ARCTIC SECURITY ISSUES 2000

A MONOGRAPH
BY
Lieutenant Colonel Roy Abelsen, Cavalry
Royal Norwegian Army

School of Advanced Military Studies
United States Army Command and General Staff College
Fort Leavenworth, Kansas

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by LTC Roy Abelsen, Royal Norwegian Army, 58 pages

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The problem of air and sea borne pollutants is of great concern on a longer timeframe, with the prospect of irreversible global changes to the climate. This monograph draws the connection between the fragile ecosystem of the Polar Regions, and the world climate, and shows how the Arctic serves as a moderator for the changes in global temperature.

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The monograph concludes that the solution to the most pressing security concern, nuclear waste, lies in western involvement in the disposal of the waste, both through economic aid and through technological assistance. The problem of other types of pollution, primarily the emission of climate gases such as CO2, will be hard to implement, because it will mean that North Americans. must change their lifestyle by reducing the use of automobiles and increasing the use of non-polluting sources of transportation and energy.

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Lieutenant Colonel Roy Abelsen

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Approved by:

Robert H. Berlin — Monograph Director

Robert H. Berlin, Ph.D.

LTC Robin P. Swan, MMAS — Director, School of Advanced Military Studies

Philip J. Brookes, Ph.D. — Director, Graduate Degree Program

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1 Introduction

On 9 April 1909, Commander Robert E. Peary turned back after reaching his objective, claiming to be the first man to reach the North Pole.[1] Little was known about this hostile region, although explorers had for centuries been trying to map the alleged Arctic continent. Several attempts had been made to reach the pole, including the Englishman Sir Edward Parry in 1827. He tried to walk on foot from a starting point on Spitsbergen (Svalbard). After walking for thirty days, he discovered that his northward speed hardly kept up with the southern drift of the ice. He had to return to safety.[2]

The same principle of ice drift made the U.S. Navy Commander George Washington de Long in the late 1870's attempt to drift across the North Pole in the vessel Jeanette. He was stuck in the ice in 1879, and drifted helplessly around the pole for two years before the vessel was crushed by the ice and sank. He and parts of his crew hardly made it alive to the Lena delta in East Siberia.

The Norwegian explorer Fridtjof Nansen heard of De Long and Parry, and decided to make a more thorough attempt, using the four hundred ton vessel Fram, which was specially reinforced to withstand the pressure of the ice. He set out late 1893, and in September, the Fram was frozen into the ice north of the New Siberian Islands. The ship drifted for thirty-six months before being released from the ice northwest of Spitsbergen (Svalbard) in August 1896. After drifting for two years, it became apparent that the drift would not take them to the pole. In the spring of 1895, the ship's position was only 360 nautical miles from the pole. Nansen, along with Lieutenant Hjalmar Johansen, set out to reach the pole over the ice. They brought along the expedition's dogs and sleds, but

discovered as Parry had done, that the southern drift of the ice was hard to keep up with. After almost one month, Nansen decided to turn back, and for the next four months, they struggled for survival as they tried to reach solid land. The dogs were eaten, and their garments became heavy and stiff with frozen perspiration, but on August 14 1895, they finally reached solid land on the Franz Josef Archipelago. Here they spent the winter in a stone hut they erected, living on seal meat, and burning seal fat for heating, until the spring of 1896. As they were about to set out in their kayaks for Svalbard, they coincidentally met the British explorer Fredrick Jackson. They arrived in Oslo, Norway simultaneously with the ship Fram. [3]

Although Peary's claim to have reached the pole is widely disputed, all of the attempts of exploring the Arctic should be regarded with the greatest of admiration. With nineteenth century technology, both in survival and navigation equipment, the physical performance of these early adventurers may serve as inspiration for all of us. Facing certain death if they erred they endured hardships unbeknown to most modern men.

Resources in and beneath the Arctic Ocean belong to no person or nation, but new technology allows fishermen to eradicate whole schools of fish if not regulated. Oil drilling under the polar sea represents technological, environmental and political challenges. Being considered a safe dumping ground for various high-risk waste for centuries, the arctic sea today contains large quantities of toxic and nuclear waste. U.S. foreign and national security policy focuses on the European theatre and the Pacific Rim. Priorities are Europe first, then the east, and then the rest of the world. The Arctic region[4] is a cold and desolate spot on the globe of apparently little interest to the major powers

now that a nuclear exchange over the polar ice cap no longer is a major threat. The significance of the Arctic region as a hiding place for nuclear submarines has diminished, although the author assumes that both U.S. and Russian nuclear submarines still use the polar cap as a shield against detection. In the 1999 world of relative peace in the Northern Hemisphere, most nations focus on the trouble spots in the Balkans, in the third world and the rogue states around the globe. However, as this monograph reveals, many issues concerning the arctic security environment ought to be on the agenda for the international community, as simple preventive measures may stem a possible future development towards disasters with terrifying consequences.

The nations in the Arctic region[5] are, with one exception, stable democracies. The important issues that may cause concern for the Arctic powers are mainly related to resource management, environmental questions, and the sovereignty of the high seas and the seabed. If not handled properly, both the nuclear waste issue, and environmental disasters in the high north may suddenly be of major concern to the U.S.

This monograph examines these issues and the major powers in the Arctic security environment. It describes the national interests[6] pertaining to the Arctic region, and focuses on issues that has, or in the near future may surface as concerns for the Arctic nations, especially Norway and the U.S. It addresses some international treaties, and initiatives aimed at cooperation between the Arctic rim states.

This monograph establishes that the Arctic security environment is relevant to U.S. national security, especially for the long term. Global consequences arising from the eco-system and Arctic climate, as well as nuclear waste spreading through the air and seawater

may be a threat to stability and the global environment. If not properly conducted, nuclear waste handling in the Russian north may in the future pose a threat to the health and well being for the people of the Arctic rim states, including U.S. The lack of technology and funding for this important task in Russia ought to concern all affected by an eventual nuclear disaster.

2 The Arctic

Arctos is Greek for bear, and the Arctic region derives its name from the stellar constellation of Ursa Major, the Great Bear. The Arctic region (See annex 1) is one of the most isolated regions in the world. Unlike the Antarctic, which is a continent covered with an ice cap, the arctic is a basin of water surrounded by the North American and Eurasian continents and a number of islands. This basin is covered by a floating ice-mass, constantly in motion, with approximately 10 % open water due to the ice's movement. As described on page 2, Fridtjof Nansen during his 1893 polar expedition trusted this movement to take him to the North Pole, but alas, the currents are unreliable. His ship drifted in an arc around the pole, released from the ice without ever reaching the pole

Greenland is by far the largest of the Arctic islands, and the Svalbard archipelago and Iceland probably the most important from a security perspective[7]. "The Arctic" is not a firmly established term, as it has several definitions. The most common is probably the one based upon the climate, which gives the arctic region a boundary following the 10 degree July isotherm line,[8] or the northern limit of the boreal forest.[9] Although there may pose difficulties determining the exact line where the forest gives way to tundra, this line is on a greater scale quite distinct in North America. In Russia, however, this zone may be up to 300 km wide. Other definitions use the tropic of cancer, limits of permanent human settlement, etc. For this monograph, the 10° July isotherm (See annex 2) will be used, which also denotes the Northern limits on most agricultural and industrial settlements.

Between the arctic and the tempered zones, there is a narrow sub-arctic zone, where human activities are abundant, and where the ecological systems are richer and less

fragile than in the arctic. This zone is characterized by short, warm summers and long cold winters, some places with permafrost.[10] The sub-arctic zone is difficult to define exact, but it denotes the frontier zone where permanent settlement and development is found. [11]

The arctic environment, and changes to the arctic climate plays a significant role in the world climate. The floating ice-masses serve as a heat sink against climate variation, and participate in the generation of weather movement worldwide. The temperature contrast between the cold Arctic and the hot equatorial region, and the earth's rotation, is one of the primary sources for weather changes on the Northern Hemisphere. It regulates the world's CO^2 exchange between the oceans and the atmosphere, and is a main factor in the operation of the atmosphere at large.[12] A general increase in the global temperature the world is experiencing at the entrance to the twenty-first century will lead to a melting or significant reduction of the polar ice-cap and glaciers, exposing more water and dry land. This reduces the amount of solar radiation reflected, which in turn increases the temperature even more. It is expected that the average rise in temperature in the Arctic due to climate pollutants may be three times that of the rest of the world, adding to the spiraling effect of the change in climate.[13]

The Arctic Ocean is a near land-locked basin divided by a series of underwater ridges. The north-flowing rivers in the arctic rim that flows into the arctic ocean brings contamination to the ecosystem, and this contamination flow further into the world's global ocean streams mainly through the Fram-strait between Greenland and Svalbard. The global stream makes heavy metals dumped into the Russian rivers appear in the Indian Ocean, while pollutants released off South Africa find their way into the Arctic Ocean.

Some 10 % of the world's rivers discard into the Arctic Ocean, although it only makes up about 1.5 % of the worlds total ocean volume.[14]

The nations comprising the arctic rim states includes Norway, Russia, USA (Alaska), Denmark (Greenland), Iceland and Canada.[15] Sweden and Finland have been included in the Arctic nations, due to their close proximity to the Arctic region, having their Northern counties subjected to Arctic conditions.[16] In addition, several other nations and international organs have interests in the Arctic, mainly from a resource management and economic standpoint.[17] The rich fisheries in the circumpolar North attract fishermen from a number of states, such as the EU states, and Japan. To avoid national restrictions on the amount and type of fish being caught, some fishermen even register their vessels in states without such restrictions, for instance the Bahamas. This poses a control problem, and a problem for resource management.

The characteristics of the Arctic is special. It is not plagued by many of the problems present in other regions of the world, such as ethnic strife, old territorial claims, amounts of strategic natural resources or economic activities with competing national interests. Nobody owns the Arctic, and apart from the presence of indigenous peoples, permanent human settlement is difficult and costly. With a diminished threat of a nuclear exchange across the Arctic, the prospects of creating a multinational arena for cooperation should be good. The challenges in the Arctic do not only come from human activities in the Arctic, but also from activities outside of the region, which tends to complicate cooperation and stability.

The least troublesome, when it comes to the Arctic security, are the indigenous peoples of the region. Having a traditional lifestyle of living within the nature, on the terms of nature, and without the possibility of forming large societies, peace and balance in nature has always prevailed.

3 Peoples of the Arctic

One of the characteristics of the Arctic is that, apart from the indigenous peoples, there is no or very little permanent settlement. For thousands of years, the human activity in these desolate areas has been represented by the native peoples of the Arctic, (see annex 3) and shorter visits by "southerners." [18] Adapting to the harsh conditions, these peoples have been living in close harmony with nature, in a physical environment most others would not survive in for even a short time. These peoples live in the Arctic, from what the Arctic can offer, and some of them have since modern man's explorations extended the power of the southern states into the Arctic, been forced into a way of life foreign to them. The southern cultures have traditionally shown little interest in their unique forms of life, and tried to assimilate them into cultures very strange to them. This assimilation has often had an adverse effect on their ability to survive in the harsh conditions in the high north.

The most important groups of indigenous peoples of the north are the Saami of the Fennoscandian area, the "small peoples" of the Russian north, and the Inuit tribes of northern Canada, Greenland and Alaska. The Greenland native has a somewhat different history of assimilation and self-rule.

The indigenous peoples of the Arctic have been at the forefront of the struggle for the rights of the indigenous peoples of the world.[19] These peoples are today under the rule of nations with highly developed human rights legislation[20]. This gives the peoples a political self-consciousness that gives the courage to speak up in matters regarding other minorities and indigenous peoples in other areas of the world. The Arctic rim nations are with one exception stable democracies, with well-defined rules for intra-ethnic

cooperation and coexistence. Although oppression or assimilation attempts of the minorities has been conducted by all of these nations, the social conscience and educational level of the inhabitants today facilitates a policy of diversity of the national culture. Both the governments and the populations therefore support preservation of the indigenous cultures.

3.1 The Saami

Formerly known as "Lapps," the Saami population has been living on the northern edge of continental Europe, in Norway, Sweden, Finland and Russia for over 10,000 years. There are approximately 100,000 Saami in all, the majority (70,000) living in the North of Norway. There are some 3,000 Saami living in Northwestern Russia. The Saami languages, consisting of three distinct parts (East, Central and South Saami), belong to the Finno-Ugrian family of languages.[21]

The formation of nation-states has divided the Saami people into national groups, although the travel between the three Nordic states has been facilitated by treaties. Between 1917 and the fall of the Soviet Union, the small population on the Kola Peninsula was isolated from the rest of the Saami people.[22] Although not always successful, the Nordic countries' policies towards the Saami have been carried out with the best of intentions. Mission stations and churches directed at the native population were created from the twelfth century, and in the sixteenth century, the traditional religion of the Saami was more or less disrupted and faded into oblivion.[23] However, the traditions of the religions lived on, with its focus on the powers of nature, and human interaction with the creation. Today, the Saami culture is revived, and brought out both to their own

population, but also to the Scandinavian and Finnish population through artistic expressions, both on TV and in theatres and other media. The Saami are recognized internationally as an indigenous people, with their Saami Council having status as an NGO in the UN system.

The Saami peoples of the North, has been subject of various attempts on assimilation, today's lifestyle differs significantly from the lifestyle up to the 16th century. Until then, the Saami were hunters and gatherers, but the influx of southern peoples slowly forced them into today's lifestyle of reindeer herding. Although only a small proportion of them, perhaps 10 percent, carry out this life form,[24] it is still very important in their culture and ethnic identity.[25]

The Saami in the Russian federation is situated mainly on the Kola peninsula. They have a different assimilation history than the Nordic Saami. During the first years of the Soviet Union, the communist government led a strict policy of assimilation. The Saami languages were banned, and Russian was the only permitted language both in the community, but also in private matters. The younger people therefore do not speak any Saami, with the result that the Saami language in the Kola Peninsula is about to disappear.[26]

3.2 The "small peoples" of Russia

Russia's indigenous peoples are by far the most numerous, totaling more than one million. They are divided into a vast number of ethnic groups, often very small in numbers, and isolated geographically. Subjected to the southern exploitation of natural resources in the north, many of the native population have given up their traditional way of

life. They have often joined the modern way of life comprising fixed housing, steady jobs, and access to modern goods. Some of the comforts of southern lifestyle has been disastrous to the small peoples; the introduction of alcohol and the introduction of new diseases have had serious impact on the health and social structures.

The Nenets people live in the northwestern parts of Russia. They are a Samoyedic people, believed to have broken away from the Finno-Ugrian group of people about year 3000 BC. They were later mixed with various Turkish peoples. Their traditional life-style consists mainly of reindeer herding, fishing and sea-mammal hunting. As the Russians until the seventeenth century slowly gained control over their territories, they introduced modern tools and firearms, as well as foreign diseases and alcohol. The indigenous peoples are not accustomed to alcohol, and have very little tolerance for it. Substance abuse and reliance on external support is an increasing problem among the Nenets population.[27]

3.3 The Inuits

There are approximately 130,000 Inuits living in the High North, in Canada, Greenland, Alaska and the Chakotka region of the Russian Federation. Within this enormous area, the Inuit share a common religion, history and culture. As with the Saami, the Inuits have been forced to change their traditional lifestyle as the southern man expanded northwards. Most of them have now settled in small settlements on the shores of the Arctic Ocean, although some of them still live off what nature can offer. Being spread across such a vast area, and split between very different nation-states, living conditions for the Inuit peoples varies greatly.

The tribes of Yupiik, Inupait, Aleut Athabaskan Tlingit, Haida and Tsimshian are included in the term indigenous peoples of Alaska (U.S.). They constitute 15 % of the population of Alaska, or some 85,000 people out of 550,000 statewide. These tribes speak 20 different languages, and more than 50 % of the native population is living outside of rural areas.[28]

Less than 1 % of the Canadian population is situated North of the 60^0 latitude. A little more than 50,000 indigenous people constitute a larger part of this population than in the rest of Canada. The main two groups are Inuits and Indians.[29]

Canada's diverse groups of indigenous peoples are steadily being assimilated into the modern society. This assimilation is forced not by the Canadian authorities, but by the modern society itself, as is the cause of many minorities' assimilation. This assimilation has made ten of the aboriginal languages extinct over the past hundred years, while only three of todays languages is relatively safe from extinction. The size of the population speaking the language is important. In order to be able to print books and newspapers, have an oral tradition and use the language in daily life there must be enough people that it is felt worth wile to learn the language for young people. If you are unable to use the language in communication with others, the language will die. Of the Canadian tribes, only three[30] have large enough populations to ensure the survival of their native languages. As with other native populations, the majority in a developed society tend to adopt the mother lands language as their primary spoken tongue, only 26 % of the 800,000 aborginals in Canada claimed to speak a native language.[31]

The essential factor to the survival of a language is the number of native speakers. The Inuktitut, Cree and Ojibway all boast more than 20,000 native speakers, making them the soundest of the native languages of Canada. At the other end of the spectrum lies languages with less than 150 speakers, languages such as Kutenai and Tlingit face certain eradication unless the authorities take strong actions toward preservation.[32]

In order to facilitate the northern peoples right to self-government, the Canadian authorities in 1993 signed a historic land claims settlement, creating a new administrative region, the Nunavut territory. This territory encompasses the northeastern part of the previous Northwestern territory.[33] Approved by referendum, it will have an area of about 2 million sq km (about 772,500 sq mi.[34] The Inuits and the northern Indians will have aboriginal rights to the land, waters and offshore resources in the region, protected by the Canadian constitution. The Nunavit Planning commission was established as a part of the agreement, aiding the Inuits in the establishment of a Nunavit government. The government will represent all inhabitants of the region, Inuits and non-Inuits alike.[35] The territory was created 1 April 1999.

45,000 of the 55,000 inhabitants of Greenland are Inuits. Living on the island is only possible along the coast since the inland glacier covers some 5/6 of the landmass.[36] The Inuits being an ethnic majority on an isolated and well-defined territory, the administrative measures for home-rule have been simple. The Danish parliament has set up legislation that gives the "Greenland home rule" a great deal of self-government. However, the modern life-style of the Greenlanders and the administrative costs of running

a society demand large economic supplements to the Greenland authorities from mainland Denmark.

3.4 Conclusion

The treatment and the status of the indigenous peoples of the Arctic will be of importance for the nation's ability to influence states in other parts of the world regarding treatment of their native population. Without a clear record pertaining to the aboriginal people's rights, the moral credibility towards other nations will be low. Complaints about other states breeches on human rights and the rights of the native peoples will have little impact. To educate the population of the Arctic rim states in matters such as ecology, human's coexistence in nature, the philosophies of the Arctic peoples may be a good framework. In contrast to southern peoples, who have a record of trying to tame and control nature, the indigenous peoples of the north have been subject to the nature with little or no opportunity to influence or change it.

The peoples of the Arctic, dispersed over vast areas in relatively small groups, does not in themselves constitute a security issue. They have little tradition of violence or resistance to authorities, and their record of political activities are short. Given a fair treatment, there is no indication that the peoples of the Arctic will pose any security concern in the near future. The way that the Danish government has treated the Greenlanders and the present creation of the Nunavit territory may serve as an example of successful actions towards indigenous peoples. Giving a high degree of autonomy, they have given the local population on the defined territories a political consciousness few other native peoples have.

4 Treaties

4.1 Convention on the law of the sea

29 April 1958, the Geneva conventions on the Law of the Sea were signed. This convention was in force until the UN convention on the Law of the Sea was finished in 1982. This convention established a thorough regime for the cooperation and conduct of various actions on the high seas, and outlined rules and regulations for all matters pertaining to the seas. It set forth the responsibilities of the coastal states and regulated free access to the high seas for land-locked states.[37] As of 1998, there are 125 parties to the Convention.

The treaty specifically encourages states bordering enclosed or semi-enclosed seas to for cooperative bodies to ensure the protection of the resources of the sea. (Article 123) It outlines the right of passage through straits linking two areas of the high seas,[38] but does not take into consideration the instance where the strait lies between a continent and the ice cap. For straits between the mainland and nationally owned islands, the convention gives sovereign rights to the coastal state, enabling it to enforce strict sovereignty control. This poses a problem especially on the northern coast of Canada, where the most convenient way to pass from the Atlantic to the Pacific Oceans is through the Canadian waters between the mainland and the islands. Sailing North of the islands poses a potential hazard due to the climate and the ice, especially during the winter.

The convention establishes the freedom of fishing on the high seas (Article 87.1.e), but states that nations should enter into negotiations to take measures necessary to ensure the conservation of the resources being exploited. Scientific research should be used to

determine the maximum harvest of each school, and all nations should adhere to regulations in force (Article 118).

The convention establishes the International Seabed authority, located in Jamaica. (Article 156) The seabed authority consists of an assembly, a Council and a Secretariat. All members of the authority has one seat in the assembly, while the council consists of 36 members elected by the Assembly, according to a formula intended to give a representative proportion of delegates from different types of nations.[39] This authority was disputed, and some industrialized countries, including the U.S., refused to sign this part of the convention. The main objections for the U.S., was that the authority for regulating subsea mining was given to an international body, thus removed from national authority. In 1994, an agreement acceptable to the U.S. was reached in the UN. This agreement ensures the U.S. adequate influence over decisions on possible deep-sea mining activities, and guarantees U.S. seats at the Council and the Financial committee, and a de-facto veto power.[40]

The treaty has tried to solve some of the resource distribution challenges for the sea resources, but does not take into consideration the special problems arising in the Arctic waters, and on the ice cap. Although the provisions call for cooperation around enclosed or semi-enclosed waters, it does not outline the special provisions needed when the ocean in question is impassable due to ice. Questions not solved are among other the status of the polar ice-cap, does it belong to the Arctic rim nation within territorial waters or the exclusive economic zone (EEZ), and what provisions are needed for man-made installations on the ice. A research station or an industrial enterprise is often more stable

situated on the ice than on dry land, due to the permafrost. The movement of the ice may take this entity into the territorial waters of several nations on its way around the pole.

4.2 The "Lappe Codicill"

One of the oldest treaties on matters pertaining to Arctic matters is the "Lappe Codicill," between the Kingdom of Denmark-Norway, and the Kingdom of Sweden in 1751. The treaty regulates the free movement of the native peoples in the fennoscandian[41] area, and was a result of the need to tax the population for the crown. Parts of the Saami people had moved freely between the countries for centuries, and risked taxation in both countries. The codicill ended that practice, and regulated the trans-border trafficking of reindeer and their herders between winter and summer grazelands on both sides of the borders. The treaty, supplemented by commissions, the latest in 1972, is still in force. Russia has not been part of these treaties, mainly due to the isolation policies of the Soviet Union.

4.3 The "gray zone" agreement

The Norwegian-Russian treaty on the border in the Barents Sea was an example of how a border dispute may be solved without reaching a real solution. The conflict between the superpower and the small state originated in two different methods of drawing the border at sea, the sector principle, and the median principle. The sector line is drawn from the North Pole to the point where the land meets the sea, and was favored by the Soviet Union. The Norwegian stand was that the median between the two landmasses should be the prevailing principle. (see annex 4) The two sides could not reach an agreement, so they agreed on a temporary compromise.[42] This compromise aimed at solving a bigger problem

than the physical border at sea, controlling third party fishing in the area. The treaty introduced a "Gray zone" around the disputed area, with joint jurisdiction over third party fisheries and with sovereign jurisdiction over own vessels. The treaty has been renewed annually since its inception.[43] The treaty works well, but demands that both parties refrain from actions that may be contrary to the spirit of the treaty. The problem that has arisen over the past years are that the successful fishery regulations in the Barents Sea has produced a big and sound school of "Norwegian Arctic Cod", of which the two neighbors harvest the surplus. Some other nations have not been able to regulate fisheries in their waters, and are now facing what the Norwegian Fishermen calls "Black Sea" – eradication of entire schools of fish. These nations are seeking ways to get their hands on the rich fisheries in the Barents Sea, to great dismay with Norway and Russia. The area affected by this agreement is large, and together with the undisputed economic zones established by the states, it assures regulatory control over major parts of the Barents Sea. Cooperating on setting annual quotas for the fisheries og both nations, the cooperation between the two states has overall been a success-story in international commitment to common goals. The only disputed part of the partnership, is the status of the EEZ established by Norway around the Svalbard archipelago.

4.4 The Svalbard treaty

The Svalbard Treaty was established in 1920, giving Norway jurisdiction over the Svalbard archipelago.[44] Thirty-nine other nations[45] are signatories to the treaty, giving Norway full and absolute sovereignty over the archipelago in exchange for the rights of all signatories to exploit economic interests on the islands, subject to Norwegian

regulations.[46] The Soviet Union/Russia has been careful to assert the rights granted by the treaty, by establishing and maintaining two mining communities on the main island, Spitsbergen. During the cold war, the Norwegian government did little to exercise her rights under the treaty, and the Soviet Union did little to challenge it. After the dissolution of the Soviet Union, Norway has gradually increased its control over the archipelago. The main dispute among the signatories is presently connected to offshore mineral and oil extraction. Norway claims that the treaty (giving equal rights to exploit natural resources to all signatory nations) only applies to the land area out to the 4 mile territorial sea limits. The rest of the continental shelf belongs to the greater continental shelf of mainland Norway. This gives Norway control over a continental shelf three times greater than the size of its mainland.[47] This view is disputed by some of the signatory powers. Partly due to inferior technology to exploit the potentially rich oilfields and the hazards connected with deep sea drilling in the Arctic, the issue has not been pushed by the other signatories. The diverging interpretations may however surface if and when Russia sees itself able to overcome the difficulties, through its own technological development, or in conjunction with external companies.

4.5 Conclusion

There are a number of other treaties between the Arctic rim states. Most of these are aimed at specific areas of cooperation, such as research, resource management, and border arrangements. These treaties are of little value unless they are followed up with concrete measures and enforcement regimes. Treaties of various kinds are important as vehicles for reducing tension between nations, and minimizing the possibility for

misunderstanding and mistrust. Transparency in international affairs contributes greatly to cooperation and trust, and the importance of treaties being inclusive to other nations is showed by the problems in enforcing the regulations on harvesting of the Barents Sea cod.

The unresolved issues in Arctic cooperation is mainly the Svalbard treaty, which in its original form of 1920 do not take into consideration the present capabilities to exploit natural resources beyond the coastline. In the same arena lies the unresolved borderline agreement between Russia and Norway. This issue may surface as a open dispute if the Russians at some stage wishes to solve the dispute through other means than political and diplomatic. The probability of this occurring is slight, given the Russian Northwest dependency on Norwegian and western economical support and trade.

5 The Arctic rim nations.

5.1 Russia

For decades, Russia has been an influential nation in the Arctic. Being dependent on the access to the high seas for her Northern Fleet, Russian ability to keep the NATO alliance from blocking this access was of vital importance. In case of a major conflict between NATO and the Soviet Union, the defensive lines of the latter would expand into the North Sea, leaving the Northern part of Norway behind the forward lines of defense of the Soviet Union.

During the cold war, Russia considered the arctic of vital interest as a deployment area for nuclear submarines, and a buffer towards western (U.S.) attack on the vulnerable Kola complex. Today, this emphasis is reduced significantly, although the political tension between the U.S. and Russia still gives the Arctic some significance. It is the author's belief, that Russian nuclear submarines still use the thick ice-cap in the Arctic Sea as a place to hide, preserving submarine skills for a possible future confrontation.

The Arctic has evolved as one of the most promising areas in Russia for exploitation of natural resources. Large gas reserves have been discovered in Urengoi and Yamburg in Siberia, and the hydroelectric production from the Siberian rivers is very large.[48] This coupled with the traditional low tension between the Nordic nations and Russia, will in the future give an increasing importance to cooperation in the Arctic. Especially concerning the potentially rich oil fields in the Barents sea, Russia, lagging far behind in areas as deep water exploitation technology, can benefit from Nordic and U.S. high tech companies. In return the western nations may get access to the rich natural

resources hidden under the Arctic ocean, and a firm grasp on Russian economy in the Northwestern region.

At the end of the twentieth century, the Russian focus in the Arctic is increasingly directed towards the natural resources in and underneath the ocean. Control of the ocean and the ocean-bed will enable the Russians to exploit the rich fisheries and the possibility for oil and natural gas in the area. Having problems with attaining sufficient modern technology, the Russians are dependent upon cooperation with western companies, and nations.

Nuclear waste management is one of the major problems facing the newly transformed Russian government. This issue is of such importance that it may well emerge as a major concern globally. The Russian, or rather Soviet, neglect of proper waste management, old technology and low capacity in their treatment facilities is of concern for all the Arctic rim nations. The lack of funding and poor management may be contributed to a number of reasons. It is clear however, that the present Russian regime, fighting to clear the economic obstacles on the path to creating an economically sustainable society, has no money to spare for a cause of little immediate significance. As long as there is no fire, why have a fire brigade?

Fisheries in the Barents and Norwegian Sea have been well regulated, but as other areas are being laid waste, fishing nations from the entire Northern Hemisphere look to the Arctic for new fishing grounds. It will be a great challenge for the Russian federation to be able to reach agreements with other fishing nations to preserve a harvest of fish that sustains the balance in the schools.

The abundance of resources in the northern waters combined with a poorly functioning mainland economy poses many challenges. The winter of 1999, the Russian local authorities complained that the fish processing industry was out of raw materials, because the fishermen sold their catch to Norwegian industry instead. The fishermen responded that as long as the Russian economies were unable to provide payment for the fish, they were forced to sell their fish to the party that was able to pay. To further complicate the matter, Norwegian fishermen complained that the Russians undersold them, and the fish processing industry of Northern Norway had problems processing the amounts of fish being delivered. In 1998, one third of the fish being processed in Norway came from Russian boats. As compensation, the Norwegians offered skilled laborers from Russia work in the fish processing industry, enabling them to earn hard currency for domestic consumption.[49]

The Norwegian policies of détente and self-imposed restrictions have created a climate of confidence where the Russian authorities may see the Barents area as the window towards the West.[50] Increased trade and commercial contact across the Norwegian Russo border has reduced the tension, and opened the Russian northwest to western influence on an unprecedented scale.

5.2 USA

The present U.S. Arctic policy was formulated September 29, 1994. The six principal objectives of this policy are to:

> protecting the Arctic environment and conserve its biological resources, assuring that natural resource management and economic development in the region are environmentally sustainable, strengthening institutions for cooperation among the eight Arctic nations,

> involving the Arctic's indigenous people in decisions that affect them, enhancing scientific monitoring and research on local, regional and global environmental issues, meeting post-cold war national security and defense needs."[51]

The policy emphasizes the importance of the Arctic Environmental Protection Strategy, and outlines strategies for scientific research and conservation, environmental safeguards. It includes indigenous people and local authorities into all delegations to international meetings addressing matters affecting them. It also states that the U.S. plans to improve overall cooperation in the Arctic, especially with the Russian federation.

The U.S. National Security Decision Directive declares that the U.S. has "unique and critical interests in the Arctic." and goes on to express that it is in the U.S.' interest to promote "mutually beneficial international cooperation in the Arctic".[52] The Arctic research and policy act of 1984 gives the researchers policy guidelines for their work. The U.S. Arctic Science Committee was founded in 1990.[53] Its aim is to "coordinate federal efforts to produce an integrated national program of research, monitoring, assessment, and priority-setting that most effectively uses available resources."[54] There are presently over fifty different active programs relating to the Arctic in the USA, more than any other of the Arctic rim states.[55]

The present administration has little focus on Arctic issues, however the former Secretary of State, Warren Christopher, expressed this view in his address at Stanford University in 1996:

> In Russia, the fate of democracy may depend on its ability to offer the Russian people better living standards and to reverse a shocking decline in life expectancy. From Murmansk to Vladivostok, poorly stored nuclear waste poses a threat to human life for centuries to come. Economic reforms will not meet their potential if one-sixth of the Russian land mass remains so polluted that it is unfit even for industrial use, and if Russian children are handicapped by the poisons they breathe and drink.[56]

It is noteworthy, that the U.S. focus lies on the possibilities of cooperation with the Russian federation on environmental matters in the high north. This shows that the cold war thinking in some way has yielded to an awareness of environmental issues, and that the U.S. recognizes the overwhelming challenges Russia is facing in handling the threat to their environment. It also goes to show that the U.S. administration has acknowledged that the different pollutants and nuclear waste may well pose a threat to their own national security.

5.3 Norway

Since her entry into NATO in 1949, Norway has played a significant role in the east-west balance of power, by its geographical proximity to the Soviet Union, and control over the approaches to the North Fleet bases. Norwegian territory has been used as staging area for overt and covert espionage towards the Soviet Union, and the early U-2 flights across the Soviet Union on some occasions took off or landed in Bodø, Norway. On his flight from Pakistan 1 May 1960, the U-2 piloted by Francis Gary Powers was shot down over Sverdlovsk in the Soviet Union.[57] The flight was bound for Bodø, where a team from the U.S. Air Force was waiting. U.S. listening devices under the Norwegian sea was controlled from Norwegian territory, one of the best known sites is Andøya.

Standing outside the EU, it was natural that Norway sought a certain degree of independence both from European influence, and from the pressures of the great neighbor to the east. Norway became a very close ally of USA, although the self imposed restrictions on military activities close to the Soviet-Norwegian border[58] limited U.S. access to some parts of the country. The aim of the restrictions was to reassure the Soviets

that Norway would not be used for aggression towards Soviet territory. In conjunction with the NATO membership and a strong alliance commitment the policy formed the policy of "deterrence and détente".

The policy shifted after the dissolution of the Soviet Union. Ban on allied exercises in the proximity of Russia[59] was removed, along with most of the other restrictions. The restrictions on nuclear weapons remain valid, Norway does not allow ships carrying nuclear weapons access to Norwegian waters. The enforcement is not actively pursued, the authorities trust that Norway's allies will respect the restrictions, and refrain from bringing nuclear weapons into the country. These changes were followed with a revitalization of the long-standing cooperation with Russia on regional matters. As the foreign minister stated in 1994:

> Our aim is to build a firm regional bridge between Russia and Western Europe in the northern region as a means of integrating into European and Trans Atlantic cooperative structures. We wish to open up new opportunities for cultural, economic, industrial and other cooperation while narrowing the gap between our societies.[60]

This has led to a series of initiatives on bi- tri- and multilateral cooperation in the Barents region. The "Barents region" is established as a geographical as well as a political term equivalent to the Baltic region and other geographically defined regions.

Norwegian security concerns in the Arctic are mainly linked to three issues; regulation of resource exploitation, pollution of the environment, and the vast quantities of nuclear waste produced and stored on the Kola Peninsula, and dumped into the Barents Sea. [61]

5.4 Denmark (Greenland)

Greenland is a part of the kingdom of Denmark. The island, the worlds biggest, covers an area of 2,175,000 square kilometers, of which only 341,000 sq. km. is bare land. The home rule granted Greenland has the purpose of allowing the local government to attend to the public affairs of the state. Implemented May 1st 1979, the Home rule consist of an elected assembly, a parliament and an administration.[62] Inhabited by a majority of indigenous people, the Greenland population of some 55,000 inhabitants has had a relative painless entry into the modern world, compared with many other nature peoples of the world.

The Danish military maintains a military presence in the Northwestern area of Greenland through the "Sirius-patrol", a military dog-sled patrol manned by Danish soldiers on a rotation basis. These patrols travel by dog sleds over vast areas, maintaining some installations in the ice-covered wilderness. Close contact is kept with the U.S. Airforce, which mans an air station at Thule, on the northern edge of Greenland.

5.5 Canada

Geography and history have traditionally distinguished the Canadian security environment. Like the U.S., Canada borders only friendly nations, the U.S. to the South and West, and Denmark/Greenland to the East. To the North lies the militarily impenetrable Arctic. The threat of land invasion is so slight, that it may be disregarded.[63]

Historically, Canadian defense have been a responsibility of Great Britain. Canadians have fought in most wars where Great Britain has been involved, in return the

military side of the national security have been maintained by the empire. If this assumption should fail, the Monroe doctrine would ensure that the U.S. would protect Canadian sovereignty, at least against foreign threats. This notion led in the 1970's to a reduced focus on the military defense in Canada, although the membership in NATO continued to be valued. Canada wanted to stay in the collective security system (NATO), but do less, freeing up money for other pressing internal issues.[64]

The Canadian decision to grant the indigenous population aboriginal rights to a great piece of territory is in line with the Danish home rule for Greenland. It is a sign that the Canadian government takes its commitment to the interests of the native population seriously. Implemented the spring of 1999, the Nunavit territory faces the challenge of establishing a distinct identity without becoming either dependent on massive government funds, or sink into poverty.

The Canadian government has been at the forefront of international cooperation in the Arctic. Being a member of all organizations dealing with Arctic issues, and controlling a major part of the continental Arctic, Canada has everything to gain from international cooperation. The other Arctic rim nations too sees cooperation as a means to pursue national interests, leading to the formation of a number of international initiatives to enhance and promote transparency and cooperation in the Arctic rim.

6 International organizations and initiatives

6.1 The Standing Committee of Parliamentarians of the Arctic Region

Established in September 1994, the Standing Committee of Parliamentarians of the Arctic Region was based on the decision made by the first Parliamentary Conference on Arctic cooperation held in 1993, in Reykjavik, Island. The Second Conference of Parliamentarians of the Arctic Region was held in Yellowknife, Canada, in 1996, and the Third Conference of Parliamentarians was held in Salekhard, Russia on April 22-24, 1998. In the year 2000, the next conference will be held in Finland

The Standing Committee of Parliamentarians established its first priority to be the establishment of the Arctic Council. Since the creation of the Council on September 19, 1996 the Committee has worked hard to promote the council as a vehicle for cooperation and consultation in matters pertaining the Arctic.[65] Several initiatives have been taken by the council to preserve the Arctic environment and expand cooperation.

6.2 The Arctic Council

The Arctic Council was created by the Standing Committee of Parliamentarians of the Arctic Region to improve the cooperation and improve the means of consultation on Arctic matters among the Arctic Rim states. It addresses the quality of life and well being of the Arctic population, as well as serving as the mechanism to face the common challenges and concerns of the Arctic governments and peoples. Established on September 19th, 1996 in Ottawa, Canada, The Arctic Council was designed as a high-level intergovernmental forum for exchange of opinion on matters pertaining to the Arctic

environment, peoples and development. Members of the Arctic Council are Canada, Denmark, Finland, Iceland, Norway, the Russian Federation, Sweden, and the United States of America. In addition, and as a token of the emphasis put on the indigenous peoples of the Arctic, the Association of Indigenous Minorities of the North, Siberia and the Far East of the Russian Federation, the Inuit Circumpolar Conference and the Saami Council, are Permanent Participants in the Council. The Chair and Secretariat of the Council rotates every two years among the eight Arctic States.[66]

6.3 The Arctic Environmental Protection Strategy (AEPS)

The first Arctic Ministerial Conference was held in Rovaniemi, Finland, June 1991. The conference led to the proposal of the "Rovaniemi Declaration", and the adoption of Arctic Environmental Protection Strategy". (AEPS) The conference was initiated by Finland, and environmental ministers from Canada, Denmark/Greenland, Iceland, Norway, Sweden, Soviet Union, and United States were represented. the objectives of the Arctic Environmental Protection Strategy (AEPS) are:

> ...to protect the Arctic ecosystems, including humans; to provide for the protection, enhancement and restoration of environmental quality and sustainable utilization of natural resources, including their use by local populations and indigenous peoples in the Arctic; to recognize and, to the extent possible, seek to accommodate the traditional and cultural needs, values and practises of indigenous peoples as determined by themselves, related to the protection of the Arctic environment; to review regularly the state of the Arctic environment; to identify, reduce and, as a final goal, eliminate pollution. The AEPS also formally recognized the importance of the active participation in the process of groups representing the indigenous peoples of the North.[67]

The formulation of the Arctic Environmental Protection Strategy led to the initiation of four programs. The Arctic Monitoring and Assessment Program (AMAP) was responsible for monitoring levels and assessing the effects of anthropogenic pollutants in all compartments of the Arctic environment. This responsibility includes humans. The

Conservation of Arctic Flora and Fauna (CAFF) program was responsible for facilitating information exchange and coordinate research on species and habitats of Arctic flora and fauna. Emergency Prevention, Preparedness and Response (EPPR) deal with the threat of Arctic environmental emergencies, and provide a framework for future cooperation. The fourth initiative is Protection of the Arctic Marine Environment (PAME). It tasked to take protective measures to marine pollution in the Arctic. Measures are taken irrespective to origin of the pollution, or body to take action.

To further the work on the Arctic Ecology amongst the states, two more conferences were held, first in Nuuk of Greenland, leading to the Nuuk Declaration of 1993. Then Canada hosted the Inuvik conference in 1996. The review of the work of the four bodies established at Reykjavik, gave rise to a fifth group; Sustainable Development and Utilization (SDU). This group was tasked to "propose steps governments should take to meet their commitment to sustainable development of the Arctic, including the sustainable use of renewable resources by indigenous peoples."[68]

6.4 Conclusion

There are a number of international bodies addressing various security-related issues in the Arctic. These bodies form great vehicles for cooperation on the working level, steering clear of the media attention of international high level politics. The organizations provide transparency in the inter-state relations, and may in the future address more controversial issues such as the sea-border dispute between Norway and Russia, and the interpretation of the Svalbard treaty.

7 Security issues

The outbreak of World War I was an example of the failure of narrow security politics that had no other means of solving international crises than the use of military force. Today, and especially after the dissolution of the Soviet Union and the abolishment of the bipolar world, national and international security encompasses more than only military matters. Issues such as ecological, social, cultural and economic add complexity to the international security environment. There is no single issue that can be solved in isolation. Military issues have economic implications, and the perception in the western world has changed from viewing a nuclear missile exchange as the greatest threat to mankind, to see pollution, nuclear waste, lack of natural resources etc. as a major threat

Traditionally, the term security has been linked to the sovereignty of the state, especially towards the use of, or threat of use, of military force. New views on security emerging since the end of the cold war is more diverse, and deals with security on a broader scale. One important aspect is that new thinking sees security systems where the states interact on a global or regional level, creating security systems unique for that region. The interests of the individual state are to some extent subjugated to overnational regulation, and the interests of all the parts of the region. Global thinking adds new dimensions to the security issues on the individual level, where security reaches down to the individual, and where the individual security is concerned with other threats than that of a foreign attack. The environmental aspect is another new way of defining security, where the ecological, economic and social security concepts rules. Perhaps the most

comprehensive view defines security as a system, where all facets must work in concert to ensure that the overall security needs of an entity is taken care of.[69]

A challenge with these new security definitions is that they are in nature complex, and difficult to grasp perceptional. Defining national security in a global perspective will necessitate some kind of over-nationality, where the interests of the individual state in some cases must yield to the interests of mankind. The Rio declaration on the world environment is a good example, excepting some underdeveloped polluters from the strict pollution reduction regimens, while imposing a heavier burden on the developed countries. Those nations capable of reducing pollution without exposing its population to starvation must be the first to develop and implement technologies to save our common future. The underdeveloped countries must first develop a sustainable economy, ensuring enough food for the population before serious attempts on pollution reduction can be started.

In the Arctic, seeing security more as a matter of protecting the fragile environment, thus protecting the global environment, will have to lead to new ways of solving environmental challenges in a regional manner. In contrast to traditional security thinking where one nation could survive at the expense of another, this approach leads to a cognitive model where all the Arctic nations are in on it together. One nation's environmental problems will affect her neighbors due to the global nature of the environment.

7.1 Environmental issues

The North Slope of Alaska is the U.S.'s biggest oil producing region, accounting for a large percentage of the total production in the U.S.[70] Situated so far north, the

extraction of oil and gas presents a number of challenges. The fragile nature of the Arctic has a much less tolerance to pollution than in the southern regions. Many of the mechanisms that normally reduce the impact of oil spills, such as oil-eating bacteria and the evaporation of gases from the spill, are non existing in the Arctic.

The fragility of the ecosystem makes pollution very destructive, the biodegradation of pollutants such as oil-spills happens at a very low rate compared with southern waters. The ice poses another significant problem in coping with pollution; substances tend to be absorbed into the ice and preserved until the ice melts.[71] The accumulation of pollutants in the ice is of concern, combined with an increase in global temperature, we may see a significant amount of environmental pollutants released into the sea-water and the air.

The base complex on the Kola Peninsula is in focus for environmental issues. The bases were constructed after WWII due to the proximity to the open Atlantic Ocean, and because of the then Soviet Union desperate need for access to ice-free harbors.[72] All other harbors in the Soviet Union were in one or another way controlled by presumed adversaries. The Black Sea fleet had to pass through the Straits of Bosporus, controlled by the NATO-member Turkey, and Gibraltar, controlled by another NATO member, Britain. In the Baltic Sea the fleet had to sail through the Danish belts, which already in peacetime was prepared with remotely controlled minefields. From there, the trip would take the fleet between the southern shores of Norway, and Scotland. The Far Eastern fleet in Vladivostok had in addition to the proximity to potentially hostile powers the obvious problem of getting to the theater of war. Were a war fought in Europe, the passage to get there would be long and strenuous. Supply lines would also pose a problem. The Northern

fleet soon became the most important fleet of the union, partly due to the immediate access to hiding places under the polar ice-cap for nuclear submarines.

The development of nuclear submarines, surface vessels and missile systems had very high priority. The development of bases and support infrastructure did however lag behind. Several of the planned support facilities were not constructed until eight years after fielding the nuclear powered system, and in some cases, not at all. Although the first nuclear powered submarine in the northern Fleet, the K-3, was launched in 1958, the facilities for handling nuclear waste were not in place until the early 1960's. Even in 1999 some of the docking facilities for the Typhoon class submarine are inoperable due to lack of cranes in the docks.[73]

Military personnel who constructed the bases were mostly conscripts who from different reasons could not serve in regular warfighting units. They were therefore transferred to the construction battalions. Both the soldiers and the leadership lacked the skills and competencies to undertake such a complicated task as constructing military bases with the correct infrastructure to handle nuclear waste, resulting in very poor quality of the buildings and facilities.[74]

The amount of nuclear waste generated by the Soviet and Russian North fleet, and Nuclear power plants since the sixties is huge. More than 57,000 spent fuel assemblies, generating approximately 27 million Curie (or 10^{18} Bequerel) stored on the Kola Peninsula. Over 16,000 cubic meters of solid waste and 6,000 cubic meters of liquid waste is also stored under unsafe conditions. One of the storage sites is the ship LEPSE, moored in Murmansk harbor. It contains some 650 spent fuel cells from the propulsion systems of

decommissioned submarines. The casks designed to contain the spent fuel are to some extent damaged, and the fuel cannot safely be relocated using technology at hand. These fuel cells are in various stages of decay, with elements lying around in the bottom of the casks.[75] If improperly handled, the amount of radioactive matter in contact may reach critical levels of radiation, igniting an uncontrolled chain reaction.[76] Large amounts of liquid low-radioactive waste have over the years been dumped in the Barents sea, in containers and in free flowing form.

The civilian authorities responsible for monitoring radiation and checking on security (Gosatomnadzor), were never given access to these facilities. Even after President Jeltsin issued a decree giving the agency responsibility also for military reactors, the navy refused to grant them access. Even today, the ministry of defense has the direct responsibility for storage of radioactive waste on military installations.[77]

It is clear that the nuclear waste management is not conducted properly. If proper, timely actions are not taken, the world may experience serious problems arising from spills, or even catastrophic nuclear fires. Scenarios have been developed describing accidents leading to solid nuclear waste reaching critical levels of mass, leading to an explosion or uncontrolled nuclear fires.[78] Nuclear liquid waste oozing from leaky containers may reach the ocean-streams, contaminating fish and sea mammals over a great area. Indigenous peoples dependent on what the ocean can provide will accumulate radiation doses threatening their lives and well being.

7.2 Resource management issues

The UN Convention on the Law of the Sea regulates to some extent sub-sea resource management issues, but fails in providing tools for protecting and distributing the available surplus of the open water migratory fish outside EEZ's. Migratory fish wanders in and out of EEZ's and open waters, opening for uncontrolled exploitation of the stock. As has happened several times over the past century, human high-tech harvest has overtaxed the stock, destroying the basis for whole industries. In 1999, one of the biggest problems for responsible governments in the Arctic regions is that some fishing ship owners have flagged out their vessels to states with no marine legislation and little participation in international fishery fora. They may therefore catch fish in international waters with little risk of punishment. The whaling industries are good examples of overtaxation of a stock. The blue whale is almost extinct due to heavy harvesting. International control needs to be exercised to keep schools of fish at a sustainable level. This may pose the greatest challenge to the Arctic community regarding renewable resources in the Arctic Sea.

7.3 The Northern sea routes

The northern sea routes have been subject of controversy over the years. The sea routes are generally divided into two; the Northwest Passage, linking the Atlantic ocean with the Pacific through a route north of Canada, and the Northeastern Passage linking the Atlantic with the Pacific through a route north of Russia. These shipping lanes have in common that they run along the outskirts of the Arctic ice cap and solid land, Canada, and Russia. The political context is somewhat different, Canada has little interest in restricting

shipping along her northern rim, Russia has a major naval port and main access to the blue sea through their northern coastline.

The Northeast Passage is really several routes running along the northern coast of Russia from Novaya Zemlya to the Bering Strait, averaging lengths of 2200-2900 nautical miles. They lie largely within Russia's 200 mile economic zone territorial waters or internal waters. Especially during conditions of heavy ice in the North, or adverse weather, the lanes runs within Russia's territorial waters, which makes the subject to the local laws and regulations.[79]

The northern sea routes are not likely to produce any major controversy between the Arctic states. It is however likely that the regulation of these routes may be subject to international conventions such as future revisions to the UN Convention of the Law of the Sea. As long as no major economic interests are linked to these routes, the nations will not risk jeopardizing their good relations over such a minor matter.

8 Conclusion

The early explorers of the polar regions were driven by a combination of adventure-seeking, curiosity and a quest for fame. These regions are hard to reach, both due to the hostile environment and climate, and the lack of any infrastructureArctic travel requires self sufficiency, and the severe cold poses many difficulties on men, animals and machinery. Characterized by the ever moving ice, human activities in the Arctic ocean or on the Arctic ice-cap must be conducted with the utmost care. Sudden changes in the ice

may open cracks, and objects locked in the ice may be suddenly crushed by the enormous forces of colliding sheets of ice, just as de Long discovered in 1881.

The definition of security at the entrance to the twenty-first century is changing. A wider definition encompassing pressing issues such as environmental security, nuclear waste handling, sustainable ecosystems and the well being of all inhabitants of the region is serving the new multipolar world well. The old bipolar world competing for influence is replaced by a multitude of different interests competing for political attention. The new security system is influenced by a myriad of players, such as states, NGO's multinational business organizations, ethnic groups and transnational organs such as the UN, OSCE etc. A security system replacing the military threat with threats to the environment and our common future will broaden the scope for security related actions. Arctic security is served well by this change, as none of the Arctic security issues has the ability to make headline news. The problems are slow moving and do not have the dramatic and sudden impact on mainland inhabitants as other security challenges around the world.

The indigenous peoples of the Arctic are moving toward greater autonomy within their states. All of the Arctic rim states except the Russians have taken strong measures to preserve the native cultures and ways of life. The groups advocating the aboriginal rights for the Arctic indigenous peoples are growing stronger, and their organizations are gaining international recognition. A future basis for conflict in the realm of aboriginal rights may arise from the difference in treatment of native peoples within different nations. Lobbyists for aboriginal rights within the U.S. may well invoke formal protests and foreign policy actions to support native peoples struggle for national identity and recognition within

Russia. Although not an official policy, assimilation through neglect seems to be the going term in the Russian federation. Although few examples of armed struggle from the native peoples are known, the assimilation process in Russia, together with increased information on increasing rights in the western world, may give fuel to a growing discontent that may lead to oppressive action from the Russian authorities. Such actions could cause the climate in the cooperation in the Arctic between east and west to cool off, even in the Arctic political environment of transparency and trust.

The Arctic environment is one of the most fragile ecosystems in the world. Just as the peoples of the Arctic have adjusted to the environment, the environment itself need to maintain harmony and balance. Introduction of pollutants, or changes in the parameters that makes up the ecosystem may seriously disrupt this fine-tuned balance. When the CO2 released in the Southern countries destroys the ozone layer, the consequences appear first above the polar regions. The subsequent raise in global temperature will lead to a melting of the ice both on the sea, and on dry land, exposing darker surfaces absorbing sunshine. This further adds to the rise in temperature, and the resulting consequences of this spiraling effect is hard to anticipate. The change in the polar climate will in turn affect global weather patterns, such as instigating phenomena like "el niño." This phenomenon is said to be the cause of increased amounts of severe weather on the Northern Hemisphere.

The northern rim nations have undertaken a comprehensive cooperation to coordinate and policies in the Arctic region. Still, in contrast to the South Pole continent, which has its comprehensive treaty, no such overarching treaty exists for the Arctic. The different initiatives aimed at cooperating seem to be working well, maintaining a number

of different initiatives. The Arctic council and the conference of Arctic parliamentarians are important bodies to increase transparency and trust among the Arctic rim nations. Cooperation among equal parties with equal values and norms works well, the problem arises when one of the parties have different economical foundation for the activities covered by the cooperation. Russia is the "poor cousin" in the Arctic cooperation, still struggling to create a sustainable domestic economy. Funding for programs on the periphery of the world may not be top priority. A key problem in Arctic cooperation seems to be the inability of Russia to meet its economic obligations, and the lack of focus from the top political level on Arctic issues.

The problems of safely disposing of the enormous quantities of nuclear waste in the Russian North should be the cause of greatest concern among the Arctic rim nations. This problem is probably the only security issue that may rise to the forefront of the political agenda in the short term. If an accident happened aboard one of the ships storing nuclear waste, or in one of the land storage facilities, northern Europe as well as Canada and Alaska may face an imminent threat of high levels of radioactive fallout from burning nuclear waste, or liquid waste transported through the ocean streams. A worst case scenario may even involve a nuclear explosion.

Solving these problems is costly, both for the state's economy and for the individual's private economy. Reducing emissions of CO2 into the atmosphere will influence the price of gas and other commodities. Cleaning up the nuclear waste in the Russian north will have to be led and paid for by the western countries, and will be very costly. Accumulated over tens of years, some of the storage and dumping sites are

inaccessible without very sophisticated equipment and expertise, something the Russian authorities do not have. Safe storage of nuclear waste in the Arctic influences the common future and requires decisive action to clean up the problem. Only through cooperation and selfless contribution of technology and money to the common goal, can this important problem be dealt with in a proper manner. The western nations have a responsibility as the economically and technologically most advanced nations in the Arctic rim to help our Russian partners solve this global problem.

Annexes

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[1] John Edvard Weems, *Race for the Pole*, (New York: Henry Holt & co, 1960) 94.
[2] Kaare Rodal, *North, the Nature and Drama of the Polar World*, (New York: Harper and Brothers Publishers, 1953) 11.
[3] Ibid, pp 11-17.
[4] One definition of the Arctic is the region north of the tree line—on a map, a line connecting points beyond which trees do not grow. "Arctic, The," Microsoft (R) Encarta. Copyright (c) 1994 Microsoft Corporation. Copyright (c) 1994 Funk & Wagnall's Corporation.
[5] The largest Arctic land areas are in Canada, Russia, Greenland (Kalâtdlit-Nunât), Scandinavia, Iceland, Alaska, and Svalbard and other islands."Arctic, The," Microsoft (R) Encarta. Copyright (c) 1994 Microsoft Corporation. Copyright (c) 1994 Funk & Wagnall's Corporation. For this Monograph, the arctic powers, or nations with an interest in the Arctic, are defines as those mentioned. In addition, international bodies such as UN, NATO, OSCE and EU may have the arctic as a part of their security sphere.
[6] Also interests of international bodies such as UN, NATO, OSCE and EU.
[7] For a brief explanation of the term "security", see page 34.

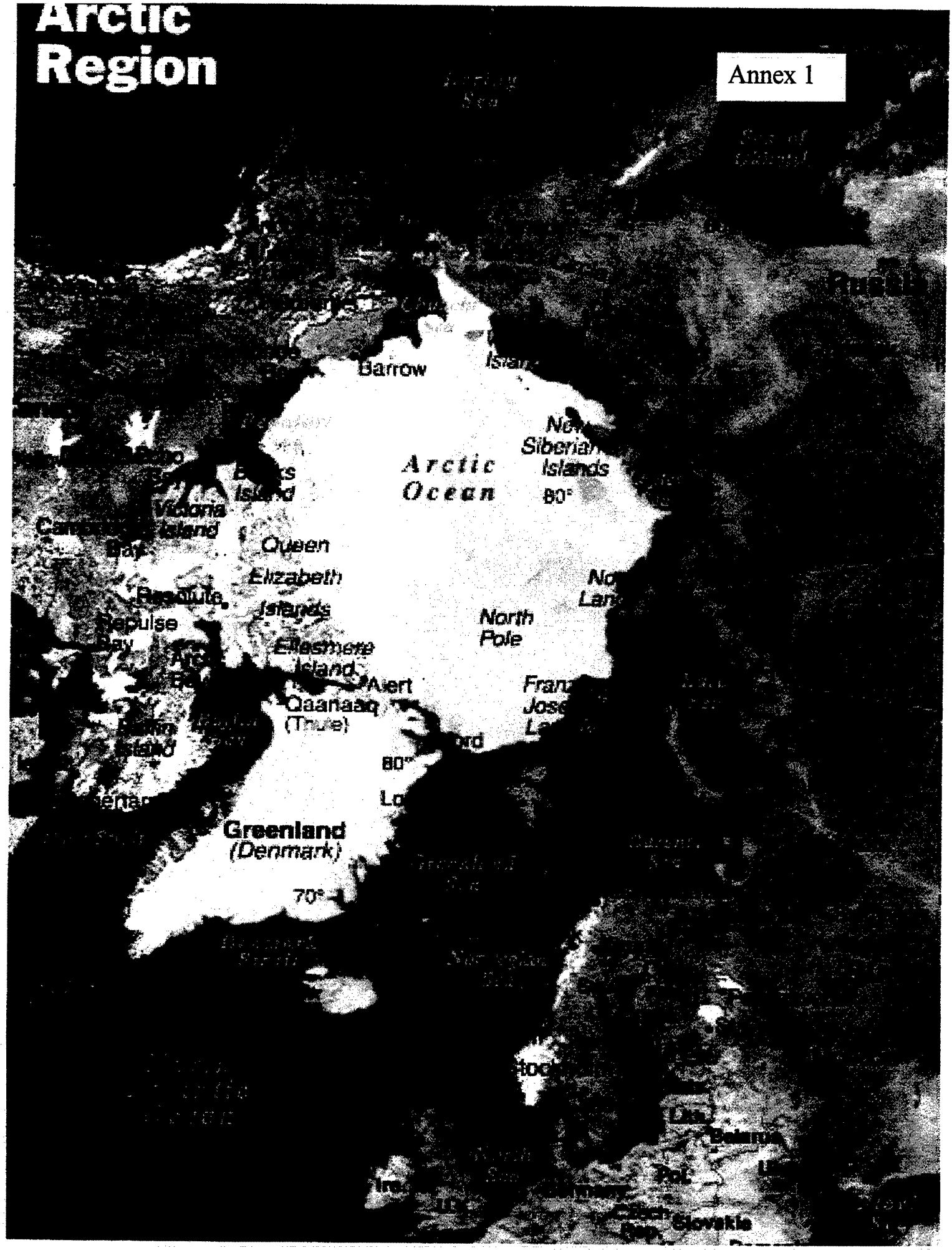
[8] Isotherm – an imaginary line drawn through points on the northern hemisphere where the average high temperature in July is 10 ° C. Areas North of this line has an average July temperature below 10 ° C. This line also coincides with the average northern limit of boreal forest.
[9] Sanjay Chaturvedi, *The Polar Regions, A Political Geography*. (New York: Scott Polar Research Institute, University of Cambridge, 1996) 14-15.
[10] Permafrost is a condition where the ground stays frozen all year, and where only the top layer of soil thaws during summer.
[11] T. Armstrong et. al. *The Circumpolar North: a Political and Economical Geography of the Arctic and Sub-Arctic*, (London: Methuen, 1978) 2.
[12] Chaturvedi, p 21.
[13] Oran R. Young and Gail Osherenko, *Arctic policies, Conflict and Cooperation in the Circumpolar North*, (Hanover: University Press of New England, 1992) 182.
[14] Chaturvedi, p 16.
[15] Young and Oscherenko, p 2.
[16] Minister of Public Works and Government Services of Canada, *Report of the Second Conference of Parliamentarians of the Arctic Region*, (Ottawa: 1996).
[17] Among these nations are the UK, Portugal, Spain and Japan.
[18] Chaturvedi, p 19.
[19] Young and Osherenko, p 230.
[20] Unfortunately, this does not apply to peoples in the Russian federation.
[21] Communiquée drafted for release at the AMAP International Symposium on Environmental Contamination of the Arctic in Tromsø, Norway, June 1997, URL http://www.grida.no/prog/polar/amap/ipo-comm.htm. (25 Mar 1999).
[22] Chaturvedi, p 20.
[23] Bjørn Aarseth, "Misjon – Kirkebygging – Statspolitikk," *Ottar, Periodical from the University of Tromsø*, No 84 (Tromsø: 1975 nr 2-3), p35.
[24] Most present day's Saami are city dwellers, or live in permanent settlements.
[25] AMAP International Symposium communiqué.
[26] Halvor Tjønn, "Russian Saami may disappear", *Aftenposten* (Oslo, Norway: 8 April 1999) 21.
[27] Norwegian Centre for Foreign Studies, Centre for Russian Studies, *Database of Ethnic Groups in Russia*, URL http://www.nupi.no/cgi-win/Russland/etnisk_b.exe/Nenets (12 Mar 1999).
[28] Chaturvedi, p 18.
[29] Chaturvedi, p 19.
[30] These three tribes are Cree, Inuktitut and Ojibway.
[31] The Daily Statistics Canada, Online Edition. Monday, December 14, 1998, URL http://www.statcan.ca/Daily/English/981214/d981214.htm#ART1 (27 Mar 1999).
[32] Ibid.
[33] Nunavit Planning Commission Homepage, URL http://npc.nunavut.ca/eng/index.html (22 Apr 1999).
[34] "Inuit," Microsoft (R) Encarta. Copyright (c) 1994 Microsoft Corporation. Copyright (c) 1994 Funk & Wagnall's Corporation.
[35] Ibid.
[36] Chaturvedi, p 20.
[37] United Nations *Convention on the Law of the Seas, Part X Right of Land-locked States to and from the Sea and Freedom of Transit*, 9 Dec 1984.
[38] Ibid, Article 38.1.
[39] The formula is: Four members from the largest consumers of commodities or importers, but at lest one from the socialist world, four members from the parties that has the greatest investments in activities in the area (at least one socialist), four members from the biggest producers of minerals derived from the area (at least one developing country), six members from the developing world representing special interests such as large populations, land locked etc, eighteen members to ensure equitable geographical distribution.
[40] U.S. Bureau of Oceans and International Environment and Scientific Affairs, *Fact Sheet: U.S. Oceans Policy and the Law of the sea Convention*, (May 28, 1998).

[41] Fennoscandian area is a term used to describe the region comprising of Finland, Sweden and Norway, and the Murmansk Oblast in Russia.
[42] Kari Möttölä, ed., *The Arctic Challenge – Nordic and Canadian Approaches to Security and Cooperation in an Emerging International Region*, (London: Westview Special Studies in International Security, 1988) 108.
[43] David Scrivener, *The Border Dispute in the Barents Sea*, Jane's Intelligence Review, June 1992, p 253.
[44] Treaty Concerning Spitzbergen, February 9, 1920, 2 LNTS.8. Reprinted in F. Sollie, ed., *The Challenge of new Territories,* 152 (Oslo: The Fritjof Nansen Foundation Study No. 1, 1974).
[45] The original signatory states were among others Canada, Denmark, Great Britain, Sweden, USA, and India. Additional members include Germany and USSR.
[46] William E. Westermeyer and Kurt M. Shusterich, *United States Arctic Interests – the 1980's and 1990's.* (New York: Springer Verlag, 1984) 261.
[47] Ibid.
[48] Young and Osherenko, p 181.
[49] Norwegian TV2 *News at 9*, Mar 14 1999.
[50] Valerij Arnol'dovivich Mazing, *Russia's Foreign Policy and Security Issues in North-Western Europe*, Norwegian Institute of International Affairs Working Paper no 528, (May 1995) 10.
[51] Department of State, Bureau Public Affairs Fact Sheet: U.S. *Arctic Policy*, (December 1 1994) URL http://www.state.gov/www/global/oes/oceans/fs_Arctic.html (13 Apr 1999).
[52] Westermeyer and Shusterich, p 1-18.
[53] Young and Oscherenko, p 182.
[54] U.S. Arctic Policy.
[55] Inventory of Sustainable Development Initiatives, *Arctic Parliamentarians Homepage*, URL http://www.grida.no/parl/isdi/data/listregi.htm (28 Mar 1999).
[56]Secretary Warren Christopher's Address at Stanford University: *American Diplomacy and the Global Environmental Challenges of the 21st Century,* (April 9, 1996), URL http://ecsp.si.edu/ecsplib.nsf/ (6 April 1999).
[57] R.E. Dupuy and T.N. Dupuy, *The Harper Encyclopedia of Military History*, 4th ed, (New York: Harper Collins Publishers, 1993) 1453.
[58] These restrictions were limits on allied ground and air activities close to the border, along with not allowing stationing of foreign troops on Norwegian territory in peacetime. Ban on Nuclear weapons on Norwegian territory was also a part of the restrictions.
[59] The limit was 24 degrees east, no military flights, naval vessels or ground troops were allowed East of that longtitude.
[60] Bjørn Tore Godal, Norwegian Foreign Minister, *Foreign Department info, No 21,* (June 1994) 4.
[61] The Ministry of Foreign Affairs, *Questions Regarding Norwegian Foreign Policy,* (Oslo: September 1995).
[62] Danish State Information Services, *Greenland Home Page*, URL http://www.danmark.dk/hr/owa/dannmark.dk?objekt=208908 (15 Jan 1999).
[63] Nils Ørvik. *"Introducing the Northern Rim"* in *Report from Conference on "Canada and the Northern Rim,"* National Security Series no 6, 1997, (Kingston, Ontario: Queens University, 1977) 5.
[64] Ibid, p 12.
[65] Standing Committee of Parliamentarians of the Arctic Region, Mission Statement (29 April 1998), URL http://www.grida.no/parl/salek/index.htm (25 Feb 1999).
[66] Inventory of Sustainable Development Initiatives, *The Arctic Council*, URL http://www.grida.no/parl/isdi/data/listazi.htm (15Mar 1999).
[67] Arctic Monitoring and Assessment Programme (AMAP) Homepage, *About AMAP*, URL http://www.grida.no/amap/about.htm (6 Apr 1999).
[68] Ibid.
[69] Emma Rothschild, *What Is Security?* Daedalus 124, No. 3 (Summer 1995): 55.
[70] Young and Osherenko, p 181.
[71] Young and Oscherenko, p 232.

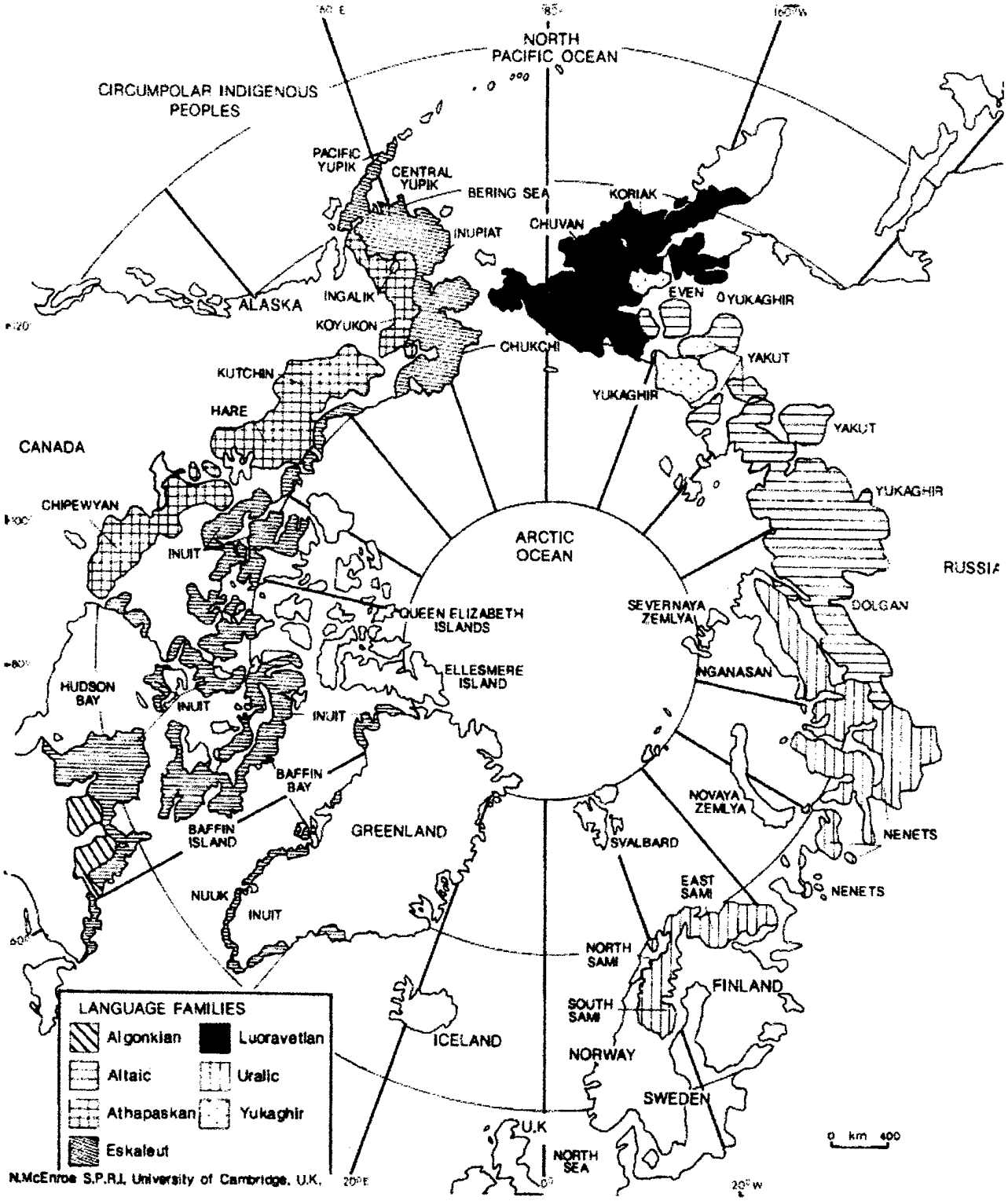
[72] Thomas Nilsen, Igor Kudrik and Alexandr Nikitin. *The Russian Northern Fleet - Radioactive waste at the naval bases,* Bellona Report nr. 2:96, Chapter 4.1., URL http://www.bellona.no/e/russia/nfl/nfl4.htm (2 feb 1999).
[73] Ibid.
[74] Ibid.
[75] R.S. Dyer et al, *Environmental Security Benefits Arising from Russian/Norwegian/U.S. Cooperation in the High Arctic*, (Washington DC: U.S. Environmental Protection Agency 1997).
[76] Ibid.
[77] Ibid.
[78] Mazing, p 4.
[79] Willy Østreng, *The Northern sea Route – Economic Prospects and Challenges*, The Fridtjof Nansen Institute, Norway 1998. Briefing given at the Salekhard Conference of Arctic Parliamentarians. Published as the Salekhard Documents URL http://www.grida.no/parl/salek/index.htm (23 Jan 1999).

Arctic Region

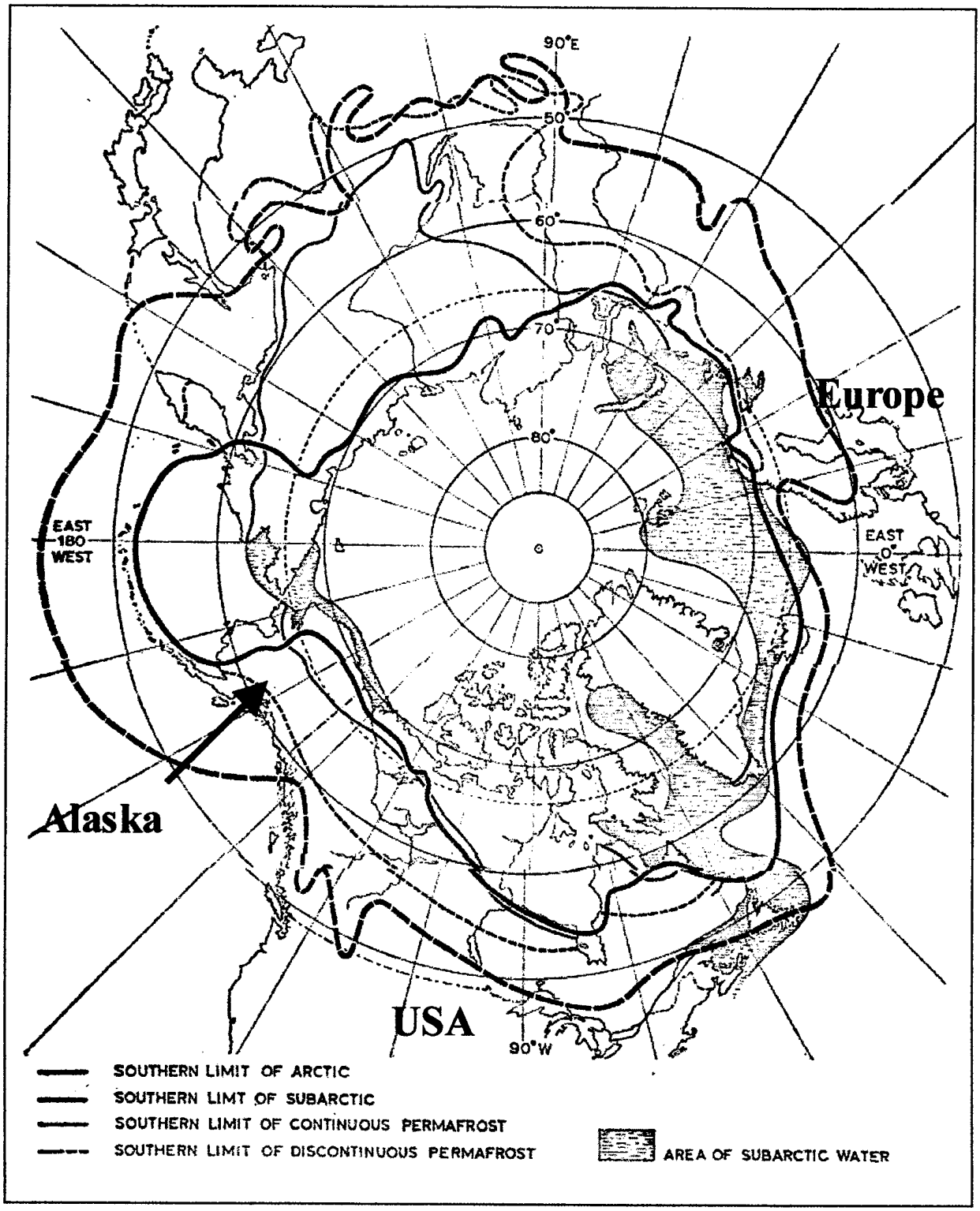
Annex 1



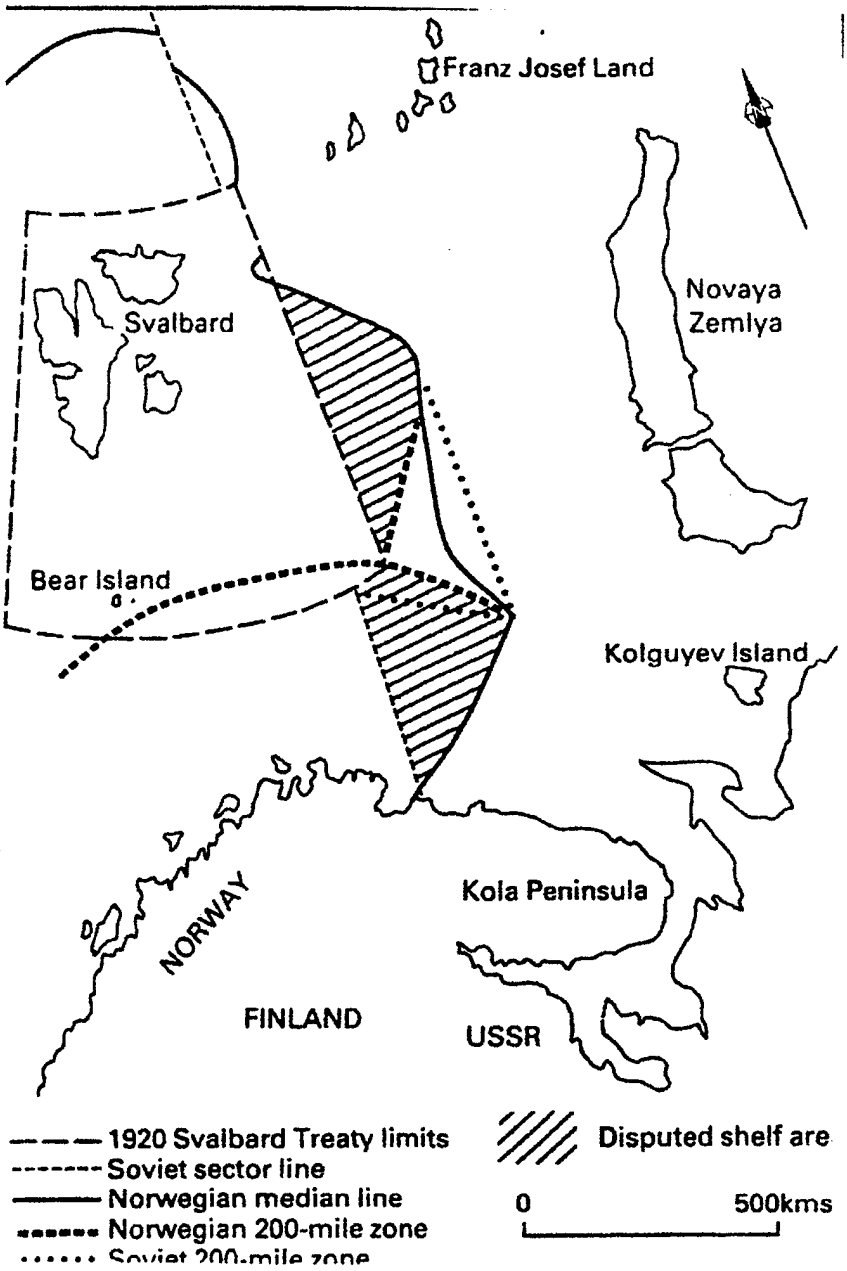
Peoples of the Circumpolar North



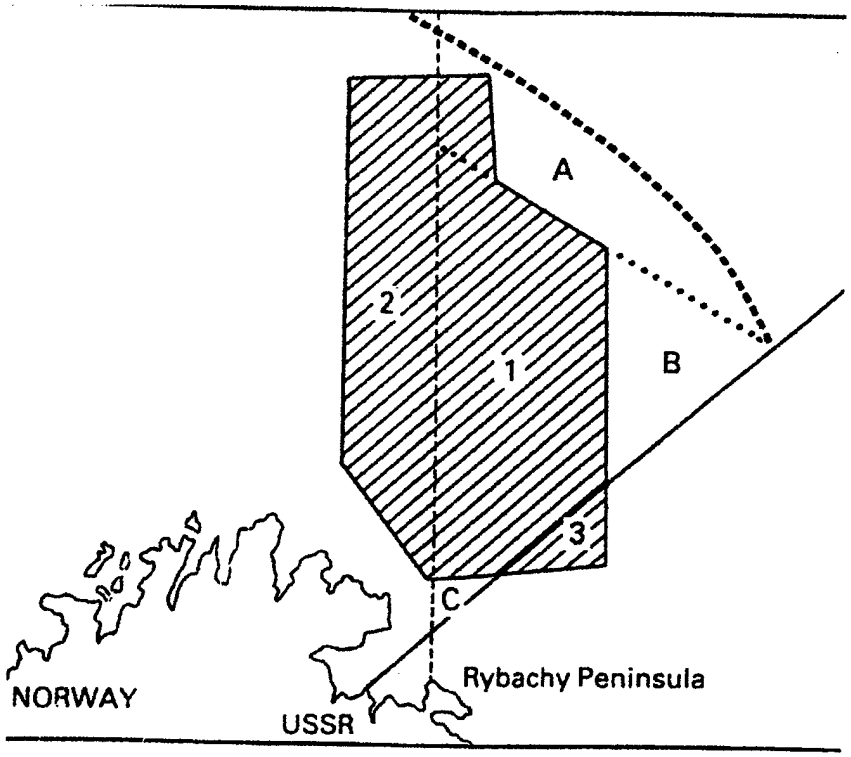
The Arctic and 10 degree isotherm



Disputed areas



The "gray zone" agreement



Area covered by the Grey Zone joint fisheries regulation agreement, including:

1. 41,000 km^2 above the disputed shelf;
2. 22,800 km^2 within the undisputed part of Norway's EEZ; and
3. 3,100 km^2 within the undisputed part of the Soviet EEZ.

------ Soviet sector line

—— Norwegian median line

▪▪▪▪▪▪ Norwegian 200-mile zone

•••••• Soviet 200-mile zone

Segment A: Outside either Norwegian or Soviet fisheries jurisdiction for the duration of the Grey Zone arrangement.

Segments B and C: Under Soviet fisheries jurisdiction for the duration of the Grey Zone arrangement.

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