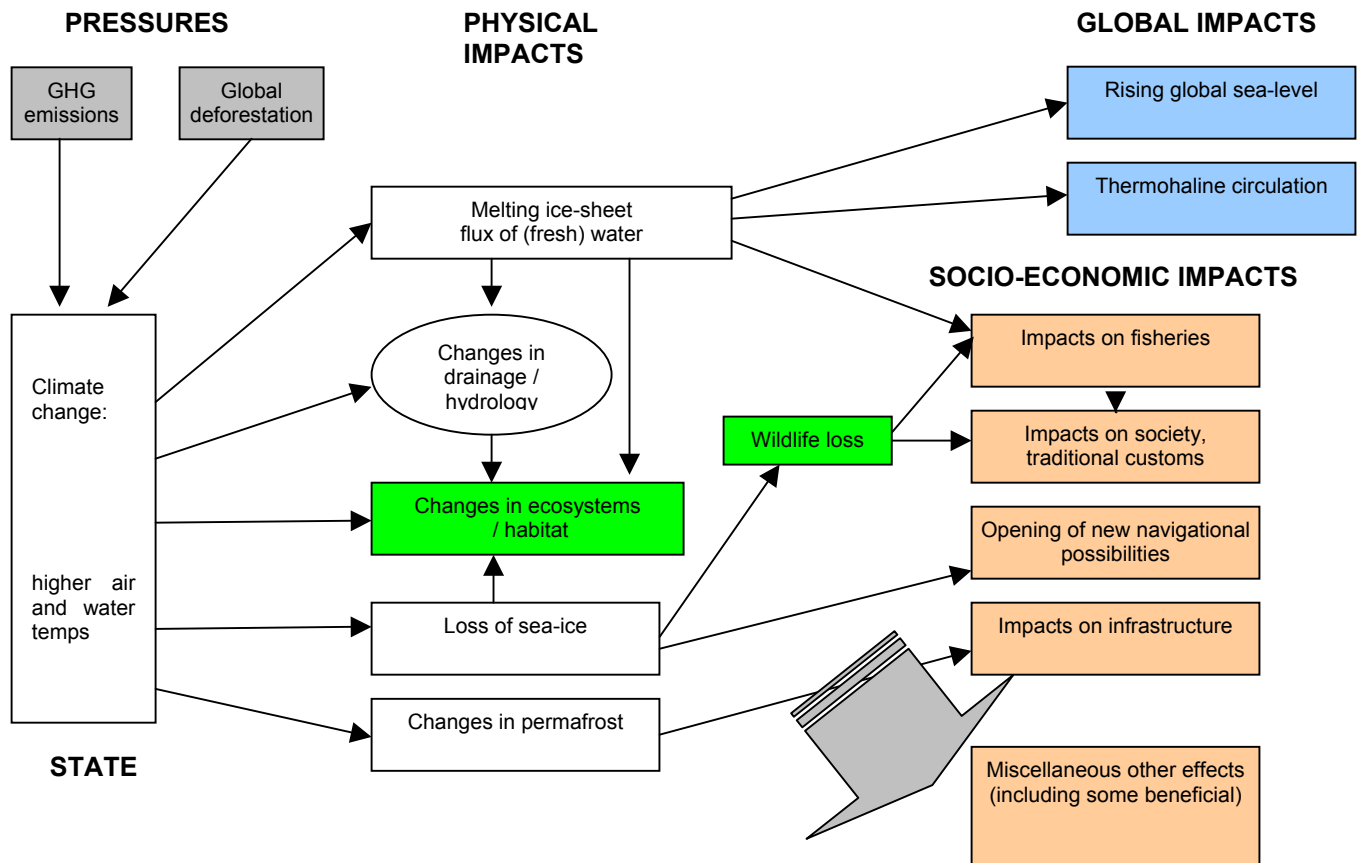
Climate change is already having an impact in the Arctic region generally and Greenland in particular. Many observations of environmental change in the Arctic show a trend consistent with climate change models. In the last century temperatures over some land areas have increased by about 5°C. Greenland's ice sheet has thinned dramatically around its southern and eastern margins. Arctic sea-ice extent decreased by approximately 3% per decade between 1978 and 1996



The Arctic region is extremely vulnerable to a change in climate—major physical, ecological, sociological, and economic impacts are expected. Because of a variety of positive feedback mechanisms, and because of the phase change liquid ↔ solid which H<sub>2</sub>O undergoes at 0°C, the Arctic is likely to respond more rapidly and severely than other areas, with effects on ice cover, sea-ice, permafrost, and hydrology. Furthermore the fate of the Greenland ice sheet plays a crucial role in the *global* impact of climate change. Its total melt would mean a global sea-level rise of over 7 metres. The additional flux of fresh and low-saline water may change the major marine currents, thereby having other effects on the global climate which are difficult to predict.

Images show how the areas of Greenland that melt in summer (orange) have expanded in recent years. Source: Arctic Climate Impact Assessment

### DIAGRAM: IMPACT OF CLIMATE CHANGE IN GREENLAND



Surveys conducted from 1993 to 1998 showed the ice sheet in southern Greenland to be shrinking by about 8 km<sup>3</sup> each year, although ice cores collected in the area suggest that similar changes may have occurred in the past. From 1996 to 2004 the amount of ice melting each year in Greenland increased by a factor 2½, leading to concerns that the sea level may rise significantly, even during the 21st century.

The summer melting of the Greenland ice sheet at its margin is likely to continue. If warming continues, the Greenland ice sheet will shrink considerably, as occurred in previous interglacial periods, and if the warming is sustained, the ice sheet will melt completely.

Changes in temperature, in hydrology, in ice cover and sea-ice will have major impacts on ecosystems and habitats including, importantly for Greenland, fisheries. Changes in ocean currents will affect the availability of nutrients and the disposition of larval and juvenile organisms, thereby influencing fish stocks. Greenland turbot, a species more adapted to a cold climate, is likely to decline further. Cod stocks may recover however. Projected climate change could favour some species, decimate others; some fisheries may disappear, and other new ones may develop. More warmer water species will migrate northwards and compete for existing niches, and some existing populations may take on a new dominance. These factors may change the population distribution and value of the catch. This could increase or decrease local economies by hundreds of millions of euros annually, and have important social repercussions.

There will be a substantial loss of sea-ice in the Arctic Ocean and seas around Greenland. Projected losses in sea ice are likely to have considerable impacts on Arctic biology through the entire food chain. Sea-ice is a vital habitat for seals and other marine mammals. Seal species use ice for resting, pup-rearing, and moulting, and their polar bear predators are particularly at risk. If break-up of annual ice occurs too early, seals will be less accessible to polar bears. Changes will occur in the distribution, age structure, and size of populations of marine mammals. This will in turn affect indigenous peoples and their traditional ways of life. People who rely on marine systems for food resources are particularly at risk because Arctic marine food chains are long. When sea ice is late in forming, certain forms of hunting are delayed or may not take place at all. When sea ice in the spring melts or deteriorates too rapidly, it greatly decreases the length of the hunting season.

The loss of sea-ice will have major implications for trade. A more open ocean will favour increased shipping along high-latitude routes and could lead to faster and cheaper ship transport between eastern Asia, Europe, and eastern North America. It will also have defence implications.

Coastal erosion and retreat as a result of thawing of ice-rich permafrost are already threatening communities. The capacity of permafrost to support buildings, pipelines, and roads has decreased with atmospheric warming, so pilings fail to support even insulated structures

## Challenge 2 Transboundary pollution of the Arctic environment

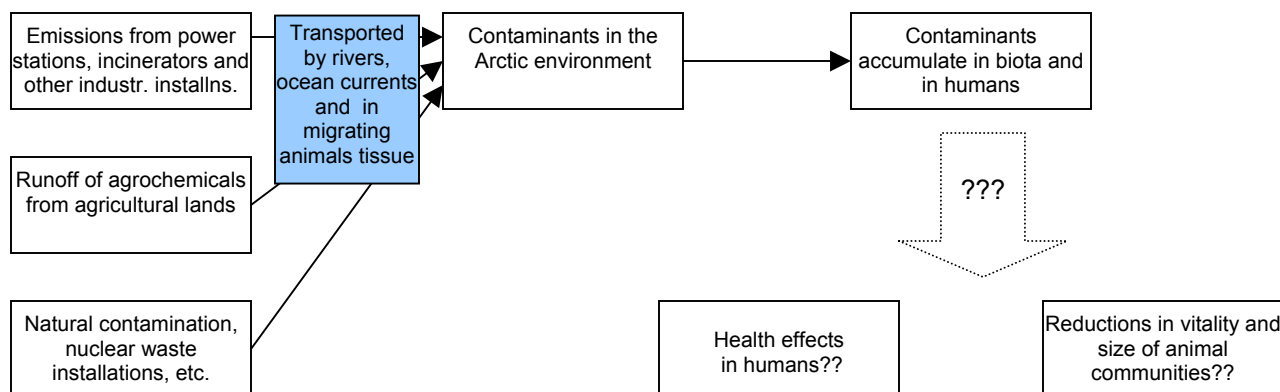
**MODERATE**

### PRESSURES OTHER COUNTRIES)

### STATE

### IMPACTS

(IN)



Many animals in the Arctic have elevated levels of heavy metals (particularly mercury and cadmium) and persistent organic pollutants (POPs) in their tissue. Heavy metals tend to accumulate in specific organs

such as the liver, whereas POPs accumulate in organisms' fatty layers. This tendency is particularly pronounced in animals near the top of the food chain such as marine mammals, birds and polar bears. POP concentrations in ringed seals are close to the threshold limit value. Although much higher values have been measured in seals in the Baltic, this is not such a problem because seal does not form an important element of the human diet there. Polar bears, which eat only the fat of the ringed seals, get big doses of POPs. Studies done in Svalbard have suggested that the immune systems of the polar bears are under pressure as a result of PCB concentrations. Mercury levels in Arctic ringed seals and beluga whales have risen by between 2 and 4 times over the last 25 years in parts of Greenland. Many marine birds also have high POP levels. The kittiwake, which spends the winter on the coasts of North America, has high POP. The black guillemot, on the other hand, which spends its whole life in the Arctic, has lower values.

Many people whose diets are rich in these animals ingest more cadmium and mercury than international limit values. One Greenlander in six has potentially harmful blood-levels of mercury from eating contaminated fish and whales. 16% of people in northern Greenland have levels above that which can be toxic to non-pregnant adults (UNEP Earthwatch website). Little is known, however, about health effects in Greenland.

Metals occur naturally in the earth's crust and are introduced into the environment by weathering and other natural processes. But studies indicate that much of the contamination by heavy metals and POPs come from the middle latitudes of the Northern Hemisphere, and that these substances are transported to the Arctic by sea currents and winds. The watershed of the Arctic is enormous (see map beside) and includes many industrial areas in Northern Eurasia (particularly Russia) and North America. Because of cold condensation, Arctic waters are likely to serve as a major sink for contamination released around the world.

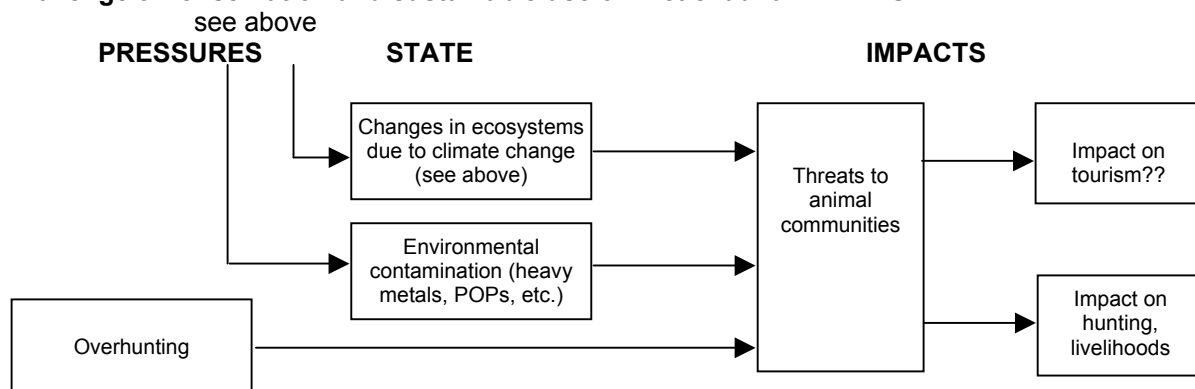


Radioactive contamination is also a concern in the Arctic, including Greenland.

It is not known whether contamination in the Arctic is rising or falling. There are some places where concentrations have fallen over time and other places where no conclusions can be drawn. In a few places, concentrations appear to be rising.

### Challenge 3 Conservation and sustainable use of Arctic fauna

MODERATE





Greenland's main commercial marine resources (shrimps and Greenland halibut) are holding up reasonably well in recent years despite the crisis in fisheries elsewhere in the Atlantic. However populations of a number of marine mammals and birds have been declining, and the Greenland Home



Rule has recognised that they need greater protection. These include the beluga whale, narwhal, walrus, common seal, porpoise, polar bear, common murre (common guillemot), thick-billed guillemot (Brünnich's Guillemot), eider, king eider and Arctic tern. All of the mammals in this list are classified by the IUCN as 'vulnerable' species, and they are all hunted in Greenland. In some cases a hunting licence is required and the species may be subject to a quota. In some cases populations are being stressed by other phenomena shown in the diagram (changing climatic conditions, pollution bio-accumulating in their bodies), but it is widely

accepted that for the species listed, overhunting has contributed to declining populations.

Although hunters and conservationists have a common interest in ensuring that wildlife stocks are sustainable, they often do not agree on the status of and trend in the populations, and therefore on the measures such as hunting quotas necessary to guarantee this. The hunters are more optimistic than the biologists. The Home Rule government believes it would be lacking in legitimacy to impose the recommendations of the scientific community on hunters, and that a consensus should be achieved among all sections of the community.

There has been considerable criticism of Greenland's management of its living resources. In November 2003 the WWF published a report (Hjarsen, 2003) arguing that Greenland was failing to meet its conservation obligations under the multilateral MEAs with which it is associated. Greenland has recognised there is a problem with some species, and has taken measures to increase protection. A new Nature Protection Act was enacted in December 2003, AND legal protection and quotas have been introduced for birds, for the narwhal, the beluga, the polar bear and, shortly, for the walrus.

However some hunting quotas being set still fall well short of scientific advice. So for example, although the Canada/Greenland Joint Commission on the Conservation and Management of Narwhal and Beluga (JCNB) has expressed grave concern about the size of the beluga harvest, and recommends that the Greenland annual take be reduced to 100 in order to halt the decline (JCNB, 2006), the quota is currently 310 (quota exceeded for 2005/6). A similar situation applies with regard to the narwhal.

The thick-billed murre is an important game bird in Greenland, and contributes between EUR 300,000 and 1 million a year to the Greenlandic economy. This bird has been overexploited locally by hunters. In some parts of the country the colonies have declined drastically. An estimated 50-90% of some colonies has disappeared, others have vanished entirely (Greenland Institute for Nature, 2003). The breeding behaviour of this bird is such that, once depleted, populations take a long time to recover.

The problem is not only related to the absence of adequate legal controls or over-generous quotas. There is also a problem with enforcement (see section 3.6).

The IWC Scientific Committee has pointed the absence of documentation on counts of large whales in Greenlandic waters. Similarly there is insufficient knowledge of other stocks (e.g. polar bears) to permit scientifically sound hunting quotas.

If declines in the populations of the relevant species are not halted, there could be adverse impacts for the burgeoning tourist industry

### **Other challenges**

1. The requirement for EIA applies only to the oil, gas and minerals industries..

2. Waste? Concerns about solutions involving local incinerators? Dumps by expeditions, US military and historical mining?
3. Concerns about pumping of untreated sewage into the sea?

### 3. Environmental policies and institutions

No questionnaire received from Greenland, and it was not possible to find in the public domain the data needed to complete this chapter fully.

#### 3.1 Institutional structure, manpower and budgets

The Department of Environment and Nature is responsible for environmental and conservation policy. The Department of Fisheries and Agriculture is responsible for fisheries policy and for agriculture. The Bureau of Minerals and Petroleum has a service for environmental matters which coordinates its work with the Danish Environment Agency, in the Danish Ministry of the Environment.

The Institute of Natural Resources, set up in 1994, is charged with establishing the scientific foundation for the sustainable use of living resources in and around Greenland and safeguarding the environment and biological diversity. The Institute has a staff of 40, of which more than half are biologists

#### 3.2 Policy instruments

The legislation most relevant to environmental protection in Greenland is indicated in the table below.

Item of legislation	Comments / detail
Nature Protection Act	Approved by Greenlandic parliament In December 2003 This allows the government to create regulations on the protection of the living resources, regulate or protect species or stocks, restrict periods where hunting is permitted, set quotas, prohibit catching and hunting or any activity in geographically defined areas as well as work out wildlife management plans.
Executive order for protection of birds	January 2004
Executive order for protection of narwhal	February 2004
Executive order for protection of beluga	February 2004
Executive order for protection of polar bears	2006
Executive order for protection of walruses	July 2006
Orders setting hunting quotas	June 2004
Executive order on CITES	Came into force in September 2004
Conservation (Nature and Ancient Relics) Act	Allows protected areas to be established. Administered by the Department of Environment in close collaboration with the Danish Ministry of Environment.

There is currently no detailed EIA legislation in Greenland, although the 2003 Nature Protection Act does provide that an EIA is required for infrastructural projects..

A major information campaign was waged in Greenland during 2002-2004 on the sustainable use of living resources. This included programmes on TV and radio, factsheets and brochures distributed to schools, hunters' groups, etc., seminars and discussions for stakeholders, administrators and the general public

### **3.3 Monitoring**

Environmental quality monitoring is mainly carried out in cooperation with other Arctic countries under the auspices of AMAP, in which Greenland/Denmark participates.

Conservation monitoring is the responsibility of the Greenland. Institute of Natural Resources.

### **3.4 Enforcement**

Enforcement poses great problems in a country with the extraordinarily low population density of Greenland. The country has only eight police officers to enforce conservation and hunting regulations. Greenland cannot rely on enforcement and therefore has to rely on legitimacy and consensus.

## **4. International cooperation**

### **4.1 Cooperation with Denmark**

In 1989, Denmark passed responsibility for environmental protection to the Home Rule Government, and in 1992, the Home Rule Government gained jurisdiction over the marine environment around Greenland within the three-mile inshore limit.

Since this time the Danish and Greenlandic environment ministers have signed joint declarations on cooperation and launched a number of initiatives on nature and the environment in Greenland. There is also a contact group involving the Ministry of Environment and Nature in Greenland, and the Danish Environmental Protection Agency and the Danish Forest and Nature Agency, which meets once a year to discuss common problems and share experiences.

Since 1994, Denmark has focused particularly on Greenland as an element of its environmental assistance to the Arctic, and has cooperated with the Home Rule Government of Greenland. Greenland finances and attends to the interests of the Danish Kingdom with respect to the framework of CAFF, while Denmark funds the Greenland contribution to AMAP (see 4.5). Activities have included developing technological solutions to specific environmental problems in Greenland, including waste management and ensuring clean drinking water, developing environmental standards for the oil and mining industry, mapping things left behind after earlier exploration for mineral resources, military activities, expeditions, etc., and clarifying and incorporating Greenlandic factors in the preparation and implementation of international agreements and conventions. The initiatives are usually in the nature of pilot or demonstration projects and can, for example, cover physical installations, information activities and administrative tools.

The Danish EPA also evaluates the sector programme for low-energy housing refurbishment in Greenland based on an agreement between the two governments

### **4.2 Cooperation with the EU**

When Greenland withdrew from the EC in 1985, the parties concluded the agreements on fishing. The agreements gave Greenland duty-free access to the European market for fish products and gave fishing rights to EU countries in Greenland waters in exchange for agreed remuneration. It also included Greenland as an OCT whereby Greenland products were given duty free access to the EU market. However Greenland was not given access to the EDF. During 2001 - 2006 Greenland received €42.8 million/year from the EU.

A new Fisheries Partnership Agreement was recently signed between Greenland and the EU, effective from January 2007. The annual EU financial contribution will be €15.8 million, of which 25% is earmarked for support to the Greenlandic fisheries policy. The new protocol decreases the EU catch to reflect the state of the stocks and the needs of the Greenlandic fishing industry. A further €2 million is expected from EU shipowners in the form of licence fees. Greenland will also receive € 25 million from the EU for cooperation in areas other than fisheries. Greenland will therefore receive the same amount as it does under the current fisheries protocol.

The Council Decision on the association of the OCT with the EEC, which governs EU-OCT relations, also emphasises co-operation and development aspects, but due to per capita income limits, Greenland only qualifies for relatively small amounts of support. No other Community support funding is forthcoming (also not under EDF) except for the compensation provided under the fisheries agreements.

### 4.3 MEAs

Greenland participates in the following MEAs:

MEA	Remarks
Biodiversity Convention	Greenland has started implementation by elaborating a National Red List and a Strategy and Action Plan for the Biodiversity Convention.
Ramsar Convention	Protection of wetland and coastal ecosystems. Greenland has 11 Ramsar sites. The 2003 Nature Protection Act provides a legal framework for implementation, but Greenland has not yet begun to develop management plans and improve the conservation of the ecosystems of the designated sites, or seek designation for other sites meeting the Ramsar criteria.
CITES	In September 2004, the Greenland Home Rule government approved a CITES executive order, thereby creating a legal framework for a national implementation of CITES. The Institute of Natural Resources, the designated CITES scientific body, has now begun to assess the influence of the trade on the wild population as required by the Convention. This work has been carried out for the export of narwhal, and resulted in a ban on export of narwhal products from Greenland in 2006.
International Whaling Commission (40 countries)	Minke, fin and other large whales. Greenland has a quota for fin and minke whales under the Aboriginal Subsistence Whaling provision. However Greenland has not provided data on stocks to support the quota. In 2006 the IWC Scientific Committee recommended to the IWC that it dramatically cut the fin whale quota. Greenland responded by agreeing to implement a voluntary limit of 10 fin whales a year.
Joint Commission on Narwhal and Beluga/JCNB	Greenland has set quotas for the narwhal and beluga considerably higher than the JCNB recommendations. (Greenland and Canada only)
NAMMCO: North Atlantic Marine Mammal Commission	
Oslo Convention	Polar bears
NAFO: Northwest Atlantic Fisheries Org.	Agreement on fisheries covering the northwest Atlantic outside the 200 nautical mile zones
ICES: International Council for the Exploration of the Sea	Advises on fishing in waters between Greenland and Iceland
International Murre Conservation Strategy	Polar common guillemot

In July 2004 the Ilulissat ice fjord was appointed World Heritage Site by the IUCN. Greenland is also a member of the PAME (Protection of the Arctic Marine Environment) programme of the Arctic Council. PAME has produced Arctic Offshore Oil and Gas Guidelines

#### 4.4 Funding by international community for environmental projects

None identified.

#### 4.5 Other international cooperation on the environment

Environmental cooperation in the Arctic between Canada, Denmark/Greenland, Finland, Iceland, Norway, Russia, Sweden and the USA was formalised in 1991 with the adoption of the Arctic Environmental Protection Strategy (AEPS). This arose from a growing concern for the Arctic environment, in particular about transboundary pollution from the industrialized countries and their accumulation in the food chain. One of the main purposes of the AEPS is to provide the Arctic governments with scientifically based advice on necessary measures to improve the state of the environment in the Arctic. The scientific evidence is mainly procured through a joint Arctic Monitoring and Assessment Programme (AMAP), which each country is responsible for implementing in its Arctic region.

In 1996, the Arctic Council was established, due to a wish that cooperation should be extended to include other dimensions of sustainable development. The AEPS environmental cooperation and working groups continue as before under the framework of the Arctic Council.

Conservation of Arctic Flora and Fauna (CAFF) is a working group of the Arctic Council. It is a forum of Arctic professionals and indigenous people's representatives which addresses circumpolar Arctic conservation issues. It advises Arctic governments on conservation matters and sustainable use issues. The CAFF Working Group has sponsored a number of projects, including circumpolar conservation strategies for murres (guillemots) and eiders, and the Circumpolar Protected Area Network (CPAN) Strategy and Action Plan. Greenland will chair CAFF for the next two years (2007 and 2008).

PAME (Protection of the Arctic Marine Environment) is another programme of the Arctic Council. Its workplan for 2004-2006 includes: Improving knowledge on the Arctic marine environment, Determining the adequacy of applicable international/regional commitments and promoting their implementation and compliance, Facilitating partnerships, programme and technical cooperation and Supporting communication, reporting and outreach both within and outside the Arctic Council. PAME has produced Arctic Offshore Oil and Gas Guidelines.

### 5. Recommendations on future cooperation between EU and Greenland

#### 5.1 Climate change

Ultimately there are two types of response to the challenge of climate change, i.e. *mitigation* (reducing impacts by reducing pressures, i.e. reducing emissions of or creating new sinks for greenhouse gases) and *adaptation* (taking measures which recognise that the climate is changing, but reduce the impacts).

In so far as mitigation is concerned, climate change is a global problem: all that matters is the total global emissions of greenhouse gases. It does not matter where the emissions occur. This means that international awareness, cooperation and a sense of urgency are necessary. The amount which any country can do on its own is very limited, and this applies very much to Greenland which probably accounts for less than 0.001% of the worlds' anthropogenic GHG emissions.<sup>2</sup> However Greenland can put its weight behind efforts to mobilise the world community to take action on climate change. Greenland can leverage these efforts by virtue of being the site of the Greenland ice-sheet, the potential impact of the melting of which is gaining considerable attention worldwide, and the pivotal role of the Arctic environment generally on global climate. Another important strategy will be for Greenlandic institutes to seek full involvement in research programmes seeking to gain an understanding of the impact of global

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<sup>2</sup> This is not to say that Greenland should not try to minimise its own GHG emissions. Apart from its obligations under the UNFCCC and Kyoto Protocol, this is important to provide legitimacy to its efforts towards global emissions reductions.

warming on the Greenland ice-sheet. Measures which reduce uncertainties about the impacts will make it more likely that international decision-makers will take appropriate action. Because Greenland is not responsible for its foreign affairs, this work will have to be done in concert with Denmark and its partners in other regional bodies such as the Arctic Council.

Adaptation will in any case also be needed. In the Arctic this must take into account the especially sensitive and vulnerable natural and human systems of the region. Special attention will need to be paid to strengthening the adaptive capacities of Arctic residents. The successful long-term occupation of the Arctic by indigenous peoples has been possible, in part, owing to their adaptive capacity (in social, economic, and cultural practices) to adjust to climate variation and change. Today however, Arctic peoples cannot adapt, relocate, or change resource use activities as easily as they could in the past, because most now live in permanent communities with more constrained social and economic situations. Their hunting and herding activities are determined to a large extent by resource management regimes, land use regulations, and by local and global markets.

#### *Recommendations for areas of cooperation between the EU and Greenland*

(At present Greenland does not benefit from EDF funding)

- Technical assistance in reducing GHG emissions, particularly where there are synergies with other economic or social goals, i.e. particularly through improved energy-efficiency in the residential housing stock and an increase in hydro-power.
- Support projects which involve working closely with Arctic residents, including indigenous and local communities, to help them to adapt to and manage the environmental, economic and social impacts of climate change: research, better information, participation in decision-making.
- Research to provide that new *opportunities* provided by climate change, such as increased navigability of sea routes and access to resources, are identified, developed and managed sustainably, including consideration of environmental and social impacts and appropriate measures to protect the environment, local residents and communities.
- Natural and social science research on impacts and adaptation, including studies to enhance understanding of fundamental processes, procedures for integrating indigenous and local knowledge into scientific studies and partnerships between indigenous peoples, local communities, and scientists in defining and conducting research and monitoring associated with the Arctic climate.
- Seek to ensure that relevant data from research, observation, monitoring and modelling activities are made available to local, national and international research and monitoring programmes.

## **5.2 Transboundary pollution of the Arctic**

Apart from general concerns about the contamination of a pristine environment, there are specific concerns relating to high levels of contaminants in Arctic fauna and in the people who consume them. A significant proportion of inhabitants of Northern Greenland have blood-levels of mercury and POPs in excess of WHO guidelines. However no health effects have been specifically observed and little is known about whether health or animal communities are being affected. In the first place research is needed into this phenomenon.

#### *Recommendations for areas of cooperation between the EU and Greenland*

- Support research projects either in Greenland or in cooperation with Greenland's Arctic partners in, for example the Arctic Council, into the health impact of transboundary pollution: sources, pathways, body levels of key contaminants in the 'critical group' (i.e. those with high dietary intake of marine birds and mammals), health surveys, intake, relationship between intake (ingestion) and uptake, etc.

## **5.3 Conservation and the sustainable use of the Arctic fauna in Greenland**

An important bottleneck appears to be the absence in some cases of adequate mechanisms to obtain the basic data needed for wildlife conservation, i.e. reliable community censuses and time series which allow trends to be identified, or in other cases the failure to find common ground between hunters and biologists about estimates made.

*Recommendations for areas of cooperation between the EU and Greenland*

- Support for projects to quantify populations and trends of the critical species of Arctic wildlife. The focus should be on methods which win consensus across all strands of society, for example by integrating community-based networks, hunters' associations and indigenous groups into the scientific work, applying standardised, agreed methodologies.

## **ANNEX B: ENVIRONMENTAL PROFILE -**

### **ST PIERRE & MIQUELON**

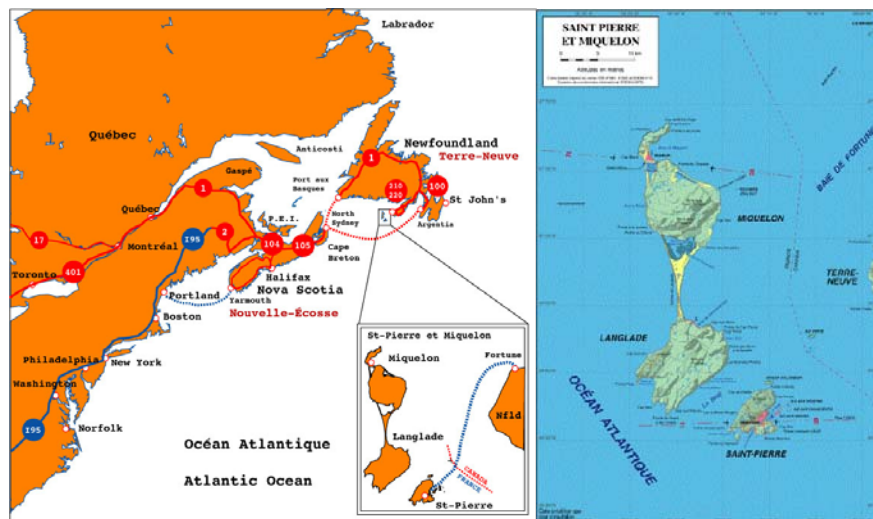


## 0. Summary

St Pierre & Miquelon is a French Overseas *collectivité* of only 7,000 inhabitants, situated between Canadian Nova Scotia and Newfoundland (25 km away). As a result of falling fish stocks and disputes over maritime claims, the territory has had a very limited fishing quota, which has been a severe blow to the economy. Oil and gas have been found in territorial waters and prospecting has started, so far unsuccessfully. Important colonies of seals, dolphins and migrating birds enrich the otherwise barren and wild natural environment. The main environmental challenges relate to solid waste, wastewater and the husbanding of freshwater supplies. Climate change threatens to further erode coasts and submerge low-lying land. Changes in sea temperature might affect nutrients and fish stocks. If tourism and aquaculture are to take off, investment will be needed, and legal protection will be needed for the natural environment..

## 1. Background information

St Pierre & Miquelon is a French territory, situated in the North Atlantic region, 25 km south of Newfoundland. It once had a thriving fishing industry, but following the collapse of the cod fishery in the north-west Atlantic and an unsuccessful legal dispute with Canada in 1992 about fishing rights, this has declined, and a large part of the fish (processing) industry is now idle. France helps maintain jobs and income. There is also some tourism but access to the islands is difficult and expensive. Prospecting for oil and gas has begun.



### 1.1 Key facts and statistics

Name of Territory	St Pierre & Miquelon
Region	North Atlantic
Land area	242 km <sup>2</sup>
Maritime claims	EEZ: 12.3 km <sup>2</sup> (200 nm); territorial sea: 12 nm
Population	7 (est. 2006); density 29/km <sup>2</sup>
GDP/capita	€ 6800 (est. 2001)
Literacy rate	n.a.
Unemployment rate	12%

## 1.2 Constitution

St-Pierre & Miquelon has been a French overseas *collectivité*<sup>3</sup> since 2003. It has changed status at various times: it became a *département* in 1976 and a territorial *collectivité* with special status in 1985. The 2003 status change defined more precisely the responsibilities of the parties (the French state, the territory, and the municipalities<sup>4</sup> on the two islands) in particular concerning fiscal sovereignty in relation to the new hydrocarbon resources.

St-Pierre & Miquelon has a locally-elected General Council<sup>5</sup> which appoints the president who is head of state. This Council has powers in fiscal and customs matters, building, housing and urban planning. The Council is advised by a Social and Economic Committee.

A Prefect is appointed by France. France is responsible for defence and foreign affairs, and the Prefecture, together with the decentralised services<sup>6</sup> of the French State, has a number of tasks, including defence, police/civil protection, health, education, employment, environment, agriculture and forestry. The two islands are officially municipalities with their own mayors.

## 1.3 Physical geography

St Pierre & Miquelon comprises 2 main (eponymous) and 8 smaller islands. The larger island (Miquelon) is divided into Grande Miquelon and Petite Miquelon or Langlade, separated by a sand isthmus, north of which is a salted lagoon "Le Grand Barachois". St Pierre, the smaller island, has a bird island Grand Colombier to its North.



Geologically St Pierre & Miquelon is part of the Appalachian mountains, like the two Canadian provinces of Nova Scotia and Newfoundland between which it lies. This location has been the cause of international disputes (see 1.5). Soils are rocky and poor, eroded by ice, harsh climate and deforestation. The weather is cold and humid, with temperatures of -10 to -5°C in winter and 10 to 20 in summer. The highest point is the summit of Grande Montagne, at 240 m.

St Pierre and Miquelon is situated on the Grand Banks, a group of underwater plateaus where the cold Labrador Current mixes with the warm waters of the Gulf Stream. The mixing of these waters and the shape of the ocean bottom here lift nutrients to the surface. These conditions created one of the richest fishing grounds in the world (in the past).

## 1.4 Flora and fauna

The remote and untouched ecosystem of the island north of St Pierre (Grand Colombier) is particularly rich in birdlife. In the Etang aux Alouettes, to the west of Le Grand Barachois (the Salt lagoon between Grand and Small Miquelon) many birds have their habitat. There are 112 bird species, of which 85 breed in the islands; there are no endemics or restricted range species. One species, Piping Plover (*Charadrius melodus*) is globally threatened. The territory contains several Important Bird Areas (based on the BirdLife International programme) because of their marine bird communities. The salt lagoon Le Grand Barachois has many seals.

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<sup>3</sup> Collectivité d' outre-mer

<sup>4</sup> Communes

<sup>5</sup> Assemblée générale

<sup>6</sup> Services déconcentrés

## 1.5 Demography, socio-economy

St Pierre is smaller than Miquelon (where only 100 families live) but is home to most of the population of the territory. The original inhabitants were Catholic Basque and Breton fishermen.

The economic decline of the island is related to the collapse of fish and particularly cod stocks in the north-west Atlantic, which began in the 1960s, and to an unsuccessful legal dispute with Canada over fishing waters and quotas. The latter started in 1967 and led finally to a decision in 1992 by a special Court of Arbitration in which the islands obtained an EEZ of 12.3 km<sup>2</sup>, about 25% of what had been asked for.<sup>7</sup> In the same year a moratorium was imposed on cod fishing, and the fish catch diminished from 17,000 tonnes in 1992 to 280 tonnes in 1993 (Garabiol, 2002). For the fishing season 2003-2004 France is allowed 2340 tonnes of cod and 266 tonnes of snow crab. Large-scale commercial fishers are allowed 70% of the French quota. Only one fish processing factory continues to operate (Interpeche, owned by the Spanish Pescanova group) but it is operating at only 10% of its capacity. The 78 workers work the equivalent of 4 or 5 months per year and are paid full time and have fixed contracts. Over 10 years the factory has received € 1.3 million in subsidies. Fishers in smaller boats get the rest of the quota and their catch is processed at 4 small factories. There are around 60 fishers and the processing factories employ about 100 persons. Other species are now being caught, like snow crab, lumpfish and whelks. A special investment programme has subsidised 1/3 of the cost of smaller boats to stimulate employment in small-scale fishing, amounting to € 165,000 in 2000.



Photos [www.cheznoo.net](http://www.cheznoo.net) : Left - St Pierre, Right - Cap Miquelon

Agriculture, livestock and fisheries occupy one-fifth of the working population, with the public sector and construction being the main employers.



<sup>7</sup> The Court referred to decided in 1992 that Canada's territorial claims would be limited by a series of arcs with a radius of 200 nautical miles. St Pierre & Miquelon's limit became a patchwork of 24 nm-wide areas around the islands and a narrow band 10.5 nm wide and 200 nm long to the south. This was intended to provide Saint-Pierre & Miquelon with a corridor to the high seas, but this zone falls totally within the area claimed by Canada as an EEZ.

Aquaculture has developed, and now produces 3000 tonnes per year, creating direct employment for 195 people (80 full time equivalent). Since 2001 coquilles Saint-Jacques (imported from the Madeleine Islands) have been cultivated locally, and are now sold in Europe as 'Royale de Miquelon', after preparation and deep freezing on the island. There are also plans to also export crabs to Europe. In 2005 the aquaculture industry received a total of €825,000 in subsidies (Mirthil, 2006).

The second natural resource which provoked conflict with Canada was hydrocarbons. 123 million barrels of oil were produced off the coast of Newfoundland in 2003. Exxon-Mobil started drilling in the Laurentian Basin in 2001, 160 km south of both islands. But Exxon-Mobil has now invested €38 million in exploration without success. An agreement with Canada was signed in May 2005 on the sharing of resources, but Canada recently announced its wish to extend its EEZ to the limits of the continental shelf (i.e. 370 nm instead of the current 200 nm). If this happens, the territory's present EEZ will fall totally within Canadian waters. Because of this uncertainty, companies have temporarily stopped exploration.

While drilling was in progress, the islanders profited through delivering goods and services: catering for the workers on the rigs and temporary housing on St Pierre, amounting to € 3 million.

Tourism based on the natural resources of the islands is another source of income and employment. The territory currently receives 15,000 tourists yearly, but the development of tourism is hampered by expensive and infrequent air flights, seasonally harsh weather and the small scale of the islands, making them unsuitable for long stays. France invested €60 million in a longer runway (1800 m) so that Airbus A 320s and Boeing 737-400s can land. But the monopolist Air Saint Pierre, which charges high fares, is in financial trouble and receives subsidies.

Other sources of income derived from nature are the mink and fox pelts that the islanders re-export to the EU from Canada.

Due to large French subsidies unemployment is only 11%.

## **2. Main environmental challenges**

### **2.1 Overview of state of the environment of St Pierre & Miquelon**

The main environmental concerns on the territory relate to waste management, the pollution of rivers, problems with the water supply system, the lack of statutory protected areas and the threat of oil spills to coasts and marine wildlife. These are dealt with briefly in 2.2. A further concern is the possible effect of climate change on fishing, given the location of St Pierre and Miquelon on the Grand Bank shelf. The meeting of cold and warmer waters lift nutrients to the surface and made for rich fishing grounds (at least in the past). Changes in this situation due to future climate change are not identified here as a major challenge, given the severe effects of overfishing in the past. However, temperature changes and effects on stocks may need monitoring and further attention in the future.

### **2.2 Main environmental challenges**

#### **Challenge 1 Waste MODERATE**

Waste production in the territory, 9000 tonnes in 2000, is increasing. Waste tips are subject to windblow of waste into the sea and onto land due to the strong winds. Other problems include fish processing waste, lack of facilities for disposing of used oils and other toxic wastes.

The territory has a waste management (WM) plan, which was the outcome of a study of different options. The management option chosen is based on a combination of composting and landfill. However according to the National Development Plan 2006 the waste management plan states that "choices have

still to be made about type of installation, before the implementation [of the WM plan] can start". Composting will involve establishing a system of separate collection of biodegradable waste, so there is apparently still much to be done in this area.

## **Challenge 2 Water pollution and water supply MODERATE**

There are concerns about pollution of rivers and other surface waters for populations living along the margins, increasing erosion is occurring due to deforestation. There are also problems on the water supply side. Considerable supply water is being lost because of old pipes freezing, breaking and leaking. Better materials and cold weather technology are needed for the supply network. The Goeland dam also needs to be renewed.

## **Challenge 3 Nature conservation MODERATE**

The Grand Barachois on the Miquelon isthmus has been identified as of great conservation value by an expert team from the *Conservatoire du Littoral* in France. An area of 133 ha near the Grand Barachois has been bought by Miquelon-Langlade municipality but for the moment there will be no measures taken to back up conservation measures with the force of law. Nature areas are only protected on a voluntary basis.

The hunting season in SP&M for Eider ducks is longer than in Canada and has been illegally extended/tolerated by an extra month and lasts until the end of April. Bird Life France has taken the case to court.

## **Challenge 4 Risks from hydrocarbons exploration and production MODERATE**

Quite apart from exploration activity the territories own water, the islands are in an area of oil tanker movements. In 2002 a Radarsat satellite image revealed a 116-kilometre-long, 200-metre-wide oil slick in the Gulf of St. Lawrence, 70 km south of the Saint-Pierre & Miquelon. It was one of the largest oil slicks ever seen in Canadian waters. An oil tanker spill was the cause of this disaster, which led to the deaths of many seabirds. A similar incident which affected le Grand Colombier or the Pointe aux Alouettes on the west coast of Miquelon would affect thousands of birds.

### *Other problems*

- There has been a severe depletion of fish stocks in the sea around the territory. Stocks have not recovered significantly after 12 years of management involving a moratorium and fishing quotas.
- To compound this problem, climate change may have further unpredictable effects on fish stocks, given the location of St Pierre and Miquelon on the Grand Bank shelf. The oceanographic conditions which at least in the past made these waters a rich fishing grounds may be modified by climate change having further negative effects in fish stocks.

## **3. Environmental policies and institutions**

### **3.1 Institutional structure, manpower and budgets**

Protection of nature and the environment is a joint responsibility of the French state (which has its own environmental laws applicable in the territory through its decentralised services on St. Pierre and Miquelon) and the *collectivité* (General Council and government) which is involved with planning, investment and implementation.

The Directorate for Agriculture and Forestry<sup>8</sup> is a French government department responsible for rivers, biodiversity, waste management, energy, hunting (marine aquaculture is dealt with by Directorate for

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<sup>8</sup> Direction de l'Agriculture et de la Forêt

Maritime affairs) and the management of forests and natural areas. One staff member is responsible for environment within this Directorate.

The Directorate of Social and Sanitary Affairs<sup>9</sup> is responsible for clean water supplies, noise and waste pollution and waste inspection, and has one senior staff member. The Directorate for Infrastructures<sup>10</sup> is responsible for investment in environmental infrastructure (waste, water).

The prefecture deals with disasters and emergencies. The Maritime service<sup>11</sup> and the Fisheries Committee<sup>12</sup> also have specific tasks.

### **3.2 Mechanisms for integrating environment into development**

The National Development Plan (see 3.3) includes environmental policies. It was prepared by the Prefect after a consultative process and adopted by the General Council in January 2006.

Environmental impact assessment is not mandatory on the territory.

### **3.3 Environmental strategy and policy**

The National Development Plan (NDP) of January 2006 is the most detailed plan dealing with the environment.

It has a chapter on the environment and others on health, marine products, tourism, oil and gas, regional and international co-operation and public services. Environmental actions signalled in the Single Programming Document (SDP) for the EU include the following actions:

- implement the waste management plan of May 2004;
- upgrade of the hydrocarbons depot;
- renovate and upgrade the reservoirs;
- apply waste and emission standards to public and private companies and installations;
- treat waste water;
- finalise and implement the forestry management plan;
- protect coastal zones (stop erosion, keep shoreline areas free from buildings) and rehabilitate natural areas and ecosystems;
- define a voluntary policy for protection of certain natural environments and ecosystems;

The priority issues were physical planning and waste management.

A sectoral plan for agriculture also has some environmental elements.

### **3.4 Policy instruments**

The agreements made with Canada on the EEZ and on fish quotas are of great importance for the environment as they limit overfishing, thereby protecting resources.

All environmental laws in France, e.g. EIA, and therefore also European law, apply in the *collectivité* but implementation is sometimes difficult according to the local authorities.

There is an Environment Week each year with awareness-raising events on sustainable development. In schools, environmental issues are discussed. Civil servants who deal with the environment sometimes attend courses on specific subjects.

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<sup>9</sup> Direction des Affaires Sanitaires et Sociales

<sup>10</sup> Direction de l'Équipement

<sup>11</sup> Service des Affaires Maritimes.

<sup>12</sup> Comité des Ressources Halieutiques

### 3.5 Monitoring

There is monitoring of water quality (surface, drinking and bathing ) and forests by the Directorate of Agriculture and Forestry, the Directorate of Infrastructure and the Directorate of Social Affairs. There is also a rapid warning system for disasters.

### 3.6 Conclusion on the administrative and political setting

St Pierre & Miquelon is very much oriented towards French/European environmental protection and management structures, as the Prefect and his services do most of the environmental work. But the General Council approves the National Development Plan and has full say on fiscal and housing/ physical planning matters.

There are some national plans (NDP, waste management plan) but no legislative basis. Some important nature conservation areas are protected only on a voluntary basis.

France provides large subsidies to compensate for incomes lost from fishing. This has created a strong dependency.

## 4. International cooperation

### 4.1 Cooperation with France

The *Contrat de Plan* between France and the islands allocated € 31.4 million for the period 2000-2004 and included 4 areas: economic diversification, transport, health and environment/culture/quality of life.

In addition, French Ministry of the Environment has made the following grants recently:

- sustainable management of forests: €25,000
- monitoring sea water quality: €18,000
- management of rivers: €7,500
- monitoring of the quality of surface waters: €5,000
- awareness-raising on sustainable development: €1,000

The *collectivité* multiannual investment programmes take these grants into account.<sup>13</sup>

The National Development Plan says more technical assistance and co-operation is desirable for coastal protection (with the French *Conservatoire du Littoral*), with the regional office of the ministry of environment (DIREN) and with the French Energy agency (ADEME).

### 4.2 Cooperation with the EU

The Council Decision on the association of OCTs with the EU, which governs EU-OCT relations, supports co-operation and development projects. St Pierre and Miquelon have been recipients of around € 3 million in each of the 6<sup>th</sup>, 7<sup>th</sup> and 8<sup>th</sup> EDF plans according to the SPD for the 9<sup>th</sup> EDF.

In the framework of the 9<sup>th</sup> EDF funds have been requested for projects related to transport (improvement of the harbour at Miquelon, airport, roads = 58% of funds) and environment (42%). The environment projects focus on:

- implementation of the new (2004) waste policy, in particular waste separation;
- water management and distribution (evaluate better the available resources, make new dams, improve distribution network- towards Scandinavian standards- waste water treatment);

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<sup>13</sup> Programme Pluriannuel D'Investissements



- finish/continue actions for nature conservation: more nature reserves in humid zones, management and protection of coastal zones).

#### **4.3 Other international cooperation and Multilateral Environmental Agreements (MEAs)**

St Pierre & Miquelon says it follows France in all its international agreements, but no mention of MEA obligations are mentioned in the National Development Plan.

#### **4.4 Other funding by international community for environmental and environment-related projects**

None identified

#### **4.5 Other international cooperation on the environment (or environmentally sensitive sectors)**

An agreement was signed between Canada and France in December 1994 on increased cooperation in many areas: cultural, social, economic, technical and environment. There is a Committee that meets regularly.<sup>14</sup> Themes are: exchange of information on new agricultural practices, new internet services for companies who want to access the Canadian and EU markets, closer cooperation between the hospitals in St Pierre & Miquelon and those in New Brunswick and Newfoundland, cooperation in sport, culture and education, etc. There is no mention of working groups on the environment.

In May 2005 a new agreement was signed with Canada related to the exploration and exploitation of hydrocarbon fields in common areas between St Pierre & Miquelon and the Canadian provinces of Newfoundland, Labrador and Nova Scotia.<sup>15</sup>

### **5. Conclusions and Recommendations**

As a result of the 1992 moratorium on cod fishing and limited quotas, the islands' economy would have collapsed without heavy French subsidy. The islands hope that offshore oil and gas will bring new prosperity and not new disputes. As yet no attention has been given to the possible environmental downside of this activity. Local authorities are seeking to develop tourism as a new source of economic development, and in particular eco-tourism. The projects of the SPD illustrate this: creation of paths, protected wilderness areas, forestry management etc.

The environment has received some attention from the territorial government, France and the EU, mostly in the areas of wastewater treatment and waste management, but continued action is needed in these areas as the Waste Management Plan of 2004 has not been implemented yet. The protection of nature areas has received some attention but there are no plans for legislation.

Recommendations:

1. Action to implement the waste plan promptly.
2. Reduce the use of fossil fuels and prospect wind energy potential.
3. Stimulate alternatives to fishing (e.g. aquaculture).
4. Introduce legal protection for important nature conservation areas and stimulate eco-tourism.

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<sup>14</sup> Commission Mixte de Coopération Régionale

<sup>15</sup> Plan de valorisation économique