

## COUNTRY NOTE ON NATIONAL FISHERIES MANAGEMENT SYSTEM – GREENLAND

### Introduction

1. Given the immense economic importance of fisheries to Greenland – an industry that accounts for approximately 92% of Greenland’s total exports, the requirement for a well-solidified legal framework and stellar administrative system is paramount. The Greenland Home Rule Government’s Fisheries Act is precisely the legislation, which constitutes Greenland’s legal framework and administrative underpinnings by which the Executive Branch manages fisheries policies. The government has continually sought to achieve well-established relationships and well-endowed trust between local trade organizations and the fishing operations they represent, as well as the government-owned seafood operation, Royal Greenland, in order to align domestic fisheries policies and legislative acts with the domestic and international interests of these parties. Provided the Home Rule’s administration of 18 companies, including Royal Greenland, the counterbalancing of the administration’s authority with these monopolistic and, in many instances, wholly owned or only partially-privatized enterprises’ profitability can be exceptionally conflicting. Therefore, a need for transparency and full-disclosure in the governments’ interactions with enterprise is pivotal.

2. The manifestation of the Fisheries Act has enabled continual alignment of legislation and management policies to be further aligned with current conditions and external influences. The underlying foundations of Greenland’s management of living marine resources are established by the Fisheries Act, which encompasses act specifications, rights and obligations, and other administrative declarations. The Fisheries Act specifies that utilization of fish stocks and resources must be carried out in a biologically acceptable manner, which the Home Rule Government has clearly delineated and fortified in administration of the Act. Furthermore, the administration of the Act solidifies the preeminence of *conservation* and *reproduction* with regard to maintaining and sustaining the longevity of these sovereign resources in the Greenlandic society.

3. For several decades the practical exercise of authority of Greenland’s fisheries management system has been maintained in two different ways. The first of these methods is by means of inspection and license control. Inspections are managed in tandem by the “Grønlands Kommando” (the naval inspection fleet stationed at Grønnedal, South Greenland, as well as their aircraft based in Narsarsuaq) and the Fisheries License Control, the Home Rule government’s designated fishing licensing and monitoring authority. These operations include practical inspection of fishing vessels’ catch and fishing gear exclusively when they are at sea with onboard patrols. The second important – and more political – means of authority has traditionally been through the management of fish processing plants. In most cases, by limiting the time periods of purchase are allowed, these authoritative methods have enabled restrictions on fisheries with very short notice. These activities are a means of promulgating processing to be harmonized and in total congruence with resource management concerns.

### Overview of Economic Activities in Greenland

4. Among the four pillars of the Greenlandic economy (fisheries, raw materials, tourism and other land-based business), fishing and refinery processing of seafood products is the primary industry of Greenland. It accounts for 25% of total employment and 92% of exports -- of which shrimp exports

account for approximately 60% of total export revenues. Fisheries accounts for almost one quarter (~25%) of total employment, with 60% employed in fisheries and 40% employed in fish processing. Despite the vital contribution to national economy from fisheries, an export value of approximately DKK 2 billion (EUR 268.9 million according to the exchange rate from October 4, 2004 of DKK 7.43779 = EUR 1), the value of income generated by fishermen is less than 10% of the total taxable income generated by the Greenlandic economy annually. The following table summarizes revenues and tonnage of seafood and non-seafood exports from 2000 to 2002:

**Table 1. Catch Volumes and Gross Export Revenues**

|  | 2000           |              | 2001           |              | 2002           |              |              |
|--|----------------|--------------|----------------|--------------|----------------|--------------|--------------|
|  | Tons           | M DKK        | Tons           | M DKK        | Tons           | M DKK        | M Euro*      |
| <b>Total</b>                                     | <b>103 193</b> | <b>2 202</b> | <b>115 639</b> | <b>2.233</b> | <b>124 217</b> | <b>2 140</b> | <b>287.7</b> |
| <b>Shrimp, In Total</b>                          | <b>51 534</b>  | <b>1 344</b> | <b>51 795</b>  | <b>1.234</b> | <b>58 574</b>  | <b>1 193</b> | <b>160.4</b> |
| <i>Cooked, Peeled &amp; Frozen Shrimp</i>        | 13 582         | 559          | 12 526         | 506          | 13 460         | 512          | 68.8         |
| <i>Industry and Frozen Shrimp</i>                | 37 426         | 783          | 39 269         | 728          | 45 114         | 667          | 89.7         |
| <i>Other Shrimp Products</i>                     | 526            | 2            | -              | 33           | -              | 14           | 1.9          |
| <b>Cod, In Total</b>                             | <b>1 708</b>   | <b>43</b>    | <b>1 152</b>   | <b>26</b>    | <b>3 298</b>   | <b>70</b>    | <b>9.4</b>   |
| <i>Frozen Cod</i>                                | 36             | 6            | 186            | 2            | 1 699          | 21           | 2.8          |
| <i>Cod, Salted and Dried/ Dried and Salted</i>   | 290            | 46           | 499            | 10           | 443            | 8            | 1.1          |
| <i>Cod Filets, Frozen</i>                        | 1 382          | -            | 444            | 14           | 1 086          | 39           | 5.2          |
| <i>Other Cod Products</i>                        | -              | -            | 23             | -            | 70             | 1            | 0.1          |
| <b>Greenland Halibut, In Total</b>               | <b>13 107</b>  | <b>365</b>   | <b>12 833</b>  | <b>367</b>   | <b>10 412</b>  | <b>317</b>   | <b>42.6</b>  |
| <i>Halibut, Fresh, Frozen and/or Salted</i>      | 12 557         | 327          | 12 065         | 323          | 9 701          | 278          | 37.4         |
| <i>Halibut, Smoked</i>                           | 23             | 37           | 529            | 42           | 361            | 36           | 4.8          |
| <i>Other Halibut Products</i>                    | 527            | 1            | 239            | 2            | 350            | 4            | 0.5          |
| <i>Redfish, Whole or Filet, Frozen</i>           | 2 338          | 32           | 830            | 9            | 1 602          | 17           | 2.3          |
| <b>Snow Crabs</b>                                | <b>4 266</b>   | <b>229</b>   | <b>5 568</b>   | <b>256</b>   | <b>5 168</b>   | <b>216</b>   | <b>29.0</b>  |
| <b>Other Fish Products, In Total</b>             | <b>27 888</b>  | <b>47</b>    | <b>38 249</b>  | <b>25</b>    | <b>41 379</b>  | <b>37</b>    | <b>5.0</b>   |
| <i>Trout, Frozen or Smoked</i>                   | -              | -            | -              | -            | -              | -            | -            |
| <i>Fish Meat, Chopped - Miscellaneous</i>        | -              | -            | -              | -            | -              | -            | -            |
| <i>Atlantic Halibut, Frozen</i>                  | 383            | 8            | 7              | -            | 26             | -            | -            |
| <i>Other Fish Products</i>                       | 27 505         | 39           | 38 242         | 25           | 41 353         | 37           | 5.0          |
| <b>Scallops, Frozen/ Dried/ Salted, In Total</b> | <b>527</b>     | <b>37</b>    | <b>541</b>     | <b>46</b>    | <b>535</b>     | <b>42</b>    | <b>5.6</b>   |
| <i>Smoked/ Fresh/ Cooled/ Frozen/ Salted</i>     | -              | -            | -              | -            | -              | -            | -            |
| <b>Other Products - Non-Seafood Exports</b>      | <b>1 761</b>   | <b>85</b>    | <b>4 671</b>   | <b>248</b>   | <b>3 249</b>   | <b>203</b>   | <b>27.3</b>  |

\*currency exchange rate for 2002 figures in Euros (DKK 7.43779 DKK=EUR 1)

5. Considering that the fishing industry is exceptionally dependent on fish stocks and market prices internationally, income levels can be exceptionally variable and continually unstable. The composition of TAC volumes has changed drastically over the past two decades – 110 600 tons shrimp versus 5 000 tons cod in 2004 (only 4 400 tons cod allocated to Greenlandic fishing operations) shared between West and East Greenland excluding quotas allocated to Norway and Russia; whereas, previously cod fisheries were predominant and the preeminent revenue source in the 1980s. Moreover, fishing quotas for shrimp have been steadily increasing during the last years (85 000 tons in 2002 increased to 100 000 tons in 2003, and subsequently to 134 000 tons in 2004 – of which 27 000 tons are discounted due to allocation of 4 000 tons to the European Union and the remaining 23 000 tons attributable to conversion factor regulations) following scientific advice. However, due to stagnating market prices and escalating oil prices, the revenue base has markedly decreased and has suffered from the implications of destabilizing market effects. Snow Crabs have developed to become a valuable catch in recent years (catches doubled from 2000 to 2001 and revenue correspondingly multiplied by approximately 300%); however, stocks have been unstable and lack

of scientific research on the stocks precludes substantial fishing operations dedicated to this fishery. Consequently, the revenue base and TAC allocations have fallen in rather epic proportions since the beginning of 2002. Additionally, redfish seem to have migrated en masse irrefutably from Iceland to Greenland and could become a future revenue generator. The Home Rule Fisheries Ministry has submitted a list of potential other species to the Council, which may imply a more pervasive diversification in the of fishing activities in the foreseeable future.

6. In general, in order to maintain the local and regional infrastructure, as well as employment in remote areas, the Home Rule allocates 13.5% (per the government's total budget from financial year 2002) of its current expenditure in the form of direct subsidies to Home Rule enterprises and through additional service contract arrangements with these companies. The direct financial support accounts for 6 – 6.5% of the total budget, which entails 88% allocated to the first pillar, namely fisheries, hunting and agriculture. However, whereas the subsidies are used for the development of the other business pillars (oil and minerals, tourism and other land-based activities), only 3% of the subsidies are used for development activities of the fisheries sector. In 2002 and 2003, the government allocated DKK 2.4 million (EUR 322 676), DKK 13.4 million (EUR 1.8 million) and DKK 9.4 million (EUR 1.3 million) to research, management services, and control and monitoring services, respectively, to the fisheries sector. Additionally, the fisheries sector benefits from additional service contracts and reduced pricing structures for water, heat and electricity, which amount to roughly DKK 60 million per year (EUR 8.1 million). The government's fall session in 2004 will further address potential reductions in this indirect subsidy for water, heat and electricity, which potentially may be reduced on a linear basis from the beginning of 2005 to the culmination of 2009 by approximately DKK 6 million per year (EUR 806 691 per year), a debate that will confront a long-standing liberal and socialistic principle of solidarity and equality for all citizens and communities in Greenland.

7. The dependence on fisheries makes the economy inherently exposed to external shocks. Further to some favorable years (especially 1998-1999) with a real GDP annual growth rate of more than 7%, the 2001-2002 figures represent a slowdown in the economy with a growth rate of 1-2%. This is unequivocally an implication of depressed market prices for shrimp with persistent high prices for oil. In 2001, though exports of shrimp had increased, the value of the export fell by DKK 110 million (EUR 14.8 million based on today's current exchange rate) in 2001. The market prices on shrimp decreased by 14.25% between 2001 and 2002 followed by a further decrease of nearly 5% in 2003. The Greenland halibut export value decreased with 5% and crab fishing, which had increased in previous years, decreased by 38% due to falling stocks and lack of scientific knowledge about the state of the stocks in 2001 and 2002. The land-based industry and trade sector has continued to stagnate incontrovertibly thronged by an increase in bankruptcies and decrease in investments. Delays in public expenditure and lack of substantive planning in further development of critical infrastructure – expansion of ports, further build-out of air transport infrastructure and consolidation of processing facilities – has been to the detriment of significantly higher export revenues as a per cent of GDP.

### **Background on the Greenlandic fisheries**

8. Greenland carries out extensive research via the modern Grønlands Naturinstitut (Greenland Institute of Natural Resources), and is also traditionally supported by scientific guidance primarily from NAFO (Northwest Atlantic Fisheries Organization) and ICES (International Council for the Exploration of Sea). The scientific advice is traditionally first presented in June each year, but the guidance for shrimp and snow crab is generally presented towards the end of November each year. According to the fishing legislation, it is the Home Rule Government that, based on the respective data, establishes the following year's total allowable catch (TAC) at the end of each calendar year for the subsequent calendar year. It is the quota order that is issued on this occasion, and the following quantities were stipulated for 2004 for

offshore and coastal fisheries in respective order, including representation of allocations to Greenland's major trading partners and respective international agreements:

**Table 2. Offshore Fisheries, 2004 Quotas**

|   |                                 | Allocation of Quotas by Country/ Countries |           |                |               |         |        |         |
|---|---------------------------------|--|-----------|----------------|---------------|---------|--------|---------|
| Notes:  | West Greenland                  | Total Quota (Tons)                         | Greenland | European Union | Faroe Islands | Iceland | Norway | Russia  |
| 5)  | Shrimp                          | 78 100                                     | 74 100    | 4 000          | -             | -       | -      | -       |
| 5) 6) 12)   | Greenland Halibut (Southwest)   | 5 500                                      | 2 150     | -              | 150           | -       | 1 450  | 1 200   |
| 12)   | Greenland Halibut (Northwest)   | 4 000                                      | 3 600     | -              | 150           | -       | -      | 250     |
|   | Snow Crab                       |  | 1 405     | 1 000          | -             | -       | -      | -       |
| 6)  | Grenadiers                      | 4 150                                      | 2 700     | 1 035          | -             | -       | 315    | 100     |
|   | Redfish                         | 1 000                                      | 1 000     | -              | -             | -       | -      | -       |
| 6)  | Atlantic Halibut                | 1 200                                      | 1 000     | -              | -             | -       | 200    | -       |
|   | Catfish                         | 1 000                                      | 1 000     | -              | -             | -       | -      | -       |
|   | Capelin                         | 25 000                                     | 25 000    | -              | -             | -       | -      | -       |
| <b>East Greenland</b>                                     |                                 |  |           |                |               |         |        |         |
| 5) 6)   | Shrimp                          | 12 400                                     | 6 725     | 1 695          | 1 350         | -       | 2 830  | -       |
| 5) 6)   | Greenland Halibut               | 23 000                                     | 12 875    | 8 050          | 150           | -       | 1 325  | 600     |
| 6)  | Grenadiers                      | 6 525                                      | 4 525     | 1 715          | -             | -       | 285    | -       |
| 8)  | Redfish (both Bottom & Pelagic) | 17 500                                     | 1 000     | (19 770)       | -             | -       | 100    | -       |
| 6)  | Atlantic Halibut                | 2 000                                      | 600       | 800            | -             | -       | 550    | 50      |
|   | Catfish                         | 1 000                                      | 1 000     | -              | -             | -       | -      | -       |
| 1)5)6)8)9)  | Capelin                         | 335 000                                    | 11 055    | -              | 19 690        | 270 420 | 33 835 | -       |
|   | Blue Whiting                    | 40 000                                     | -         | -              | -             | -       | -      | -       |
| 11)   | Bi-catch Quota                  | -  | -         | -              | 225           | -       | -      | -       |
|   | Cod                             | 5 000                                      | 4 400     | -              | -             | -       | 600    | -       |
| 5)6)7)9)10)   |                                 |  |           | (max 14 270)   | 4 500         | -       | 5 955  | 4 300   |
| 13)   | Bi-catch Quota                  | -  | -         | 2 000          | -             | -       | 150    | max 10% |
| <b>Norway</b>   |                                 |  |           |                |               |         |        |         |
|   | Cod                             | 1 900                                      | 1 900     | -              | -             | -       | -      | -       |
|   | Haddock                         | 330  | 330       | -              | -             | -       | -      | -       |
|   | Saithe (North)                  | 925  | 925       | -              | -             | -       | -      | -       |
| 2)  | Bi-catch Quota (North)          | 150  | 150       | -              | -             | -       | -      | -       |
|   | Saithe (South)                  | 1 000                                      | 1 000     | -              | -             | -       | -      | -       |
| 3)  | Bi-catch Quota (South)          | 100  | 100       | -              | -             | -       | -      | -       |
| <b>Russia</b>   |                                 |  |           |                |               |         |        |         |
|   | Cod                             | 3 140                                      | 3 140     | -              | -             | -       | -      | -       |
|   | Haddock                         | 680  | 680       | -              | -             | -       | -      | -       |
|   | Bi-catch Quota                  | max 10%                                    | max 10%   | -              | -             | -       | -      | -       |
| <b>Faroe Islands</b>                                      |                                 |  |           |                |               |         |        |         |
| 4)  | Bottom Fish                     | 500  | 500       | -              | -             | -       | -      | -       |
|   | Herring                         | 3 100                                      | 3 100     | -              | -             | -       | -      | -       |
| <b>International</b>                                      |                                 |  |           |                |               |         |        |         |
|   | Herring                         | 5 000                                      | 5 000     | -              | -             | -       | -      | -       |
|   | Shrimp:                         |  |           |                |               |         |        |         |
| NAFO-region 3M: 515 fishing days                          |                                 |  |           |                |               |         |        |         |
| NAFO-region 3L: 1.344 tons shared with the Faroe Islands  |                                 |  |           |                |               |         |        |         |
| Svalbard (in close proximity to Norway): 643 fishing days |                                 |  |           |                |               |         |        |         |

Notes to Table 2 pertaining to TAC allocations for offshore fisheries:

- 1) The preliminary TAC for capelin is established in June of each year for the quota year June 20<sup>th</sup>-April 30<sup>th</sup> for the following year (10 months) – capelin fishing in East Greenland is reserved during the period of May through June. The final TAC figure is solidified at the end of the fishing season. The aforementioned quota figures are established for the fishing season 2003/ 2004.
- 2) The bi-catch quota of other species (specifically redfish and Atlantic halibut) up to 150 tons in Norwegian territory north of 62° N.
- 3) The bi-catch quota other species up to 100 tons in Norwegian territory south of 62° N.
- 4) Maximum 20% cod and haddock. The bottom fish quota of 500 tons can be caught in either of the Faroe Islands' fishing regions referred to as "indre fiskedageområde" or "ydre fiskedageområde".
- 5) The European Union reached agreement with the Faroe Islands that the Faroe Islands would receive the EU's quota in this case, which implies 150 tons Greenland halibut to be fished within West Greenland waters, as well as 1 150 tons shrimp, 150 tons Greenland halibut, 500 tons pelagic redfish and 4 670 tons capelin to be fished in East Greenland waters.

- 6) The European Union reached agreement with Norway that Norway would receive the EU's quota in this case, which entails 800 tons Greenland halibut, 315 tons grenadiers and 200 tons Atlantic halibut to be fished in West Greenland waters, as well as 2 830 tons shrimp, 800 tons Greenland halibut, 285 tons grenadiers, 200 tons Atlantic halibut, 7 035 tons capelin and 5 230 tons pelagic redfish to be fished in East Greenland waters.
- 7) Maximum of 14 270 tons of the EU's quota can be derived by pelagic trawl (specifically pelagic redfish).
- 8) The European Union reached agreement with Iceland that Iceland would receive 14 070 tons of the EU's quota in this case.
- 9) The Faroe Islands can fish 4.000 tons pelagic redfish within Greenland's fishing territories from the allotted NEAFC quota for 2004. Greenland and the Faroe Islands are in agreement to revise the distributions dated July 5<sup>th</sup>, 2004 and August 2<sup>nd</sup>, 2004 if feasible given catch-regulated considerations is possible. On that basis, additional quota will be granted in weeks 28 and 32 to the Faroe Islands consisting of 600 tons per week.
- 10) The 500 tons that the Faroe Islands has permission can only be caught in East Greenland fishing waters. Bottom trawling and pelagic trawling catch volumes must be reported individually and clearly differentiable at the time of reporting.
- 11) Greenland will grant permission to a maximum of 3 trawlers and/ or line fishing vessels from the Faroe Islands access to experimental fisheries in East Greenland waters – including cod, torsk/ tusk/ cusk and catfish/ spotted sea cat – for a consolidated 100 fishing days. The total allowable bi-catch of Atlantic halibut and Greenland halibut pertaining to the experimental fishing efforts may not exceed a maximum of 225 tons.
- 12) 500 tons of the European Union's quota can be caught either in the Northwest region or Southwest region upon agreement with Greenland.
- 13) The European Union's total bi-catch quota of cod, catfish/ spotted sea cat, skate/ thornback ray, ling, and torsk/ tusk/ cusk may not exceed 2 000 tons on a consolidated basis. Bi-catch of cod, specifically, may not exceed 100 tons.

**Table 3. Coastal Fisheries, 2004 (Shrimp and Snow Crab)**

|  | Total Quota (Tons) |
|--|--------------------|
| <b>West Greenland</b>  |                    |
| <b>Shrimp (*)</b>  | <b>55 900</b>      |
| <b>Snow Crab</b>   | <b>4 200</b>       |
| Scallops - Nuuk region   | 720                |
| Scallops - Mudderbugten region   | -                  |
| Scallops - Attu region (**)  | 100                |
| Scallops - Sisimiut region   | -                  |
| Scallops - South - Saqqaq region   | 400                |
| Scallops - North - Kangaarsuk region   | 700                |
| Scallops - Nordre (Northern) Strømfjord region   | 300                |
| <b>Total Scallops Quota (***)</b>  | <b>2 220</b>       |
| Comments:  |                    |
| * Shrimp: This part of the total shrimp fishing quota is reserved for vessels which land the whole catch to a land production facility (with the exception of vessels with onboard processing approvals from the government - currently 4 vessels with 25% onboard processing permission and one vessel with 30% onboard processing permission), and is traditionally designated as the 'coastal quota'. Forty-three (43) percent of the total TAC for shrimp is allocated to coastal fishing vessels. |                    |
| ** Outside of the restricted/ closed zone for the Attu region.   |                    |
| *** TAC is allocated by geographic region for the coastal scallop fisheries.   |                    |

## Modernisation and Optimisation of the Fisheries

9. The main policy expressed by the newly established coalition government in 2002, and subsequently further restructured in 2003, is to make the fisheries sector financially viable. Considering that the most significant sector of Greenland's fisheries is shrimp fisheries, the structural reforms have mainly been concerned with this sector. Further to a restructuring of the offshore fisheries in the 1990s with a reduction of the fleet from 52 to 15 trawlers, a reform of the quota system was introduced with the introduction of the ITQ system. The offshore fisheries sector is now precluded from subsidies and, in fact, contributes additional marginal tariffs, though a program administered by the Home Rule's Tax Authority, which generates approximately DKK 7.5 million (EUR 1 milion) annually in income for the government.

10. With guidance from the report commissioned by the Enoksen Committee -- established by the Greenland Home Rule government with representation from the administration as well as external stakeholders, the introduction of efficiency criteria into the realm of restructuring the coastal shrimp fisheries has been underway since 2001 and is nearing a point of successful culmination. These consolidation efforts have been comprehensive in their overarching objectives to consolidate the fleet structure in the coastal fisheries concentrated on shrimp fisheries with approximately 60 vessels between 16.2 BRT and 810 BRT in 2001 – 5 of which have production capacity onboard and a respective requirement to deliver 25% of their total catch to processing plants onshore – to approximately 33 vessels in 2004. Further optimization of this fleet is being contemplated through a variety of methods, including

additional calibration of the quota system aligned specifically with the individual vessels' fishing capacity and equipment, as well as achievement of profitability.

11. The Home Rule has allocated through the proposed Finance Act of 2005 coverage for additional restructuring efforts in the coastal shrimp fisheries and Greenland halibut fisheries amounting to DKK 27.4 million annually between 2005 and 2008 (EUR 3.7 million annually or EUR 14.7 million over the respective 4-year period). Approximately 50% of the coastal shrimp fleet vessels can be characterized as over 20 years old, and consequently modernisation and optimisation of the fleet is immensely critical to maintain profitable ventures. In conglomeration with these substantial capital appropriations in the Finance Act, the agreement, Protocol IV, with the EU stipulates investments required in the future totaling approximately EUR 101 million to secure the following in the next 10 years:

- a) Procurement of 25 shrimp trawlers of steel with a 60 Tons capacity, which will necessitate an investment of around EUR 67 million
- b) Procurement of 50 Greenland Halibut boats with 5 Tons capacity requiring an investment of EUR 20 million;
- c) And, other fisheries investment: EUR 13.5 million.

12. In retrospect, the public expenditure for fisheries incorporated in the 2004 Finance Act provides for administration of fisheries and fisheries-related budgetary coverage of approximately 10,5M Euro – excluding salaries to employees, as well as exclusion of loan disbursements and income generated from the Erhvervstøtteordning, or Business Support Governance Fund. This can be divided into the following items:

|   |                  |
|---|------------------|
| ✓ Shipping school in Paamiut:                               | EUR 1.57 million |
| ✓ Fishing industry school, ATI                              | EUR 1.10 million |
| ✓ Restructuring funds for shrimp and GL halibut fisheries   | EUR 0.54 million |
| ✓ Control and inspections (excluding salaries and overhead) | EUR 1.90 million |
| ✓ Fisheries Conference 2004 (re: fortification of policies) | EUR 0.13 million |
| ✓ Direct subsidies to shrimp fisheries                      | EUR 3.29 million |
| ✓ NAFO, NEAFC, NASCO, ICES                                  | EUR 0.13 million |
| ✓ Experimental Fishing Projects                             | EUR 0.67 million |
| ✓ Special Assistance Fund                                   | EUR 0.40 million |
| ✓ Information and Education Fund                            | EUR 0.27 million |
| ✓ Greenland Institute of Natural Resources                  | EUR 0.50 million |

13. In accordance with the Home Rule Government's holistic approach to fisheries and overarching ambition for eventual full-scale administration of all facets of government to be assumed from the Danish state – and the long-term aspiration of independence within the Danish realm, the government is increasingly focusing efforts on sustainability through administration. These objectives require an amalgamation of efforts in every facet of government and intensified involvement from both publicly-held enterprises and private corporations to ensure maximum GDP growth and substantive progress in export to alleviate the burdens of large-scale imports. Engagement from the entire population – principally federal and local municipal governmental branches working in close collaboration with private enterprises – will be of immense importance in securing Greenland's long-term economic self-sufficiency and sustainability.

Given the federal government's current budget of DKK 5.32 billion (EUR 715.1 million) allocated to federal, regional and local expenditures and operations expenses coupled with income of DKK 5.34 billion (EUR 718.2 million), the government manages a negative annual balance of approximately DKK 23.3 million (EUR 3.1 million) per year. Based on these figures, if one were to extrapolate what percentage of the government's budget is allocated specifically to direct governmental financial transfers to industry and non-profit organizations, the government allocates 32% of its total budget to GFTs (government financial transfers).

14. Of the aforementioned annual federal budget, Greenland currently receives DKK 2.95 billion, or EUR 396.9 million, annually, which constitutes the block grant agreement with the Danish state to fund Greenland's Home Rule administration in a budgetary capacity. Additionally, Greenland also receives DKK 319.4 million, or EUR 42.95 million, annually via the Protocol IV agreement with the European Union culminating at the end of 2006, which will be renegotiated in a newly established agreement, Protocol V, taking effect on January 1<sup>st</sup>, 2006. These financial commitments and external economic support – amassing a grand total of DKK 3.27 billion, or EUR 439.9 million, annually -- shed substantial light on the immense dependence on outside investment.

15. In that respect, Royal Greenland A/S, the 100% government-owned international seafood conglomerate and largest corporation in terms of earnings in Greenland, is a strong indicator of the dire need for increased international expansion of business interests and lack of economic self-sufficiency at the present time. Royal Greenland alone, which in the fiscal year 2001/2002 ending on September 30, 2002 achieved group turnover of DKK 3.46 billion (EUR 465.3 million) and pre-tax profit of DKK 101 million (EUR 13.6 million) following extraordinary restructuring items, generates barely enough gross turnover to cover the necessary external investment from the Danish state and the Protocol IV agreement funding from the European Union. Consequently, the need for broadening of ties internationally and innovative business practices to solidify other viable sources of income and enhanced GDP figures will be time consuming activities for Greenland to further secure its interests in eventual independence. Fisheries will unequivocally play a vital economic role in providing economic self-sufficiency and laying further groundwork for international accords and multilateral trade agreements.

### **Structure and Overview of the Fleet**

16. The Greenlandic fishing fleet is comprised of an amalgamation of old and new vessels and has lately been going through a restructuring exercise. The offshore fleet is modern and was financed by guarantees from the Greenland Treasury in the 1990s. The coastal fleet is generally quite antiquated with vessels dating back as far as the 1960s. The fishing fleet can be divided in three segments:

- a. Below 5 GRT - mainly dinghies with outboard motors, around 5 000 since commercial fisheries began. Less than 15% of the value of the former sales stem from this group; nevertheless, plays a seemingly dominant role in connection with the informal sector of the economy.
- b. From 5 to 80 GRT, up to 20 tons. With around 350 vessels, these dominate the small-scale fisheries. These would normally be limited to one-day operations and restricted to a specific operating radius; however, when a 80 Ton limit was introduced by the authorities to prevent the largest vessels from competing with coastal fishermen, several 79-tons boats were built for use in both offshore and coastal fisheries.
- c. Above 80 GRT, mostly far above this level. These boats are equipped for long-distance fisheries and most can do processing on board with the average sailing time offshore of approximately one month. These are primarily preoccupied with shrimp fisheries with the

license condition that 25% are delivered to land-based processing facilities and the remainder can, at the vessel owner's discretion, be processed onboard in terms of the corresponding 75%.

17. The aforementioned classification of tonnage is a somewhat arbitrary line. Boats close to the 80 GRT level can be equipped to conduct fisheries over considerable distances and at the same time with efficiency in trawling comparable to the larger boats.

18. The history of Greenland's large-scale industrial fisheries has been intimately connected to Denmark. This is due not only to the role of KGH (Kongelige Grønlandske Handel), or former state-owned trade conglomerate, as trade monopoly and a main producer, but also because the pioneers in modern fisheries were two private companies based in Esbjerg, Denmark, which commenced their activities in 1948. The industrialization of fisheries also influenced the structure of the fleet, although small boats remained pervasive. The massive investments led to overcapacity: the fleet could, at the time, catch more fish than the Greenlandic seas could provide. The surplus investment was due to resource management in which the distribution of total allowable catch (TAC) based on the principle of first come, first served.

19. With the introduction of other approaches – a capacity quota for the coastal, or inshore, fleet and an individual transferable quota (ITQ) system for the offshore shrimp fishery, the relative imbalance between fleet and resources became indisputably obvious. Consequently, the fleet was restructured during the 1990s through 'strukturetilpasningsinitiativer', or structural optimization initiatives, in order to consolidate the fleet into a more manageable number of very large vessels. Despite the well-intended approach, the anticipated reduction in fishing capacity did not transpire.

20. Foreign fleets around Greenland have continually played and remain a significant contributor to Greenland's fisheries development as well. Norwegian and Faeroese fisheries began in the 1920s, which typically ranged in size from 100-300 and occasionally 500 GRT with a number of smaller dories using handlines and longlines, which have subsequently been replaced by jigging wheel equipment. On average, 40 Faeroese and Norwegian ships participated in the Greenlandic fisheries through the period of 1950-1977. In addition to the Norwegian and Faeroese fleets, an amalgamation of fleets from Portugal, France, Iceland, the United Kingdom, Russia and Germany also invested efforts in this international fishery from 1950 onwards. With the introduction of the 200 nautical mile EEZ in 1977, the foreign fleets were drastically reduced. Their remaining presence was negotiated partly through bi- and multinational agreements, in which fractions of the Greenland have been sold and/or exchanged (e.g., the existing Protocol IV agreement with the European Union). The following table expounds on the classification of different vessel configurations throughout the 20<sup>th</sup> century and initial stages of the 21<sup>st</sup> century with excruciating attention paid to vessel setups and their variances based on their origins from northern Europe and/or Greenland.



**Table 4. Overview of 20th and 21st Century Fishing Technologies Used in Greenland's Waters**

|                 |              | 1900-1910 | 1910-1920 | 1920-1930 | 1930-1940 | 1940-1950 | 1950-1960 | 1960-1970 | 1970-1980 | 1980-1990 | 1990-2000 | 2000-present |
|-----------------|--------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|--------------|
| <b>Offshore</b> |              |           |           |           |           |           |           |           |           |           |           |              |
| Foreign         | Longline     |           |           |           |           |           | X         | X         |           |           |           |              |
|                 | Trawl        |           |           |           |           |           | X         | X         | X         | X         | X         | X            |
| Denmark         | Longline     |           |           |           |           |           | X         | X         |           |           |           |              |
|                 | Trawl        |           |           |           |           |           | X         | X         | X         | X         | X         | X            |
| Greenland       | Longline     |           |           |           |           |           | X         | X         |           |           |           |              |
|                 | Trawl        |           |           |           |           |           | X         | X         | X         | X         | X         | X            |
| <b>Mixed</b>    |              |           |           |           |           |           |           |           |           |           |           |              |
| Foreign         | Dory/ Jig    |           |           | X         | X         | X         | X         | X         |           |           |           |              |
|                 | Longline     |           |           | X         | X         | X         |           |           |           |           |           |              |
|                 | Trawl        |           |           | X         | X         | X         | X         | X         | X         |           |           |              |
| Denmark         | Dory/ Jig    |           |           | X         | X         |           |           |           |           |           |           |              |
|                 | Longline     |           |           |           | X         | X         |           |           |           |           |           |              |
|                 | Trawl        |           |           |           |           | X         | X         | X         |           |           |           |              |
| Greenland       | Dory/ Jig    |           | X         | X         | X         | X         |           |           |           |           |           |              |
|                 | Longline     |           |           | X         | X         | X         |           |           |           |           |           |              |
|                 | Trawl        |           |           |           | X         | X         | X         | X         | X         | X         | X         | X            |
|                 |              |           |           |           |           |           |           |           |           |           |           |              |
| <b>Local</b>    |              |           |           |           |           |           |           |           |           |           |           |              |
| Denmark         | Jig          |           |           |           |           |           |           |           |           |           |           |              |
|                 | Longline     |           |           |           | X         | X         |           |           |           |           |           |              |
|                 | Bottom traps |           |           |           |           | X         | X         |           |           |           |           |              |
|                 | Gill net     |           |           |           |           |           |           | X         |           |           |           |              |
|                 | Trawl        |           |           |           |           | X         | X         | X         |           |           |           |              |
| Greenland       | Jig          |           | X         | X         | X         | X         | X         | X         | X         | X         | X         | X            |
|                 | Longline     |           |           | X         | X         | X         | X         | X         | X         | X         | X         | X            |
|                 | Bottom traps |           |           |           |           | X         | X         | X         | X         | X         | X         | X            |
|                 | Gill net     |           |           |           |           |           |           | X         | X         |           |           |              |
|                 | Trawl        |           |           |           | X         | X         | X         | X         | X         | X         | X         | X            |

21. The fishing fleet has undergone elaborate adjustments with large investments during the 1980s in order to adjust to the circumstances. The offshore fleet is consequently exceptionally modern and well-consolidated with 2 major companies controlling the lion's share of the market and 4 additional companies maintaining sizable quota shares with consolidated gross revenues of these six operations in 2002 amassing a total of DKK 717.7 million (EUR 96.5 million) and consolidated net revenues of DKK 19.3 million (EUR 2.6 million) with an average of 5 267 tons of shrimp catch volume per trawler (12 trawler vessels in total). The total equity share amounts to DKK 422.4 million (EUR 56.8 million) invested by these six operations as of December 31, 2002. Return on investment in 2002 averaged 4.9% according to the published annual reports based on financial figures released by the solely privately-held operations. Total seafood exports – amounting to nearly DKK 1.9 million (EUR 252.1 million) in 2002 – were accounted for on a revenue basis principally by the offshore shrimp vessel operations (38.3%) and likewise for total shrimp exports (60.2%).

22. In sheer contrast, the coastal fleet is quite antiquated and will require substantial investments within the next ten to twenty years to ensure liquidity and profitability going forward. The coastal shrimp fisheries managed a gross income level on a consolidated basis of DKK 155.7 million (EUR 20.9 million) and post-tax net revenues of DKK 7.5 million (EUR 1 million) in 2003, which is accounted for by 33 active vessels ranging between 16.2 and 810 BRT. The cumulative profitability margin amounted to a meager 2.3% in 2003, which further substantiates in economic turns the imminent need for additional consolidation of non-profitable ventures. The coastal shrimp fishery accounted for nearly 39.8% of total shrimp exports in 2002 – predominantly C&P shrimp (cooked and peeled, or *Pandalus Borealis*), which account for roughly 36 000 tons per year delivered to shrimp processing plants and an additional 10 000 tons processed onboard the 5 coastal vessels with production capacity (on average vessels with 79 BRT and approval from the government as a portion of their license to process 75% onboard and deliver the remaining 25% to onshore processing facilities). Meanwhile, in very similar fashion, the

Greenland halibut coastal fisheries has been mired by overcapacity in the vessel fleet with 25% of the fishing operations (97 boats as of December 31, 2002) accounting for 80% of the catch volume. Approximately 50% of the nearly 390 boats in the Greenland halibut coastal fisheries sector have other occupations concurrent with their fishing interests in order to maintain income and subsistence levels. Income levels on average between 2001 and 2003 have barely surpassed DKK 0.25 million (EUR 0.03 million) per year per fishermen prior to depreciation, amortization and B-income tax deductions.

23. The offshore fleet alone has invested DKK 570 million (EUR 76.6 million) in purchasing quota from the Home Rule Government since establishment of the ITQ system in the early 1990s. These quota shares are provided by the Home Rule Government on a 5-year basis, which requires notification prior to expiry of the 5-year time limitation regarding the impending allotments. Given the exorbitant investments required to procure a trawler vessel for the offshore fleet – typically upwards of DKK 150 million (EUR 20.2 million), the investment return levels are generally expected to be upwards of 6-8%. The increasing TAC levels – 57% of total shrimp TAC is allocated to offshore trawlers – have been very beneficial to these operations. Yet, despite this positive development, the investment returns commanded by their financiers have been exceptionally scrutinized given continued market volatility.

24. Roughly 75% of total shrimp catches in Greenland are processed on board the offshore trawlers, and the remaining catch volumes are processed in factories managed by Royal Greenland in towns and settlements. Many towns and settlements have their own processing facility and although these typically are not profitable, they are maintained in order to solidify the economic centers of these towns and settlements. This policy of ensuring maintenance of towns and settlements has shifted periodically through changes in administration, and by no means is seen as the *carte blanche* in Greenland's political sphere. Management of processing facilities has continually engulfed the political system with questions and debates of how best to ensure sustainable economic development, optimization of fleet capacity with production capacity, and deliberate engagement with maintaining socioeconomic conditions in both cities and settlements. Therefore, the question of managing productivity and employment factors is widely incorporated into structural policy considerations managed by the government, and done in strict congruence with the key enterprises with major investment stakes in these operations – both onshore and offshore.

### **Technical measures to maintain fish stocks productivity**

25. Fisheries Management in Greenland: The ITQ System – The first law on fisheries dates back to 1984. The present law governing commercial fisheries dates back to 1990 with several amendments thereafter. The basic principles are the following:

- ✓ **Regulation by means of preservation and technical conservation measures.** The Government is authorized to create limitations on time periods, in areas, and in use, types and characteristics of equipment.
- ✓ **Regulation of access to commercial fisheries.** The quotas are reserved for vessels and owners of vessels from Greenland recognized as Greenlanders. The Home Rule administration has the possibility to make exceptions to this condition, as necessary.
- ✓ **Regulation by setting of TAC and limitations on access to resources.** The decision is indisputably political, which is reached once a year by the Home Rule Government based on recommendations by biologists domestically and internationally.

- ✓ **Regulation is based on four different types of licenses:** time-limited licenses with and without quotas and time-unlimited licenses with and without licenses. The Government decides what kind of license is mandated with the exception of those for shrimp (already pre-determined as both time-unlimited – quota allocations for offshore shrimp trawlers are renewed each 5-year period -- and transferable quota required) and salmon fisheries, which according to the Fisheries Act, require licenses. For fisheries where licenses are not required, the fisheries are open to all Greenlandic vessels, as long as the overall quota has not been utilized to its full extent. For species where no quota has been established, there are no limitations according to the Fisheries Act.

26. To maintain stocks' productive and reproductive capacity, Total Allowable Catch (TAC) represents the cornerstone of Greenland's fisheries management system. Currently, 11 species in the offshore sector, including shrimp, Greenlandic halibut, snow crab, grenadiers, redfish, Atlantic halibut, catfish, capelin, Blue Whiting, cod, and bottomfish (and 2 sub-stocks, including Arctic char and octopus/squid, as well as by-catch), are subject to Total Allowable Catch (TAC). Individual quota agreements are established with Russia pertaining to haddock in Russian waters; Norway regarding haddock and saithe in Norwegian waters; the Faroe Islands in terms of herring; and, under 'International' agreements additional herring quota – these individual agreements establish quota limits for Greenlandic vessels fishing in the respective partners' fishing territories. These species account for over 96,6% (the remainder applies to catch where TAC does not apply) of the value of harvest taken within the EEZ with shrimp accounting for the most significant portion, 65% of the value of harvest subject to TAC in 2003. As pertains to the application of TAC limitations in the coastal fishery, only shrimp, crab and scallop are regulated.

27. The first regulation of foreign fisheries occurred with the EEZ expansion from 3 to 12 nautical miles in 1963. This mainly affected Portuguese fishermen, but a 10-year allowance of fisheries up to 6 nautical miles was established for France, Iceland, Norway, Portugal, Spain, the United Kingdom and Germany. The large international fishery – primarily cod at the time – was reduced following Greenland's assertion of a 200-mile EEZ in 1977. But since Greenland (together with Denmark) was a joint member of the European Community, EC rules had to govern its fisheries. Danish participation in Greenland fishing continued, with some limitations, until the Home Rule took effect in 1979. It had been required since the 1960s that all Danes involved in fisheries in specific areas within the 12-mile EEZ should have an address and live at least half the year in Greenland.

28. The basis for the present legal organization was the creation of the Home Rule in 1979. The Greenlandic government did not take over all activities immediately, but a process was instigated aiming at a total takeover by January 1<sup>st</sup>, 1985. Following a proper referendum, the Home Rule Government withdrew from the European Union in 1985, thereby allowing Greenlanders to take charge of fishery regulation. The first law concerning fisheries was passed in 1984. The present conglomeration of legal arrangements governing commercial fisheries is based on the Landstingslov (Greenland's parliament) nr. 17 of October 22, 1990. Several major amendments have since been added, including those of significant substantive amendments and ratifications of November 1991, October 1992 and May 1993.

29. The Greenland Home Rule Government carries out its administrative responsibilities through conveyance of quotas, licenses, and other rights and restrictions. First and foremost in importance, Greenland uses a quota system in the utilization of fish stocks, which has reaped manifold benefits for the government, industry and Greenland's ecosystem. The Ministry's Departments of Fisheries and Fisheries License Control maintain detailed and accurate information pertinent to quota utilization and license management.

30. With regards to Greenland's quota system, the Ministry of Fisheries and Hunting would like to mention that we introduced the ITQ system in 1990 for offshore shrimp fisheries and subsequently on January 1<sup>st</sup>, 1997 for coastal shrimp fisheries. From our perspective, this system sufficiently regulates

fishing capacity according to the available resources. Quota owners do not have any economic incentives to invest more than their respective quota share can support. For all commercially viable species, the Home Rule Government determines the TAC (Total Allowable Catch) each year and apportions quotas in accordance with quota ownership governances to the individual operations. The respective annual TAC is usually established in accordance with advice from international research institutions, such as ICES and NAFO, in which Greenlandic biologists are also represented.

31. In this connection, it is worth mentioning in that the Home Rule Government has taken preliminary, substantive steps towards a more ecosystem-based approach in order to be more aligned with external advisory from international research institutions. For instance, based on guidance and advice for the period 2003-2008, the Home Rule has contemplated TAC with an additional variable – the proportionate amount of shrimp consumed by cod. Accounting for such consultancy and ecosystem variables is by no means placed on the periphery when TAC figures are established. Shrimp biologists consider cod as one of the most prominent shrimp predators, and, consequently, developed a model that allows NAFO to extrapolate five years into the future when advising on TAC computations. This ecosystem-based approach is unequivocally useful in the management of marine resources in Greenland and elsewhere. It is also indisputably useful for the industry since, for example, quota owners can more easily regulate their catch capacity in accordance with necessary levels projected over a five-year period.

32. When the Greenlandic Government envisages TAC, the Ministry does not only seek scientific advice, but also significant input from the Greenlandic fishing industry. The Ministry makes every conceivable effort to establish TAC according to biological advice; however, biological guidelines on certain species are often exceptionally scarce or insufficient in terms of data validity. For instance, managing crab stocks is undeniably one area in the Greenlandic fishing industry that requires more support from biologists to more clearly elucidate and mitigate potential overfishing of certain stocks.

33. In this regard, another reverberating issue is management of stocks we share with adjacent coastal states. Despite a bevy of activity and efforts to develop further collaboration with these states, we have not succeeded agreeing upon how we divide the TAC between us and neighboring states. What transpires is virtually inevitable given constraints on information and insufficient international cooperation - each state sets their own TAC individually. We are fully cognizant of and even more increasingly aware as time passes that this development is resulting in unfortunate implications and misappropriated usage of fish resources. Needless to say, the long-term solution is an irrepressible and well-construed agreement with the relevant coastal states to cooperate more closely.

## **Control and Surveillance**

34. Management and control has been maintained through two different ways: inspection and license control and management of fish processing plants.

35. **The control and compliance with quota and license regulations** is the responsibility of the Greenland Fisheries License Control (GFLK), established in 1985. It employs on average 50 fisheries license controllers. Due to problems of discard, the Government introduced an amendment to the law in 1989 requiring government inspectors stationed onboard the vessels. Two inspectors are now installed onboard all high sea vessels fishing in Greenlandic waters, both domestic and foreign. Daily reports in form of written electronic messages and written logbooks have to be handed in by all large vessels. A satellite system monitors all trawler movements and activities in Greenlandic waters. Weekly reports on the fisheries as a whole are distributed to the relevant organizations and authorities. GFLK is also responsible for monitoring the observation of Greenlandic fisheries regulations by Greenlandic vessels fishing outside Greenlandic waters, in NAFO, NEAFC, Norwegian and Russian regulated waters.

36. **Fisheries inspections** regulating fishing vessels at sea (catches and equipment) is, in conjunction with GFLK, the responsibility of the Greenland Command (DK defense vessels). The management of fish processing plants, on the other hand, is a more political means of controlling fisheries, as the plants are the only places where fish can be sold. Restrictions on fisheries can therefore be implemented by limiting the time periods of purchase with very short notice and can therefore be used as a means of resource management.

### **Catch Regulation**

37. The main structure of the regulation includes a number of basic principles and tenants, including the following key elements:

- a) One element in the fisheries management system is the regulation by means of preservation and technical conservation measures, where the Government is authorized to create limitations in time periods, in areas, and in use, types and characteristics of equipment.
- b) A fundamental principle is the regulation of access to commercial fisheries. Basically the quotas are reserved for vessels and owners of vessels from Greenland recognized as Greenlanders. But it is feasible for the Home Rule administration (Landsstyre) to make exceptions.
- c) Another main principle of resource management in Greenland is regulation by establishing TAC annually and limitations on access to resources. It is a political decision usually taken by the government, but based highly on scientific recommendations from biologists.
- d) The regulation is based on four different types of licenses: time-limited licenses with and without quotas and time-unlimited licenses with and without quotas. It is at the Home Rule government's discretion to determine what type of license (if any) should apply to a given fishery, except for the shrimp and salmon fisheries, which both, according to the law, require licenses. In the case of shrimp, the law requires time-unlimited and transferable quotas which can be transferred contingent upon market-driven values.
- e) For fisheries where licenses are not required, the fisheries are open to all Greenlandic vessels as long as the overall quota has not been used to its limit. And for species where no quota has been established, there are no limitations on fishing.

38. The Home Rule Government has also asserted itself in protecting ecosystem interests. On that note, we have been very diligent in protecting spawning and juvenile fish areas. One exemplary example is on Greenland's east coast where we solidified a "Redfish protection area", wherein fisheries with bottom trawl were completely banned. Since the year 2001, the Ministry imposed the usage of sorting-grids as a mandatory requirement for shrimp fishing operations. This technical conservation step has been evaluated as being remarkably sufficient for protection of particularly juvenile redfish and halibut. As a result of the introduction of sorting-grids, we have among other things been able to effectively alleviate the "Redfish protection area", which was the ostensibly the world's largest fish stock protection area.

39. The Ministry would also like to mention the efforts of the Greenland Institute of Natural Resources, the institute that advises the Greenland Home Rule Government, which has undertaken a program envisioned to run for five years in order to establish a concentrated scientific background for long-term ecosystem-based management of natural resources in Western Greenland. The Ministry presumes that this program will allow us to ascertain very useful knowledge applicable to our daily management. Provided agreement between biologists, the Home Rule Government's Ministry of Fisheries and Hunting, Royal Greenland, and the offshore fisheries' interest group, APK, agreement was reached in late 2003 to implement conversion factors for the offshore shrimp fishery, which effectively minimize and

attempt to alleviate overpacking. The results of this well-construed effort have led to inclusion of conversion factors being integrated with computations of TAC for the offshore shrimp fishery.

### **Limitations on Fishing per Species**

40. Cod: In 1968, the first international rules appeared, a technical regulation of fairly significant stature. In 1974, international regulation of cod fishing was introduced and carried far-reaching consequences for coastal states. A yearly quota was determined by the Northwest Atlantic Fisheries Organization (NAFO), which encompassed a portion allocated to Greenland. The TAC was based on a biological evaluation of the resource. Following the 1977 expansion of the EEZ, virtually all of the cod was reserved for Greenland. A limited bi-catch of cod was permitted for German trawlers catching redfish (*Sebastes* sp.) and certain other fisheries.

41. Salmon: Political pressure from European and North American recreational fishermen drove regulation of the salmon fisheries. The expansion of Greenlanders' salmon fishing in the mid-1960s led to calls for international intervention – an attempt to totally ban fisheries for salmon was presented in 1969. But not until 1971 did regulation take effect (Nørrevang et al.). ICNAF established a yearly limit of 1,200 tons in 1972 based on the average of the previous three years' catch. At the present time, Greenland continues to be precluded from any commercial salmon fisheries given prevailing limitations on catch.

42. Shrimp: Until the 1950s, shrimp were predominantly pursued by inshore, or coastal, vessels, and therefore of interest mostly to Greenlanders. But with the inevitable expansion of shrimp fishing to the outer parts of banks, broader regulation became necessary. The introduction of TAC was the first overall regulation of the shrimp fishery. But in Greenland, it also created incentives for surplus investment and overcapacity, because the fishery was open to everyone until the TAC level was reached. To reduce the capacity and determine more efficient means for regulating the fishery, two types of quota arrangements were created:

- Government Order 6 of April 8, 1991 determines the regulation of vessels above 75 GRT under the basic tenants of Greenland's ITQ system. The total TAC was divided amongst the shipping companies engaged in shrimp fisheries at that time in proportion to their respective catches during the last 3-year period. They received a certain percentage of the yearly TAC. The government order allowed for the companies to sell the whole share of portions of it with prices determined by the free market. The Home Rule has a precedent for buying the TAC share in order to reduce the fishing activity or to redistribute the share – a policy that is maintained even in 2004 through the administration of a quota bank.
- Government Order 32 of November 21, 1991 determines the regulation of vessels below 75 GRT in a Capacity Quota System. The regulation method is through a number of points given to each fisherman involved in the fisheries based on the individual's activities in the previous years and determined according to their respective technical capacity – i.e., vessel size, gear type, etc. The points are fully transferable, and it is feasible to upgrade the fishing capacity by buying a certain number of points and upgrading gear. The government can reduce the "quality" of the points in connection with transfer of points from one fisherman to another. It is also permissible for the government to buy out points in order to reduce the catch capacity. At the time of introduction of this government order, given a license to fish, it is possible to do as much fishing as time enables with the specific equipment available; however, given the subsequent addendum to Greenland's Fisheries Law No. 18 of August 22, 1996, which converted the system regulating vessels under 75 GRT to be in compliance with Greenland's ITQ system applicable to both offshore and coastal fisheries following the revision to the Fisheries Law, the regulations became more stringent.

43. Snow Crab: Effective January 1, 2005, Regulation nr. 8 of June 7<sup>th</sup>, 2004, establishes six (6) specific management areas for snow crab (*Chionoecetes opilio*) fisheries and, furthermore, TAC quotas per each of the aforementioned management area in the following regions: Upernavik, Disko Bay-Uummannaq, Sisimiut, Maniitsoq-Kangaamiut, Nuuk-Paamiut and Narsaq-Qaqortoq. The regulation applies to crab vessels under 75 BRT/ 120 BT. Given more extensive scientific advisory concerning the ramifications for continuing crab fisheries at levels prior to 2004, this regulatory order contemplates specific TAC allocations based on more easily dissectable biological data.

#### **Summary of Market-like instruments to regulate access: ITQ system**

44. Exclusivity: For those licenses combined with a maximum allowable catch, the Landsstyre shall publish information about the size of the annual quota every year. Each operator knows the quantity that other right holders are entitled to fish. This provides a high level of exclusivity. In addition, a quota share allocated to one fleet unit shall not be fished by any other fleet unit, and an annual quota allocated to one fleet unit shall not be fished by any other fleet unit. This provides a high level of exclusivity among groups.

45. Duration: Quota share are possessed by ship owners. [+Quota shares shall be transferable by inheritance]. The level of the characteristic is high.

46. Quality of the title: The Cabinet may issue notices about time-limited changes of the conditions for fishing activities (which entails fairly significant sovereign risk).

47. Transferability: A ship owner may, without effect for the operation's license and quota shares, sell its annual quota or part of this quota, if damage or long-term repair at a shipyard transpires; natural obstructions such as ice or similar circumstances prevent the ship owner from exhausting the operation's annual quota. Transfer of an annual quota may moreover take place in special cases warranted by economic or administrative conditions. Enterprises owned by the Home Rule Government may irrespective of the provisions of subsections (1)-(3) in the Fisheries Act sell and buy annual quotas. It shall be a condition for transfer according to subsection (1) that the transfer [of both quota share and annual quota] is approved by the Landsstyre.

48. No company or individual may by purchase of quota shares attain a total quota share which exceeds 33.3% in the regulated area for the offshore fleet unit.

- a) No companies or individuals may through purchases of quota shares acquire a quota share in the regulation area for the coastal fleet component which exceeds 10 percent.
- b) An annual quota allocated to one fleet unit shall not be fished by any other fleet unit.

49. Divisibility: Fully divisible (idem Iceland).

50. Flexibility: The Cabinet may issue notices setting out when fishing activities may be commenced and when fishing activities must be stopped. For Greenland fisheries according to section 6 of the Fisheries Law, it may be required as a condition for acquiring a license (1) that the catch shall be delivered in full or in part to one or more specified processing plants in Greenland, possibly for definite periods and with respect to certain quantities, qualities and compositions of the catch (specified delivery), and (2) that a certain part of the crew shall be persons with a permanent connection with the Greenlandic society and/or community (crew share). The Cabinet may issue rules according to which a shipping company, which has exhausted its annual quota, may continue its fishing activities provided that the quantities fished in excess of the annual quota quantities are deducted from the shipping company's annual quota for the subsequent year. Further, the Cabinet may issue rules according to which a shipping company, which has not

exhausted its annual quota, may have its annual quota for the coming year increased by a quantity corresponding to the unused portion from the preceding year.



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