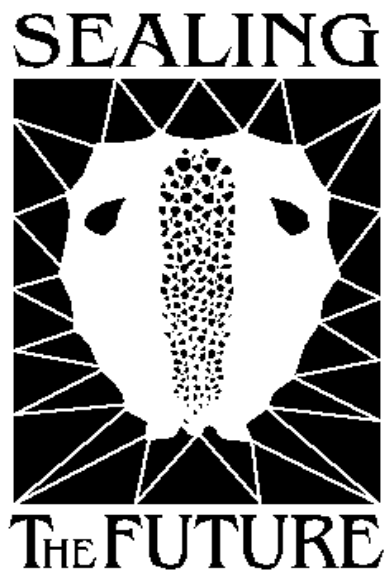


CONFERENCE GUIDE



International Conference & Exhibition
25 - 27 November 1997
St. John's, Newfoundland, Canada

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INTRODUCTION

Welcome to the International Conference and Exhibition - Sealing the Future!

Sealing the Future has been arranged by the North Atlantic Marine Mammal Commission (NAMMCO), in cooperation with the Inuit Circumpolar Conference (ICC), the Nordic Council of Ministers (NMR), the Nordic Atlantic Cooperation (NORA) and the High North Alliance (HNA). It is hosted by the Provincial Government of Newfoundland and Labrador.

Background

The idea for the Conference was generated through discussions within NAMMCO; in particular in meetings of the NAMMCO Fund, which was established by the Council of NAMMCO in 1993 to provide support for information projects which contribute to knowledge of the conservation and sustainable utilisation of marine mammals. The Fund is administered by a Board, to which each NAMMCO member country appoints one representative. Current members of the Board of the NAMMCO Fund are: Ulla Wang, Ministry of Fisheries, Faroe Islands; Einar Lemche, Greenland Home Rule, Arnór Halldórsson, Ministry of Fisheries, Iceland; and Jan Frederik Danielsen, Ministry of Fisheries, Norway.

In 1996 the Council of NAMMCO agreed to the recommendation of the NAMMCO Fund that funds for that year “should be used to focus on seals, sealing and the interaction between seals and fisheries. In so doing, the Board of the Fund would seek cooperation with other relevant funding sources in order to initiate one single project on a larger basis than has so far been the case, or to support an already existing project” (*NAMMCO Annual Report 1996*). A review of existing international seal-related projects in progress, as well as consultations with a wide range of international experts, resulted in the decision to arrange an international forum on seals and sealing. It was agreed that the aim of such a forum would be to draw together all relevant sectors from across the North Atlantic and elsewhere to discuss common issues related to the conservation, management and rational utilization of seals, and to explore the potential for enhanced international cooperation on issues such as trade, management and information.

Acknowledgments

Turning an idea into an actual event is by no means a simple matter. Without the valuable advice and assistance of the many people who have been involved in the development and planning of this forum, it would not have been possible to progress so quickly and successfully from concept to Conference.

Sincere thanks are due to the following people who have been involved with either the programme planning or the practical arrangements (or in some cases with both):

Programme Planning Committee: Georg Blichfeldt (formerly HNA); Violet Ford, ICC Canada; Rune Frøvik, HNA; Reidar Hindrum, NMR; Kjartan Hoydal, NORA; Aqqaluk Lyngé, ICC Greenland.

Advisory Group: Milton Freeman, University of Alberta, Canada; Grete H-Broda, Brandeis University, USA; Lotte Rosing Videbæk, Ministry of Fisheries, Hunting and Agriculture, Greenland; Marc Stevenson, Canadian Circumpolar Institute; George Wenzel, Department of Geography, McGill University, Canada.

Special thanks are due to the Conference Steering Group in St. John's for their invaluable practical support and advice: Frank Pinhorn, Mark Rumboldt, Jacki St.Croix, Ann Hutcheson and Josephine Cheeseman of the Department of Fisheries and Aquaculture, Government of Newfoundland & Labrador, Roland Andrews of the Department of Fisheries and Oceans, Newfoundland, and Tina Fagan of the Canadian Sealers Association.

In addition, NAMMCO gratefully acknowledges the financial support of the Nordic Atlantic Cooperation, the Nordic Council of Ministers and Indigenous Survival International, Greenland.

Finally, on behalf of NAMMCO and our Conference Partners, I would like to express our sincere appreciation to the Government of Newfoundland and Labrador for their generous invitation to host the Conference in the highly appropriate and congenial location of St John's.

Kate Sanderson, General Secretary

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PRACTICAL INFORMATION

SECRETARIAT

Placentia Bay Room - The Secretariat will be open from 0800 - 1900 every day.

PRE-CONFERENCE RECEPTION

1900-2030 in Salons C & D at the Delta St. John's. All registered participants are invited to this informal reception hosted by NAMMCO.

PRESS ROOM

Bonavista Bay Room - For the use of registered members of the press only.

MEETING ROOMS

The St. Mary's Bay Room and the Trinity Bay Room are available for use for smaller meetings or discussion groups. Please check with the Secretariat on availability.

BADGES

Conference staff are easily recognisable by their yellow badges. Members of the press have green badges. Badges must be worn at all times for admittance into the Conference rooms and exhibition area.

MESSAGE BOARD

Conference information and personal messages for participants will be posted on the message board at the rear of the Conference meeting room (Salons B, C & D).

PHONE/FAX/COPYING

Participants are kindly asked to use the Delta St. John's Hotel for personal phones and faxes. It will be possible to make copies at the Secretariat at the price of 2 cents per copy.

We regret that we are not able to offer data processing assistance for participants other than for speakers and session chairs.

LUNCH

There are no organised lunch arrangements during the Conference. The possibilities are plentiful, however, both at the hotel itself and in the vicinity.

OPENING HOURS IN ST. JOHN'S

Banking hours with teller services available - Monday to Friday:

| | |
|--------------------------|--------------|
| Royal Bank of Canada | 0930 to 1700 |
| Scotia Bank | 0930 to 1500 |
| Hong Kong Bank of Canada | 0930 to 1600 |
| Toronto Dominion | 0830 to 1700 |
| Bank of Montreal | 1000 to 1600 |

Automatic cash dispensers are available 24 hours a day.

Shopping: The downtown shops open at 1000 and close at 1730 Monday, Tuesday, Wednesday and Saturday and close at 2100 on Thursday and Friday. There are two shopping malls within a seven - eight dollar cab ride from the Delta St. John's hotel. The malls are open from 1000 to 2200 Monday to Saturday.

PRESENTATION SUMMARIES

Please consult the Conference Programme for session and presentation times

TUESDAY 25 NOVEMBER

CONFERENCE OPENING

Keynote address: *Collapse of the Arctic sealskin market: Aqqaluk Lynge, President, Inuit Circumpolar Conference*

The collapse of the sealskin market had a devastating impact on Inuit communities across Greenland and Canada. This presentation outlines the economic, nutritional, social and cultural importance of seals, sealing and sealskin markets to Inuit communities. It describes the numerous benefits that Inuit derived from the sale of sealskins. It is only against this background that the negative impacts of the anti-sealing movement and the ultimate collapse of the sealskin market in 1983 can be fully understood and appreciated. Inuit social assistance and suicide rates in both countries climbed dramatically after 1983.

Today, Inuit in Greenland and Canada are attempting to revitalize their local sealing economies. This effort may be one of the few real opportunities that Inuit have available to develop industries based on the sustainable utilization of an abundant, non-endangered, renewable Arctic resource. Yet, continuing opposition of animal rights groups, trade barriers and lack of government support continue to challenge Inuit efforts to revitalize their local sealing economies. Aqqaluk Lynge describes some of the measures, including legal action, that Inuit are considering to revitalize this very important part of their culture and economy.

1. SEALING PAST & PRESENT

Chair: Milton M.R. Freeman, Henry Marshall Tory Professor of Anthropology at the University of Alberta and Senior Research Scholar at the Canadian Circumpolar Institute

1.1 Keynote presentations

The origins of Newfoundland commercial sealing: Shannon Ryan, Professor of History, Memorial University of Newfoundland

In the latter 1700s rapid developments in industrial Britain, especially in lighting technology, created a demand for fuel oil. At the same time, the British owners/occupiers of cod fishing premises along the coast of Newfoundland discovered the large herds of harp seals that congregated on the spring ice off shore during the months of March and April. These seals provided valuable oil at a minimum investment (unlike Arctic whaling) and the owners of the cod fishing stations encouraged their migratory servants to stay in Newfoundland all year round and take part in this new hunting/fishing activity. This led to increased settlement and eventually a degree of self-government for Newfoundland.

In the latter 1800s, petroleum replaced traditional oils and the demand for the latter declined, but by then stocks of seals and other marine mammals had been seriously depleted. In the meantime, commercial sealing had changed the lives of the migratory British cod fishers who, by settling in Newfoundland, had created a colony and become Newfoundlanders.

The socio-economic basis of subsistence sealing in Arctic Canada and Greenland: Grete K. Hovelsrud-Broda, Marine Policy Center, Woods Hole Oceanographic Institution, USA and George W. Wenzel, Department of Geography, McGill University, Montréal, Canada

This paper examines several important aspects of Inuit* subsistence in relation to ringed seal (*Phoca hispida*; natsiq/miigattak) exploration and use that are often only poorly acknowledged in many analyses of the EU's closure to sealskins. While seal hunting is invariably seen to have once been a major component of traditional Inuit subsistence, many analysts have presumed that decades of participation in the “sealskin trade” have led to a diminishment of the importance of subsistence for Inuit in Nunavut and Greenland.

Using data from Isertoq, East Greenland, and Clyde River, Baffin Island, a comparative analysis of several aspects of contemporary Inuit subsistence use of seals will be developed. The main foci here will be: 1) the continued importance of ringed seal in the Inuit food economy; 2) the role of money as a resource in the Inuit subsistence system, especially as this relates to sealing; and, 3) the place of ringed seals in the “informal” or social economics of small Inuit communities.

* The term Inuit is used in an inclusive fashion, to refer to both Baffin Island Inuit and to Greenlandic people.

Seals and sealing in the Russian Far-East: History, present status and prospects for the future: Valeriy A. Vladimirov, Marine Mammal Lab, All-Russian Research Institute of Fisheries and Oceanography (VNIRO) and Yuri Ponomarev, Magadan Fish and Game Inspection (Okhotskrybvod)

Stocks of pinnipeds harvested in the Russian Far-Eastern Seas (largha, ribbon, bearded, ringed and fur seals as well as walruses) total c. 2.4 million animals, most of which (1.37 million) inhabit the Okhotsk Sea while the rest (1.03 million) are found in western part of the Bering Sea and the adjacent southern part of the Chukchi Sea. Until recently (late 1980s) Russian sealers took up to 70-80 thousand seals annually in this area, the overwhelming majority of which (60-70 thousand) were ice-seals usually harvested from special sealing vessels.

Today, however, the commercial sealing which once provided many valuable products (skins, fur, oil, meat, etc.) has virtually ceased altogether in the Russian Far East due to economic problems. Pelagic sealing has stopped because of its non-profitability and all of the sealing vessels have been sold for scrap metal. Active sealing is only continued today in Chukotka where natives take up to 4-6 thousand ice-seals and c. one thousand walruses a year and on the Robben and Commander Islands, where 7-8 thousand fur seals are also taken annually.

As a result, up to 6.5 thousand tons of potential raw seal produce remains unused every year in the Russian Far-Eastern Seas, even though the relatively stable status of seal stocks would allow a continuation of commercial sealing with the same intensity as earlier. Long-term forecasts of population trends are also quite positive. In order to resume a commercial harvest of seals in the Russian Far East it is first necessary to establish new sealing enterprises for the pelagic harvest of ice seals with 4-5 specialized ice-resistant sealing vessels capable of working in ice conditions during the winter-spring season in the Okhotsk Sea and 1 or 2 vessels in the Bering Sea. Well-equipped coastal processing plants to produce competitive, high-quality products and goods would also need to be established.

1.2 Sealing around the world today

The importance of marine mammals to Alaska's indigenous people: Carl Jack, Subsistence and Natural Resources Director, Rural Alaska Community Action Program (RurAL CAP), Anchorage

The presentation will provide an overview of the historical and cultural importance of seals in Alaska's indigenous cultures. Current and future management of marine mammals in Alaska will also be discussed, as well as Alaskan indigenous people's views on the commercial use of marine mammals and trade in their products.

Sealing activities of the Inupiaq communities of the Arctic Coast of Alaska: Ben Hopson, Jr., Subsistence sealer from the North Slope of Alaska & Interim President of Indigenous Survival International (ISI)

This presentation will focus on sealing activities of the Inupiaq communities along the Arctic Coast of Alaska. The seal species include bearded seal, ringed seal, spotted seal and ribbon seal. The presentation will focus on the importance of subsistence seal hunting, harvest data of respective communities compiled by the US government and the North Slope Borough, and the barter and products of seals traditionally and commercially

Norwegian sealing today - on thin ice?: Bjørne Kvernmo, Norwegian Sealers' Association, Alta, Norway

The Norwegian hunt of hooded and harp seals in the West Ice off the east coast of Greenland and of harp seals in the East Ice near the White Sea is at an all time low. Last season only two vessels went sealing, one to each area. Bjørne Kvernmo, who has been to the ice floes to hunt seals every year since 1973, will outline the recent history and present situation for Norwegian sealing and the prospects for the future.

The sealing community of Newfoundland: Mark Small, Canadian Sealers Association

Mark Small is a sealer and served for fourteen years as the President of the Canadian Sealers Association. The Canadian Sealers Association, which this month celebrates the 15th anniversary of its founding, was established by sealers to promote their industry in the face of attacks by animal rights activists. Mark Small will speak of the significance of sealing for the community of Newfoundland and for Newfoundland sealers.

The challenges to Inuit sealing communities: Okalik Eegeesiak, President, Inuit Tapirisat Canada

Founded in 1971, the Inuit Tapirisat of Canada is a non-profit organisation dedicated to the needs and aspirations of Canada's Inuit. It is the national voice of Inuit in Canada, and addresses issues of vital importance to the preservation of Inuit identity, culture and way of life.

Harvesting of Cape fur seals in Namibia: Aldert Brink, Sea Lion Products

Sea Lion Products holds one of two concessions for the harvesting of fur seals in the Cape Cross breeding colony on the Skeleton Coast of Namibia. The company has held the concession since it was founded in 1987. The annual quota given by the Ministry of Fisheries is based on an annual seal count from aerial photographs and consists of 1 year-old (weaned) seals and adult bulls. All processing is done at Cape Cross using the whole carcass. The presentation will outline the importance and potential of the sealing industry in Namibia.

WEDNESDAY 26 NOVEMBER

2. PRODUCTS & MARKETS

2.1 Seal Oil and Meat

Chair: Kjartan Hoydal, Secretary, Nordic-Atlantic Cooperation (NORA)

Keynote presentations:

Seal meat, oil and carcass components - potential and problems for product development: Fereidoon Shahidi, Ph.D., FCIFST, FACS, FCIC, Department of Biochemistry, Memorial University of Newfoundland

Harp (*Phoca groenlandica*) is the main species of seal found in the waters of Newfoundland and Labrador. Seals have unique biological characteristics with respect to their carcass components due to their habitat. Thus, their utilization offers opportunities and challenges in the areas of research and development. Pelt, blubber, meat and offal are the main components of seal carcass that could be utilized in a multitude of applications.

Pelts have traditionally been used for production of fur and more recently for leather, but they may also be employed for preparation of industrial gelatin. Meanwhile, blubber is a rich source of long-chain omega-3 fatty acids with novel characteristics which are essentially similar to those of other marine oils. However, structural features of triacylglycerols in seal blubber oil may offer added advantages. Omega-3 concentrates have been prepared in the form of free fatty acids, esters and acylglycerol; all of which may be used for medicinal purposes. Meanwhile, the meat from seal has its own unique characteristics and is a rich source of readily absorbable iron and vitamins, mainly vitamin B12. However, its dark colour, due to the presence of high amounts of hemoproteins, and intense flavour are objectionable to certain individuals. Seal meat has been used for production of a variety of products, including processed meats such as salami and pepperoni.

The Orsoq seal oil research project - Eva Bonefeld Jørgensen, Assoc. Prof., MS, Ph.D., Center of Arctic Environmental Medicine, Department of Environmental and Occupational Medicine, University of Århus, Denmark

Blood lipid levels such as total cholesterol and particularly LAL cholesterol are considered to be an index of the risk of atherosclerosis and thus ischemic heart disease (IHD), and factors that lower these lipid levels may reverse these processes. Epidemiological studies have connected a high dietary intake of n-3 fatty acids with low occurrence of IHD. This is assumed to be a combined effect of n-3 polyunsaturated (PUFAs), monounsaturated fatty acids (MUFAs) and antioxidants. Moreover, the cytokines TNF- α and IL-1 β are also considered to be involved in the atherosclerotic processes. The low incidence of IHD among Inuit is believed to be connected to the marine diet rich in n-3 PUFAs, MUFAs and selenium.

To examine the effect of seal oil on the risk factors of IHD, a pilot study was carried out on healthy young Danes. A daily intake of 5 grams of seal oil for six weeks significantly reduced serum triglyceride concentrations, and decreased the ratio of n-6/n-3 fatty acids to favourable levels both in plasma and red blood cells. Furthermore, the results indicated that fatty acids in seal oil reduce and stabilize the production of proinflammatory cytokines in lymphocytes without influencing the capacity of provoked cytokine expression. The results indicate that seal oil as a food supplement has a potential for the prevention of IHD, and as a component of traditional food it may improve health status.

Seal oil: case studies

David Hiscock, Gateway Maritime, Newfoundland: Gateway Maritime Inc. has worked on developing seal oil for human consumption since its formation in 1995. Extensive investigation has been done on the value of seal oil to the human body, in consultation with international research expertise in the field of fish and seal oils. A product is now launched on the Canadian market and plans are to have it in the foreign market place by the end of the year.

Aldert Brink, Sea Lion Products, Namibia: The company Seal Lion Products was formed in 1987. It is situated on the Skeleton Coast of Namibia at Cape Cross, where commercial sealing has been carried out since 1892. Among other forms of seal products with which Sea Lion Products is closely associated, a number of oil products have been developed in cooperation with Vitamarine Co.

Marit Eriksen, Davinor, Norway: Davinor is a small firm based on the island of Senja in northern Norway, which was begun in 1988. Davinor produces seal skin products, specialising in jackets. Over the past four years, Davinor has developed various products from seal oil, including a seal-oil cream, which is now patented.

Seal meat: case studies

John Ackerman, Indian Bay Frozen Food, Newfoundland: The Indian Bay Frozen Food Company has been processing seal meat products for 10 years, including a range of products for human consumption, such as fresh prime cuts, salami, peperoni, as well as minced seal meat for animal feed. John Ackerman, the company's president and CEO for the past 11 years, will give a brief presentation on his company's activities and views on the current situation for the production and marketing of seal meat with respect to public relations and government regulations.

Willem Burger, Namibia Venison and Marine Products, Namibia: A factory for seal meat production was built at Luderitz in 1989, which has been run since 1993 as a one-man business. Government policy since 1990 has promoted the use of the whole seal carcass. Research on the use of seal meat as animal fodder has been carried out and a successful market has been established. Due to a variety of factors, little research has been done on the potential for production of seal meat for human consumption. (*Note:* As Willem Burger is unable to attend the Conference, Aldert Brink of Sea Lion Products, Namibia, will give a brief presentation on his behalf)

2.2 Sealskin

Chair: Alison Beal, Executive Director, Fur Institute of Canada

Keynote Presentation:

The international market situation for fur: Leif Boe Hansen, President & Chief Executive Officer, Saga Furs of Scandinavia & Chairman of the Board of the International Fur Trade Federation

The presentation will discuss the current structure of the international fur market geographically and commercially, outlining the major sociological and commercial factors - positive and negative - which make up the worldwide market place for fur. The infrastructure of the international fur trade, including present and expected future trends, will also be discussed, with a specific focus on the present and future possibilities for seal products on the international fur market.

Sealskin: case studies

Knut Nygård, Rieber Skinn, Norway: Rieber Skinn is one of Europe's oldest firms in the business of hides and skins. Rieber buys sealskins from the Barents Sea, and from the Northwest Atlantic in Newfoundland. Rieber has reception plants in Tromsø, Norway and in Newfoundland, where the blubber is removed and the skins are cleaned and salted. Further processing of the skins takes place at Rieber's plant in Bergen, Norway. The best skins are dressed for use in fine furs, while other qualities are tanned for the footwear and souvenir industries.

Karl Sullivan, Terra Nova Fishery, Canada: Terra Nova Fishery Co. Ltd. (TNF) has concentrated its efforts on the full utilization of the seal, which is in keeping with public policy in Canada. While seal meat and oil markets are less developed, TNF believes that future success in this industry requires that considerable attention be paid to utilization of the full animal. TNF bought and processed about 150,000 animals in 1997, but its history in the seal industry is a very short one - only four years.

Robert Trudeau, Government of the Northwest Territories, Canada: Robert Trudeau will present the results of the *1997 Nunavut Sealing Strategy Evaluation Report* reviewing how a more focused government approach at supporting the north's sealing industry is succeeding. Highlights will include cost-benefit to the government of each of seven strategic initiatives and plans for the future.

Eggert Jóhannson, "Eggert Feldskeri", Iceland: Eggert Jóhannson, known as Eggert *Feldskeri* (the Furrier) in Icelandic, is based in Reykjavik and specialises in fur and skin garment designs for specific individual clients worldwide. In 1990 Eggert Jóhannsen began experimenting with sealskin, particularly coats and jackets. His production of sealskin garments, as well as other products, is distinguished by its use of wholly natural, locally available materials.

3. Overcoming Barriers to International Trade in Seal Products

Chair: *Steen Christensen, Ministry of Business and Industry, Denmark*

The major barriers to trade in seal products today: *Craig Boljkovac, Acting Research Director, Inuit Tapirisat Canada*

As background for the panel discussion under this session, a brief report will be presented on the recent history and current status with respect to major barriers to international trade in seal products today, with particular reference to the US Marine Mammal Protection Act and the EU directive banning imports of sealskins.

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Conference Host Dinner and International Fashion Show, Delta St. John's, 1900 for 2000

The Department of Fisheries and Aquaculture, Government of Newfoundland and Labrador will host a special conference dinner. This gala evening will include dinner and an international fashion show featuring designers from Greenland, Norway, Iceland, Namibia, and Canada who will present their latest collections of seal fur, leather and suede fashions. The Master of Ceremonies for the dinner will be the Honourable R. John Efford, Minister of Fisheries and Aquaculture of Newfoundland, and the Guest Speaker will be the Honourable Brian Tobin, Premier of Newfoundland and Labrador.

THURSDAY 27 NOVEMBER

3. MANAGING SEALS & SEALING FOR THE FUTURE

Chair: Jean-Eudes Haché, former Assistant Deputy Minister, Department of Fisheries & Oceans, Canada

3.1 Seal management in practice

Canada: Jaque Robichaud, Director General, Resource Management, Department of Fisheries & Oceans

The presentation will provide an overview of Canadian seal harvesting today, with a focus on management objectives, major management policies and issues, enforcement and monitoring, methods of harvesting, industry assistance and challenges for the future.

Peru: Milena Arias-Schreiber, Deputy Director of Marine Mammal Research, Peruvian Marine Research Institute (IMARPE)

The use of South American fur seals and sea lions in Peru dates as far back as pre-ceramic times (>5000 BC). In pre-Hispanic times, seals appear to have been hunted on a regular basis for their meat, oil and skins. Large-scale commercial exploitation of southern hemisphere fur seal populations started in the 18th century. The oldest records of the numbers of seals taken off Peru are annual export figures for the period 1925-1946, when 806,252 tonnes of skin were exported from Peru. The oil was used as lubricants, for the soap and paint industry, and other industrial uses.

In response to concern about the decline in seal populations, in 1946 the Peruvian government limited the seal hunting season to between 1 January and 15 March and prohibited the killing of young pups. In 1950, protection was extended to adult female sea lions and to all fur seals. In 1958, all seal hunting was banned. Between 1971 and 1975, the Empresa Peruana de Servicios Pesqueros (EPSEP) took 12700 sea lions and 4118 fur seals. In 1976, all hunting of seals was again prohibited. Under legal protection since 1976, the population of sea lions has increased from 25,000 individuals in 1979 to the present population of 140,000 individuals counted in 1997. In contrast the fur seal population has remained around 20,000 individuals since 1979.

Artisanal fishermen are extremely concerned about the increasing number of sea lions off the Peruvian coast. Because of reduced catches and damage to fishing gear caused by interactions between sea lions and artisanal fishermen, this group constantly calls for the resumption of sealing in Peru. In 1984 and 1993, the Peruvian Marine Research Institute recommended a cull of 2800 and 4500 sea lions respectively. Despite, the pressure from artisanal fishermen, the Peruvian government has not reinitiated seal hunting because of the lack of interest by potential commercial operators and public opposition.

Norway: Jan Frederik Danielsen,, Adviser, Ministry of Fisheries

The sealing industry in Norway experienced a dramatic decline during the 1970s. The situation was critical by the end of the 1980s as traditional markets for seal products collapsed. The industry has always been important to the coastal populations in certain areas along the coast of Norway. The Government did not wish to see the industry disappear, for several reasons. It was considered important to preserve the skills acquired by sealers through generations, and to maintain sound management of seal stocks in order to avoid coastal invasions of fast-growing seal stocks. The financial support for the sealing industry has been followed by a government sponsored information program intended to educate opinion leaders and politicians. The Norwegian Government places great importance on ensuring that sustainable harvesting of renewable marine resources can be maintained, and recognises the need to manage them in a multispecies perspective.

Greenland: *Amalie Jessen, Head of Office, Department of Fisheries, Hunting & Agriculture*

Sealing in Greenland has always been and still is today the most important subsistence activity because of its all season character, and the continued widespread use of sealskins, meat and orsoq (blubber) in Greenland. Seals also play an important role in the economy of fulltime hunters, especially in Northwest Greenland and in East Greenland, as a source of cash income. This presentation will outline the views and policies of the Greenland Home Rule Government with respect to international cooperation, national regulations and the economics of sealing in Greenland today.

Uruguay: *Alberto Ponce de Leon, Marine Mammals Department, INAPE -National Fisheries Institute*

This presentation will provide an overview of the status and the history of exploitation and management of sea lion and fur seal species in the South American Uruguayan islands. Sea lions were exploited up to 1978 and fur seals up to 1991, when a new law closed the industry agency office and management of seal resources passed to the National Fisheries Institute (INAPE). Today the fur seal population is increasing at an annual rate of 2% with a total estimate of around 260,000 animals for all Uruguayan waters and islands. In contrast, the sea lion population is decreasing and present total estimates in the same areas do not exceed 18,000 animals.

Although INAPE has the authority to organise and manage a rational exploitation of fur seals, there are also growing pressures in Uruguay from non-governmental groups opposed to such exploitation. As in other places, there is a pronounced direct interaction between fisheries and sea lions. The latter are seen as the real enemies by coastal fishermen, who demand compensation for this problem and argue that they are constantly losing equipment and money.

3.2 Perspectives on management

The harp seal - The challenge of managing a valued resource and formidable predator: *Rob Coombs, Fisheries Resource Planning Supervisor, Department of Fisheries and Aquaculture, Government of Newfoundland & Labrador*

In recent years debate on cod-seal interactions off Newfoundland and Labrador focused largely on linkages to the decline of the commercial fishery for Atlantic Cod, particularly the northern cod stock. With overfishing being unarguably the root cause to the 2J3KL cod collapse, Canada invoked the most conservative strategy possible to bring about recovery, the northern cod moratorium. A comparable management intervention in this region in recent years was the ban on the large vessels and whitecoat harp seal hunt in the late 1980s. While the growth of the harp seal population in the northwest Atlantic is indicative of the success of those severe restrictions, the northern cod moratorium, now nearing its sixth year, has failed to generate any appreciable stock recovery.

The current status of the northern cod stock has shaken the resolve of the strongest believers in the resiliency of prolific fish stocks. The current marine ecosystem is a far departure from that familiar to Newfoundland and Labrador fishermen who sought their livelihood from the bounty of abundant cod and seal resources.

The presentation will examine the cod and seal fisheries in a traditional context, examine abundance and predation data, and current ecosystem structure on the northeast Newfoundland and Labrador Shelf. As well, Newfoundland and Labrador's vision of management interventions necessary for resource development and accomplishing conservation objectives will be offered for consideration.

Do more seals mean lower TAC's?: Doug Butterworth, *Department of Applied Mathematics, University of Capetown, South Africa*

Scientists have a ready basis to provide advice on appropriate harvest levels when seals are themselves utilised as a renewable resource. However, when asked whether seals compete directly with the fishing industry for shares of an overall sustainable harvest of fish, scientists generally equivocate, providing no firm answer to the question of whether an increasing seal population will necessitate reductions in TAC's for the industry. In the present worldwide political climate of accent on a precautionary approach and a vociferous animal rights lobby, this scientific uncertainty becomes taken as an argument against seal cull proposals. But the annual world marine catch has levelled off over the last decade, and estimates of food consumption by marine mammals worldwide are substantial by comparison. How soon then before the pressures of the increasing food needs of a growing world population lead to a reversal of this attitude, with scientific uncertainty perhaps becoming accepted as a rationale for rather than against seal culling? What chances are there of scientific research providing more definitive answers before this might occur?

Fish, turnips and conservation: Seals and the human ecology of North Atlantic coastal communities: Niels Einarsson, *Dept of Fisheries Studies, University of Akureyri, Iceland*

The paper argues that in order to understand the attitudes fishermen have towards marine animals, we have to look at the interaction between fishermen and their culturally perceived environment, which they hold to be unproblematically natural, during their subsistence activities. Fishermen see these animals as competitors for scarce resources and this influences their perception of this part of the natural world. What is important is that fishermen are engaged with the marine environment in their day-to-day experiences and their understandings, assumptions, and attitudes should be seen in terms of those relations.

For effective resource management it is important to bear in mind the human aspect of conservation, that the plans people have for the environment should be taken into consideration. "Conservation consciousness" is linked to realities on the ground, or at sea. Ultimately the conservation of wildlife and natural resources depends on the co-operation and engagement of local resource users. Such engagement of the engaged may however be difficult to achieve if the animals involved are seen mainly as threats and competitors for scarce resources, instead of contributing to economic survival. This is an issue world-wide where local people are prohibited from using wildlife, and where wildlife causes damage and even threatens lives of people.

The danger in the transformation of animals into "pests" is that there are even greater problems connected with the conservation of a stigmatized animal species. When animals such as seals compete with people rather than being of benefit to people, and especially if these people have an anthropocentric, utilitarian view of nature, then most likely those animals will be seen as pests and treated accordingly.

Concepts and standards for the killing of animals: Egil Ole Øen, Norwegian College of Veterinary Medicine

Killing methods have often been an issue in the public debate on sealing and whaling. They have been variously described as being "inhumane", "extremely cruel" and "atrocious cruelty to animals". These unusually outspoken adverse descriptions are applied to hunting activities which are carried out with the approval and support of governments. This kind of labelling is often a matter which is influenced by very subjective perceptions and it is difficult to judge whether or not these assertions of inhumanity and cruelty are justified without looking at how "humane" and "humane killing" are defined, and how requirements for humane killing of other species are complied with in practice, such as the slaughtering of livestock and big game hunting, where animals are killed according to generally accepted standards. However, no activity can be defended merely on the basis that other corresponding activities are just as "bad". In principal, if several methods are possible, the one resulting in the most rapid death should be chosen and neither economic, cultural nor religious considerations should be decisive for the choice of method. This would quickly result in the elimination of all methods which are less acceptable from an animal welfare point of view. Global realities, however, often determine otherwise.

The need for consistency and cooperation in seal management: Rune Frøvik, Secretary, High North Alliance

From the perspective of sealing communities, the need for increased cooperation between sealing nations is evident. The sealing industry has been under immense pressure from anti-sealing campaigns and markets have been cut off in spite of international free trade agreements. The shaping of national management policies for sealing has been influenced by these campaigns and this has, as a result, been in many cases unpredictable and sometimes inconsistent with general management principles. Protest campaigns have targeted sealing nations individually, and they have also responded individually. There is a need for a coordinated response and for discussion amongst sealing nations of principles for seal management, as well as a need for co-management of shared stocks and for greater cooperation on research and product development.

EXHIBITION

The North Atlantic Marine Mammal Commission - Information display and publications

Inuit Circumpolar Conference (ICC) - Information display on sealing

Nordic Council of Ministers (NMR) - Aboriginal peoples way of life in the Arctic -contaminant threats to traditional lifestyles and culture

High North Alliance (HNA) - Information display and publications

Department of Fisheries and Aquaculture, Government of Newfoundland and Labrador - This exhibit will include information and products from several local producers as well as the Canadian Sealers' Association

Newfoundland Sealing Industry - Education Project

Greenland - Sulisa A.S. and the Greenland Home Rule Government - Information and products display

Resources, Wildlife and Economic Development, Government of the North West Territories - Information and product display

Inuvialuit Game Council - A presentation of co-management under the Land Claim Agreement

Fisheries and Marine Institute of Memorial University of Newfoundland - Centre for Aquaculture and Seafood Development: Publications and videos on past and present work related to the seal industry

Ocean Science Centre, Memorial University of Newfoundland - Research on harp seals at Memorial University of Newfoundland

Davinor A.S. - Sealskin clothing and rugs, Norway

Sea Lion Products Ltd - Selected seal products from Namibia

Labrador Craft Marketing Agency - "Labrador Traditions"

Les Cuirs Ody-C - Sealskin fashion, Quebec

Breakwater Books Ltd. - Publications on sealing and Newfoundland

Lotek MarineTechnologies - Fish & Marine Wildlife Monitoring (27 November only)

VIDEOS

A number of seal and sealing related videos are available for screening in breaks and after the final sessions during the Conference. Specific screening times will be announced during proceedings. Participants are also welcome to contact the Secretariat to arrange for additional viewings, if desired.

Sealers - Killers or Hunters? (1996) 52 min. Directed by Knut Skoglund. A documentary portrait of contemporary Norwegian sealers and sealing. In Norwegian with English subtitles. (Original title: *Polarfangst*).

The Viking (1930) 71 min. Directed by Varick Frissel. An extraordinary audio/visual chronicle of the Newfoundland seal fishery of the time.

The Great Arctic Seal Hunt (1927) 33 min. Directed by Varick Frissel. Silent film with sub-titles.

Yes, but seal is our daily bread (1993) 37 min. Produced and directed by Ivar Silis. The film depicts 10 days in the life of a North Greenland hunter's family and the consequences for a remote society of media campaigns against fur hunting. Co-produced by the Greenland Home Rule Government (English version)

Namibia - c. 30 min. video showing harvesting of Cape fur seals at Cape Cross.

Marine-based sealing in the Russian Far-East - c. 15 amateur video, Russia.

SELECTED READING LIST

The following reading list is a limited selection of some key references on the biology and ecology of seals and the history, culture and politics of sealing, including selected publications by a number of participants.

Anon. 1991. Report on the Benguela Ecology programme workshop on seal-fishery biological interactions. *Rep. Benguela Ecol. Progm. S. Afr.* 22: 65 p.

Anon. 1994. Grønlandsselen. *Ottar*, 201: 58 p. (A collection of articles in Norwegian on research and utilisation of the harp seal in the Northeast Atlantic published by Tromsø Museum)

Anon. 1996. Selected papers on Harp and Hooded Seals. *NAFO Sci. Coun. Studies*, 26: 122 p.

Anon. 1997. Report of the Workshop on Harp Seal - Fishery Interactions in the Northwest Atlantic: Toward Research & Management Actions. 24 to 27 February 1997, St. John's, Newfoundland, Canada. Canadian Centre for Fisheries Innovation/Memorial University of Newfoundland, 41 p.

Bonner, W.N. 1989. *The Natural History of Seals*. Christopher Helm, London. 196 p.

Bonner, W.N. 1994. *Seals and Sea Lions of the World*. Blandford, London. 224 p.

Blix, A.S., Walløe, L. and Ulltang, Ø. (eds.). 1995. *Whales, seals, fish and man*. Proceedings of the International Symposium on the Biology of Marine Mammals in the North East Atlantic. Tromsø, Norway, 29 November - 1 December 1994. (*Developments in Marine Biology 4*). Elsevier, Amsterdam. 719p.

Born, E.W., Gjertz, I. and Reeves, R.R. 1995. Population Assessment of Atlantic Walrus. *Norsk Polarinstitutt Meddelelser* 138: 100 p.

Carbyn, L.N. and Freeman, M.M.R. 1993. *Traditional knowledge and renewable resource management in northern regions*. Canadian Circumpolar Institute, Alberta, Canada. 124 p.

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Freeman, M.M.R. 1997. Issues affecting subsistence security in arctic societies. *Arctic Anthropology* 34 (1):7-17.

Hovelsrud-Broda, G. 1997. *The Seal: Integration of an East-Greenlandic Economy*. Doctoral Thesis, Brandeis University, USA (unpublished).

ICC - Inuit Circumpolar Conference. 1996. *The Arctic Sealing Industry. Part I: A retrospective analysis of its collapse and options for sustainable development*. 83 p.

ICC- Inuit Circumpolar Conference. 1996. *The Arctic Sealing Industry. Part II: Considerations and*

Recommendations for Sustainable Development. 10 p.

IUCN/SSC Seal Specialist Group, 1993. *Seals, Fur Seals, Sea Lions, and Walrus. Status survey and Conservation Action plan*. Edited by P. Reijnders, S. Brasseur, J. Van der Toorn, P. Van der Wolf, I. Boyd, J. Harwood, D. Lavigne, and L. Lowry. IUCN, Gland, 88p.

Malouf, A.H. (Chairman). 1986. *Seals and Sealing in Canada. Report of the Royal Commission*. Vol.1-3. Minister of Supply and Services, Ottawa. Vol. 1: 65p Vol.2:622p Vol.3. 679p.

McDorman, T.L, 1995. The GATT consistency of the U.S. import embargo on harp-seal fur coats from Greenland. Report contracted by High North Alliance (unpublished).

Øen, E.O. 1995. Animal welfare considerations in the killing of large mammals in Europe (Euthanasia, slaughter and hunting). Paper IWC/47/WK10 to the International Whaling Commission 1995. [Published in Norwegian in *Nor Vet Tidsskr* 1996, 108:313-321]

Østerud, B. et al. 1995, Effect of marine oils supplementation on coagulation and cellular activation in whole-blood. *Lipids*, Vol. 30 o. 12: 1111-1118.

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Stenson, G. and Sigurjonsson, J. (eds). 1997. Proceedings of the NAFO/ICES Symposium on the Role of Marine Mammals in the Ecosystem. *J. Northwest Atlantic Fisheries Science*. (In press)

Wenzel, G.W. 1991. *Animal Rights, Human Rights: Ecology, Economy and Ideology in the Canadian Arctic*. University of Toronto Press, Toronto, 206p.