

Management Plan for the World Heritage Area of

Ilulissat Icefjord

Qaasuitsup Kommunia and the Greenland Home Rule Government (eds.)

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1 PREFACE

Ilulissat Icefjord was inscribed on the UNESCO World Heritage List in 2004 for its outstanding universal value. In Greenland, we are very proud of the values represented by the World Heritage Area and we are fully aware that we need to constantly focus on preserving these values for the future.

The World Heritage Status of the Area has created some dilemmas – one of them being that a growing number of tourists are visiting Ilulissat to experience its unique value. With the increase in the number of tourists coming to the Area, the values of the Area may be compromised if we are not at the forefront of developments.

Since the Area was awarded World Heritage Status, the Greenland Home Rule Government, in partnership with the Ilulissat Municipal Authorities, has taken a number of initiatives to preserve the values of the Area. However, a number of future initiatives will also be required.

This Management Plan is designed to be instrumental in preserving and promoting the special values earning Ilulissat Icefjord its World Heritage Status. The Management Plan sets out a number of initiatives to be implemented over the coming years.

The Management Plan is an overall management tool to be used by the management authorities to ensure both that the values of the Area are preserved and that a reasonable balance is maintained between the protection and use of the Area.

Management of the World Heritage Area will continue to evolve. Changes in the use of the Area and experience gained from previous initiatives will need to be assessed annually and possibly be incorporated into the Management Plan; however, this Management Plan represents a major step forward towards improved management of the World Heritage Area.

The Agency for Environment and Nature of the Greenland Home Rule Government has prepared the Management Plan in close partnership with Qaasuitsup Kommunia.

Elements of the Management Plan have been discussed with relevant players and the people of Ilulissat have been invited to voice their views e.g. at a civic meeting.

Bjarne Petersen

Head of Department

Greenland Home Rule
Government

Henrik Rafn

Chief Municipal Executive

2 THE PURPOSE OF THE MANAGEMENT PLAN

The nomination dossier leading to Ilulissat Icefjord's inscription on the World Heritage List in 2004 included the first management plan for the Area. This management plan was based on the relatively scarce experience with the management of the Area at the time.

Accordingly, in connection with the inscription and subsequently, UNESCO (Resolutions 28 COM 14B.8, 31 COM 7B.28) put forward a series of recommendations on the management of the Area. This Management Plan seeks to incorporate and take into account these recommendations.

The overarching aims of the Management Plan are to protect the outstanding universal values leading to the inscription of Ilulissat Icefjord on the World Heritage List; glaciological research, and the outstanding beauty of the Area, while at the same time ensuring sustainable use of the Area.



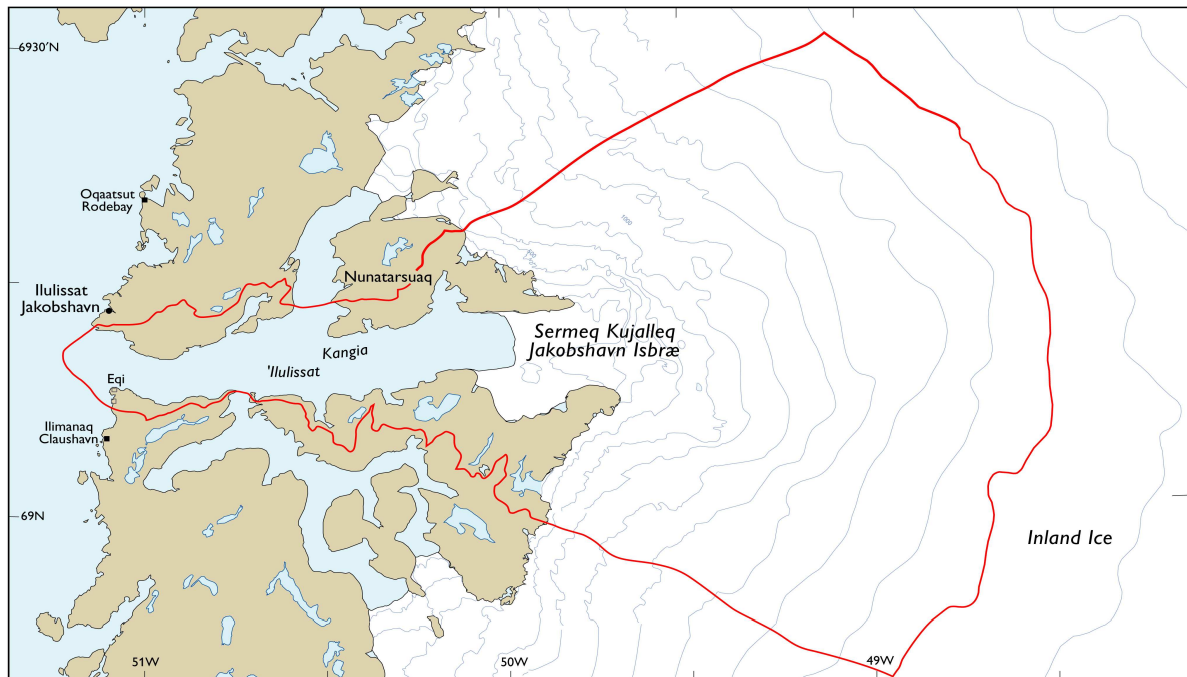


Chart 2.1. The World Heritage Area of Ilulissat Icefjord covers an area of 4,024 km².

The Management Plan is thus a practical management tool to ensure that the overarching aims are achieved.

The aims of the Management Plan also include the following:

- Ensure that all users of the Area understand and appreciate the Area and its outstanding universal value and promote local pride and interest in and respect for the World Heritage Area.
- Allow all users the opportunity to enjoy safe, rewarding and informative experiences.
- Provide a sustainable basis for the development of tourism, hunting and fishing.
- Ensure adequate zoning of the use of the Area.
- Achieve a sensible and sustainable balance between the different uses and interests associated with the Area.
- Disseminate knowledge of the World Heritage Area.
- Support research in the Area, while at the same time ensuring registration and communication to the local community and for the benefit of other scientists and stakeholders.

This Management Plan does not provide a detailed description of the World Heritage Area. However, reference is made to the nomination dossier prepared in connection with the inscription of the Area on the World Heritage List¹.

When the Area was nominated for inscription on the World Heritage List, establishment of a buffer zone from the urban zone boundary to the protection boundary was discussed, the aim being to keep the buffer zone free from buildings. The Agency for Environment and Nature intends to insist on keeping the buffer zone free from buildings. Accordingly, the Home Rule Government has ordered the

¹ "Nomination of the Ilulissat Icefjord for inclusion in the World Heritage List" by Mikkelsen, N. and Ingerslev, T. 2003. GEUS.

Municipal Authorities to establish the buffer zone in an appendix to the municipal plan by the end of 2009.

This Management Plan describes initiatives to be implemented over the coming years. In the longer term, development of long-term visions should be considered. Ideas about these visions are set out in Appendix 1.

3 RESPONSIBILITY FOR THE WORLD HERITAGE AREA

A number of players cooperate on the management of Ilulissat Icefjord. The Heritage Agency of Denmark, on behalf of the Kingdom of Denmark, has overall responsibility for the World Heritage Area in relation to UNESCO and is in charge of liaison with UNESCO.

The Agency for Environment and Nature of the Greenland Home Rule Government has national responsibility for managing the World Heritage Area. The actual management of the Area is undertaken in close partnership and dialogue with Qaasuitsup Kommunia. Management is based on the provisions of Greenland Home Rule Government Executive Order on protection of Ilulissat Icefjord² and this Management Plan. Responsibility for supervision of the World Heritage Area rests with Qaasuitsup Kommunia.

² “Greenland Home Rule Government Executive Order no. 10 of 15 June 2007 on protection of Ilulissat Icefjord”

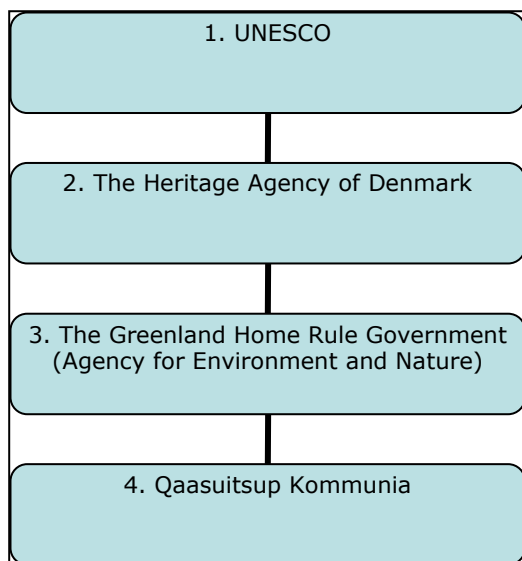


Chart 3.1 illustrates the division of responsibilities.

1. UNESCO Secretariat in Paris
2. The Heritage Agency of Denmark – overall responsibility for the World Heritage Area in relation to UNESCO and in charge of liaison with the UNESCO Secretariat.
3. The Greenland Home Rule Government – national responsibility for the World Heritage Area under the provisions of Greenland Home Rule Government Executive Order No. 10 of 15 June 2007.
4. Qaasuitsup Kommunia – responsibility for supervision of the protected Area.

Steering Committee for Ilulissat Icefjord³

Formal collaboration has existed between the Greenland Home Rule Government and the Ilulissat Municipal Authorities (as from 1 January 2009 Qaasuitsup Kommunia) on the management of the World Heritage Area since the designation of Ilulissat Icefjord as a World Heritage Area in 2004. Collaboration has also existed between the Greenland Home Rule Government and the Heritage Agency of Denmark in relation to the World Heritage Area. However, more formal collaboration was established between the Heritage Agency of Denmark, Qaasuitsup Kommunia and the Agency for Environment and Nature in Greenland in autumn 2008 with the appointment of a Steering Committee.

One objective of the Steering Committee is to discuss how to make the management of the World Heritage Area more efficient. That way, it can be ensured that the necessary decisions are made to preserve the World Heritage Status of the Area in the future and that the management of the Area's values are optimised.

The Steering Committee comprises:

- A representative of the Agency for Environment and Nature⁴, Greenland Home Rule Government (chairman)
- Two Site Managers from Qaasuitsup Kommunia
- A representative of the Heritage Agency of Denmark

³ Please refer to Appendix 3 for information on relations between stakeholders.

⁴ Ministry of Culture, Education, Research and Church has overall responsibility for UNESCO in Greenland. By agreement, the Ministry is notified of all significant decisions made by the Steering Committee.

The Agency for Environment and Nature provides secretarial services to the Steering Committee. The Steering Committee convenes at least once a year. Members of the Steering Committee also maintain regular contact by telephone and e-mail.

Tasks

The Steering Committee is, *inter alia*, to discuss the following:

- Overall guidelines for activities at sea, on land and in the air within the World Heritage Area
- How to carry out recreational, tourism and research activities in the protected Area with respect for the World Heritage Status of the Area
- Overall framework for periodic reporting to UNESCO
- Evaluation and, possibly, updating of the Management Plan
- Evaluation and, possibly, updating of the Monitoring Plan
- Various initiatives within the World Heritage Area to optimise the values of the Area
- How to fund proposed initiatives.

Authority

The Steering Committee discusses the overall management of the World Heritage Area of Ilulissat Icefjord and liaison with UNESCO. Final decisions are made based on the existing division of responsibilities set out above.

Qaasuitsup Kommunia

The Office of Ilulissat Icefjord – Site Managers

As from autumn 2008, Qaasuitsup Kommunia has established two Site Manager positions for Ilulissat Icefjord. This is to signal that future sustainable use of the Area is a high priority – also to the new municipality of Qaasuitsup Kommunia. With the appointment of two Site Managers with authority for the World Heritage Area, a certain amount of continuity has been ensured. The two Site Managers will perform their tasks in close partnership and dialogue with the Agency for Environment and Nature.



Tasks

The two Site Managers perform day-to-day tasks related to Ilulissat Icefjord e.g.

- Information and communication on Ilulissat Icefjord (responsible for preparing signs, brochures, posters, videos, television broadcasts, websites, education materials, guide seminars)
- Management Plan (instrumental in the preparation, implementation, annual evaluation and proposals for possible adjustments towards the Agency of Environment and Nature, day-to-day management)

- Fundraising (raising of funds for various initiatives, preparation of budgets, financial statements and reports)
- Finance and budgets
- Project management
- Supervision of the Area (instruction of Park Ranger)
- Citizen's Ilulissat Icefjord contact (engage citizens in various activities, prevent and resolve conflicts on the use of the Area, organise an annual "Icefjord Day", involvement of schools)
- Monitoring (collection of materials, evaluation and adjustment of Monitoring Report)
- Media contact (municipal contact to the media on the World Heritage Area, press releases)
- Official visits relating to Ilulissat Icefjord (presentations, meetings and displays)
- Consultation responses to the Home Rule Government on permissions and exemptions relating to the World Heritage Area
- Member of the Steering Committee

Authority

The two Site Managers are a support function, reporting directly to the Chief Municipal Executive. Management of the World Heritage Area is performed in partnership with the Agency for Environment and Nature in accordance with the division of responsibilities established.

Park Rangers

Starting in 2009, Qaasuitsup Kommunia will employ one or two Park Rangers.

Tasks

- Supervise natural and cultural values of the World Heritage Area
- Supervise development trends of the World Heritage Area
- Guide and instruct users/visitors
- Assist with various administrative tasks during the winter months
- Check, report on and respond to breaches of the law

Authority

The Park Ranger(s) must be outgoing, have authority and be able to communicate in Greenlandic, Danish and English.

Other municipal staff

In addition, other municipal staff are involved to varying degrees in work related to the World Heritage Area. For instance, the town planner prepares the municipal plan appendix on the buffer zone; the construction engineer prepares projects on the footbridge; operating staff make the footbridge, etc. All initiatives and tasks are coordinated through the two Site Managers.

Greenland Home Rule Government, the Agency for Environment and Nature

The Agency for Environment and Nature performs, *inter alia*, the following tasks:

- Responsibility for management of the World Heritage Area, including preparation of the Management Plan
- Processing of applications on activities within the World Heritage Area (e.g. air traffic)
- Participation in the annual Steering Committee meeting as a member and provision of secretarial services to the Steering Committee.

The Heritage Agency of Denmark

As previously mentioned, the Heritage Agency has overall responsibility for the World Heritage Area in relation to UNESCO and is in charge of liaison with UNESCO. The Deputy Director of the Heritage Agency participates in Steering Group meetings.

4 NATIONAL LEGISLATION

The Home Rule Government adopted Greenland Home Rule Government Executive Order No. 7 of 25 March 2003 on protection of Ilulissat Icefjord *inter alia* with the aim of obtaining World Heritage Area status.

2007 saw an amendment of the Executive Order to the effect that "*Greenland Home Rule Government Executive Order No. 10 of 15 June 2007 on protection of Ilulissat Icefjord*" now applies to the protected area/World Heritage Area.

The applicable Executive Order is attached as Appendix 2.

Applicable rules for the Area are described in detail in other chapters of this Management Plan where deemed relevant – e.g. rules governing traffic on land, at sea and in the air.

The aim of the amendment of the Executive Order in 2007 was to enhance the protection of the Area (counter threats to the values of the Area) based on the experience gained since 2003 when the first Executive Order on the Area took effect. Another aim of the amendment was to meet the UNESCO recommendations on preparing and implementing zoning of the Area to ensure appropriate regulation of the increase in tourism (see Appendix 4 for map appendices on the zoning of the Area). Executive Order on protection of Ilulissat Icefjord has three zones: A, B and C, each regulating different aspects of traffic within the Area. The three zones (sub-areas) are described in detail in Appendix 4.

The 2007 Executive Order *inter alia* introduces more restrictive rules on the following:

* Traffic on foot at the cultural heritage area of Sermermiut (zone A) to the effect that traffic is permitted only on designated paths in the period between 1 April and 31 October (Section 6 (8)).

* Navigation with large vessels (vessels larger than a tonnage of 1,000 Gross Registered Tonnes) – including cruise ships – is prohibited within the protected area (Section 8).

* Going ashore in the protected area is prohibited, e.g. in the area at Sermermiut, primarily to protect the vulnerable slopes in this area (Section 10).

Following the 2007 amendment of Executive Order on protection of Ilulissat Icefjord, the current Executive Order, in the assessment of the Agency for Environment and Nature, has the necessary provisions to achieve timely protection of the values of the Area.

5 ILULISSAT ICEFJORD - VALUES

The UNESCO World Heritage Committee considers a value to be of outstanding universal significance if it meets one or more of the precisely defined value criteria set by UNESCO. Ilulissat Icefjord meets criteria vii and viii, stipulating that Areas nominated should:

- vii: contain superlative natural phenomena or areas of exceptional natural beauty and aesthetic importance
- viii: be outstanding examples representing major stages of Earth's history, including the record of life, significant ongoing geological processes in the development of landforms, or significant geomorphic or physiographic features

Ilulissat Icefjord has been inscribed on the World Heritage List due to its outstanding universal value through:

Criterion (viii): The Ilulissat Icefjord is an outstanding example of a stage in the Earth's history: the last ice age of the Quaternary Period. The ice-stream is one of the fastest (now 40m per day) and most active in the world. Its annual calving of over 35 cu. km of ice accounts for 10% of the production of all Greenland calf ice, more than any other glacier outside Antarctica. The glacier has been the object of scientific attention for 250 years and, along with its relative ease of accessibility, has significantly added to the understanding of ice-cap glaciology, climate change and related geomorphic processes.

Criterion (vii): The combination of a huge ice sheet and a fast moving glacial ice-stream calving into a fjord covered by icebergs is a phenomenon only seen in Greenland and Antarctica. Ilulissat offers both scientists and visitors easy access for close view of the calving glacier front as it cascades down from the ice sheet and into the ice-choked fjord. The wild and highly scenic combination of rock, ice and sea, along with the dramatic sounds produced by the moving ice, combine to present a memorable natural spectacle.

These values are thus crucial to the World Heritage Status of Ilulissat Icefjord; therefore, the Management Plan particularly focuses on protecting and preserving these values.

The table below identifies the most important values. In the table, the values are related to a number of objectives. The identification of the most important values and their related objectives forms the basis for the management of the World Heritage Area.

Identification of values and objectives

Value groupings	Most important values associated with Ilulissat Icefjord	Are these values crucial to the inscription on the World Heritage List?	Objectives	Information sources used to determine values and objectives
Scenic values	Glaciology Outstanding scenic beauty of the Area	Yes	Protect scenic beauty and glaciological research Ensure user knowledge of the outstanding value of the Area	Nomination dossier and UNESCO inscription criteria Greenland Home Rule Government Executive Order No. 10 of 15 June 2007 on protection of Ilulissat Icefjord Civic meeting held on 9 December 2008
Biodiversity values	Plants and animals of the Area	No	Provide a sustainable basis for hunting and fishing The protection is to contribute to protecting the nature in the Area against destruction	Nomination dossier Greenland Home Rule Government Executive Order No. 22 of 31 May 2001 on near-shore fishing for halibut Greenland Home Rule Government Executive Order No. 10 of 15 June 2007 on protection of Ilulissat Icefjord
Cultural values	Cultural heritage settlements Recreational use Traditional hunting and fishing	No	Protect the cultural heritage values of the Area Improve communication about cultural heritage values Protect traditional hunting and fishing	Nomination dossier Greenland Home Rule Government Executive Order No. 10 of 15 June 2007 on protection of Ilulissat Icefjord Civic meeting held on 9 December 2008

Value groupings	Most important values associated with Ilulissat Icefjord	Are these values crucial to the inscription on the World Heritage List?	Objectives	Information sources used to determine values and objectives
Economic values	Hunting and fishing Most visited tourist destination in Greenland	No	Provide the opportunity for ensuring sustainable development of the economic benefits associated with the World Heritage Area Ensure that hunting and fishing will still be possible within the Area on a biologically sustainable basis Regulation of tourist behaviour within the Area where necessary Disseminate knowledge of the World Heritage Area in and outside Greenland	Greenland Home Rule Government Executive Order No. 22 of 31 May 2001 on near-shore fishing for halibut Ilulissat Municipal Authorities (2002): Tourism policy for Ilulissat Municipality 2003-2013 Statistics Greenland Greenland Home Rule Government Executive Order No. 10 of 15 June 2007 on protection of Ilulissat Icefjord Civic meeting held on 9 December 2008
Research and education values	Extensive climate research interest e.g. in relation to the retreat of Sermeq Kujalleq Most visited glacier in Greenland Important cultural heritage settlements	No	Allow users the opportunity to enjoy safe, rewarding and informative experiences Provide research opportunities within the Area for national and international benefit Ensure and improve research registration relative to the Area Improve communication about research findings to the local community and other stakeholders	Visits from a large number of researchers, policy-makers and journalists resulting in scientific articles, movies, press mentions, etc. Nomination dossier
Other social values	Pride	No	Ensure that all users understand and appreciate the Area and its outstanding universal value and promote the population's pride in the World Heritage Area	The name Ilulissat means "icebergs". The former municipal coat of arms depicted an iceberg, reflecting the pride of the residents in Ilulissat Icefjord Civic meeting held on 9 December 2008

6 THREATS TO THE VALUES OF THE AREA

In order to protect the values of the Area, it is necessary to identify the threats to the Area so as to incorporate these into management initiatives.

Important examples of threats

Threats	Impacts
<p>Rise in the number of tourists visiting the Area</p> <p>Increased number of inhabitants in the municipality</p> <p>Increase in use of motorised vehicles</p>	<p>More damage to the Area and thus deterioration of its outstanding scenic beauty</p> <p>More inconveniences for animals and people from helicopter traffic and navigation – sound-wise and visually</p> <p>Conflicts of interest between tourism industry and other sectors</p> <p>More conflicts of interest between local users of the Area</p> <p>More noise</p>
Lack of local support for protection of the Area	Conflicts of interest in the management of the Area
Non-biologically sustainable hunting and fishing	Decline in halibut stocks. This will result in fewer fish, leading to deterioration of the living conditions of the inhabitants of the municipality and, possibly, to impairment of the diversity of species in the Area.
Lack of regulation of research activities	<p>More damage to remote areas</p> <p>Abandoned research equipment</p> <p>Inconvenience to animal life</p> <p>Opening of new areas to the tourism industry</p>
Global climate change	<p>The Sermeq Kujalleq glacier is retreating and is now sitting on land, rather than floating in the water</p> <p>Small icebergs will eventually no longer be stopped by the iceberg bank. This means:</p> <p>Impairment of scenic beauty</p> <p>Increased navigation in the Icefjord</p> <p>Potentially impaired fishing if there are no longer icebergs on the bank</p> <p>Dry permafrost</p> <p>Erosion and disappearance of permafrost could pose a threat to the archaeological area</p> <p>Warmer seawater could be a threat to certain fish species</p> <p>Shorter duration of snow cover</p> <p>Shorter season for dog-sled tours and thus deterioration of the recreational and commercial use of the Area</p>

7 MANAGEMENT INITIATIVES

A number of activities are conducted within the World Heritage Area. These activities could entail increased pressure and thus be a threat to the values of the Area. Therefore, it is necessary to regulate these activities through management initiatives.

The following human activities are conducted within the World Heritage Area:

- Commercial hunting and fishing
- Motorised transport
- Navigation
- Other motorised vehicles
- Recreational activities
- Research

Each section on the individual activities contains a description of the following:

1. Characterisation of the activity
2. Opportunities associated with the activity
3. Threats associated with the activity

Based on these sections, the strategy for management is described using the following structure:

4. Objectives
5. Rules for the activity within the World Heritage Area
6. Initiatives already implemented
7. Future initiatives

The chapter concludes with a section on "Information". One aim of increasing and improving information is to disseminate knowledge of the World Heritage Area in order to improve understanding of the management of the various activities.

Commercial hunting and fishing

As will appear from the nomination dossier, hunting and fishing have, at all times, been vital to man's existence in the area surrounding Ilulissat Icefjord. Even today, commercial fishing is the most important livelihood activity in the municipality. For this reason, commercial hunting and fishing are permitted in the protected area.

Characterisation of commercial hunting and fishing in the World Heritage Area

Commercial hunting and fishing in the World Heritage Area are primarily carried out by individuals. Hunting and fishing are typically carried out from small dinghies or dog sleds in the winter. Moreover, a few large cutters are used. All commercial hunters and fishermen must have a valid licence and comply with national legislation for hunting and fishing.

Long-line fishing

Long-line fishing is the most widely used fishing technique in the Area. Halibut is the main species, but other fish species are caught as well. Fishing is carried out from dinghies, cutters or, in the winter, from the ice using dog sleds for transport. Ice conditions permitting, the catch is collected from the fishing grounds on the ice by boat. It is common for the fishermen to supplement fishing with e.g. sealing and bird hunting.

Sealing

A small number of commercial sealers make a livelihood from sealing or supplement other sources of income with income from sealing. The seal catch is sold or used in the sealer's household. Recreational sealing is also very common. Sealing is conducted from dinghies from which the seals are shot. As the seal population is growing, the overall seal catch is believed to be sustainable.

Hunting and fishing huts

A number of municipal huts are located in the protected area. These huts are used by hunters and fishermen for sleeping and storage of fuel and equipment. The huts serve an important security function for everyone travelling in the Area in bad weather or in case of accidents. In order to improve working conditions for commercial hunters and fishermen in the area, it is possible to maintain and improve a few facilities – e.g. hunting and fishing huts.

Opportunities and threats

Opportunities

Despite the development of the tourism industry, commercial hunting and fishing are expected to provide important sources of income to the municipality for many years to come. At the same time, hunting and fishing are important elements of Greenlandic culture and identity. Commercial hunting and fishing, if they continue at a biologically sustainable level, are good examples of how an arctic people lives off and with nature. Finally, the combination of hunting, fishing and tourism will provide new income opportunities.

Threats

Non-sustainable hunting and fishing could pose a serious threat to the industry and biodiversity in the Area. Halibut stocks have started to show signs of overfishing in recent years. Fishermen have observed that the size of halibut is declining and have called for quotas to secure the sustainability of fishing. In the Disko Bay, the size of halibut has declined by 10 cm since 2001.

As illustrated by the fact box below, tighter quotas have been introduced in compliance with the recommendations of Nature Institute of Greenland to achieve more sustainable fishing.

In 2008, the halibut quota for the Disko Bay was 12,500 tonnes. For 2009, the quota has been reduced to 8,800 tonnes based on biological advice.

Management of commercial hunting and fishing



Objectives

- ❖ Commercial hunting and fishing should still be possible within the World Heritage Area.
- ❖ Commercial hunting and fishing in the protected area should be carried out on a biologically sustainable basis.
- ❖ Commercial hunting and fishing should be carried out in a safe manner.



Rules

- ❖ Commercial hunting and fishing are permitted in the protected area. Applicable legislation for hunting and fishing must be complied with (including Greenland Home Rule Government Executive Order No. 10 of 15 June 2007 on protection of Ilulissat Icefjord).
- ❖ Navigation in connection with commercial hunting and fishing is permitted in the protected area.
- ❖ Going ashore in connection with commercial hunting and fishing is permitted in the protected area, except for the area at Sermermiut (Zone A of Executive Order on protection of Ilulissat Icefjord).
- ❖ Dog sleds may be used throughout the protected area.
- ❖ The use of motorised vehicles, including snow scooters, is prohibited within the protected area. This prohibition also applies in connection with commercial hunting and fishing. (Under Greenland Home Rule Government Executive Order No. 10 of 15 June 2007, driving in a transport corridor laid down in an executive order regarding the use of motorised vehicles in the protected area may be

exempted from this prohibition. An executive order to this effect has not yet been prepared, however.)

- ❖ The Home Rule Government may grant permission for erection of hunting and fishing huts and for re-establishment of existing huts. Conditions may be laid down for such permission, including restrictions for location, height and design.



Proposal for new rules

- ❖ At present, the assessment is that additional rules are not required.



Initiatives already implemented

- ✓ Improvement of the dog-sled track, blasting away dangerous rocks.
- ✓ At least once a year, the Municipal Authorities supervise whether users of hunting and fishing huts.
- ✓ handle waste in a satisfactory manner.



Future initiatives

- ❖ Protection of dog-sled tracks through various initiatives to improve passability and safety in connection with commercial dog-sledding operations (fishing and tourism) due to poorer snow conditions resulting from climate change.
- ❖ In future, hunting and fishing huts should be built and renovated in the most sustainable manner possible under the circumstances with a view to reducing heat loss, improving heat sources, waste handling and toilet facilities.
- ❖ Signs should be placed on all hunting and fishing huts, specifying that the huts may be used only in connection with commercial hunting and fishing and in emergencies.
- ❖ Hunting and fishing huts may not be used for commercial tourism activities.

Motorised vehicles

Motorised vehicles generate a high level of noise, air pollution and, in some instances, risk of damage to vegetation and soil. Accordingly, use of motorised vehicles is generally prohibited within the protected area – with a few exemptions, e.g. where required due to long distances.

Air traffic by helicopter

An important reason for the inscription of Ilulissat Icefjord on the World Heritage List is the relatively easy access to the part of the Area adjoining the town of Ilulissat. Due to the Area's topography and lack of infrastructure, access by land to other parts of the Area is limited to the distances that can be covered on foot during the snow-free months or by dog sled or on skis in the winter.

As there is a lot of ice in the fjord all year round, it is very limited how far into the fjord you can expect to navigate. Therefore, there is no alternative to air traffic by helicopter to gain access to most of the protected area, including the glacier front and the ice cap.

It should be emphasised that air traffic by helicopter is a common form of transport in Greenland and the Ilulissat area in general. Accordingly, air traffic by helicopter is not related only to access to the World Heritage Area but also to the four settlements in the district and the three neighbouring towns during the winter months. Moreover, helicopters have for many years been used for carrying goods and inspecting telecommunications stations, etc. Thus air traffic in the protected area is conducted in helicopters that also serve the purposes listed above. The three types of helicopters that will be permitted for flights in the protected area in the future are expected to be Sikorsky 61, Bell 212 and AS 350.

Characterisation of air traffic in the Area

Air traffic by helicopter over Ilulissat Icefjord can be divided into three groups:

Tourist air traffic: Commercial air traffic and landings with tourists must be approved by the Agency for Environment and Nature. Approvals are typically issued for a period of one year. Through the years, landing permissions have been granted for various localities.

At present, only one operator, Air Greenland, offers tourist flights in the area, but previously there have been competing operators. The number of flights has been rising in recent years, driven by the increase in the number of tourists visiting the Area. Thus, 2008 saw 319 landings related to tourist flights in the protected area – equivalent to a 7% increase – divided between two destinations: Kangia and Ivnar (source: Air Greenland). Flights take off from Ilulissat airport and the typical duration is two hours, the actual flying time being about one hour. Most flights take place in the summer (June to August).

Air traffic requiring exemptions: Flights related to research, shooting of films, VIP visits, etc., wishing to fly and land in locations other than those covered by the general permission for air traffic in the World Heritage Area. Such air traffic in the protected area is subject to approval by the Agency for Environment and Nature of the Greenland Home Rule Government. So far, the preferred destination for research-related flights has been Isua, but landings on the ice cap are also common. In recent years, VIP visits have primarily involved politicians wishing to see the effect of climate change on the retreat of Sermeq Kujalleq.

Other types of air traffic: In addition to the air traffic specified above with the World Heritage Area as destination, air traffic by helicopter will also be conducted in the Area for other purposes in the future. Firstly, scheduled services to Ilimanaq and Qasigiannqut from Ilulissat pass through the western part of the World Heritage Area. Flights land at these two towns several times a week during the winter months. In future, there will also be air traffic to the Area, e.g. for the purposes of carrying cargo or inspecting telecommunications stations. None of these types of air traffic require exemption from applicable rules for air traffic in the World Heritage Area.

Opportunities and threats

Opportunities

Air traffic by helicopter is a form of transport that is rapidly gaining popularity for recreational activities – globally and specifically in Greenland; heli-skiing, scenic flights, fishing trips by helicopter, etc. This popularity is driven by the helicopter's unique ability to land anywhere and to fly at low altitudes. Against this background, helicopter tourism in the protected area of Ilulissat Icefjord is likely to grow significantly in the future, generating increased earnings opportunities.

Threats

At the same time, air traffic by helicopter is a form of transport that produces a high level of noise; moreover, the helicopter is visually an alien element in a scenic area such as Ilulissat Icefjord. Accordingly, a set of rules is required to counter the inconveniences to people and animals that may be associated with air traffic by helicopter in the Area.

Air traffic management



Objectives

- ❖ The World Heritage Area should be open to commercial air traffic by helicopter in established flight corridors – provided that the values of the Area are not noticeably affected and that other users of the Area and the inhabitants in areas close to town are not inconvenienced by the traffic.
- ❖ Permissions for commercial air traffic in the protected area are regulated by annual evaluations of air traffic by helicopter and the responses of visitors and citizens.



Rules for air traffic

- ❖ Air traffic at altitudes lower than 1,000 metres is prohibited within the protected area. However, air traffic in connection with scheduled services, rescue and search operations and approaches to landing fields is exempt from this prohibition.
- ❖ Landings are prohibited within the protected area. Following consultation with the Municipal Authorities of Qaasuitsup Kommunia, the Agency for Environment and Nature may grant annual or multi-annual permissions for landings in two specified areas.



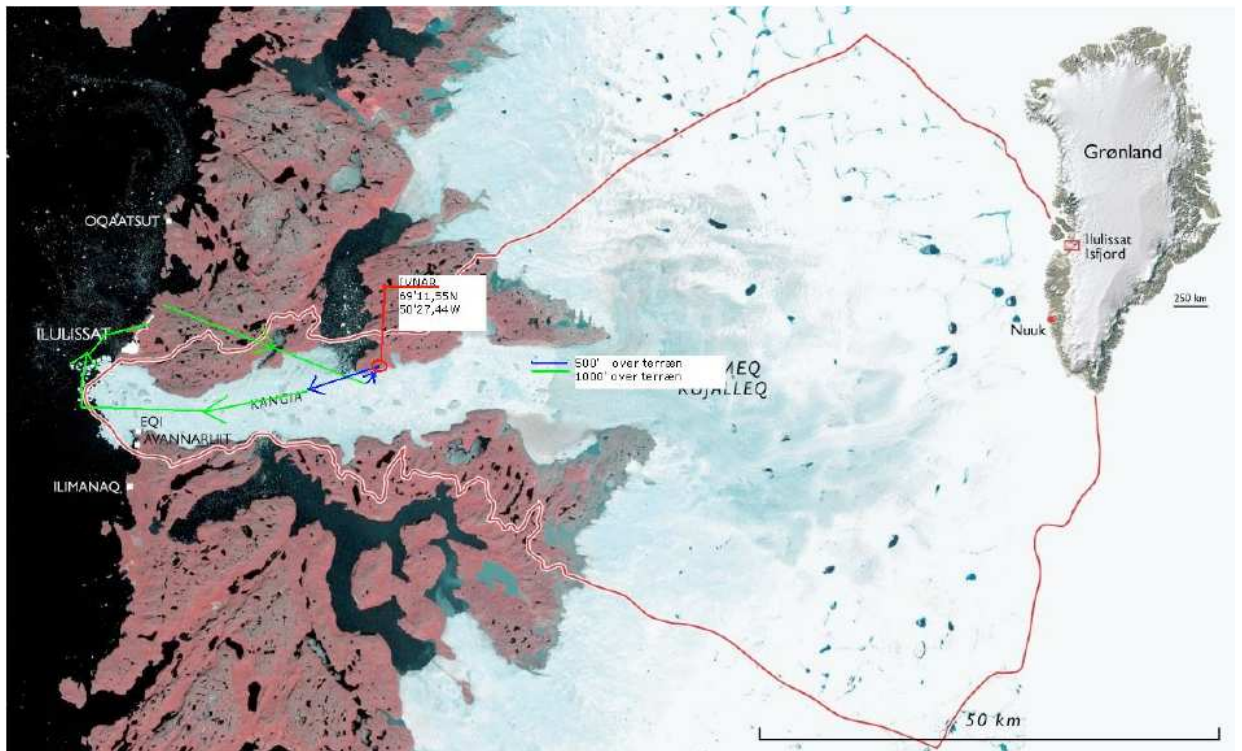
Initiatives already implemented

As from January 2009, the future destinations for tourist traffic by helicopter will be distributed on two landing fields – Isua and Ivnar (see maps 7.1 and 7.2 below).

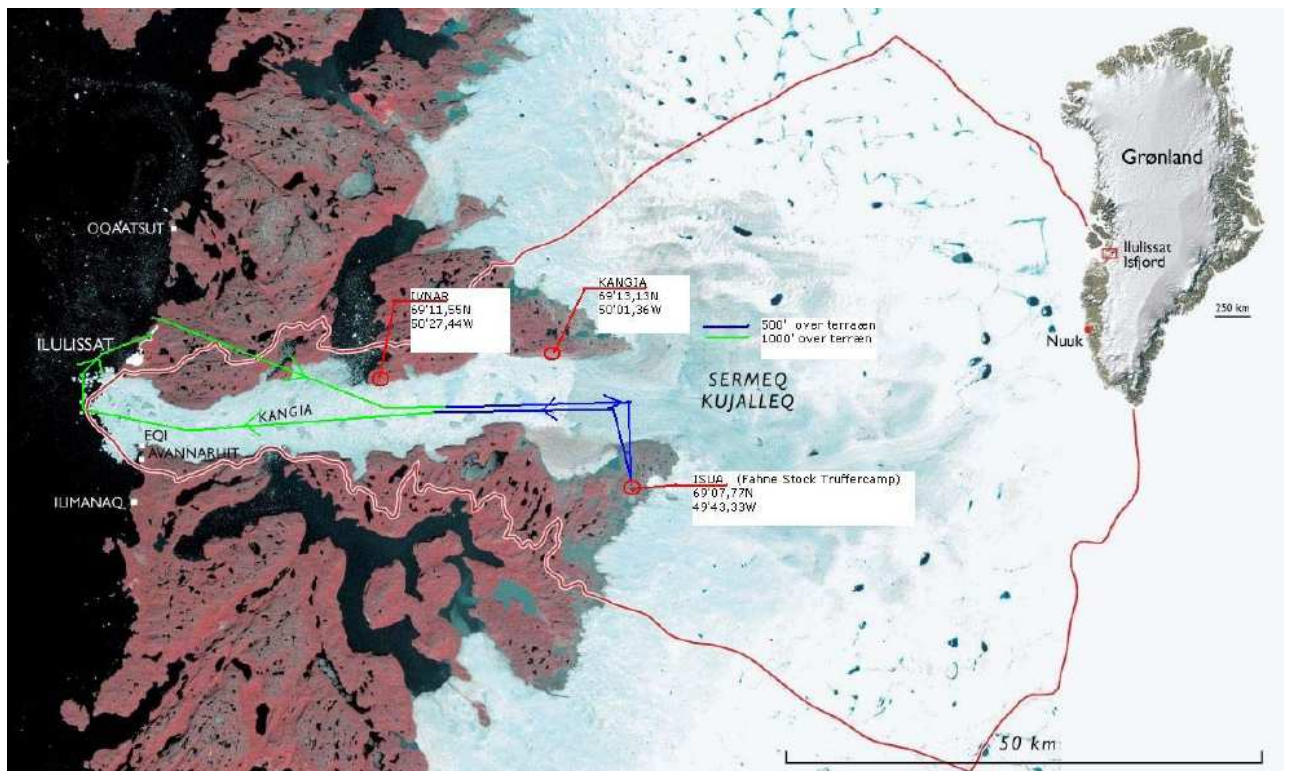
The Isua landing field will be opened to tourist flights for the first time in 2009. Isua will replace the “Kangia” landing field (see maps 7.1 and 7.2 below, setting out the localities of the landing fields). The location of Isua is more expedient relative to the glacier edge and the area is less vulnerable than Kangia.

As from 1 January 2009, the Greenland Home Rule Government has laid down a flight corridor for Air Greenland to follow (see maps 7.1 and 7.2). This comprises the following:

- ✓ In the local area of Ilulissat, a flying altitude of 1,000 feet is required and 1,000 metres in horizontal distance from the town – the objective being to minimise noise nuisance to the inhabitants of the town.
- ✓ For the rest of the Area, a flying altitude of 1,000 feet (in a few places an altitude of 500 feet) is required (thus exemption has been granted from s. 7(1) of Executive Order on protection of Ilulissat Icefjord).
- ✓ Maximum distance to both coasts.
- ✓ In connection with landings, it is the responsibility of the tour guide to ensure that the area is kept free of waste. If there is no tour guide on the flight, it is the responsibility of the helicopter pilot to ensure that the area is kept free of waste.



Map 7.1: The short flight (Ivnar).



Map 7.2: The long flight (Isua)

The Municipal Authorities inspect landing fields at least once a year. As part of the inspection, it is recorded whether there are any signs of wear and tear and whether there is any waste in the Area. In addition, the Agency for Environment and Nature conduct inspections at least every two years to ascertain whether the conditions of the flight permission are complied with.



Future initiatives

- ❖ Each year, the Municipal Authorities will conduct a number of random checks of commercial air traffic by helicopter in the protected area. These random checks will show whether the air traffic in the World Heritage Area complies with the rules specified above.
- ❖ Each year, the conditions for tourist air traffic in the Area are evaluated. As part of these evaluations, it is determined whether tightening of the conditions is required, e.g. in relation to flight frequencies.

Navigation

As there are no connected roads between the towns in Greenland, navigation in and at the Icefjord is vital to fisheries, tourism, transport of passengers and goods and in connection with recreational transport. The inner parts of the Icefjord are rarely navigable due to closely packed icebergs. Therefore, most boat traffic takes place at the very mouth of the Icefjord. All year round, navigation in the Area is contingent on the number of icebergs and ice floes and during the winter, massive ice may prevent all navigation. In the protected area, dinghies are used for hunting, fishing and recreational navigation and small boats/cutters are used for fishing and tourism. Restrictions apply to the size of vessels allowed to enter the protected area, meaning that most cruise ships and many freighters and liners are excluded from entering.

Characterisation of navigation in and around the World Heritage Area

Commercial fishing

Today, fishing in and at Ilulissat Icefjord is the most important source of income to the Municipality and the fishing industry employs a large number of people. Fishing is carried out from dinghies or small cutters and halibut is the main species. Commercial fishing is permitted throughout the World Heritage Area – provided that national legislation is complied with.

Local recreational navigation and hunting

Today, the Icefjord is extensively used for recreational fishing, sealing and recreational navigation. This type of navigation takes place in the Iceberg bank zone (sub-area C of Executive Order on protection of Ilulissat Icefjord), as recreational navigators are not permitted to enter the inner parts of the Icefjord (sub-area B).

Tourist navigation – local boats (under 1,000 GRT – Gross Registered Tonnes)

Navigation is the most popular tourist activity in Ilulissat. According to a recent survey, 82% of tourists respond that they have been sailing during their stay in Ilulissat. Most navigation takes place as Icefjord navigation at the mouth of the Icefjord. Tourist operators and shipmasters offer tourist navigation between the large icebergs at the mouth of the Icefjord. An estimated 1,000 trips were conducted in the protected area in 2008. The duration of tourist trips is typically between two and three hours. Icefjord navigation trips are conducted both during the day and late at night in the midnight sun season. Furthermore, a small number of whale photo safaris are provided. These photo safaris often involve entry into the protected area.

Tourist navigation – cruise ships

Cruise ship tourism in Ilulissat is growing rapidly and some 60 cruise ships are expected to call at Ilulissat in 2009. Most cruise ships call at Ilulissat in July and August. The cruise ships typically spend one day in Ilulissat. Cruise ships and other vessels larger than a tonnage of 1,000 GRT are prohibited from entering the protected area.

Tourist navigation – zodiacs/landing craft

Zodiacs (large rubber rafts) and landing craft are used by cruise ships to transport passengers from the cruise ships to the harbour and vice versa. Tourist navigation in the Icefjord using these types of vessels is not expedient. Tourist navigation within the protected area may take place only with the use of guides acquainted with Greenlandic nature and legislation on nature protection. Moreover, going ashore in the protected area in connection with tourist navigation is prohibited.

Other vessels over 1,000 GRT

Freighters and passenger liners are other large vessels frequently calling at Ilulissat. The south route passes closely by the protected area. All vessels larger than a tonnage of 1,000 GRT are prohibited in the protected World Heritage Area.

Opportunities and threats**Opportunities**

The Icefjord is rich in living resources and magnificent scenic beauty. These values are utilised extensively at sea rather than from land, necessitating navigation in the protected area. The Area is likely to attract even more commercial fishermen in the future and the growing number of tourists means that the keen demand for tourist navigation in the protected area will be sustained. Both industries are important to municipal earnings.

Threats

Against this background, there is a risk of massive navigation in the future with a large number of vessels at the mouth of the Icefjord. This could give rise to conflicts – e.g. between the fishing industry and tourism navigation. There are already examples of fishermen complaining that tourist vessels sail too close to their fishing lines. Moreover, a large number of vessels or very large vessels in the protected area could compromise the tourists' experience of the huge, majestic icebergs. The same applies if a large number of cruise ships anchor right next to the protected area. Finally, intensive fishing could lead to overfishing, i.e. non-sustainable fishing, which could negatively impact fish stocks over the longer term.

Navigation management

The rationale for the rules on navigation is a wish to promote sustainable commercial fishing in the protected area, while at the same time continuing to provide the opportunity for tourist navigation by small boats (under 1,000 GRT) in a safe manner.



Objectives

- ❖ Efforts should continuously be made to ensure that navigation in the Area does not pose a risk to the environment.



Rules for navigation in the World Heritage Area

- ❖ Navigation in connection with commercial hunting and fishing is permitted throughout the protected area.
- ❖ Recreational navigation and tourist navigation are prohibited in the inner parts of the Icefjord (the Fjord zone and the Glacier zone, referred to as sub-area B of Executive Order on protection of Ilulissat Icefjord); only commercial hunting and fishing are permitted in this zone.
- ❖ Navigation in the iceberg bank zone (sub-area C of Executive Order on protection of Ilulissat Icefjord) is permitted only for vessels under 1,000 GRT.
- ❖ Tourist navigation may take place only with the use of a guide acquainted with Greenlandic nature and legislation.
- ❖ Going ashore in the protected area is prohibited. Going ashore in connection with commercial fishing and hunting is exempt from this prohibition. However, this exemption does not apply to going ashore in sub-area A of Executive Order on protection of Ilulissat Icefjord (the Sermermiut archaeological zone).
- ❖ Anchoring and laying up boats are prohibited within the protected area. Anchoring in connection with fishing, hunting and catching is exempt from this prohibition.
- ❖ Navigation in connection with rescue and search operations is permitted throughout the protected area.



Proposal for new rules

- ❖ Navigation with zodiacs, tender vessels and landing craft is prohibited in the protected area.



Initiatives already implemented

- ✓ Amendment of Executive Order on protection of Ilulissat Icefjord with a view to preventing navigation with cruise ships and unskilled crew in the World Heritage Area.



Future initiatives

- ❖ Guidelines should be drawn up for tourist navigation in the vicinity of fishing vessels in collaboration with the fishing industry and tourist shipmasters.
- ❖ The Agency for Environment and Nature will take the initiative to examine the possibility of imposing environmental requirements on cruise ships and possibly other vessels navigating in the Ilulissat area. This will be carried out in dialogue with relevant players. The rationale is that such vessels could pose a threat to the environment of the protected area (such as noise, visual impact, pollution, etc.).
- ❖ More information about the risk of navigating close to huge icebergs.
- ❖ The rules stipulating that only commercial fishing vessels are permitted to navigate the inner parts of the Icefjord (sub-area B of Executive Order on protection of Ilulissat Icefjord) should be impressed on citizens and tourist operators.
- ❖ It should be impressed on cruise ship companies that cruise ships are prohibited in the protected area. Follow-up should be made on any offences.
- ❖ It should be impressed on cruise ship companies that they are required to use guides acquainted with Greenlandic nature and legislation.

Other motorised vehicles

Several types of motorised vehicles and aircraft have gained popularity in Greenland in recent years. These vehicles and aircraft are used mainly by private individuals for recreational driving and flying, but interest in using motorised vehicles and aircraft, e.g. for film projects in the protected area, is increasing. There is a general prohibition on the use of all types of motorised vehicles in the World Heritage Area; however, navigation with small boats and air traffic by helicopter are exempt from this prohibition.

Threats associated with the use of other types of motorised vehicles

The regulation of motorised vehicles in the protected area is highly significant to the continued inscription of Ilulissat Icefjord on the UNESCO World Heritage List. The use of motorised vehicles entails a significant risk of pollution and destruction of vegetation and soil erosion. A general prohibition on the use of motorised vehicles gives the local population and tourists the opportunity to enjoy arctic nature and silence.

Snow scooters

Snow scooter riding is a popular recreational activity in the Municipality and the number of snow scooters is growing. Snow scooters are able to cover long distances in nature in a short amount of time, often using dog-sled tracks. This could give rise to conflicts because the dogs get scared and dog-sled drivers and tourists do not appreciate the noise and pollution caused by the snow scooters. That is one reason why snow scooters are prohibited in the protected area.

Piste machines

Ilulissat Ski Club has a piste of 6-8 kilometres, which is prepared using a piste machine in nature close to town around in the Sermermiut Valley. Snow fences are erected in selected places at the piste to accumulate sufficient snow. There is a wish for part of this piste to be placed in the protected World Heritage Area. A prepared piste in the Area is a legitimate wish, as it is of great significance to the town's inhabitants, but it is important that the piste machine does not damage the underlying vegetation. In the World Heritage Area, the piste machine should be used in an established corridor, approved by the Home Rule Government.

Other motorised vehicles

Recently, several types of motorised vehicles have become popular in nature, e.g. ATVs (all terrain vehicles), motocross cycles, full-track vehicles, motorised paragliders, etc. These motorised vehicles are all prohibited in the protected area.

Management of other motorised vehicles

The rationale behind the general prohibition on the use of motorised vehicles in the protected area is to protect the scenic beauty justifying the inscription on the UNESCO World Heritage List.



Objectives

- ❖ In general, the World Heritage Area should be kept free of motorised traffic to protect the nature values of the Area.
- ❖ Citizens and visitors should continuously be kept informed of applicable rules and it should be checked that the rules are complied with.



Rules for other motorised vehicles

- ❖ The use of motorised vehicles is prohibited within the World Heritage Area. However, certain forms of navigation and air traffic by helicopter are exempt from this prohibition.
- ❖ Driving in traffic corridors that can be laid down in an order regarding the use of motorised vehicles in Qaasuitsup Kommunia is exempt from this prohibition.



Proposals for new rules

- ❖ The use of motorised vehicles in connection with rescue and search operations is permitted if deemed necessary by the police or doctors.
- ❖ Preparation of an executive order on the use of motorised vehicles in Qaasuitsup Kommunia, laying down a possible traffic corridor in the protected area.



Initiatives already implemented

At present, no initiatives regarding the use of other motorised vehicles have been implemented.



Future initiatives

- ❖ Launch of an information campaign in local media and on posters, targeting the citizens of the town, on rules for the use of snow scooters, in particular.
- ❖ Clarification of the position of the piste and imposition of the rules on the use of the piste machine (possibly exemption for the use of the piste machine) and snow fences, including that snow fences must be removed by the crew erecting the fences when sufficient snow has accumulated and when thaw sets in.

Recreational activities

Recent years have seen a sharp increase in the number of tourists visiting Ilulissat. In 2008, Ilulissat thus had 35,000 visiting tourists (source: Destination Avannaa). This growth is expected to continue in the future – especially if the airport is expanded to make it possible to fly directly to Ilulissat without a stopover in Kangerlussuaq. At the same time, there has been a significant increase in the town's population as people have increasingly migrated from settlements and peripheral areas to large Greenland towns. January 2009 saw a municipal merger in Greenland, making Ilulissat the administrative centre of the new municipality of Qaasuitsup Kommunia. This is expected to lead to a further increase in the population over the coming years.

On account of these factors, an increasing number of people go to the World Heritage Area for various recreational activities. In order to ensure that the increase in the number of users of the World Heritage Area is sustainable, rules are required to govern the recreational activities of both the local population and tourists within the World Heritage Area. At the same time, it is important to promote initiatives to improve conditions for the people engaging in recreational activities.

In 2008, a 1-kilometre footbridge was established to Sermermiut to protect the Area against damage to vegetation

Characterisation of recreational activities in the World Heritage Area

The local population and tourists extensively use the part of the World Heritage Area close to town for recreational activities. Below, individual recreational activities in the World Heritage Area are briefly characterised.

Dog sledding

Dog sledding is an environmentally-friendly form of transport, which does not pollute, make noise or damage nature. At the same time, dog sledding is a traditional form of transport in Greenland, which – in addition to being a recreational activity enjoyed by the local population and tourists – is used for commercial purposes in connection with hunting and fishing and transport of tourists. Though there has been a sharp decline in the number of sled dogs in Ilulissat over the last decade, there are still 250 dog-sled teams in the town.

In recent years, income from tourist dog sledding has been an increasingly important parameter in the preservation of an example of Greenland's cultural heritage.

Skiing

Skiing within the World Heritage Area takes place mainly in the Sermermiut Valley. In the winter months, the Valley has a prepared piste, which can be used freely by the local population and tourists. Skiing is a popular recreational activity, especially among the local population, which is reflected in the existence of an active ski club in Ilulissat. Skiing is a relatively inexpensive and easily accessible sport and the Sermermiut Valley provides a truly exceptional setting for the pursuit of this activity.

Hiking and excursions

The great majority of tourists and locals visit the Sermermiut Valley on foot to enjoy the spectacular view of the Icefjord bank. To manage traffic and thus avoid damage to cultural property and vegetation, a footbridge and a designated path have been established at Sermermiut. Moreover, there are three other designated paths in the area close to town in the World Heritage Area. Local residents, in particular, combine hiking in the summer with berry-picking, open-air cooking and bonfires.

Recreational activities other than those mentioned are air traffic by helicopter and navigation. These activities are described in more detail elsewhere. Therefore, they are only mentioned very briefly below. These activities differ from the activities described above in that they take place in completely different parts of the World Heritage Area and much further from the town of Ilulissat.

Helicopter flights

A helicopter flight to the glacier edge is the only opportunity for tourists and locals to see the greater part of the World Heritage Area, including the impressive glacier edge. In the summer season, many tourists therefore choose to go on helicopter flights lasting a

couple of hours. For further characterisation and information on the management of air traffic by helicopter, please refer to the section "Air traffic by helicopter".

Navigation

Recreational navigation by locals and tourists in the World Heritage Area is concentrated around the Iceberg bank zone, which is especially spectacular due to the stranded icebergs. For further information on navigation and navigation management, please refer to the section "Navigation".

Opportunities and threats

Opportunities

The scenic beauty of the World Heritage Area of Ilulissat Icefjord, in combination with its closeness to the town of Ilulissat, makes it a unique setting for a number of recreational activities, including dog sledding, skiing, hiking, berry-picking, hunting, fishing, etc. In general, these activities firstly provide a series of opportunities for the use of the Area by all age groups, generally with a small negative impact on the World Heritage Area. Secondly, all activities, with the exception of dog sledding, are available to most people in that they require limited equipment. Accordingly, these activities provide a range of opportunities for residents and visitors alike in a community which – given its limited size – does not offer the same number of facilities as places with a larger population base.

Threats

The rise in temperatures seen in recent years poses a growing threat to dog sledding, in particular, in Greenland. Thus the season for dog-sled tours and skiing in Ilulissat is being shortened due to the rise in temperatures.

The easy access to the part of the World Heritage Area close to town and the ensuing concentration of recreational activities in this area entails some risks, such as damage to vegetation, leaving of waste and overcrowding of the Area. Moreover, an increase in air traffic by helicopter and/or navigation, for example near the most visited part of the World Heritage Area, could negatively impact the experience of the users of the Area. To counter these and other threats to the preservation of the Area, the following set of rules for recreational activities in the Area has been developed.

Recreational activity management



Objectives

- ❖ Footbridges should be established only where designated paths are not sufficient to protect the World Heritage Area. The design of any new footbridges should match the style of the footbridge already established and be fitted into the terrain in the best manner possible.
- ❖ Only benches suited for the area may be placed within the World Heritage Area, e.g. benches in a natural material such as stone.

- ❖ Toilet facilities should be provided at the old heliport, which is the most widely used access point to the area. It is not desirable to provide toilet facilities in the actual World Heritage Area.



Rules for recreational activities

Dog sledding

- ❖ Dog sledding is permitted throughout the World Heritage Area.

Hiking

- ❖ Hiking is permitted throughout the protected area; visitors are, however, encouraged to follow designated paths.
- ❖ In the Sermermiut zone (sub-area A of Executive Order on protection of Ilulissat Icefjord), traffic outside the designated path is prohibited in the period from 1 April to 31 October.

Paths

- ❖ In vulnerable areas, footbridges and paths may be established to manage traffic and thus prevent damage to cultural heritage and vegetation. Following consultation with Qaasuitsup Kommunia Municipal Authorities, the Agency for Environment and Nature may grant permission to construct roads and paths within the World Heritage Area.
- ❖ The Municipal Authorities inspect existing paths and footbridges and are responsible for maintenance.

Skiing

- ❖ Skiing is permitted in the World Heritage Area. The use of piste machines is permitted only in special traffic corridors laid down in Executive Order on the use of motorised vehicles in Qaasuitsup Kommunia.

Bicycle riding

- ❖ Bicycle riding is prohibited within the World Heritage Area.

Pitching of tents

- ❖ Within the protected area, tents may be pitched only for up to 24 hours in the same locality. Otherwise, tents may only be pitched in a new locality at a distance of at least 100 metres from the previously used locality.
- ❖ Permanent areas for pitching of tents may be designated by the Qaasuitsup Kommunia Municipal Authorities following consultation with the Agency for Environment and Nature. The area where the pitching of tents is permitted must be clearly marked.

Use of open fire

- ❖ Open fire in connection with the pitching of tents may be used only for up to 24 hours in the same locality.

Huts

- ❖ The Home Rule Government may grant permission to erect huts and may, in this connection, lay down terms for the location, height and design of such huts.



Proposals for new rules

There are currently no proposals.



Initiatives already implemented

- ✓ Information signs have been erected at the most widely used entry point to the World Heritage Area.
- ✓ 10 kilometres of hiking paths have been marked and improved where necessary.
- ✓ A 1-kilometre footbridge has been erected from the town of Sermermiut to protect the nature of the Area against destruction.
- ✓ Six UNESCO beacons have been installed to mark the protection boundary.
- ✓ Hiking maps have been prepared, providing information on and setting out rules for the area.
- ✓ Each year in the summer months, an information campaign is conducted on sensible use of open fire. The campaign material is available in Greenlandic, English, Danish and German.
- ✓ At least once a year, the Office of Ilulissat Icefjord, in collaboration with Destination Avannaq, arranges a course for guides on traffic in and information about the World Heritage Area.
- ✓ Paths are continuously marked using paint on existing rocks. Unless warranted by special circumstances, poles and the like should not be used for the marking of paths.



Future initiatives

- ❖ Commercial tourist operators are responsible for ensuring that waste is handled properly. It is recommended that all waste be brought back to town, but paper, wood and similar non-environmentally hazardous waste may be placed on a non-inflammable base to be burnt, exerting great vigilance.
- ❖ Fires may be lit only on a non-inflammable base, such as rocks, exerting great vigilance. During dry periods, Qaasuitsup Kommunia may introduce a total prohibition on the use of open fire in the protected area.
- ❖ Employment of at least one park ranger to supervise the protected area and instruct visitors about the values of the Area and how to use it.
- ❖ Rubbish bins will be placed at the entry points to the World Heritage Area, but no rubbish bins will be provided within the actual World Heritage Area.

- ❖ Work on information and communication to visitors and citizens will be continued as described in the section on Information.
- ❖ The possibility of introducing a small fee for tourists visiting the Sermermiut Valley is being considered. If such a fee is introduced, it will be earmarked for the continued protection and provision of information about the Area. Residents are not to pay to enter the Area. The possibility of introducing a fee in 2009 will be assessed more closely, including whether the introduction of a fee is in accordance with legislation.
- ❖ Some of the existing benches will be removed as soon as possible as several of the benches are worn down and disfigure the surroundings.
- ❖ Toilet facilities will be built at the old heliport.
- ❖ Burial of waste is prohibited.
- ❖ In Sermermiut, dogs must be leashed at all times.

Research

The Sermeq Kujalleq glacier at the bottom of Ilulissat Icefjord is unique because of both its extreme speed and its productivity. Combined with its relative ease of accessibility by helicopter from Ilulissat, this has for many years made it especially important for glaciological research. The significance of Ilulissat Icefjord and Sermeq Kujalleq for glaciological research is thus one of the most important reasons for the Area's inscription on the UNESCO World Heritage List. Sermeq Kujalleq is one of the most thoroughly explored glaciers in the world, and research of it has contributed significantly to the current knowledge of glaciers and glacier movement. Research related to the glacier has increased considerably in recent years, primarily due to increased focus on global warming.

Opportunities and threats

Opportunities

Interest in researching the World Heritage Area of Ilulissat Icefjord is likely to grow in the coming years. Better understanding of the processes behind the glacier's huge production of ice is of obvious value – particularly considering the fact that this production is among the most important reasons for the inscription of the Area on the World Heritage List. Furthermore, researchers visiting the Area will generate income and jobs for the town through their use of goods and services. Finally, the many research results will attract increased international attention to the World Heritage Area, Greenland and Ilulissat alike. This may contribute to increasing the number of future visitors, thus contributing to the local economy. Furthermore, increased focus on the scientific value of the Icefjord and Sermeq Kujalleq in the future will facilitate both national and international funding for the work to ensure the conservation of the World Heritage Area.

Threats

Like other activities in the Area, research activities may result in damage to vegetation. Moreover, human activity may generally be of inconvenience to animal life in an area. Regardless of the purpose, many helicopter landings, the presence of measuring equipment for several years, and many people staying overnight in a limited area over a concentrated period of time are likely to leave traces. Researchers often seek out places in the protected area that are not normally accessible to ordinary users. This causes damage to a larger part of the protected area, but also to areas where it is not possible to counter the damage by establishing footbridges, erecting information signs, etc.

Finally, research may tend to open up new areas for more general use. Tourists who have seen the impressive pictures of previously inaccessible parts of the World Heritage Area will demand trips to those places. In this way, researchers act as pioneers for the tourist trade, thereby opening new areas to commercial use and resulting damage.

Research management

Research relating to the World Heritage Area of Ilulissat Icefjord is important and desirable for the World Heritage Area and Greenland as well as the rest of the world. On the other hand it is clear that research should take place in such a way as to prevent damage to other values in the Area.



Objectives

- ❖ Provide opportunities to perform research activities in the Area.
- ❖ Information on all research conducted in the World Heritage Area should be communicated to the inhabitants of Greenland, notably the citizens of Ilulissat. Researchers are encouraged to collaborate with the Ilulissat Icefjord Office on the holding of meetings with citizens and school classes.
- ❖ Research in parts of the World Heritage Area that are used by both researchers and other users requires that the parties show mutual consideration.



Rules for research in the protected area

- ❖ Research activities including helicopter landings outside the established landing fields at Isua and Ivnar require exemption from the Agency for Environment and Nature of the Greenland Home Rule Government. Applications for exemption must be submitted to Qaasuitsup Kommunia for consultation.
- ❖ Research activities in the Sermermiut zone require permission from the Agency for Environment and Nature following consultation with Qaasuitsup Kommunia, the Greenland National Museum in Nuuk and the Ilulissat Museum.
- ❖ Permission to install/abandon equipment, including research equipment, in the World Heritage Area must be obtained from the Agency for Environment and Nature.

- ❖ All traffic in the protected area in connection with research is subject to the same rules as other traffic in the World Heritage Area, including rules on the pitching of tents, fires, waste, etc.



Proposals for new rules

- ❖ There are currently no proposals.



Initiatives already implemented

- ✓ Public meetings with the participation of researchers have been held.
- ✓ Researchers have made presentations to school classes.
- ✓ Researchers have contributed to the preparation of popular science posters.



Future initiatives

- ❖ A publicly accessible database on research projects in the World Heritage Area should be established. The database should register the responsible body, the objective, the period, and a brief statement of results.
- ❖ It should be evaluated on a regular basis whether the shared use of the Isua landing field by researchers and tourists is a satisfactory arrangement for both parties.
- ❖ In connection with all research projects in the World Heritage Area a brief, popular science presentation in Greenlandic and Danish should be submitted for registration in the database and communication to the public no later than 6 months after completion of the research activity.
- ❖ The Municipal Authorities supervise areas used for research purposes. As part of the supervision, it is recorded whether there are any signs of wear and tear and whether there is any waste in the area. The responsible research institutions will be charged with the expenses of any clearing/re-establishment.

Information initiatives

In connection with the implementation of the Management Plan and applicable rules it is important to ensure adequate provision of information to users of the Area. This includes

the preparation of information material aiming to raise the awareness of the significance of the Icefjord amongst both the local population and tourists. Such awareness is important for the regulation of the use of the World Heritage Area to be generally accepted. Furthermore, it will contribute to allowing the local population and tourists more rewarding experiences during their visits to the Area. Ideally, the long-term outcome will be that users of the Area will want to protect our common world heritage as a matter of course.

Information to a wide range of users

The above process to communicate both how and why future management of the World Heritage Area is necessary should reach a very wide range of users from the local snowmobile association to large groups of cruise ship tourists.

In November 2008, the Ilulissat Municipal Authorities (as from 1 January 2009 Qaasuitsup Kommunia) and the Greenland Home Rule Government submitted a joint application to DANCEA (Danish Cooperation for Environment in the Arctic) for funds to develop and disseminate information material for the purpose of ensuring the conservation of the World Heritage Area. In early January 2009, the Danish Environmental Protection Agency undertook to fund the proposed initiatives comprised by the application.

The physical outcomes of the above information and dissemination work will therefore be as follows (of which some will be funded by the Danish Environmental Protection Agency):

- ❖ Establishing an information site at the entry point to the protected area. The information site will provide visitors with background knowledge of the area and guidelines for activities in the area.
- ❖ Signposting in the most frequently visited parts of the area – primarily along an existing footbridge through the most exposed part of the protected area (the Sermermiut Valley).
- ❖ Creating an information DVD (5-10 minutes) to be displayed at the airport, at hotels, on cruise ships, at the museum and by the tourist operators, giving a brief outline of the World Heritage Area and its use.
- ❖ Folders containing both background information about the Area and rules on its use.
- ❖ Creating and maintaining a website on the World Heritage Area of Ilulissat Icefjord.
- ❖ Making a television broadcast (30 minutes) about the establishment of the World Heritage Area of Ilulissat Icefjord. The broadcast should contribute to increased knowledge of the World Heritage Area and its significance throughout Greenland, and pass on experience to other parts of Greenland where other World Heritage Areas can be expected to be established in the future. The broadcast should also be displayed in connection with exhibitions.

- ❖ Preparing teaching materials for use in the primary and lower secondary schools in Greenland, providing pupils all over the country with more basic information about the World Heritage Area. Given the size of the country and heavy travelling expenses, only a small minority will be able to actually visit the World Heritage Area.
- ❖ Extending the existing footbridge to cover selected parts of the archaeological area, and signposting the ruins and their history. The purpose is to protect, highlight and present information about the relics of the past.
- ❖ Qaasuitsup Kommunia has specific plans to build an Icefjord Centre at the entry point to the protected area just south of the town. The Icefjord Centre is to present information and exhibitions about the protected area and is expected to become the natural focal point for much of the information material described above.
- ❖ Employing at least one Park Ranger to supervise the World Heritage Area and the Sermermiut Valley in particular. The functions of the Ranger will be to prevent and stop violations of the rules applying to the Area, to inform visitors about the Area, and to provide feedback to the Municipal Authorities about the users' requests and questions.
- ❖ Further training of the town's guides on an annual basis. In addition to general knowledge about the Area, the training should also include information on the latest research, the protection and relevant rules.

As an overall long-term effect of the work, local citizens of all ages are expected to have easy access to relevant knowledge of the Area through a number of different media, including primary and lower secondary school education, the Icefjord Centre, signposting in the Area, etc. Tourists will be able to obtain information about Ilulissat Icefjord on the World Heritage Area website prior to going there, through folders and information videos onboard the cruise ship or at the airport, and through various signs and posters in the protected area or at the town museum. So in addition to better protection, this work is expected to have a positive effect on the experience of the visitors to Ilulissat Icefjord. In time, the result will be more satisfied visitors and, in the long term, a potentially larger number of visitors causing less damage to the Area. This in turn will have a favourable effect on the local economy without endangering the conservation of the Area.

8 FINANCIAL RESOURCES AND IMPLEMENTATION

A management plan is only as good as the quality of its implementation. Having well-considered rules, objectives and visions is a good starting point, but it is equally important to ensure their enforcement and implementation. Therefore, a very important consideration in connection with the management of Ilulissat Icefjord is how to realistically implement the various parts of the Management Plan within the framework of available resources. The present Management Plan anticipates that in future a number of human and financial resources will be made available for icefjord-related efforts.

Funding

According to UNESCO, the protection of World Heritage Areas is an international task, but in practice, only developing countries can obtain direct financial aid for conservation efforts. Hence the financial framework of the future management, including conservation and optimisation of the values of the Area, is made up of funds from the Greenland Home Rule Government, Qaasuitsup Kommunia and the Heritage Agency of Denmark. In addition, the introduction of a fee to be paid by tourists visiting the Sermermiut Valley is under consideration, subject to this being in accordance with legislation (this will be investigated in 2009).

In practice, this means that the financial framework for the conservation and management of Ilulissat Icefjord is modest compared to other Nordic World Heritage Areas, as the income of the Municipal Authorities and the Home Rule Government is based on a relatively small population and the block grant from Denmark. At the same time, due to the municipal merger, the 2009 budget has not yet been passed. Consequently, the amount of funds available for the world heritage efforts in the coming years has not yet been determined. The expected budget is outlined below.

Qaasuitsup Kommunia is expected to pay for:

- Salaries for the two Site Managers
- Part of the salary for a Park Ranger
- The costs of path maintenance
- Miscellaneous operating expenses
- Extension of the footbridge to cover the archaeological area of Sermermiut (the Ilulissat Municipal Authorities – now Qaasuitsup Kommunia – paid for the construction of a 1-kilometre long footbridge through the Sermermiut Valley)
- Staff travelling expenses in connection with meetings

The Agency for Environment and Nature pays for:

- An administrator with a university degree to manage the World Heritage Area (spends 1/3-1/2 of his/her working hours on this); the Head of Department also spends resources on this.
- Helicopter inspection of the World Heritage Area carried out every two years
- Satellite images for monitoring (overview image of the Icefjord).

- Staff travelling expenses in connection with meetings.
- Any co-financing of Park Ranger salary expenses (to be determined whether the Greenland Treasury will finance part of the salary).

The Heritage Agency of Denmark pays for:

- The head of division of the Heritage Agency of Denmark works on Ilulissat Icefjord for the equivalent of two weeks.
- Approx. DKK 250,000 annually for translation, printing, presenters, etc.
- Staff travelling expenses in connection with meetings.

External funds

- DKK 700,000 from DANCEA (environmental aid for the Arctic) for information measures

Implementation plan

The general purpose of the implementation of the Management Plan is to ensure that users get a rewarding experience from the World Heritage Area, while at the same time they want to protect Ilulissat Icefjord. In keeping with this, the implementation of the rules of the Management Plan should mainly be based on local understanding and support rather than injunctions and fines, which will only be used when the former method proves inadequate. The geographical size and limited financial resources make it difficult to inspect the entire Area on a daily basis. Finally, many of the rules of this Management Plan are based on the rules of Executive Order on protection of Ilulissat Icefjord of 2007. However, an important goal of implementing the Management Plan is to further improve the knowledge and understanding of and support for those rules.

The implementation of measures is presented in a schematic outline below to give a better overview of the plan and to make it easier to use. The plan provides an overview of:

- The various projects to be implemented (aims)
- When the projects are expected to be implemented (time frame)
- The financial resources needed (funding)
- Who is responsible for the implementation of the projects (persons/bodies responsible)
- The various initiatives are also structured under the following general topics (headings):
 - Planning
 - Facilities
 - Information, communication and educational initiatives
 - Supervision and enforcement of and support for rules

The implementation plan covers the next five years, i.e. 2009 - 2014. This means that a new implementation plan should be drawn up in five years at the latest. However, it will probably be necessary to evaluate and adjust the below implementation plan at least once a year to allow for experience gained and for the fact that significant factors, such as funding, remain unclarified.

Planning

Aims	Time frame	Persons/bodies responsible	Funding
Establishing a buffer zone around the World Heritage Area in an appendix to the municipal plan	2009	Town planner, Site Managers, Qaasuitsup Kommunia	Municipal operating budget
Preparing a revised monitoring plan	2009	Site Managers, Greenland Home Rule Government	Municipal operating budget
Securing dog-sled tracks	2009	Qaasuitsup Kommunia	Municipal operating budget
Evaluating and adjusting the Management Plan	Once a year 2009 – 2014	Site Managers, Greenland Home Rule Government Heritage Agency of Denmark	Joint

Facilities

Aims	Time frame	Persons/bodies responsible	Funding
Completing footbridge through the Sermermiut Valley	2009	Site Managers, Construction Engineer, Qaasuitsup Kommunia	DKK 500,000 (granted by Qaasuitsup Kommunia)
Establishing footbridge through selected part of the Sermermiut archaeological area and highlighting four selected peat shed ruins	2009-2010	Site Managers, Construction Engineer, Qaasuitsup Kommunia Greenland Home Rule Government Greenland National Museum	DKK 150,000 (funding to be determined)
Designating hiking paths	2011 (minimum every three years, last designation in 2008)	Site Managers, Qaasuitsup Kommunia	Municipal operating budget
Icefjord Station / Icefjord Centre	2014?	Chief Municipal Executive	DKK 60,000,000 (funding to be determined)
Establishing toilet facilities at the old heliport and providing rubbish bins	2009	Qaasuitsup Kommunia	(funding to be determined)
Maintenance of hunting and fishing huts	Yearly	Site Managers, Qaasuitsup Kommunia	Municipal budget
Maintenance of footbridge	Yearly	Site Managers	Municipal budget

Information, communication and educational measures

Aims	Time frame	Persons/bodies responsible	Funding
Guide course	Once a year	Site Managers, Qaasuitsup Kommunia	Municipal budget
Park Ranger	From 2009 onwards	Site Managers, Qaasuitsup Kommunia	Municipal budget Possible co-funding by the Greenland Home Rule Government
Logo and design manual	2009	Site Managers, Qaasuitsup Kommunia	DKK 40,000 (external funds from Dancea)
Information site	2009	Site Managers, Qaasuitsup Kommunia Greenland Home Rule Government	DKK 100,000 (external funds from Dancea)
Information DVD	2009	Site Managers, Qaasuitsup Kommunia Greenland Home Rule Government	DKK 100,000 (external funds from Dancea)
Website	2010	Site Managers, Qaasuitsup Kommunia Greenland Home Rule Government	DKK 50,000 (external funds from Dancea)
Research and article database	2010	Site Managers, Qaasuitsup Kommunia Greenland Home Rule Government	Municipal operating budget
Signposting	2010	Site Managers, Qaasuitsup Kommunia Greenland Home Rule Government	DKK 200,000 (external funds from Dancea)
Information brochure	2010	Site Managers, Qaasuitsup Kommunia Greenland Home Rule Government	DKK 50,000 (external funds from Dancea)
Television broadcast	2011	Site Managers, Qaasuitsup Kommunia Greenland Home Rule Government	DKK 150,000 (external funds from Dancea)

Supervision and enforcement of and support for rules

Aims	Time frame	Persons/bodies responsible	Funding
Park Ranger	From 2009 onwards	Site Managers, Qaasuitsup Kommunia	Municipal budget, possibly with subsidies from the Greenland Home Rule Government and the Heritage Agency of Denmark
Inspection of huts	Once a year	Park Ranger Site Managers, Qaasuitsup Kommunia	Municipal budget
Introducing a fee (investigating the possibility of charging user fees/admission of tourists)	To be determined	Qaasuitsup Kommunia Greenland Home Rule Government	-
Supervision of landing fields	Once a year	Qaasuitsup Kommunia Greenland Home Rule Government	Agency for Environment and Nature budget
Meeting with relevant players	Once a year	Site Managers, Qaasuitsup Kommunia	Municipal budget
Civic meeting on management, etc.	Once a year	Site Managers, Qaasuitsup Kommunia Greenland Home Rule Government	Municipal budget
Miscellaneous campaigns regarding rules	Yearly, as required	Site Managers, Qaasuitsup Kommunia Greenland Home Rule Government	Municipal budget

9 MONITORING

The inscription of an area on the World Heritage List is contingent on the host country periodically submitting status reports to UNESCO describing the condition of the designated area. In this connection the Greenland Home Rule Government and the Ilulissat Municipal Authorities commissioned the Geological Survey of Denmark and Greenland (GEUS) to draw up a monitoring plan that was completed in 2006.

However, the last two years have shown that the monitoring plan is unrealistic and unfeasible in relation to the resources available. The past years have thus provided a more accurate picture of what should be the focal point of future monitoring. Accordingly, the Ilulissat Icefjord Office in collaboration with the Greenland Home Rule Government will draw up a revised monitoring plan in the course of 2009. The plan should meet the following criteria, among others:

- Be realistic and feasible in relation to the resources that will be available for monitoring.
- Focus on the values justifying the inscription of the Area on the UNESCO World Heritage List.
- Focus specifically on the geographical areas subject to the biggest impact from human activities.

The following sections outline the ideas of the Agency for Environment and Nature and the Municipal Authorities concerning the content of the future monitoring plan.

Principles of the future monitoring

The purpose of periodical reporting (every six years) to UNESCO is to procure information about changes in a World Heritage Area, including:

- To document whether the values of the Area that justified its inscription are maintained over time.
- To obtain knowledge about changed conditions in relation to the state of conservation of the World Heritage Area.
- Furthermore, UNESCO recommends that the monitoring parameters should be:
- Significant, i.e. the indicators should be capable of registering changes of significant importance for the Area.
- Sensitive, i.e. the indicators should detect changes quickly.
- Reproducible, i.e. the indicators should be capable of being observed and measured in the same way year after year.
- Easily measurable, i.e. it should be possible for persons without special training to take the measurements using simple equipment and simple techniques.
- Cheap in terms of both time and equipment.
- This may form the basis for two different data collection methods:

- The general method should be used when examining a large area. The monitoring is based primarily on satellite images and aerial photos.
- The detailed method should be used on smaller and more well-defined localities that are particularly exposed to damage. That method is based on data collection at "ground level" – by being physically present in the area and registering any changes.

Capacity monitoring

The above principles and methods can be used to investigate what UNESCO calls the *capacity* of an area and the risk of it being exceeded by the impact of human activities on the area. In this connection the term capacity can be divided into three categories:

- Ecological capacity, which reflects the degree of human impact the ecosystem is able to sustain while maintaining its function and character.
- Social capacity, which reflects the extent to which the quality of the users' recreational experience deteriorates.
- Physical capacity, which reflects the number of persons a particular area is able to service.

Based on the above concepts and principles, the preliminary ideas on significant areas to be covered by the future monitoring are highlighted below.

However, the actual future monitoring will be carried out in accordance with the future monitoring plan. The main focus is on the number of visitors, changes in nature, and changes in the users' experience of the World Heritage Area. It may also be necessary to include indicators of disturbances to animal life in the Area.

Monitoring the number of visitors

One of the most important threats against the conservation of the World Heritage Area of Ilulissat Icefjord is the impact of visitors to the Area. Accordingly, an important monitoring element is to examine the development of the Area's use in this respect. This includes examination of the following parameters:

Type of users	What is monitored	How can it be monitored	Who monitors
Local inhabitants and tourists visiting the World Heritage Area for recreational purposes	The number of tourists and local inhabitants, respectively, visiting the World Heritage Area Season for visits Areas visited and duration of the visits Activities in the area (dog sledding, traffic by helicopter, navigation, hiking, berry-picking, hunting, etc.)	Questionnaires Feedback collected by the Park Ranger Tourist trade statistics Meetings with representatives of the tourist trade	The Park Ranger The two Site Managers
Commercial users of the Area	Number of fishermen in dinghies, cutters or on dog sleds, respectively, entering the World Heritage Area, and how often they enter the Area Number of dog-sled drivers taking paying tourists around the Area, and how often they enter the Area.	Statistics from meetings with the association of fishermen/hunters Feedback collected by the Park Ranger Tourist trade statistics	The Park Ranger The two Site Managers

A detailed insight into the use of the Area will be gained over a number of years based on the above. It will provide an important basis for the future management in terms of both initiatives and restrictions when assessing different groups in relation to the capacity of the Area. However, this requires the data to include information on the various groups' general impact on Area as described below.

Monitoring damage and waste

This section focuses on the monitoring of human impact on nature in the World Heritage Area, thus disregarding the fact that changes in vegetation and animal life may be caused by something other than human activity. The reason for this focus is as follows:

- Human activity is expected to be the major cause of changes in the most visited parts of the World Heritage Area, which is the focus of the future monitoring.
- It will be possible to respond to those changes through management of the World Heritage Area.
- Monitoring of changes in nature that are not caused by human activities would require excessive resources.

- Major nature changes in the World Heritage Area, for instance caused by climate changes, would affect an area exceeding the boundaries of the World Heritage Area. Therefore, such changes would not be specific to Ilulissat Icefjord and should be monitored across a larger area.

There are several obvious ways to monitor the above examples of human impact on nature in the form of damage and waste in the protected area. They are outlined below:

Type	What can be monitored	Advantages	Disadvantages	Who monitors
Photos taken in the Area from specific places on the ground and at specific times each year	Damage to vegetation Waste left behind	Cheap, flexible and can be carried out by most people	The data can be of highly varying quality depending on the light, weather, equipment and the abilities of the photographer	Site Managers The Park Ranger
Photos taken from a helicopter	General damage to vegetation Formation of tracks	Cheap, flexible and can be carried out by most people Because of the more vertical perspective the photos will give a better overview of general damage to vegetation, especially with regard to the formation of tracks	Difficult to take photos from the exact same spot The data can be of highly varying quality depending on the light, weather, equipment and the abilities of the photographer	Site Managers The Park Ranger
Satellite images	Changes in vegetation	More uniform images Possible to examine a larger area	Expensive Lack of detailed information Lack of flexibility in terms of how many, when, and particular requests.	To be determined
Registration of changes in connection with traffic in the area	Waste in a specific area (e.g. at the helicopter landing field or along a particular hiking path) Damage to facilities such as the footbridge, benches, places for camp fires, etc.	Cheap, flexible and can be carried out by most people		Site Managers The Park Ranger Tourist guides
Registration of changes in the width of paths	Damage caused by the number of users in the Area	Cheap, flexible and can be carried out by most people		Site Managers The Park Ranger

With the exception of the satellite images, the above monitoring parameters are thus in accordance with UNESCO's guidelines as most of them are significant, sensitive, reproducible, easily measurable and cheap.

The most obvious examples of changes in terms of damage and waste caused by human activity in the protected area are as follows:

Type of change	Threatened value	Location	Impact	Who monitors and how
Damage to vegetation in areas with highest number of visitors	The unspoiled nature and outstanding scenic beauty of the area	The Sermermiut Valley The Sermermiut archaeological area The area close to town	This may result in both a widening of existing paths and the formation of new tracks Less vegetation	Photos taken on the ground by the Park Ranger and/or the two Site Managers Photos taken from a helicopter by the Park Ranger and/or the two Site Managers Changes due to traffic in the area registered by the Park Ranger and/or the two Site Managers Changes in the width of paths measured by the Park Ranger and/or the two Site Managers
Vegetation is used as fuel	The unspoiled nature and outstanding scenic beauty of the area Biodiversity value	The Sermermiut Valley The area close to town	Less vegetation	Photos taken on the ground by the Park Ranger and/or the two Site Managers Photos taken from a helicopter by the Park Ranger and/or the two Site Managers Changes due to traffic in the area registered by the Park Ranger and/or the two Site Managers
More waste left behind	The unspoiled nature and outstanding scenic beauty of the area	The Sermermiut Valley The Sermermiut archaeological area The area close to town The dog-sled tracks The helicopter landing field	More waste in the World Heritage Area	Changes due to traffic in the area registered by the Park Ranger and/or the two Site Managers Photos taken on the ground by the Park Ranger and/or the two Site Managers Photos taken from a helicopter by the Park Ranger and/or the two Site Managers

Monitoring of the impact on animal life

In addition to the visible damage to nature and facilities, the human impact on nature in the World Heritage Area will also include changes in the Area's animal life. It is more difficult to monitor such impacts, however. As documented in the monitoring plan prepared by GEUS, monitoring of e.g. bird life is an extensive process. It is difficult to obtain significant and sensitive monitoring parameters concerning the number of birds and marine mammals in an area as large as Ilulissat Icefjord without making use of both external expertise and motorised means of transport and thus large financial resources. It is possible, however, to select a number of indicators to provide an overview of impacts disturbing animal life. Involvement and selection of indicators will be assessed in the future monitoring plan.

The table below shows some examples of how changes can be monitored with the current resources. These monitoring parameters may even indicate whether animal life in the World Heritage Area is changing. If this turns out to be the case, it can then be assessed whether the monitoring should be concentrated and intensified in order to examine those changes more closely.

Monitoring of impacts on animal life is adapted based on what is expected to be the three most important man-made factors, i.e. hunting/fishing, helicopter traffic and navigation in the Area.

Impact on animal life	Value subject to impact	What is monitored	How is it monitored	Who monitors
Fishing, sealing and bird hunting	Biodiversity Economic value of the Area	Extent of hunting and fishing in the World Heritage Area The extent to which hunting in Ilulissat Icefjord exceeds the Area's ecological capacity, resulting in the presence of fewer animals/smaller animals.	Changes in the number and size of catches based on figures from: <ul style="list-style-type: none"> • The Greenland Home Rule Government's Ministry of Fisheries, Hunting and Agriculture • The Greenland Institute of Natural Resources • The associations of fishermen • The gamekeepers 	The two Site Managers and the Greenland Home Rule Government collect and process the figures
Helicopter traffic	Biodiversity Economic value of the Area	Consequences of the noise impact from helicopter traffic on animal life in the Area	Changes in the number of observations in the protected area: For example, the helicopter pilots' observations of changes in the number of seals on the ice in the spring and summer months. And changes in the populations of breeding birds in the Area. Continuous attention to helicopter traffic in the Area	Collection of information is coordinated by the two Site Managers
Navigation in the Area	Biodiversity Economic value of the Area	Impact of navigation on animal life in the Area Extent of navigation in the World Heritage Area	Changes in the number of observations of the species in question in the protected area based on changes observed by tourist operators and fishermen/hunters regularly sailing near the iceberg bank Number of tourist cruises in the Area Number of active fishermen in the Area	Collection of information is coordinated by the two Site Managers

Monitoring of user experiences

As mentioned above, recent years have seen a rising number of users in the peak tourist season from March to September. As a result, human activities can be increasingly seen or heard in large parts of the World Heritage Area, e.g. due to air traffic by helicopter and navigation in the Area. Changes in human activities in the Area may affect the users' experience of their visit. If it gets too intensive, there is a risk that the social capacity of the specific area is exceeded to such an extent that the quality of the users' experience deteriorates. Equally, there is a risk of exceeding the physical capacity of the Sermermiut Valley during the peak season of cruise ship tourism, e.g. by congestion on the footbridge and at the information site. This will result in a deterioration of the users' experience of their visit. Should this be the case, it may lead to conflicts of interest between different users, e.g. between tourist operators and other users, or between local inhabitants and tourists.

The main principles of monitoring the users' experiences are illustrated below.

Impact	Value subject to impact	Area	What is monitored	Who monitors and how
More users in the area	<p>The users' pleasure derived from the World Heritage Area</p> <p>The unspoiled nature and outstanding scenic beauty of the area</p> <p>The economic value of the Area</p>	<p>The Sermermiut Valley</p> <p>The Sermermiut archaeological area</p> <p>The area close to town</p> <p>The helicopter landing field (Isua)</p> <p>The iceberg bank zone (zone C of Executive Order on protection of Ilulissat Icefjord)</p>	<p>The users' experience of their visit to the Area</p> <p>Whether the social capacity of the Area is exceeded</p> <p>Whether the physical capacity of the Area is exceeded</p> <p>The risk of conflicts of interest</p>	<p>Questionnaire surveys conducted by the Park Ranger and the two Site Managers among the local inhabitants, tourists and researchers</p> <p>Feedback from the Park Ranger based on interviews with the various groups of users of the Area</p> <p>Civic meetings and focus group interviews</p>
Air traffic by helicopter	<p>The users' pleasure derived from the World Heritage Area</p> <p>The unspoiled nature and outstanding scenic beauty of the Area</p> <p>The economic value of the Area</p>	<p>The Sermermiut Valley</p> <p>The Sermermiut archaeological area</p> <p>The area close to town</p> <p>The helicopter landing field (Isua)</p> <p>The town of Ilulissat</p>	<p>Inconveniences from helicopter traffic in the World Heritage Area as well as in Ilulissat</p> <p>The risk of conflicts of interest</p>	<p>Questionnaire surveys among the local population, tourists and researchers</p> <p>Feedback from the Park Ranger based on interviews with the various groups of users of the Area</p> <p>Civic meetings and focus group interviews</p>
Navigation	<p>The users' pleasure derived from the World Heritage Area</p> <p>The unspoiled nature and outstanding scenic beauty of the area</p> <p>The economic value of the Area</p>	<p>The iceberg bank zone (zone C)</p>	<p>The experience of fishermen and other users of navigation in the Area</p> <p>The risk of conflicts of interest</p>	<p>Questionnaire surveys among the local population, tourists and researchers</p> <p>Feedback from the Park Ranger based on interviews with the various groups of users of the Area</p> <p>Meetings with the association of fishermen/hunters</p> <p>Civic meetings and focus group interviews</p>
Cruise ship tourism	<p>The users' pleasure derived from the World Heritage Area</p> <p>The unspoiled nature and outstanding scenic beauty of the area</p> <p>The economic value of the Area</p>	<p>The Sermermiut Valley</p> <p>The Sermermiut archaeological area</p> <p>The area close to town</p> <p>The helicopter landing field (Isua)</p> <p>The iceberg bank zone (zone C)</p> <p>The town of Ilulissat</p>	<p>Primarily the local inhabitants' experience of the impact from cruise ship tourism</p> <p>Whether the social and physical capacity of the Area is exceeded</p> <p>The risk of conflicts of interest</p>	<p>Questionnaire surveys</p> <p>Feedback from the Park Ranger based on interviews with the inhabitants of the town</p> <p>Civic meetings and focus group interviews</p>

As appears from the above, continuously investigating specific issues is relevant in addition to monitoring the users' general experience of the Area. This may apply particularly in relation to the local inhabitants' experience of the Area, because, unlike the tourists, they have to live with it every day. In this respect, there will be special focus on monitoring the experience of the inhabitants of Ilulissat in future, e.g. of noise from helicopters. It is equally important to monitor whether the fishermen feel inconvenienced by cruise ship and icefjord navigation with tourists from Ilulissat. Finally, the local population's experience of the impact of large groups of cruise ship tourists will be given particular attention in future.

Geomonitoring

Geomonitoring is concerned with changes in the landscape, including geological and glaciological changes. The primary focus of geomonitoring in the World Heritage Area of Ilulissat Icefjord is the location of the glacier's edge at the bottom of the Icefjord. The glacier has retreated considerably in recent years, and as a result the glacier front is sitting on the bottom of the fjord rather than floating in the water. This is believed to have had a significant negative impact on the size of the icebergs calved off the glacier. The retreat of the glacier is obviously of substantial scientific interest, and researchers have followed it intensely for many years. The glacier retreat is also interesting in relation to the conservation of the values on the basis of which Ilulissat Icefjord was nominated for inclusion on the World Heritage List. It therefore seems reasonable to relate the outstanding scenic beauty of Ilulissat Icefjord to the presence of icebergs floating in the fjord. Another important focus of geomonitoring is to examine the movement of the icecap in the marginal zone. The icecap has retreated in recent years, thus continuously exposing new land within the World Heritage Area. The location of the edges of the glacier and the icecap is relevant in relation to future research in terms of geographical location and thus requests for landing fields in the World Heritage Area. Moreover, this information is of obvious relevance for the general provision of information about the World Heritage Area.

The Agency for Environment and Nature is examining the possibility of using satellite images for geomonitoring of the World Heritage Area. Information from such satellite images will be supplemented with data from research projects concerning ice movement to provide a more accurate and up-to-date picture of the glaciological development in the Area.

10 References

Mikkelsen, N. and Ingerslev.T. (2003) *"Nomination of the Ilulissat Icefjord for inclusion in the World Heritage List"*. GEUS.

"Greenland Home Rule Government Executive Order no. 10 of 15 June 2007 on protection of Ilulissat Icefjord". Greenland Home Rule Government

Destination Avannaa – 35,000 tourists visiting Ilulissat in 2008. Personal communication

Air Greenland - Statement of landings in Ilulissat Icefjord. Personal communication

11 APPENDICES

Appendix 1: VISIONS FOR ILULISSAT ICEFJORD

This Management Plan outlines the principles on which the future management of Ilulissat Icefjord is to be based. The principles result in a number of objectives for the development of the World Heritage Area over the coming years. In order to meet those objectives, a series of rules and initiatives have been established as described in this Management Plan. In addition, the Greenland Home Rule Government and Qaasuitsup Kommunia have a number of long-term visions for the World Heritage Area, including:

- **The number one “green” tourist destination in the Arctic**

The management of the World Heritage Area of Ilulissat Icefjord must be a leading example and constitute a knowledge base for the management of other natural areas in Greenland as well as in the Arctic in general. This should be based on the principles of the World Heritage Area's importance in terms of generating economic growth and jobs in the local community while at the same time ensuring the environmentally, biologically and socially sustainable use of the Area. Ilulissat Icefjord should thus be the number one “green” tourist destination, with special emphasis on CO2 neutrality, waste management, and use of renewable energy and energy-efficient solutions. Combined with effective provision of information about the management of the World Heritage Area at both local and national levels this means that the management of the World Heritage Area will act as a lever to ensure a general trend towards increased environmental awareness in Greenland.

- **Innovation in the management of cruise ship tourism**

In terms of the tourist trade, cruise ship tourism is one of the areas requiring most attention in terms of future management to ensure the conservation of the World Heritage Area, and to ensure that the development is in accordance with the local population's wishes and the capacity of the Area. Cruise ship tourism is characterised by its geographical concentration and intensive impact on the local community during the short periods when the tourists are ashore. Furthermore, this type of tourism has traditionally had relatively limited economic potential for the local community as it does not include overnight accommodation and only very limited demand for food, transportation, guided tours, etc. At the same time, cruise ship tourism is dependent on public facilities such as quays, harbours, museums, public lavatories, rubbish bins, infrastructure, etc., which necessitates the active and constant involvement of a municipal authority. Against this background, the bodies involved in the management of cruise ship tourism in Ilulissat Icefjord should aim to actively participate in the development and implementation of new management principles in order to ensure greater benefit and less inconvenience for both the local community and the World Heritage Area in connection with cruise ship tourism in the future. This would require a high degree of innovation at the management level, and close collaboration with the local professions involved in cruise ship tourism. In this way, Ilulissat and the World Heritage Area will become a leading national and international area in terms of how the government services can contribute to a sustainable and economically more viable implementation of cruise ship tourism in the Arctic.

- **International centre of climate research**

The management of Ilulissat Icefjord should ensure the continued development of international research in the protected area; accordingly, research facilities should be extended in the future. This involves the establishment of an Icefjord Centre housing both visitors' and researchers' premises and thus utilising the interface between the different groups. The Ilulissat Icefjord Centre will thus form the framework of Greenlandic as well as international research in relation to Ilulissat Icefjord. Researchers from different places and with different specialties will be able to meet here and exchange results and ideas. Furthermore, the Icefjord Centre will facilitate the communication of their research results to people outside the research environment, e.g. through running exhibitions in the open museum area of the Icefjord Centre and through lectures. In addition, descriptions of research projects and various research articles relating to the Area should be collected in the Icefjord Centre archives and made available to both researchers and ordinary visitors. Against this background, Ilulissat Icefjord should be an international centre for climate research and documentation of climate changes in the future.

Appendix 2: EXECUTIVE ORDER ON PROTECTION OF ILULISSAT ICEFIORD

Greenland Home Rule Government Executive Order No. 10 of 15 June 2007 on protection of Ilulissat Icefiord

Pursuant to s. 16(1), s. 39(5) and (6), s. 46 and s. 60(2) and (4) of Greenland Parliament Act No. 29 of 18 December 2003 on nature protection, it is hereby ordered as follows:

Purpose

1. Ilulissat Icefiord and a surrounding area located in the Municipality of Ilulissat are zoned as protected area for the purpose of protecting its scenic beauty and the area's natural history, cultural history and other natural values. The protection is to contribute to protecting the nature in the area against destruction.

Delimitation

2. (1) The protected area is marked in Appendix 1. One part of the protected area is divided into three sub-areas.

(2) Sub-area A is a land area at Sermermiut. The area is marked in Appendix 2. Sub-area B is the innermost marine part of Ilulissat Icefiord. The area is marked in Appendix 3. Sub-area C is the outermost marine part of Ilulissat Icefiord. The area is marked in Appendix 3.

General access and use

3. The public has access to the protected area with the limitations following from this Executive Order.

4. (1) Polluting lakes, streams, fiords, glaciers or land areas in any way whatsoever or leaving any kind of rubbish, used fishing tackle, markings and scientific equipment is prohibited within the protected area.

(2) Damaging vegetation or making changes to the terrain is prohibited. Any collection of plants and plant parts is prohibited, but see subsection 3.

(3) Irrespective of the prohibition laid down in subsection (2), collecting vegetation for fuel for cooking in connection with fishing, hunting and catching is permitted.

Pitching of tents and use of open fire

5. (1) Within the protected area, tents may only be pitched and open fire only used for up to 24 hours in the same locality. Otherwise, tents may only be pitched in a new locality at a distance of at least 100 metres from the previously used locality, but see subsection (2).

(2) Permanent areas for pitching tents may be designated by the Ilulissat Municipal Authorities following consultation with the Ministry of Environment and Nature. The area where tents may be pitched must be clearly marked.

Building, construction and traffic

6. (1) Erecting buildings or other permanent structures as well as constructing roads and paths are prohibited within the protected area, but see subsections (2) and (3).

(2) Following consultation with the Ilulissat Municipal Authorities, the Ministry of Environment and Nature may grant permission to erect buildings or other permanent structures. Following consultation with the Ilulissat Municipality, the Ministry of Environment and Nature may lay down terms for the scope, nature, location, height and design in such permissions.

(3) After consultation with the Ilulissat Municipal Authorities, the Ministry of Environment and Nature may grant permission to construct roads and paths within the protected area. Following consultation with the Ilulissat Municipality, the Ministry of Environment and Nature may lay down the terms of such permissions.

(4) The use of motorised vehicles, including snow scooters, piste machines and full-track vehicles is prohibited within the protected area.

(5) Driving in traffic corridors laid down in an order regarding the use of motorised vehicles in Ilulissat Municipal Authorities is exempt from the prohibition laid down in subsection (4).

(6) Bicycle riding is prohibited within the protected area.

(7) Paths may be consolidated with gravel, wood or another suitable material.

(8) In sub-area A, cf. Appendix 2, traffic is permitted only on designated paths in the period between 1 April and 31 October.

Air traffic

7. (1) In the interest of the area's wildlife, air traffic at altitudes lower than 1,000 metres is prohibited within the protected area.

(2) Air traffic in connection with scheduled services, rescue and search operations and approaches to the landing fields mentioned in subsection (4) is exempt from the prohibition laid down in subsection (1).

(3) Landings are prohibited within the protected area, but see subsection (4). 4.

(4) Following consultation with the Ilulissat Municipal Authorities, the Ministry of Environment and Nature may grant annual or multi-annual permissions for landings in two specified areas.

(5) Following consultation with the Ilulissat Municipal Authorities, the Ministry of Environment and Nature may lay down the terms of the permissions granted in subsection (4).

Navigating, anchoring, laying up and going ashore

8. (1) Navigation in sub-area B is prohibited.

(2) Navigation in connection with commercial fishing, hunting and catching as well as navigation in connection with rescue and search operations are exempt from the prohibition laid down in subsection (1).

(3) All navigation with vessels larger than a tonnage of 1,000 Gross Registered Tonnes is prohibited in sub-area C.

(4) Tourist navigation within the protected area may take place only with the use of guides acquainted with Greenlandic nature and legislation on nature protection.

9. (1) Anchoring and laying up boats are prohibited within the protected area, but see subsection (2).

(2) Anchoring in connection with fishing, hunting and catching is exempt from the prohibition laid down in subsection (1).

10. (1) Going ashore in the protected area is prohibited.

(2) Going ashore in connection with fishing, hunting and catching is exempt from the prohibition laid down in subsection (1). However, this exemption does not apply to going ashore in sub-area A.

Management, supervision and exemption

11. Following consultation with the Ilulissat Municipal Authorities, the Ministry of Environment and Nature shall prepare a management plan for the protected area.

12. The local council of Ilulissat Municipality shall ensure the observance of this Order.

13. Following consultation with the local council of Ilulissat Municipality, the Ministry of Environment and Nature may grant exemption from the provisions of s. 5(1), s. 7(1) and s. 8(4) of this Order, provided it is not contrary to the objective of the protection.

14. (1) Violation s. 4(1) and (2), s. 5(1), s. 6(1), (4), (6) and (8), s. 7(1) and (3), s. 8(1) and (3)-(4), s. 9(1) and s. 10(1) is punishable by fine.

(2) Violation of terms laid down pursuant to s. 6(2)-(3) and s. 7(5) is punishable by fine.

(3) Where the violation has been committed by a business owned in whole or in part by the state, the Greenland Home Rule Government, a local authority or a local authority community covered by the Greenland Parliament Act on local councils, settlement councils, etc., a public limited company, a private limited company, a cooperative society or similar, liability under criminal law may be imposed on the business, etc. as such. The same shall apply if the violation has been committed by the Greenland Home Rule Government, a local authority or a local authority community covered by the Greenland Parliament Act on local authorities, settlement councils, etc.

15. (1) This Order shall take effect on 1 July 2007.

(2) At the same time, Greenland Home Rule Government Executive Order No. 7 of 25 March 2003 on protection of Ilulissat Icefiord shall be repealed.

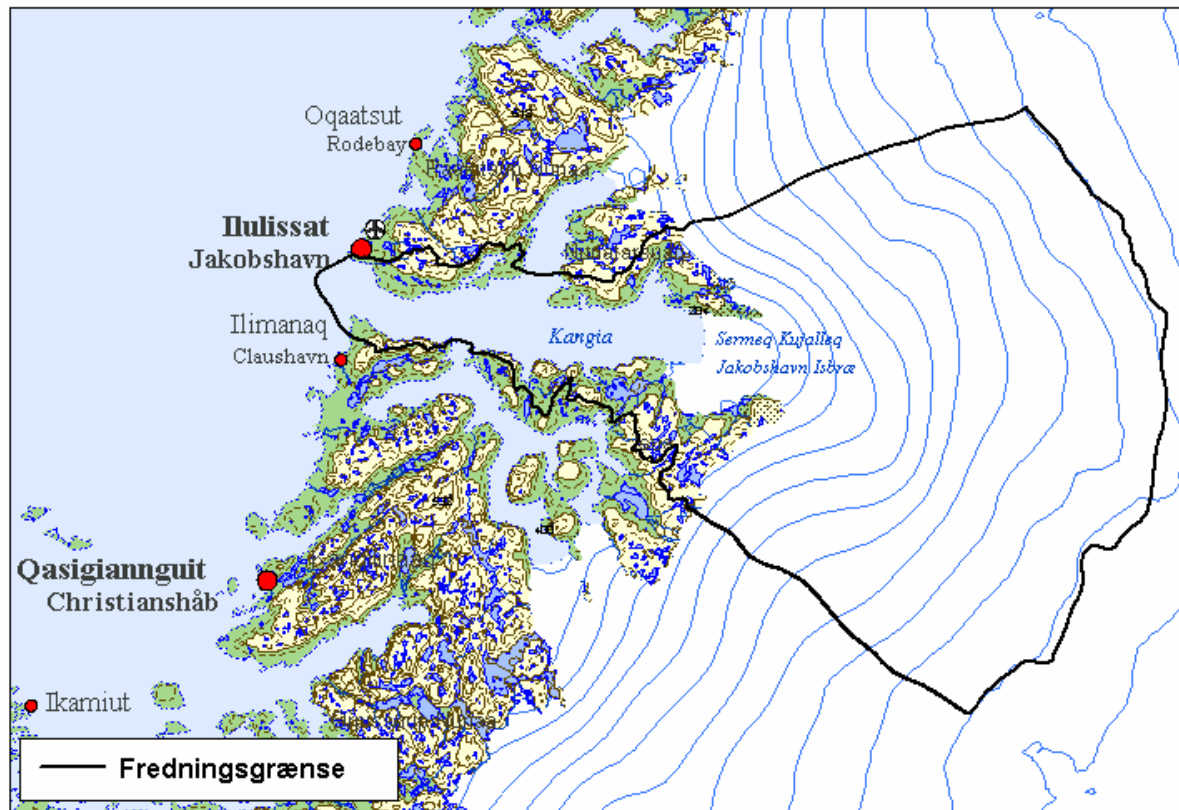
Greenland Home Rule Government, 15 June 2007

Arkalo Abelsen

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Alfred E.R. Jakobsen

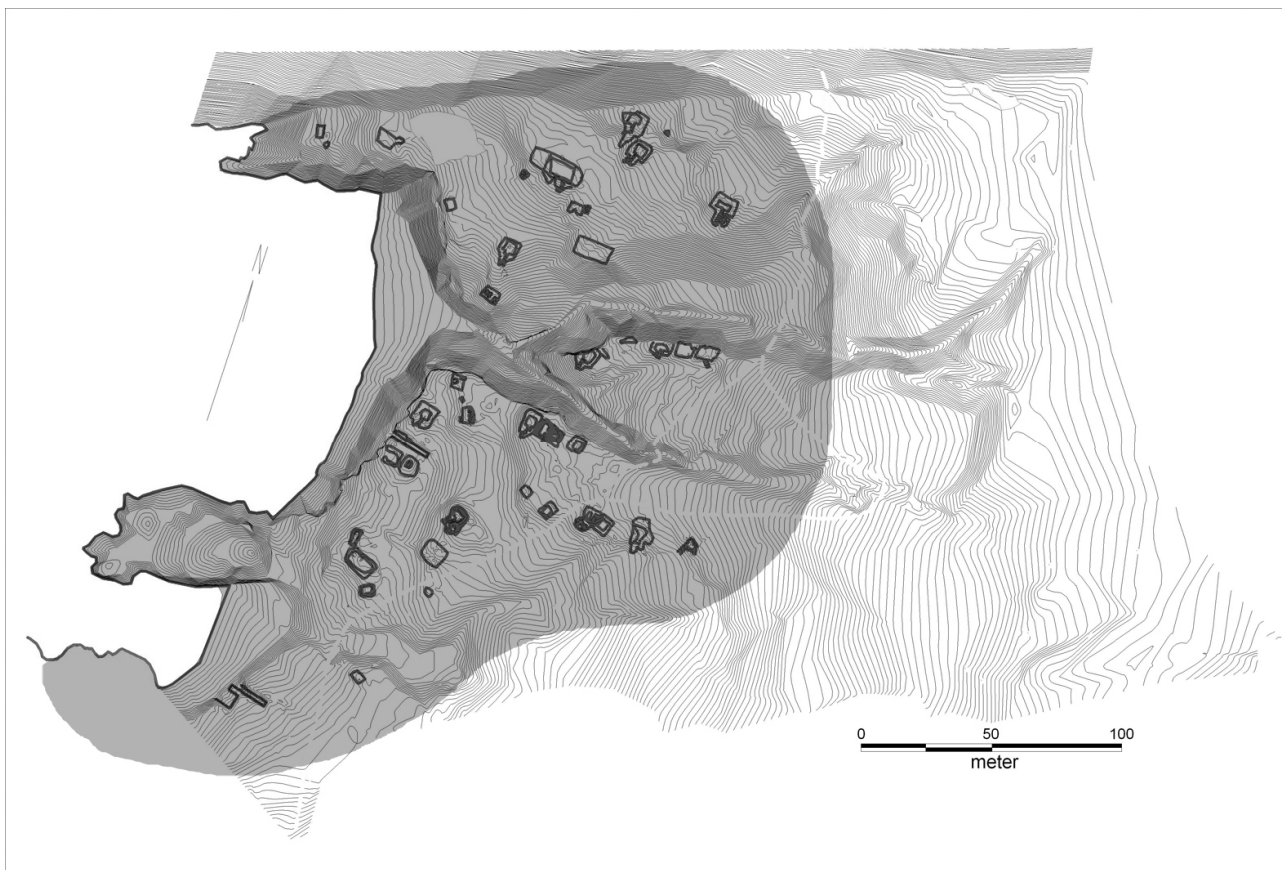
Appendix 2.1 to Executive Order on Protection of Ilulissat Icefiord



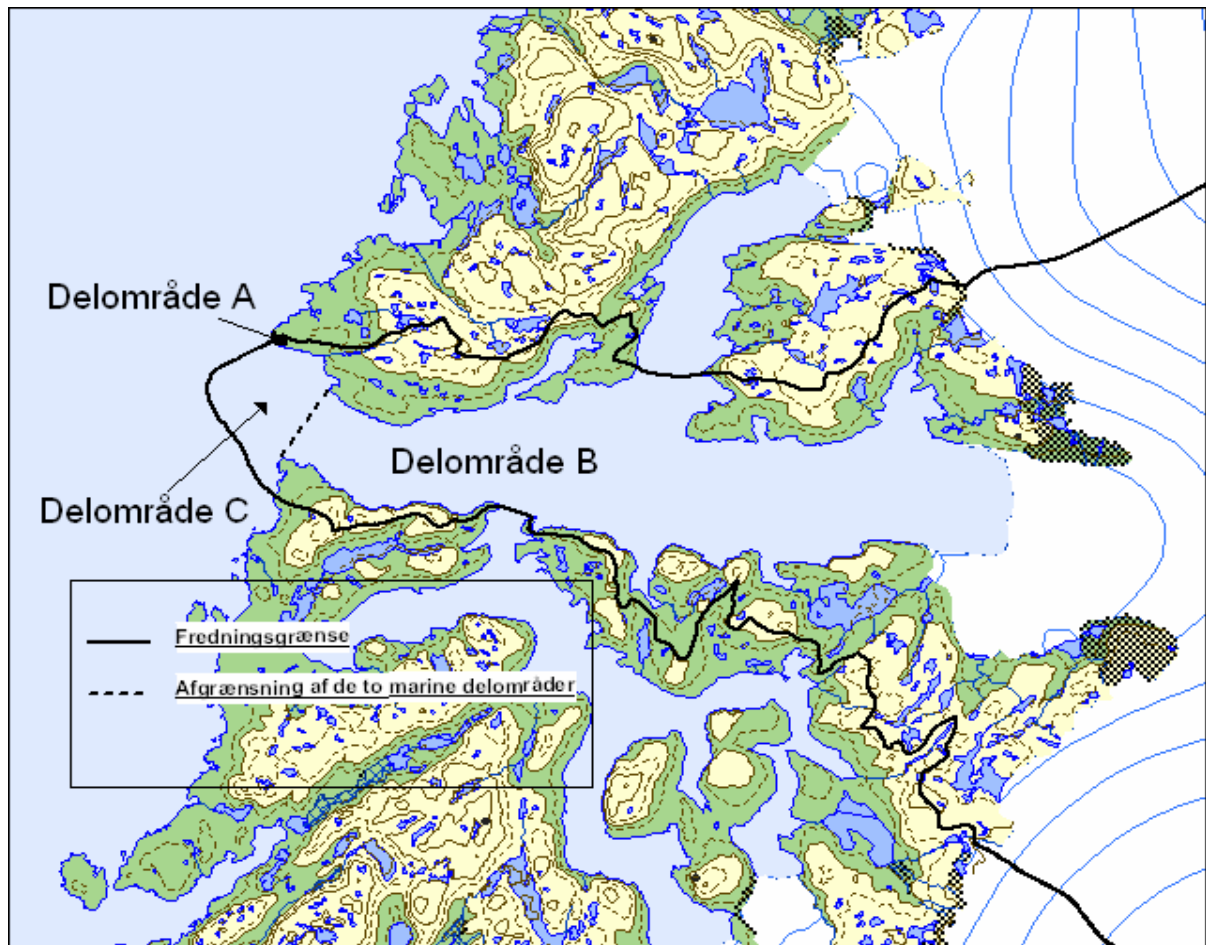
[Text in the illustration:]
Protection boundary

Appendix 2.2 to Executive Order on Protection of Ilulissat Icefiord
Sub-area A

Sermermiut



Appendix 2.3 to Executive Order on Protection of Ilulissat Icefiord



[Text in the illustration:]

Sub-area A

Sub-area B

Sub-area C

Protection boundary

Delimitation of the two marine sub-areas

The delimitation between sub-area B and sub-area C has been given as follows:

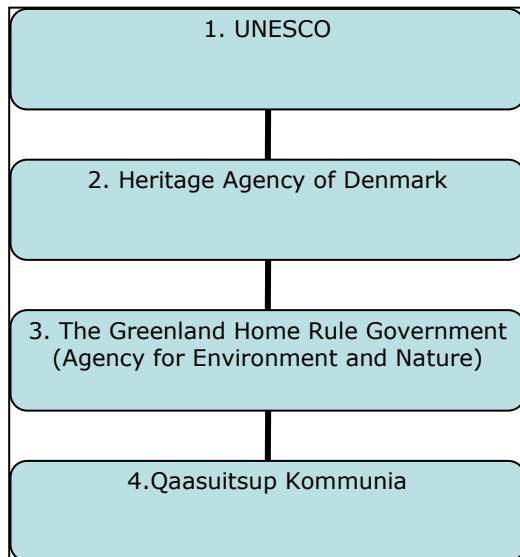
Northernmost point: 51° 02' 32'' W, 69° 10' 49'' N. Southernmost point: 51° 05' 29'' W, 69° 08' 14'' N.

Appendix 3: RELATIONS BETWEEN STAKEHOLDERS

In order to ensure the most appropriate management of the Area, it is important to establish the division of responsibilities and lines of communication between all parties.

Division of responsibilities

The figure below shows the division of responsibilities for the management of Ilulissat Icefjord.



The figure illustrates the division of responsibilities.

- 1 UNESCO Secretariat in Paris.
- 2 The Heritage Agency of Denmark – overall responsibility for the World Heritage Area in relation to UNESCO and in charge of liaison with the UNESCO Secretariat.
- 3 The Greenland Home Rule Government – national responsibility for the World Heritage Area under the provisions of Greenland Home Rule Government Executive Order No. 10 of 15 June 2007.
- 4 Qaasuitsup Kommunia – responsibility for supervision of the Area

Stakeholders

The Ilulissat Icefjord stakeholders have different interests in relation to different activities. They are divided into institutions and stakeholders.

- **Institutions:**

- The Ilulissat Museum
- The National Museum

- **Primary stakeholders:**

- The local population of Ilulissat
- Tour operators in the fields of navigation, air traffic, accommodation, dog-sledding, etc.
- Fishermen / hunters
- Ski club
- Dog-sled drivers' association
- Researchers
- Tourists
- KNAPK (organisation of fishermen and hunters)

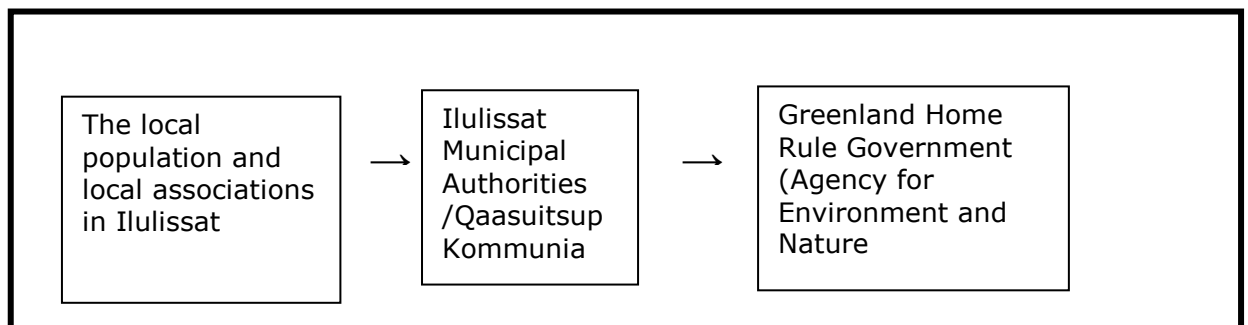
- Film companies
- VIPs
- Air Greenland

- **Communication between stakeholders**

The Icefjord Office in Ilulissat is in charge of day-to-day contacts with the local population, while the Greenland Home Rule Government is based in Nuuk and thus mainly communicates with stakeholders by letter or telephone.

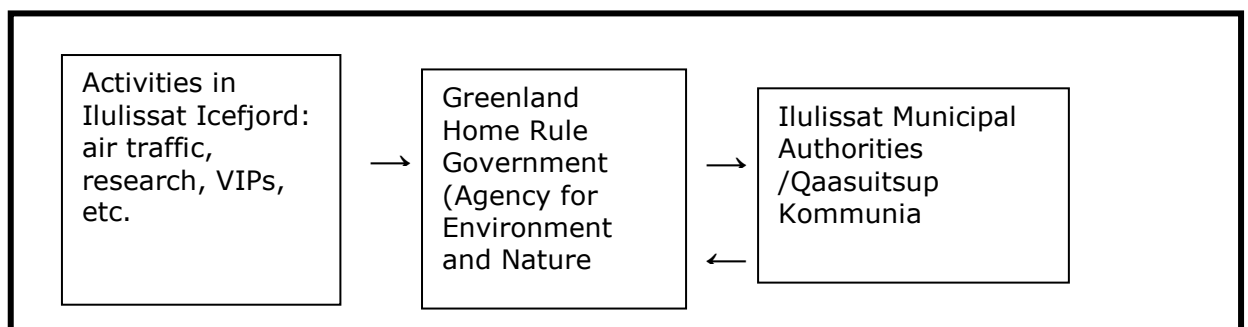
- **Formal lines of communication:**

Written applications for exemptions regarding activities in Ilulissat Icefjord.



The local population and local associations in Ilulissat can apply to the Ilulissat Municipal Authorities for activities in Ilulissat Icefjord; the applications are forwarded to the Greenland Home Rule Government.

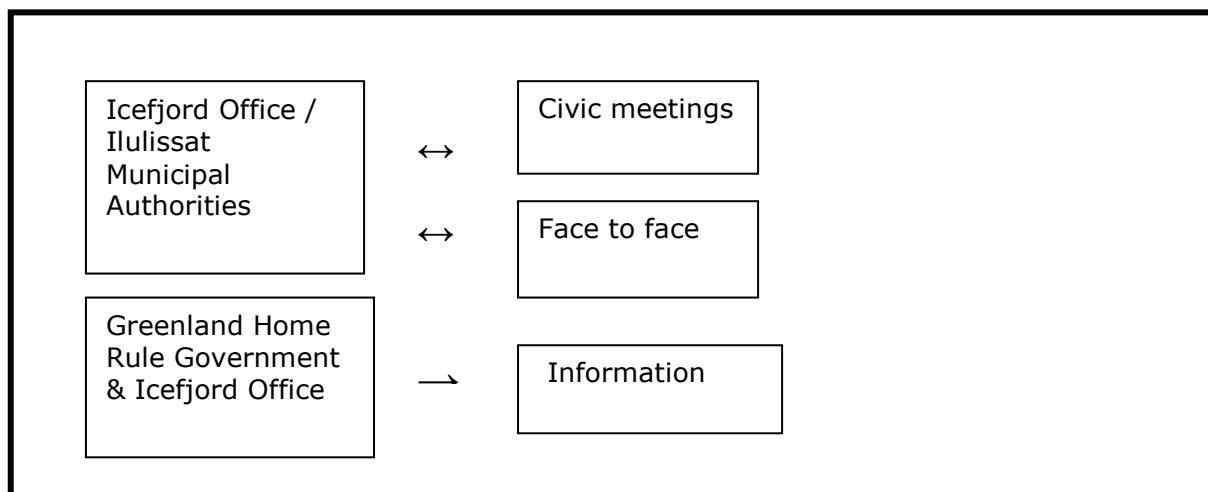
The Greenland Home Rule Government has national responsibility for the management of Ilulissat Icefjord.



International and national applications for exemptions for activities in Ilulissat Icefjord are sent to the Greenland Home Rule Government. The Greenland Home Rule Government sends requests for consultation to Ilulissat Municipal Authorities / Qaasuitsup Kommunia. The Greenland Home Rule Government has national authority over Ilulissat Icefjord.

Informal lines of communication:

Informal lines of communication include civic meetings, face to face meetings and written information about Ilulissat Icefjord (brochures, etc.) (see the figure below).



Informal lines of communication.

- **Stakeholder relations to Ilulissat Icefjord:**

The stakeholders have different relations to Ilulissat Icefjord. Some have recreational relations, while others are financially dependent on activities in Ilulissat Icefjord (see the table below).

Stakeholder	Activity	Earnings opportunities?
Local population	Recreational activities (skiing, hiking, dog-sledding, sealing, etc.)	No
Commercial fishermen	Halibut fishing	Yes
Commercial hunters	Sealing, sea bird hunting	Yes
Tourism operators	Navigation, flying, dog-sledding, accommodation	Yes
Researchers	Research	No
Tourists	Hiking, helicopter tours, navigation	No
Ski club	Cross-country skiing	No
Dog-sled drivers' association	Dog-sledding	Yes
Film companies	Shooting of films	Yes
VIPs	Helicopter tours	No

Stakeholder relations to Ilulissat Icefjord.

- **Other authorities whose decisions affect conditions in Ilulissat Icefjord:**

As previously mentioned, the Agency for Environment and Nature has national responsibility for the management of Ilulissat Icefjord. A number of other authorities have responsibility for certain spheres of responsibility, however. The Agency for Environment and Nature acts as a consulting party (see the table below).

Authority	Sphere of responsibility
Ministry of Fisheries, Hunting and Agriculture (Greenland Home Rule Government)	Fishing and hunting quotas
Physical Planning Department (Greenland Home Rule Government)	Land allocation
Emergency Management Agency (Greenland Home Rule Government)	Safety at sea
Danish Maritime Authority	All navigation, including cruise ships
Danish Civil Aviation Administration	Aviation regulation
Danish Polar Center	Permission according to Executive Order on access to be transferred as of 1 January 2010

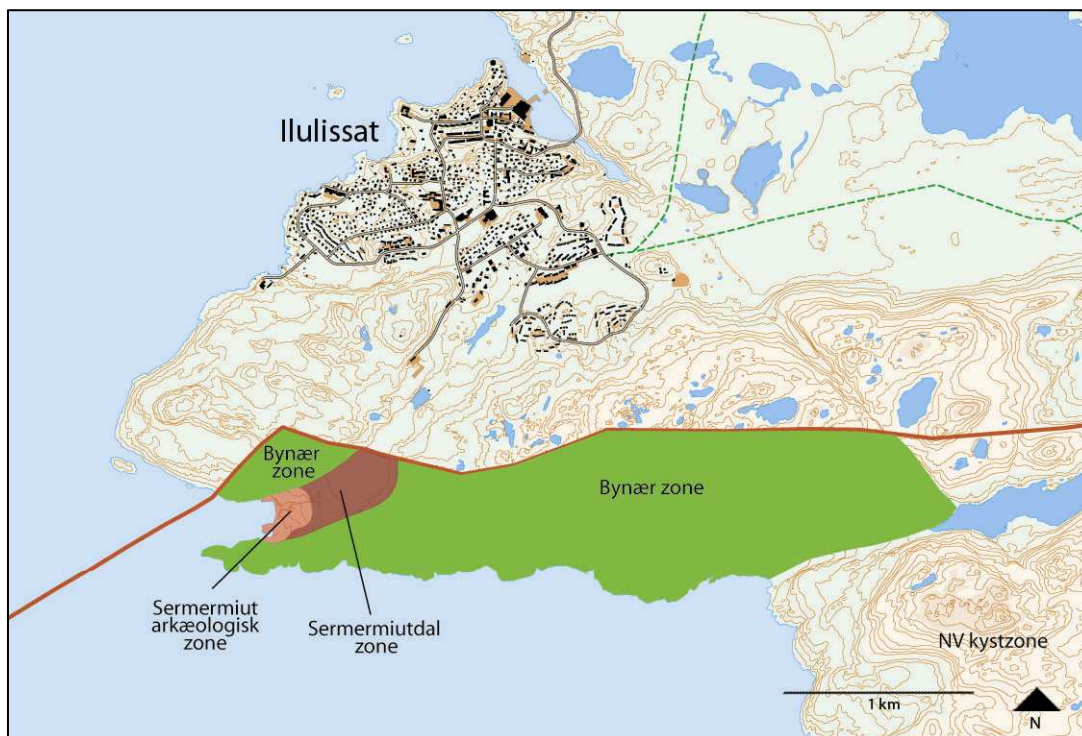
Other authorities whose decisions affect Ilulissat Icefjord.

Appendix 4: FOCUS AREAS

As previously mentioned, Executive Order on protection of Ilulissat Icefjord includes three zones where traffic is subject to special rules: sub-area A (Sermermiut archaeological zone), and marine areas B and C. Areas A, B and C are described in further detail below.

In addition to this, there is a description of other areas with special focus on regulation – especially because of their location close to town where traffic is more intense than in the remaining areas.

Zoning map of the area close to town



[Text in the illustration:]

Zone close to town

Zone close to town

Sermermiut archaeological zone

Sermermiut Valley zone

NV coastal zone

Zone close to town (Ilulissat)

Location

The zone close to town is located immediately south of Ilulissat on both sides of the Sermermiut Valley zone.

Characterisation

The area includes several elevated points with a view of the Icefjord.

Accessibility

The area is easily accessible from Ilulissat on foot, on skis or by dog-sled. There are various designated hiking paths in the area.

Use

This zone is characterised by many visitors, both local inhabitants and tourists, who use the area for various recreational activities, including hunting and hiking.

The Sermermiut Valley

Location	The Sermermiut Valley zone is located less than one kilometre south-west of the town of Ilulissat. The zone is approx. 600 metres long and 200 metres wide.
Characterisation	There is an exceptional view of the iceberg bank zone from the area. The Sermermiut Valley is characterised by creeping soil, i.e. the underground consists of a fine-grained material which is constantly moving down towards the sea during the ice-free months.
Accessibility	The area is easily accessible from the town of Ilulissat. A footbridge through the area was established in 2008, protecting the vegetation against damage and making it easier and safer for people to walk in the area. The footbridge also makes the area accessible for wheelchair users and people with strollers.
Use	The Sermermiut Valley zone is the most visited part of the World Heritage Area. The area is frequently used by both local inhabitants and tourists for a number of recreational activities such as hiking and skiing, school excursions, etc.

The Sermermiut archaeological zone (zone A of Executive Order on protection of Ilulissat Icefjord)

Location	The Sermermiut archaeological zone is located a few kilometres south of the town of Ilulissat at the end of the Sermermiut Valley.
Characterisation	The Sermermiut archaeological zone contains the prehistoric settlement of Sermermiut which was the largest settlement in Greenland 250 years ago. A fairly large number of peat shed ruins and Inuit graves surround the former settlement. Accordingly, this area is described as the most important archaeological site in Greenland. The ruins are grouped around a small inlet. The area is moist and grass-covered.
Accessibility	The area is easily accessible from the town of Ilulissat. Access is only permitted on foot, and visitors must stay on the designated path.
Use	The area is visited by a large number of tourists and local people. Some ruins are visible from the designated path. In general, the ruins are not easily spotted by ordinary visitors, however, and so far there is no information or explanation concerning the parts or significance of the ruins.

The fjord zone - Maritime zone B of Executive Order on protection of Ilulissat Icefjord)

Location	The fjord zone is located between the iceberg bank zone and the glacier zone and is made up of the ice-choked fjord.
Characterisation	The fjord zone is approx. 40 kilometres long, 6-10 kilometres wide and more than 1,000 metres deep. The icebergs that are calved off the front edge of the glacier are pressed through the

	fjord zone, which is more or less filled with floating icebergs and floes according to season and weather.
Accessibility	The zone is only accessible by helicopter (overflying) or by boat on rare occasions.
Use	Only commercial navigation for fishing purposes is permitted in the fjord zone which is identical with "maritime zone B" of Executive Order on protection of Ilulissat Icefjord. Ice conditions permitting, parts of the fjord zone are used in connection with fishing from dog-sleds.

The iceberg bank zone - Maritime zone C of Executive Order on protection of Ilulissat Icefjord)

Location	The iceberg bank is the easternmost part of the Icefjord. The zone is approx. 6-7 kilometres wide (N-S), approx. 6-7 kilometres long (E-W), and the depth of the sea is only 225-250 metres.
Characterisation	The largest icebergs are stranded in the iceberg bank zone due to submarine morainic deposits at the mouth of the Icefjord. The large, detached icebergs give the area great scenic beauty.
Accessibility	The area is accessible by small vessels (under 1,000 GRT). Due to ice and the danger of calving icebergs, the area may be difficult to navigate, however. There is a beautiful view of the Iceberg bank zone from the surrounding shores.
Use	The area is used particularly for halibut fishing and in connection with tourist navigation.