NORWEGIAN MINISTRY
OF JUSTICE AND THE POLICE

Report No. 22 (2008–2009) to the Storting

Svalbard

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Translation from the Norwegian. For information only.

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Recommendation by the Ministry of Justice and the Police of 17 April 2009, approved in the Council of State on the same date. (Stoltenberg II Government)

1 Summary

1.1 Svalbard policy entering a new era

The previous report on Svalbard, Report No. 9 (1999–2000) to the Storting, Svalbard, was submitted about ten years ago. Since then there have been substantial changes in Svalbard, where there has been growth in many areas just like on the mainland. An increase in both the population and activities has helped to transform Longyearbyen into a modern family community, with a well-developed infrastructure and a generally good array of services.

The overriding objectives of the Svalbard policy are:

- Consistent and firm enforcement of sovereignty.
- Proper observance of the Svalbard Treaty and control to ensure compliance with the Treaty
- Maintenance of peace and stability in the area.
- Preservation of the area's distinctive natural wilderness.
- Maintenance of Norwegian communities in the archipelago.

There is broad political agreement on these objectives, which have remained unchanged for a long time. History has shown that administering the archipelago according to these objectives has been a success.

However, various intersecting considerations with regard to economic and preservation interests – in Svalbard as well as in the rest of Norway – will manifest themselves in ongoing administration and management. Svalbard has a unique natural and cultural heritage that the Norwegian authorities have special responsibility to preserve. For that reason, protection of the natural environment is one of the key aspects of Norway's Svalbard policy, and all industrial activity, resource exploitation and research are to take place within the parameters of preserving Svalbard's natural environment and cultural monuments. At the same time, since a goal is to maintain Norwegian communities in the archipelago, activity to ensure this must be provided for. Overarching Svalbard policy is sufficiently flexible and robust with regard to weighing various interests and to development in the archipelago in other respects.

Climate change will present new challenges. Temperatures in the Arctic are expected to rise twice as fast as the global mean. This may lead to big changes in physical environmental conditions and have serious consequences for species and ecosystems in Svalbard. Expected shrinkage of sea-ice will also impact the environment by making vulnerable areas more easily accessible to traffic and other activity. Climate changes in the Arctic and their significance for the global climate also mean that in the coming years, Svalbard will be a more important source of knowledge regarding climate processes and impacts of climate change.

At the same time, climate change is creating opportunities for and expectation of an increase in activities in the north. A warmer Arctic Ocean will

mean that fisheries activities will move north. Less ice may also open up new routes for international shipping between east and west. Longyearbyen may become increasingly important as a base for search and rescue and pollution clean-up operations in the Arctic seas.

This Report to the Storting primarily addresses activity within the territorial limit of 12 nautical miles, which is the territory covered by the Svalbard Treaty. Even so, particularly in Chap. 2 Background – purpose of the report, there will be a discussion of opportunities and challenges in a broader context.

The report will provide guidelines for Svalbard policy for a number of years going forward. They envisage a continued stable and predictable exercise of authority and favourable social developments in the archipelago. At the same time it is important to maintain necessary manoeuvring room in the coming years in order to meet new challenges and employ the best instruments at any given time in administering the archipelago.

The overriding objectives will be signposts that in the view of the Government will ensure integrated and harmonious administration. This will help to make Svalbard policy robust in the years to come.

1.2 Instruments in Svalbard policy

Chap. 4 contains a discussion of instruments in Norwegian policy towards Svalbard. Legislation and its enforcement are fundamental instruments in any society under the rule of law. The Government attaches importance to the legal framework for Svalbard being as similar to the framework on the mainland as possible. Several factors, especially the fact that Longyearbyen is developing in the direction of similar local communities on the mainland, make this desirable. Other trends, too, such as an expansion of obligations under international law, mean there will eventually be a greater need for new laws and regulations.

The Government has considered whether it may be appropriate to amend the Svalbard Act, so that all statutory provisions apply to Svalbard unless otherwise stated, that is, the reverse of current principles concerning the application of acts of law. However, on the whole, case-by-case assessments of relations to Svalbard will be needed when public law legislation is introduced. Key issues in such assessments include the Svalbard Treaty's establishment of equal liberty of access and entry to the archipelago, social welfare and entitlements legislation and the fact that Longyearbyen is not intended to be a "cradle-to-grave" community. These issues are discussed in Chap. 5 Legislation. The Svalbard Treaty is discussed in Chap. 3 Framework under international law.

The organisation and structure of the central administrative apparatus for Svalbard remain unchanged. Developments, however, indicate that ongoing adjustments may be necessary. For example, the instructions for the Interministerial Committee on Polar Affairs were revised since the previous report on Svalbard. The aim was to ensure better coordination of Svalbard policy. There will continue to be a need for a greater degree of coordination. For that reason the Government emphasises cross-sectoral cooperation in formulating Norway's policy towards Svalbard and the administration of the archipelago.

The Governor of Svalbard is the government's highest representative in Svalbard and the most important player in the local administration and in protecting the central government's interests in the archipelago. In view of the increase in activity that has taken place, the establishment of local self-government and the fact that more acts of law have been applied, the Government sees the importance of enhancing the Governor's role in step with general developments.

A boost to local administration was the establishment in 2002 of the Longyearbyen Community Council. The Council exercises authority within the land-use area in certain fields and is responsible for the provision of public services and development tasks. The establishment of the Longyearbyen Community Council has resulted in an exercise of authority at local level better tailored to circumstances and an administration similar to municipal government administration on the mainland with regard to both authority and responsibility.

1.3 Challenges in particular sectors

In the work on this Report to the Storting, three issues were designated as main topics and, for that reason are discussed in greater detail in the report. They are discussed in various places.

1.3.1 Visible presence in Svalbard – coal mining and other industrial activity

One of the main objectives of Svalbard policy is the maintenance of Norwegian communities in the archipelago. This objective is met through the fam-

ily community in Longyearbyen. Over the years there has been a conscious effort to facilitate three fields of activity in particular. Throughout history, coal mining has formed the basis for Longyearbyen and other communities in the archipelago. There has also been a focus on research, education and tourism. These efforts have all helped to make Longyearbyen the modern community it is today.

The Government wishes for Longyearbyen to continue to be a high-quality family community. Coal mining continues to be the mainstay of this community. It is the Government's view that coal mining should continue within the framework set by environmental laws, commercial profitability and the safety regulations and in a manner that supports the objective of Store Norske Spitsbergen Kulkompani to contribute to a robust community in Longyearbyen. Existing infrastructure for coal mining operations should be used as much as possible.

It is also important to promote other, varied activity in Longyearbyen, not least activity at the University Centre in Svalbard (UNIS), further development of Svalbard as a platform for research and education and of tourism and space-related activity. Developments in the various areas must be viewed in context and assessed in view of the overriding objectives of Svalbard policy, including the ambitious environmental goals for the archipelago.

As a result of targeted policy, especially in the past decade, Svalbard has developed into an important platform for Norwegian and international research and education. Norway is currently the host nation to research institutions from 20 countries that have a more or less permanent presence in Svalbard. Moreover, in Longyearbyen the world's northernmost university programmes, UNIS, has been established as a key player and part of the research platform. UNIS's expansion has also had the effect that the organisation, through its students and staff, accounts for an increasingly important part of the Longyearbyen community.

The focus on tourism has helped this industry to be an important basis for settlement and activity in Longyearbyen. At the same time, it is a goal for Svalbard to be one of the best managed wilderness areas and the best preserved High Arctic tourist destination in the world. Tourism also helps to spread awareness of the vulnerable environment and environmental challenges in the Arctic. The Government wishes to provide for the further development of tourism as a basic industry in Svalbard.

Since seasonal fluctuations in tourism are a challenge for year-round jobs in Longyearbyen, a targeted effort must be made to develop a tourism product that provides a basis for year-round employment in Longyearbyen.

1.3.2 Svalbard is to be one of the world's best managed wilderness areas – tourism and other traffic

Preservation of Svalbard's unique natural wilderness is one of the main objectives of Norway's policy towards Svalbard. Since the previous Report to the Storting, this has been translated into practice through new, modern environmental regulations and the creation of a number of new protected areas. In 2002 the Svalbard Environmental Protection Act entered into force, and in the period 2002–2005, the area under protection was substantially enlarged. Today, 65 per cent of Svalbard's land area and 87 per cent of its territorial waters are protected as nature reserves and national parks.

As activities have increased during the past decade, total traffic has also grown. The growth has been greatest in tourism and research. The interest in using Svalbard as a meeting place for decision makers has also been rising. To limit the stress on Svalbard's natural environment and cultural heritage, it is necessary to control traffic in compliance with the value and vulnerability of the various areas and the purpose of protecting them. In view of Svalbard's increasingly vital role as a source of knowledge regarding consequences of climate change, it is particularly important to ensure the value of protected areas as reference areas for climate and environmental research.

Increased traffic also poses challenges with regard to safety. During the past decade several measures have been implemented in this area. To limit the potential for damage from acute discharges, in 2007 a fuel quality requirement was introduced for ships calling in at nature reserves in East Svalbard. At the same time, a cap was set at 200 passengers per cruise ship in these areas. After the Harbour Act entered into force for Svalbard in 2008, the legal framework for regulating and facilitating safe maritime traffic in Svalbard is well on the way to being at the same level as the rest of Norway. Efforts to improve maritime safety will be a central task of the Government in the years to come as well.

The challenge will be to manage traffic in a manner that meets the ambitious environmental objectives for Svalbard. Various policy instruments will be necessary. In order to implement effective

measures, efforts to bolster our knowledge of how traffic impacts the environment in Svalbard need to continue. Undertaking detailed surveys and monitoring the situation are key elements in this regard. At the same time, various user interests need to be balanced within the framework of the objectives set for managing the various areas. Preparing management plans and amending the Protection Regulations are essential measures for controlling various forms of traffic in protected areas, and for limiting the overall strain on the environment in keeping with the aim of environmental protection. Amendments to the Protection Regulations have been drafted to address this issue.

1.3.3 Svalbard's role as a platform for Norwegian and international research, knowledge and education

Svalbard has become a key area for gathering knowledge about the effects of Arctic temperature rise and how a warmer Arctic may impact global climate. This underscores the importance of making full use of the opportunities Svalbard offers as a platform for Norwegian and international climate and environmental research.

The proximity to the North Pole provides unique opportunities for atmospheric studies, while data from satellites in polar orbit can be downloaded by the Svalbard Satellite Station in Longyearbyen at each pass. In Longyearbyen the establishment of UNIS has also helped bolster research and education, in addition to such institutions as Kings Bay AS in Ny-Ålesund and the Norwegian Polar Institute. In all, combined with substantial investment in infrastructure, this has made Svalbard a platform for Norwegian and international research, higher education and environmental monitoring.

An objective is for Norway to be at the forefront of international knowledge production in and about polar regions as well as benefiting those areas. Knowledge is also the key to good stewardship. Established infrastructure ought to be utilised better than it is today, by Norwegian as well as foreign scientists and students.

Norway has a special responsibility to develop knowledge about polar areas. The Government's commitment to the International Polar Year (IPY 2007–2009), to which it appropriated NOK 320 million in support, has strengthened the effort to develop Svalbard further as a research platform. Managing the legacy of IPY in the best possible manner is an important challenge.

The stepped-up research activity and its internationalisation makes it necessary to bolster Norwegian scientific leadership and presence, as well as coordination and collaboration. The plan is for the Research Council of Norway to be given a special responsibility in this effort. This may help ensure that established infrastructure is more extensively used than today, by Norwegian as well as foreign scientists and students.

1.4 Environmental protection

Preserving Svalbard's unique natural wilderness is one of the main objectives of Norway's Svalbard policy, and the Norwegian government has set ambitious goals for environmental protection in the archipelago. Accordingly, environmental considerations are to take precedence over other interests whenever they conflict. Current regulations and a favourable state of the environment provide a good basis for reaching these goals.

As a result of determined protection efforts over many decades, only a tiny portion of Svalbard's land area has been affected by physical encroachments such as roads and other infrastructure. Biodiversity is also virtually intact, and populations of most species previously at risk of overexploitation have recovered.

Even though the situation for biodiversity and wilderness is currently good, new trends may pose serious challenges to environmental protection in Svalbard. This pertains especially to climate change, but also to increasing traffic and changes in the activities taking place in and around Svalbard. Climate change can be expected to alter the physical environment and hence the living conditions for flora and fauna considerably. Climate change, therefore, will become more and more important for nature management in Svalbard. This applies especially to the retreat of sea-ice, which is likely to reduce the range of many ice-dependent species, and which may eventually lead to their disappearance from the Svalbard area.

Chap. 7 Environmental protection discusses various challenges being faced and how the Government will ensure that the ambitious environmental goals can be reached. Management in keeping with the ambitious environmental goals will make great demands on fundamental knowledge and management's ability to tailor instruments and measures to changes in environmental conditions and activity.

In Svalbard an important objective is to preserve the extent of wilderness areas. This means

strict limits on significant infrastructure development in wild areas not already affected by such encroachments. Growing interest in the natural resources in and around Svalbard could mean an increase in applications for permits for activities leading to physical encroachments outside of the planning areas surrounding existing settlements and mines. The Svalbard Environmental Protection Act and current strict practice with regard to permits for infrastructure development outside of the planning areas are well suited to deal with this trend.

1.5 Research, knowledge and higher education

Svalbard is of vital importance as a platform for Norwegian and international research. Research and higher education are to be key elements in Norwegian activities in Svalbard in the years to come. Although Svalbard must remain an attractive venue for scientists from around the world, Norway is to have a leading role and be a key player in the area of developing knowledge in and around Svalbard.

UNIS has grown considerably since its founding and plays an important role in Svalbard in general and in Longyearbyen in particular. UNIS should continue its effort to attain good results in research and education, and in principle the Government supports the ambition of the centre to become a leading international venue for Arctic studies.

The International Polar Year has brought greater attention to environmental and climate-related research. The archipelago is naturally ideal for such research and offers world-class infrastructure and facilities. Surveillance, surveys and the establishment of long time series are of fundamental importance for science and management, on land as well as in the waters around Svalbard, and carries an additional economic interest. Unique space-related infrastructure has been built near Longyearbyen, and in the coming years it ought to be used to the fullest extent. Development and exploitation of the observation systems for space, oceans, land and ice will be an important aspect of knowledge policy for Svalbard. Putting in place systems for consistent, extensive monitoring of oceans, land and ice continues to be a challenge.

Longyearbyen and Ny-Ålesund will be the natural starting points for research and education based on the archipelago's particular advantages, and total scientific activities ought to ensure a strong, comprehensive research effort. Furthermore, the efficient exploitation of the infrastructure in Svalbard and collaboration between institutions and nations must be promoted.

1.6 Industrial, mining and commercial activity

One of the overriding objectives of Norwegian policy towards Svalbard, preservation of Norwegian communities in the archipelago, rests on three main pillars.

Continued coal mining is essential for maintaining Longyearbyen as a family community. It is the Government's view that coal mining should continue within the strict framework set by environmental laws and commercial profitability and in a manner that supports the objective of Store Norske Spitsbergen Kulkompani to contribute to a robust community in Longyearbyen. At the same time, coal mining is based on a non-renewable resource. It is also vulnerable to fluctuations in the price of coal. Unforeseen events can have serious consequences on operations. In view of this, the Government is of the opinion that an effort should be made to facilitate research, education and tourism in a way that will ensure a robust basis for settlement in Longyearbyen in the longer term as well, and be compatible with the objectives of Norwegian Svalbard policy.

Tourism in Svalbard ultimately depends on pristine nature. For that reason, ecotourism appears to be a suitable niche for the archipelago that can be developed further, well adapted to the constraints set by the Svalbard Environmental Protection Act and a natural focus area for the tourism industry in Svalbard. Today, a wide array of activities is offered, from cruises covering large parts of the archipelago to activities based in the Longyearbyen area such as kayak trips, hikes, ice caving and dog-sledding and snowmobile safaris. There is a potential for further development of tourism in Svalbard, particularly outside of the high season. Such development must be within strict safety and environmental limits. The tourism industry is consciously targeting the course and conference market, which has helped to improve occupancy for accommodations businesses. However, seasonal fluctuations are a challenge for maintaining year-round jobs in the tourism industry in Longyearbyen.

There is fishing in the territorial waters around Svalbard, and in the Fisheries Protection Zone surrounding Svalbard. Fisheries in the territorial

waters around Svalbard are discussed in detail in section 9.3.

Svalbard's geographic location is, as has been mentioned, ideal for space-related activities, for studying the atmosphere and downloading satellite data. Substantial investment in infrastructure, primarily through a fibre-optic cable to the mainland, as well as at the SvalSat satellite downlink station outside Longyearbyen, has made Norway a significant international player in the area of downloading satellite data. Satellite data downloaded in Svalbard is used increasingly for monitoring sea-ice conditions, oil pollution and ship traffic. There is every reason to believe that since the need for space-related services will continue to grow in the years to come, particularly in areas such as civil protection, the environment and climate, these services may continue to be a growth industry in Svalbard.

1.7 Longyearbyen and the other local communities

As discussed above, since the previous Report to the Storting on Svalbard, Longyearbyen has consolidated its position as a modern family community, with a well-developed public infrastructure and a generally good array of services. However, it is the policy of the Government that Longyearbyen not become a "cradle-to-grave" community.

The effort to bring about a more varied economy in Longyearbyen has been a success and has resulted in the emergence of tourism, retailing, education and research as complementary and alternative industries to coal mining. The number of businesses in Longyearbyen has risen in such areas as retailing and service production. For that reason, the array of private services in all in Longyearbyen is relatively ample, even compared with what mainland communities of similar size offer.

Substantial investment has been made in Longyearbyen's infrastructure in the past decade. Besides the aforementioned research-related infrastructure, a new terminal building has been built at the airport, the school has been expanded, a day-care centre has been expanded and a new one built, and a new reserve power station has been built, among other projects.

While Longyearbyen has seen considerable growth in the past decade, both in population and in the level of activity, the activity in Barentsburg has been substantially reduced. At the same time, the foreign presence has increased in Longyearbyen and Ny-Ålesund. Research and tourism in particular have brought foreigners from several nations to the archipelago.

1.8 Sea and air – transport, safety, search and rescue and emergency preparedness

Together with greater activity in the High North, an increase in sea transport in the waters around Svalbard poses new challenges to maritime safety efforts concerning Svalbard. The increasing traffic must primarily be met by preventive measures that reduce the likelihood of accidents and that limit the impacts if accidents occur. For that reason, a number of measures have been introduced in this area since the previous Report to the Storting on Svalbard. By evaluating further measures to improve safety at sea around Svalbard, the Government's objective is to lower the risk of unwanted incidents connected with maritime transport around Svalbard, to avoid harm to life, health or the environment.

Maritime safety measures implemented around Svalbard in recent years have made the level of safety closer to that along the mainland coast. A key challenge will be adequately monitoring developments in ship traffic. This will provide ample opportunities to analyse trends, so that necessary measures such as regulations and development of maritime infrastructure, services and emergency preparedness can be carried out.

The increase in activities is also reflected in greater aircraft and helicopter traffic. Continued growth in this area may result in a need for increased safety measures, e.g. in the form of air traffic control services and the development of radar coverage.

The Office of the Governor is the central body for planning and crisis management in the area of civil protection and emergency preparedness in Svalbard. The public emergency search and rescue service around and in Svalbard, comprises the Office of the Governor's two helicopters and service vessel. In addition, the Norwegian Armed Forces support the Governor with the resources available at any given time. As has been mentioned, in the future, Longyearbyen may be an even more important base for search and rescue missions in the area. Emergency preparedness of this sort is a natural part of Norway's exercise of authority in Svalbard.

2 Background – purpose of the report

The objectives of Norwegian policy towards Svalbard have remained unchanged for a long time and lay the groundwork for a stable and predictable exercise of authority and community development in the archipelago. These objectives remain firm. Even so, how best to achieve them must be assessed regularly in the light of new challenges and trends. It is especially the increase in activity

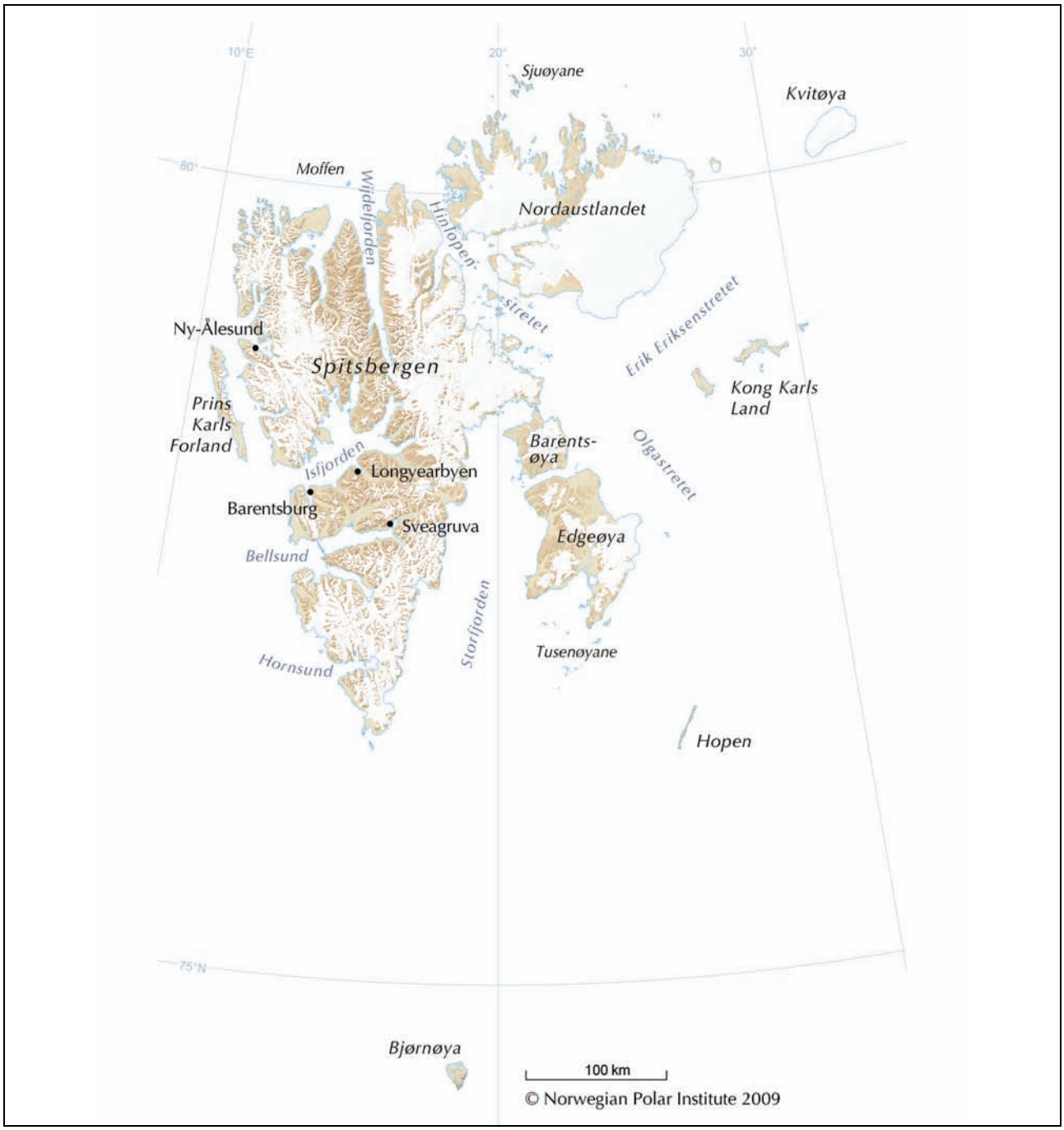


Figure 2.1 Map of Svalbard

and the rapid climate changes in the Arctic and the significance this has for the environment and activity in the area that indicate a need for a new Report to the Storting on Norwegian Svalbard policy.

At intervals of around ten years, three comprehensive reports on Svalbard were submitted to the Storting. The previous report (Report No. 9 (1999–2000) to the Storting, Svalbard) was submitted in 2000. In addition, in 2007 the Office of the Auditor General conducted a performance audit of Svalbard and in Document No. 3:8 (2006–2007), The Office of the Auditor General's Investigation of the Management of Svalbard, recommended a new comprehensive review of Svalbard policy. The Storting followed this up in its deliberation of the report, and in Recommendation No. 46 (2007–2008) to the Storting, Recommendation from the Standing Committee on Scrutiny and Constitutional Affairs, requested a new Report to the Storting on Svalbard during the current Storting period (2005–2009).

In view of this, in December 2007 the Government decided to start work on a new Report to the Storting in order to capture developments during the past ten years and point out key challenges and describe how they are to be met.

2.1 The objectives of Norwegian policy towards Svalbard

The Treaty of 9 February 1920 concerning Spitsbergen (the Svalbard Treaty) recognises "the full and absolute sovereignty of Norway over the Archipelago of Spitsbergen". Pursuant to the Act of 17 July 1925 relating to Svalbard (Svalbard Act), Svalbard forms a part of the Kingdom of Norway. Norway has an important responsibility to administer the archipelago in a way that ensures peace, stability, protection of natural wilderness and responsible resource management. The basis for Norwegian administration of Svalbard is that Norway not only has the right to exercise authority within the framework set by the Treaty, but also has an obligation to enforce its sovereignty in a proper and credible manner. This is particularly important because the Svalbard Treaty grants nationals and companies from signatory countries equal liberty of access and entry and freedom to engage in certain kinds of activities, a situation reflecting the archipelago's long history of foreign settlements and activities. Norway alone, in virtue of its sovereignty, is responsible for ensuring that this is complied with. At the same time Norway has an obvious right to safeguard its national interests in Svalbard as long as these interests do not conflict with the provisions of the Treaty or international law.

The overriding objectives of Norwegian policy towards Svalbard are:

- Consistent and firm enforcement of sovereignty.
- Proper observance of the Svalbard Treaty and control to ensure compliance with the Treaty.
- Maintenance of peace and stability in the area.
- Preservation of the area's distinctive natural wilderness.
- Maintenance of Norwegian communities in the archipelago.

These objectives have remained unchanged for years, and they enjoy broad political support.

Though its responsibility for coordinating Norway's Svalbard policy, the Ministry of Justice and the Police is responsible for submitting this report on Svalbard to the Storting. In keeping with the fact that specific responsibilities for the various aspects of Svalbard policy rest with the competent ministries, work on this report involved a number of ministries.

The Government has set out three main topics for this Report:

- A robust presence in Svalbard – with particular attention to the future prospects of coal mining operations.
- Svalbard as one of the world's best-managed wilderness areas – tourism and other traffic.
- Svalbard's role as a platform for Norwegian and international research, knowledge and education

The challenges discussed in this report must be viewed in the context of the overriding objectives of Norwegian Svalbard policy. Like the previous Reports to the Storting on Svalbard, this report, too, will describe objectives, challenges and possible measures for Svalbard, i.e. the area within the scope of the Svalbard Treaty, which is the territory and territorial waters out to 12 nautical miles from the baselines (mean low water marks). It is also this area that comes under the Governor's jurisdiction and the Svalbard budget.

2.2 Svalbard and the High North

Svalbard policy is an important instrument for Norwegian authorities for achieving their aims in Svalbard, but not the only one. Precisely because the archipelago is an integral part of the realm, Sval-

bard is also covered by a number of other, general policy areas. This Report is aimed especially at the objectives, priorities and policy instruments that apply particularly to Svalbard.

The Soria Moria Declaration designated the High North as the Government's most important strategic priority area, and in this connection the Government has formulated a separate High North strategy. Svalbard is a crucial part of the High North, and continued effective and appropriate Norwegian administration of Svalbard, in keeping with the objectives of Norway's Svalbard policy, will help to strengthen and deepen our presence in the High North. This Report to the Storting is based on the guidelines set forth in the High North strategy. The strategy's place in the report will vary by topic and context.

The High North, including Svalbard, is among the areas in the world seeing the biggest impact of climate change. At the same time, the areas are generally characterised by increased activity. Climate models point to the Arctic as the area on earth that will experience the fastest and greatest warming as a consequence of higher concentrations of greenhouse gases. This can be expected to have serious consequences for the ecosystems and many Arctic species and will pose big challenges to environmental management. For society and activities in the Arctic, climate change will present challenges as well as new opportunities. This fact is an important backdrop for the report.

Norway's relationship with foreign players in Svalbard is characterised by candour and cooperativeness, and the foreign policy climate has been favourable since the submission of the previous report on Svalbard to the Storting. Viewed in this perspective, the current situation must be characterised as good. A further objective is both to exercise authority in a credible, consistent and predictable manner and for Norway to be at the forefront of proper management of the environment and natural resources in the High North. Key concepts in the High North strategy are environmental protection, responsible resource management, activity and knowledge. Thus the High North strategy underscores the importance of a robust Norwegian community in Longyearbyen and Svalbard's importance as a platform for international climate and environmental research. The strategy also underscores the ambitious environmental objectives for Svalbard and stipulates that environmental concerns are to outweigh other interests. The High North strategy is part of the background for possible measures discussed in the Report to the Storting.

2.3 Developments in Svalbard since 2000

Since the previous Report to the Storting there have been changes, both to the local social structures in Svalbard and to the external parameters of Norwegian Svalbard policy. In general, local developments can be outlined as follows:

- The development of infrastructure and services in Longyearbyen and Ny-Ålesund has continued. This is the main reason that total central government transfers to Svalbard have also increased through this period.
- The expansion and modernisation of the administration has continued. Even if local conditions dictate that the organisation of social life in the archipelago will differ in some respects from the mainland going forward as well, the constraints under which the Svalbard community operates will become more and more like those on the mainland. More laws and regulations will apply in Svalbard and they will be enforced consistently and equally.
- Local democracy in Svalbard is now in place through the establishment of the Longyearbyen Community Council.
- The trend towards greater diversification and privatisation of industrial and other business activity, particularly in Longyearbyen, has continued.
- Developments in the tourism industry have continued, and tourism has consolidated its position as a significant direct and indirect source of employment.
- The coal mining operations of Store Norske Spitsbergen Kulkompani AS have expanded, following a decline towards the end of the 1990s. However, industrial activity in Barentsburg has declined further since the previous report on Svalbard was submitted to the Storting.
- Svalbard has developed into an important platform for Norwegian and international research. During the 2000s South Korean, Chinese and Indian research stations were established in Ny-Ålesund, bringing the total number of foreign research stations in Ny-Ålesund to nine.
- There are clear signs that the climate in the Arctic and in Svalbard is getting warmer and that Svalbard has become increasingly important as a source of knowledge of anthropogenic climate change and its impact.
- Local environmental efforts in Svalbard have been bolstered substantially by the entry into

Box 2.1 Scenario for changes in climate in Svalbard

A regional climate model for the Norwegian Arctic has been run for the scenario periods 2021–2050 and 2071–2100. For Svalbard the model shows that we may be facing a rise in annual temperature of approximately 3°C in the south-west, and approximately 8°C in the north-east over the next 100 years. For the autumn and winter months the models show a rise of over 8°C in the north-east portions of Svalbard. For the summer, the models show a warming in Svalbard in the range of 2–4°C. At the same time, precipitation is expected to increase by 10–40 per cent, while snow depths are reduced on account of a shorter winter season. According to the model, wind speeds will increase, especially in areas where the sea-ice disappears. Strong winds will occur more frequently.

The expected change in annual mean temperatures from the 30-year period 1961–1990 to the 30-year period 2071–2100 is based on the NorACIA regional climate model. The green shows the lowest expected temperature rise, and the red shows the greatest expected rise. Note the sharp rise in temperatures in the farthest east in Svalbard and the considerable dissimilarity across Svalbard.

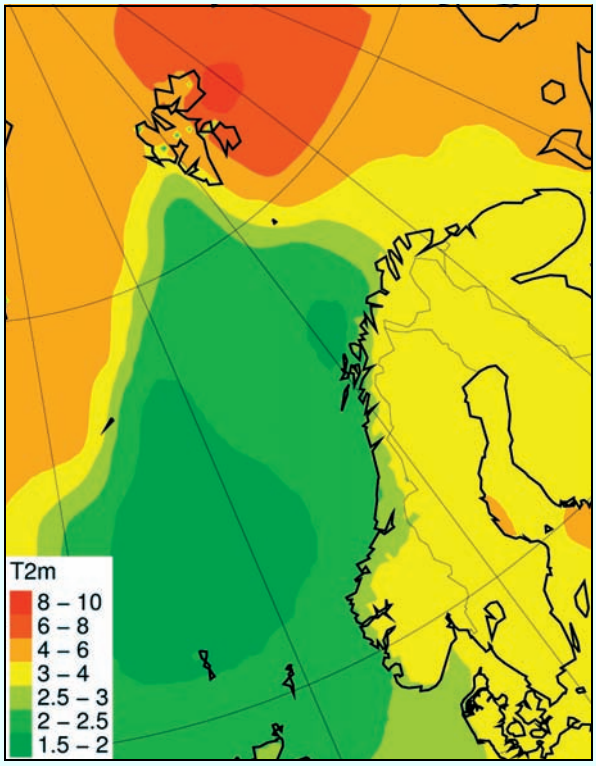


Figure 2.2 Scenario for changes in climate.

Source: met.no (2008). NorACIA's climate scenarios for the Norwegian Arctic.

force of the Svalbard Environmental Protection Act and creation of new protected areas, among other measures.

The only settlements in Svalbard that can be called local communities in the usual sense are Longyearbyen and Barentsburg. The Russian mine in Pyramiden was closed down in 1998. The development of infrastructure and services more or less tailored to families began in the 1970s and expanded in the 1980s in Longyearbyen. The expansion in Longyearbyen accelerated in the 1990s. On the other hand, the Russian mining community has been reduced substantially on account of limited activity, and mining operations have now been suspended. Currently, approximately 2,500 persons are registered as residing in the archipelago, broken down as follows: 2,050 in Longyearbyen and Ny-Ålesund and approximately 450 in Barentsburg. However, when the previous report on Svalbard was submitted to the Storting, the ratio was approximately 1,425 to around 940.

At the same time as the number of foreign nationals in Svalbard has declined since the previous report, the foreign presence in Longyearbyen and Ny-Ålesund has increased. Research and tourism in particular have led to the influx of foreigners from several nations to Svalbard.

Since 1920 the main purpose of Norwegian Svalbard policy has been to keep the archipelago out of conflicts between the great powers and ensure credible Norwegian governance of the archipelago. This has been achieved by consistent compliance with the provisions of the Treaty and maintenance of Norwegian activities, of which coal mining has been the most crucial. In recent years, private business activity and research have expanded considerably in scope. Coal mining, tourism, and research currently represent a substantial portion of activity in the archipelago. The changes that have taken place in Svalbard since the previous general report was submitted to the Storting fully demonstrate the importance of an overall Svalbard policy that is sufficiently sound and flexi-

ble enough to tolerate changes in operating parameters. For that reason, all sector policy for the archipelago must be based on the overriding objectives of Norwegian Svalbard policy.

2.4 Climate change – challenges and opportunities

Temperatures in the Arctic are expected to rise twice as fast as the global mean. During the past 100 years annual mean temperatures in the Arctic have risen on average approximately 2°C. The sea-ice has retreated and become thinner, and glaciers as well as areas covered by snow year-round are shrinking. The Arctic ocean is also becoming warmer, and on land more and more of the permafrost is melting. Where the sea-ice is retreating, coasts are subject to erosion from an increase in wave activity. Changes in climate and ice conditions are already affecting Arctic fauna. The melting of the permafrost and greater coastal erosion will also result in damage to settlements and infrastructure in many places in the Arctic.

In autumn 2008, the average temperature in the Arctic was 5°C above the long-term normal, and the sea-ice in the polar basin was 30 per cent below the average for the period 1979–2000. Melting from the Greenland ice sheet in summer 2008 was the highest since measurements began in 1970, and for the first time in recorded history, the Northwest Passage and Northeast Passage were ice free at the same time. (Arctic Report Card 2008 NOAA/Arctic Council).

2.4.1 Svalbard in a global context

While the mean temperature in Svalbard has soared in recent years, the glaciers have receded and the permafrost is warmer than before. During the winters of 2005–2008 there has been little ice in the fjords on the western side of Svalbard, where warm Atlantic water has penetrated all the way to the coast. Both anthropogenic warming and natural fluctuations may be of importance for such changes. According to the UN Intergovernmental Panel on Climate Change (IPCC), anthropogenic impacts on the climate are accelerating, and the observable changes in Svalbard are probably only the beginning of a rapid transformation towards a warmer Arctic and new climatic conditions. Based on IPCC scenarios for average growth in emissions, it is estimated that already in 2050, between 14 and 37 per cent of the world's species will have disappeared or be threatened by swift extinction as a consequence of climate change. The Arctic has been singled out as one of the regions where it is assumed that impacts of climate change on species and ecosystems will be greatest and occur first.

How ice, snow, permafrost and ocean circulation react to rising temperatures is also of great importance for the global climate. The Arctic snow and ice cover serves as a mirror reflecting most of the solar energy back into space. For that reason the size of areas covered by ice and snow matters a great deal for both Arctic temperatures and the thermal balance of the Northern Hemisphere.

Box 2.2 Ivory gull

The ivory gull is a characteristic species of high Arctic areas, living in ice-covered waters all year-round. It lives on crustaceans and fish it finds in the pack ice, which is why it is dependent on the sea-ice for survival. The ivory gull nests in the northern reaches of Canada, Greenland, Svalbard and Russia. Studies done in Canada have documented an 80 per cent decline in Canadian populations during the past 20 years. The decline is attributed to reductions and changes in the extent of sea-ice and higher levels of environmental toxins. In Canada the species is now facing extinction in most of its nesting areas. Studies conducted in Svalbard and in Russia indicate that besides reduced extent of sea-ice, the ivory gull is also affected by environmental toxins. The species is exposed to high levels of PCBs and DDT, substances that interfere with the birds endocrine systems and reduce eggshell thickness. The consequences are lower reproduction and survival rates.

Figure 2.3 Ivory gull

Photo: Hallvard Strøm, Norwegian Polar Institute

When snow and ice melt, most of the solar energy is absorbed by open water and bare ground. This amplifies the warming and leads to further melting. This positive feedback mechanism makes the process self-reinforcing.

More rapid warming of the Arctic due to shrinkage of snow and ice cover can also amplify and accelerate other processes with potentially serious consequences for the global climate.

2.4.2 Local impacts in Svalbard

The risk that many species of living organisms can disappear from the Svalbard area or die out must be regarded as high and depends on how quickly the climate changes and the pack ice retreats. It is assumed that the risk is greatest for species and ecosystems dependent on sea-ice, but a number of other species may also be at risk.

In addition, climate change will also make many species and ecosystems more vulnerable to other kinds of impacts. Less ice will make many areas more readily accessible to activities that can have an adverse environmental impact. When the temperature rises, it will be easier for new species to establish themselves in Svalbard. This may pose a threat to species naturally occurring there today.

The significance of climate change for Svalbard is on several levels. On the one hand, Svalbard has become a key area for gathering knowledge about what happens when temperatures in the Arctic rise and how this may impact the climate in other places on earth. This puts Svalbard at the centre of the biggest environmental challenge the world community faces today. A better understanding of climate processes in the Arctic is crucial for efforts to reduce global greenhouse gas emissions and for efforts to adapt society to the climate changes that now appear to be unavoidable. This underscores the importance of making full use of the opportunities Svalbard offers as a platform for Norwegian and international climate and environmental research.

On the other hand, climate change will have growing, direct significance for nature management in Svalbard, in that the physical environment and ecological conditions may be substantially changed, cf. Chap. 8. Climate change will also affect transport and the dispersal in the environment of various toxins that is brought to the Svalbard area by air and ocean currents.

Climate change will also have a direct impact on buildings and infrastructure in Svalbard, and thus on land-use and social planning. Changes in precipitation and increased melting of the surface layer in the summer may put settlements at greater risk of landslides and floods. Greater melting can also lead to failure in the foundations of buildings and other infrastructure. Cultural monuments, too, will be more exposed to coastal erosion and decay. These processes will accelerate as climate becomes milder and wetter.

2.4.3 A new era – challenges and opportunities

A milder climate and the retreat of sea-ice may result in vulnerable areas becoming more easily accessible to traffic and other activity. For Svalbard this pertains especially to cruise tourism, fisheries and other ship traffic. On the other hand, reductions in fjord ice in spring may also make some areas less accessible to motorised traffic. All together, the result can be an increasing need to control traffic and other activity to limit the impact and risk of pollution.

Today, the ship traffic around Svalbard primarily consists of cruise and freight traffic, research-related traffic and fishing. Recent trends indicates that ship traffic to Arctic areas will increase both in volume and extent. Trawling for cod is moving ever northward and now takes place as far north as Isfjord (78 degrees north), at almost the same latitude as Longyearbyen.

Even if this Report to the Storting particularly concerns the archipelago as such, it is important to see coming opportunities and challenges also in a broader context. In the longer term, an increasingly ice-free Arctic Ocean may also open completely new routes to international shipping between east and west. The shortest route through the Arctic Ocean from the major shipping ports on the European continent passes directly west of Svalbard. At the same time, the seas north of Greenland and Svalbard are likely to be the most challenging and risky for shipping. This may pose considerable future challenges, not least with regard to search and rescue and pollution clean-up operations. It will have to be expected that Longyearbyen will become increasingly important as a base for rescue and pollution clean-up operations in the Arctic seas. A growing need for other maritime services must also be addressed. Greater demand for energy and easier accessibility may also mean a greater interest in petroleum activities in Arctic waters, near Svalbard as well.

The Svalbard Environmental Protection Act, which entered into force in 2002, is an important framework act that, along with other relevant regulations for Svalbard, will be a key instrument for

dealing with the various challenges the archipelago will face in the coming years. With regard to developments in the big picture, i.e. for the seas beyond Svalbard, different instruments and processes will provide a framework for dealing with them. Even so, it is important to consider these trends in context.

In 2006 the Government submitted Report No. 8 (2005–2006), Integrated Management of the Marine Environment of the Barents Sea and the Sea Areas off the Lofoten Islands, to the Storting. The plan is intended to clarify the overriding framework for existing and new activity in these ocean areas. Pursuant to the management plans, no petroleum activities are to be initiated in a 65 km zone around Bjørnøya and in the marginal ice zone and at the polar front. For a detailed discussion of limitations on any petroleum activity in the territorial waters around Svalbard, see sections 7.4.3 and 9.5.

A warmer Barents Sea may lead to changes in the ranges of important fish stocks. Some of these displacements may occur gradually, depending on whether new spawning grounds further north and east are made use of. It is expected that cod will continue to spawn along the coast of northern Norway. For capelin, possible spawning grounds in a warmer ocean may move to Svalbard, Novaya Zemlya and Franz Josef Land. (Source: NorACIA report 2008: Klimaendringer i Barentshavet (Climate Change in the Barents Sea)).

The Marine Resources Act provides guidelines for managing living marine resources. It is vital to Norwegian fisheries management for the harvesting of living marine resources to be sustainable. Shared stocks in the Barents Sea are managed by the Joint Norwegian-Russian Fisheries Commission on the basis of scientific advice from the International Council for the Exploration of the Sea.

2.5 The Office of the Auditor General's performance audit of Svalbard

The Office of the Auditor General conducted a performance audit of Svalbard, Document No. 3:8 (2006–2007), The Office of the Auditor General's Investigation of the Management of Svalbard, which was concluded and submitted to the Storting in spring 2007. The Office of the Auditor General points out that striking a balance between a robust Norwegian presence and keeping the environment as pristine as possible serves to complicate the governance and management of Svalbard. The investigation emphasises that the interests of income and the environment need to be addressed on the basis of overall considerations of a sustainable economy and strict environmental standards. The Government wishes to underscore the fact that these interests are recurring issues in this report, which the authorities are keen on balancing in the formulation of Svalbard policy.

The Office of the Auditor General also points out a need for more specific knowledge about the impact of traffic, research and tourism. The Government is also concerned about the total burden on the vulnerable Arctic environment and elucidates this in particular in Chap. 7 Environmental protection.

In view of community development, particularly in Longyearbyen, the Office of the Auditor General has asked whether there is a need to consider whether more acts of law ought to apply to Svalbard. In its discussion of the report by the Office of the Auditor General, the Storting also points out the importance of this, cf. Recommendation No. 46 (2007–2008) to the Storting by the Standing Committee on Scrutiny and Constitutional Affairs. Legislation is one of the most important instruments for effective exercise of authority and proper administration of Svalbard. Owing to the special conditions in Svalbard, the Svalbard Act contains a separate principle for the application of laws to the archipelago. In the report, legislative issues are an important topic, to which Chap. 5 Legislation is devoted in full.

In the discussion in the Storting of the Office of the Auditor General's investigation of the management of Svalbard, a wish was also expressed to illuminate a number of other issues in the report. Besides the aforementioned topics, the Storting pointed to maritime safety, the challenges related to managing Svalbard, population trends and future of coal mining as a principle industry, as especially important. In this Report to the Storting the Government discusses all of these issues, in addition to the other topics that the Storting drew its attention to in its consideration of the Office of the Auditor General's report.

3 Framework under international law

3.1 Basis for Norwegian sovereignty

Norwegian sovereignty over Svalbard is undisputed. Sovereignty means that a state has exclusive dominion over its territory and the exclusive right to exercise authority there, e.g. with regard to passing and enforcing laws and other rules. Norway's sovereignty is confirmed in the Svalbard Treaty and pursuant to general international law by tacit acceptance on the part of the other states. For that reason, all states – regardless of whether they are parties to the Svalbard Treaty – have an obligation to respect Norwegian sovereignty over Svalbard in the same manner as over the other parts of Norway.

3.1.1 The Svalbard Treaty

The Treaty of 9 February 1920 concerning Spitsbergen (the Svalbard Treaty) recognises Norwegian sovereignty over Svalbard. It entered into force on 14 August 1925, from which date Svalbard became an indivisible and inalienable part of the Kingdom of Norway through a separate act of law, the Svalbard Act (Act No. 11 of 17 July 1925). The Svalbard Treaty currently has 40 signatories ("High Contracting Parties").

In addition to restrictions on taxation and military activity in the archipelago, the Svalbard Treaty contains a number of provisions concerning the treatment of foreign nationals. Under the Treaty Norway has assumed an obligation under international law to treat equally nationals and companies from signatory countries in certain areas enumerated in the Treaty. Since the Treaty is an agreement under international law, only the signatory parties (states) may demand equal treatment by Norway on behalf of their nationals and companies. Since nationals and companies themselves are private legal persons, they cannot demand equal treatment directly from Norway on the basis of the Svalbard Treaty as an agreement under international law. The same applies to states that are not parties to the Treaty.

All private legal persons in Svalbard – natural persons and corporate bodies – must adhere to Norwegian rules and administration in the same manner as on the mainland.

A general assessment of the Svalbard Treaty was also provided in previous Reports to the Storting on Svalbard. The same applies to the Mining Code, which provides rules on the right to explore for, acquire and exploit natural deposits. Reference in this regard is made to Report No. 39 (1974–75) to the Storting concerning Svalbard, Report No. 40 (1985–86) to the Storting, Svalbard, and Report No. 9 (1999–2000) to the Storting, Svalbard. Report No. 40 (1985–86) to the Storting, Svalbard, contains a detailed discussion of legal issues, including those concerning the territorial scope of the Svalbard Treaty, the Norwegian continental shelf and fisheries jurisdiction and the baselines on the eastern side of Svalbard.

3.1.2 The outcome of negotiations and the significance of Norwegian sovereignty

The Svalbard Treaty came about as a result of negotiations during the Paris Peace Conference after the First World War in 1919. Previously Svalbard had been viewed by many states as so-called *terra nullius*, territory over which no state had sovereignty. The growing economic activity in Svalbard at the beginning of the 1900s necessitated a clarification of the archipelago's status. Prior to the First World War Norway held three international conferences at which the possibility of joint governance of the archipelago was discussed, but no agreement on this could be reached. Norway brought its case before the peace negotiations in 1919, arguing that the only "satisfactory and lasting solution would be to return the archipelago to Norway". At the same time Norway indicated that it had no objections to granting certain rights to foreign nationals. Various proposed solutions were discussed. The commission dealing with the case rejected a proposal whereby Norway would only administer Svalbard on behalf of the international community. Instead the committee voted unanimously to recognise full Norwegian sovereignty over Svalbard on certain conditions. This is essential for the understanding and interpretation of the Svalbard Treaty.

The outcome of negotiations is reflected in Article 1 of the Svalbard Treaty, which recognises Norway's "full and absolute sovereignty" over Svalbard. Norway has full control over Svalbard in accordance with the ordinary rules of international law. Certain international law limitations have been laid down in the Svalbard Treaty. Beyond these limitations, the Norwegian government has the same authority and may use the same instruments as in the rest of the country. This ensues from the wording itself and from the general principle of international law relating to treaty interpretation that restrictions on sovereignty must be explicitly authorised by the treaty. For that reason Norwegian sovereignty forms the basis for resolving – through legislation or other actions – all matters not affected by the Treaty, either because they are not mentioned in it or because they are not encompassed by the limitations on the actual exercise of authority under international law that are laid down in it.

Norway has the exclusive right to pass and enforce laws and other regulation for Svalbard. In the same way as on the mainland, the Norwegian authorities may regulate, permit, set conditions for, monitor and prohibit activities of any kind. This power to regulate ensues from sovereignty as such, but it is also presupposed directly in several provisions of the Treaty, e.g. Article 2 concerning nature preservation. For maritime, industrial, mining and commercial operations as mentioned in Article 3, it is even expressly stated that local laws and regulations must be observed.

Norway has an exclusive right to exercise authority over all nationals and companies – Norwegian as well as foreign – on the entire territory of Svalbard, on land, at sea and in the air. No other state may exercise governmental authority in Svalbard, not even vis-à-vis their own citizens. Such an exercise of authority would infringe Norwegian sovereignty.

Sovereignty and the fact that Svalbard is a part of the Kingdom mean that unless a special exemption is made, all international law agreements Norway enters into apply to Svalbard. Such an exemption has been made, for example, for the EEA Agreement, cf. section 3.2.1.

3.1.3 Principles of interpretation

In line with ordinary international law principles governing the interpretation of treaties, the Svalbard Treaty shall primarily be interpreted on the basis of the terms and expressions in the actual text. The point of departure for interpretation is the ordinary linguistic understanding of the terms and expressions, placed in their context in the Treaty. Moreover, one of the main objectives of the Treaty is to achieve final clarification of all outstanding issues of international law by recognising Norwegian sovereignty. This also provides predictability and clarity to the other signatories as well.

The original texts of the Treaty are French and English. It is these versions that are determinative for the legal content of the Treaty. These texts are the basis for the interpretation of the rights and obligations set forth in the Treaty, and no translations, not even into Norwegian, may be accorded weight in interpreting the Treaty.

3.1.4 Geographic scope of application

In the Svalbard Treaty, Svalbard is defined as "all the islands situated between 10 degrees and 35 degrees longitude East of Greenwich and between 74 degrees and 81 degrees North…together with all islands great or small and rocks appertaining thereto". The wording makes clear that only the actual islands within these coordinates are covered, i.e. land territory, and not surrounding waters. However, as a consequence of sovereignty over Svalbard's land territory, the actual territorial waters around the archipelago are included, i.e. the internal waters and territorial sea out to 12 nautical miles and the airspace above it. The wording of some provisions of the Treaty expressly makes clear that they pertain both to land territory and territorial waters.

3.1.5 Treaty limitations on the exercise of authority

Article 1 of the Svalbard Treaty recognises Norwegian sovereignty on the terms set forth in the Treaty. Limitations have not been placed on sovereignty as such, but on how Norwegian authority may be exercised in certain specifically defined areas. Thus, Norway has an exclusive right to exercise authority in these areas as well. The restrictions pertain especially to three matters: requirements for equal treatment, collection of taxes and duties and military matters.

a) Equal treatment/non-discrimination

Under the Svalbard Treaty Norway has an obligation to ensure equal rights for nationals and companies from signatory nations in areas defined in the Treaty itself. This is a requirement of non-discrimination on the basis of nationality for persons and

national affiliation for companies. This covers, among other things, hunting and fishing, access and entry, the engaging in certain types of industrial activity, and property rights, including mineral rights.

Nationals or companies from signatory states may not be in a disadvantaged position compared to Norwegian nationals or companies in these areas, and there may be no discrimination between nationals and companies from signatory states. Although the Treaty entails a prohibition against discrimination on the basis of nationality in specified areas, it does not entail unlimited or unconditional liberty for anyone to engage in activity in these areas. The equal treatment rule is not an obstacle to regulating or, if necessary prohibiting, an activity for other reasons. The right to issue such regulations ensues from Norway's sovereignty. The Treaty itself presupposes observance of local law and regulations as a condition for exercising some of the rights that the Treaty sets forth, e.g. in Article 3 concerning certain kinds of economic activity. Nor does the requirement for non-discrimination apply to all types of activity in Svalbard, but only to the areas specifically set forth in Articles 2 and 3 of the Treaty. Hunting and fishing, maritime, industrial, mining and commercial enterprises are covered by the requirement for equal treatment. What in a particular instance is covered by the requirement for equal treatment must be considered case-by-case on the basis of an interpretation of the Treaty, in accordance with the principles *inter alia* concerning wording and context mentioned above.

b) Taxes, duties, etc.

Pursuant to Article 8 first paragraph of the Svalbard Treaty, Norway is obligated to adopt mining regulations that may not by way of taxes or charges of any kind grant privileges, monopolies or other favours for the benefit of the Norwegian state or nationals of any signatory state. Pursuant to the wording this applies only to mining activities. Norway laid down such a mining code in the Royal Decree of 7 August 1925, in which the principle of equal treatment is enshrined in Section 2. It ensues from Article 8 second paragraph of the Svalbard Treaty, that taxes, dues and duties may be imposed in Svalbard only if they are necessary. Such taxes, dues and duties "shall be devoted exclusively to" Svalbard and may not be used for purposes on the mainland or for e.g. development aid. Even so, as long as the effect of the use of these revenues occurs in Svalbard, it ensues from the wording and intent that the actual spending of tax revenues may occur other places, e.g. on purchases on the mainland of equipment etc. to be used in Svalbard.

The purpose of this taxation is the needs in Svalbard, and it is a matter of discretion what these may be. Administration, public services and infrastructure, such as airports and search and rescue services are needs that justify such taxation. It is also assumed that previous deficits in the Svalbard budgets may be covered by such taxation, since these are central government expenditures for operations, measures, investment etc., that have exclusively been devoted to Svalbard.

The limitations in Article 8 second paragraph do not cover payment for public services when there is authorisation to require such payment. Nor is payment for private services pursuant to contract covered by the limitations.

According to Article 8 third paragraph, Norway may levy an export duty on exports of minerals, and there are instructions for determining how much the duty may be in relation to the quantity exported.

c) Use for warlike purposes and other military matters

In principle, Norway has full right of control in the military and defence field in virtue of its sovereignty. Nevertheless, Article 9 of the Svalbard Treaty sets out limitations on the exercise of sovereignty with regard to creating – or allowing the establishment of – naval bases, constructing fortifications and the use of Svalbard for warlike purposes. These limitations – in particular the prohibition against use for warlike purposes – must be viewed in light of the preamble of the Treaty. Here the parties state that in recognising Norwegian sovereignty they wish for Svalbard to be "provided with an equitable regime" to ensure its development and peaceful utilisation.

In virtue of its sovereignty, Norway has a special duty to ensure that no one violates the prohibition against using Svalbard for warlike purposes, which is general and applies to all signatories. However, the provision is not a prohibition against all military activity. It addresses acts of war or activities for the purpose of waging war. Thus, defensive actions and other such military measures are not covered by the wording. This affects the core of sovereignty, and for that reason this provision is interpreted strictly.

The prohibition against naval bases means that no permanent military installation may be established for the purpose of stationing and providing

military vessels with supplies or services that are normally offered at a naval base. However, the provision is no obstacle to the Norwegian Coast Guard and other vessels on port calls in Svalbard receiving services and supplies from civilian suppliers as needed.

The prohibition against fortification addresses particular physical structures that are reinforced to withstand attack and also usually equipped with artillery positions. For this reason it does not affect any and every installation or structure of a military nature or significance.

There is therefore no blanket prohibition against all Norwegian military activity in Svalbard. For example, calls by Norwegian naval vessels or Coast Guard ships or visits by Armed Forces' aircraft or military personnel do not infringe the Treaty and are in keeping with long-established practice. Moreover, Norway may individually and collectively implement defensive measures in wartime or if there is a threat of war.

Norwegian policy has been designed to ensure proper compliance with the Treaty and a restrictive practice as regards Norwegian military activities in Svalbard. In dealing with this question in practice, particular emphasis has been placed on factors such as frequency and duration, the nature of the units and whether there is a real need for carrying out the operation. For example, in view of the duties the Norwegian Coast Guard has in the waters around Svalbard, frequent calls by Coast Guard vessels are natural.

Moreover, in a declaration in 1971 to the signatories, Norway stated that the airport in Longyearbyen "is to be reserved exclusively for civil aviation". The declaration is a self-imposed restriction and was issued independently of the Svalbard Treaty. The purpose of the flight is crucial for determining what is to be regarded as "civil aviation". Thus, military aircraft on civilian missions are given permission to use the airport, e.g. Armed Forces aircraft in connection with search and rescue operations and Coast Guard missions.

All foreign military activity in Svalbard is prohibited and would entail a gross infringement of sovereignty. Unless they involve innocent passage through territorial waters, foreign military and civilian government vessels wishing to enter Norwegian territorial waters around Svalbard must apply well in advance for diplomatic clearance. The same applies to calls at ports in Svalbard and landings at airports. The requirement for such clearance ensues from ordinary international law, but for the sake of clarity is also laid down in Regulations of 2 May 1997 concerning access and entry to Norwegian territory in peacetime for foreign military and civilian government vessels. The Norwegian authorities follow very restrictive practice with regard to granting such clearance.

3.1.6 Research and other matters

The Svalbard Treaty does not regulate research. However, Article 5 second paragraph has a provision whereby conventions shall be concluded to lay down the conditions for conducting scientific research. The provision says nothing about which conditions shall apply, nor was it ever followed up. It is therefore up to the Norwegian authorities, in virtue of sovereignty, to lay down the regulations of research activity that are deemed appropriate.

The same applies to other matters not affected by the Treaty. The Norwegian authorities regulate and administer these areas in virtue of Norwegian sovereignty. To the extent the Norwegian authorities should choose to lay down rules in these areas or otherwise exercise equal treatment, this is done for reasons other than being so obligated under the Svalbard Treaty.

3.2 International agreements of particular importance to Svalbard

All of the international agreements by which Norway is bound also apply to Svalbard subject to any special exception.

3.2.1 The EEA Agreement and the agreement with the EU

When Norway ratified the EEA (European Economic Area) Agreement in 1992, Svalbard was excluded from its application. The reason was the special circumstances ensuing from Norway's obligations under international law under the Svalbard Treaty. For rules pursuant to Norway's obligations under the EEA Agreement to apply to the archipelago, the relationship to parties to the Svalbard Treaty that are not members of the EEA would have to be clarified on account of the principle of non-discrimination in the areas where this principle applies. However, the Free Trade Agreements between Norway and the European Economic Community and the Convention establishing the European Free Trade Association continue to apply to Svalbard. Free trade in goods is of great significance for Norway's export of coal from Svalbard to Europe.

During the membership negotiations with the European Communities (EC, now the European Union, EU) in 1972, an exception was made for Svalbard in the Accession Agreement. Also during the membership negotiations with the EU in 1994, Norway and the EU agreed that Svalbard should be exempted from membership of the EU. A separate protocol to the Act of Accession on Svalbard was negotiated which stipulated in Article 1 that the treaties on which the European Union is founded do not apply to Svalbard.

3.2.2 The WTO Agreement, including GATT and GATS

In connection with the entry into force of the agreement to set up the World Trade Organisation (WTO) on 1 January 1995, no general reservations concerning Svalbard were made, nor in the subsidiary agreement. The WTO was created on the basis of the previously concluded General Agreement on Tariffs and Trade (GATT), which entered into force on 1 January 1948. GATT does not contain reservations for Svalbard either. The prime objectives of GATT is non-discrimination and reduction and elimination of tariff and trade barriers, and in all its essentials the agreement harmonises with the Svalbard Treaty's requirement for non-discrimination.

In practice, GATT has not had any particular significance for Svalbard, because pursuant to the Customs Act (Act No. 119 of 21 December 2007 relating to customs and the importation of goods) Svalbard is outside the Norwegian customs area. Therefore, goods imported to Norway from Svalbard are subject to customs clearance. Goods originating in Svalbard are exempt from duty according to the provisions of the tariff schedule. Svalbard is in practice a duty-free area.

In the General Agreement on Trade in Services (GATS), which entered into force simultaneously with the WTO Agreement, Norway reserved the right to clarify at a later date the agreement's application in Svalbard in view of the laws and rules applying there. A more detailed account of the application of the WTO Agreement and appurtenant agreements in Svalbard is to be found on page 170 of Proposition No. 65 (1993–1994) to the Storting on the outcome of the Uruguay Round (1986–1993) and on consent to ratification of the Agreement establishing the World Trade Organization (WTO), etc.

3.2.3 The Schengen Agreement

The Schengen Agreement was established in 1985 and currently has 26 European member states. The purpose of the agreement is to replace border posts and border controls between member states with controls on the area's external borders. Because Article 3 of the Svalbard Treaty gives all nationals equal liberty of access and entry to Svalbard, the archipelago is not covered by this agreement. For more on the Schengen Agreement, see Chap. 5 Legislation.

4 Main objectives and instruments

4.1 Objectives of Norwegian policy towards Svalbard

4.1.1 The overriding objectives remain unchanged

The objectives of Norwegian Svalbard policy have remained the same for a long time and are set out in Report No. 40 (1985–86) to the Storting concerning Svalbard and Report No. 9 (1999–2000) to the Storting, Svalbard. These objectives have been repeated in subsequent Storting documents concerning Svalbard and are reaffirmed annually when the Svalbard budget is approved. The Government's overriding objectives for its policy towards Svalbard are:

- Consistent and firm enforcement of sovereignty.
- Proper observance of the Svalbard Treaty and control to ensure compliance with the Treaty.
- Maintenance of peace and stability in the area.
- Preservation of the area's distinctive natural wilderness.
- Maintenance of Norwegian communities in the archipelago.

During the previous overall review of Svalbard policy in 2000 there was broad cross-party agreement in the Storting on these objectives. The objectives as well as the consensus surrounding them are regularly reiterated when matters concerning Svalbard are debated in the Storting. The Government attaches importance to a continuation of this broad political agreement on Svalbard policy. Various governments have stated that the objectives need to be seen in context and that they are within the general goals for Norwegian policy towards ensuring national security and territorial integrity. The objectives are to be within the framework of international law and contribute to international détente and peace. They are securely rooted in national interests and attitudes and accord with the treaty obligations Norway undertook when its sovereignty over the archipelago was internationally recognised. For that reason the objectives serve to meet the international expectations placed on Norway.

At a time when the Arctic is attracting greater interest, Svalbard policy is intended to help ensure that developments in the High North take place in a peaceful manner and that conflict is avoided. Moreover, by facilitating Svalbard as a platform for Norwegian and international research, Svalbard policy is to contribute to a better understanding of climate change. The Government attaches considerable importance to Svalbard's role in this connection, because the knowledge that can be obtained there will be of great significance for efforts to limit greenhouse gas emissions and as a basis for necessary adaptation to the climate changes that must be regarded as inevitable.

In view of this, the Government sees no reason to change the overriding objectives of Norwegian policy towards Svalbard. The objectives create a sense of security, continuity and predictability in the administration of the archipelago that is not only in Norway's interest but in that of other countries as well. The following is a review of how the main objectives along with other goals for the archipelago are realised in the implementation of Svalbard policy.

4.2 Review and discussion of the objectives

4.2.1 Effective exercise of sovereignty

The administration of Svalbard has reflected the overriding objectives of Svalbard policy. The Government believes that this has made a solid contribution to predictable and proper administration of the area and management of its resources. In a long-term perspective it is also important to ensure Norwegian presence through a community in Longyearbyen that continues to be robust.

4.2.2 Preservation of the area's unique natural wilderness – environmental protection

Preservation of Svalbard's unique wilderness has long been one of the overriding objectives of Svalbard policy. The basis of current environmental protection policy is the objectives for preserving

Svalbard's natural wilderness as they are described in Report No. 9 (1999–2000) to the Storting, Svalbard, which the Storting endorsed in its debate on this report (Recommendation No. 196 (1999–2000) to the Storting). The main objectives of environmental protection in Svalbard in Report No. 9 to the Storting have been reaffirmed several times by various governments and Stortings since the report was submitted nearly ten years ago. These objectives also underlie Act No. 79 of 15 June 2001 relating to environmental protection in Svalbard (Svalbard Environmental Protection Act) and its accompanying regulations.

Svalbard has a unique natural wilderness, and flora and fauna that are very rich in an Arctic context. With the exception of the settlements and adjacent areas, the archipelago as a whole is still predominantly a large contiguous wilderness area. An aim is for Svalbard to be one of the world's best-managed wilderness areas. In recent years Svalbard has been given new, up-to-date environmental rules and extensive protection that are meant to ensure that human presence and activity are kept within the bounds set in the interest of preserving the archipelago's unique natural wilderness. The Svalbard Environmental Protection Act is largely framework legislation that sets forth the main principles governing the management of the archipelago's environment. For that reason a number of regulations have been issued to supplement the Act. The objective of the Act is to maintain a virtually undisturbed environment in Svalbard with regard to continuous wilderness, landscape elements, flora, fauna and cultural monuments. Within this framework, the Act allows room for environmentally benign settlement, research and industrial and other economic activities.

Today, 65 per cent of the land area and 87 per cent of the territorial waters in Svalbard are subject to special protection beyond that ensuing from the Svalbard Environmental Protection Act. The Government believes that such extensive protection is vital for meeting the objective of preserving Svalbard's natural wilderness and that the need to learn more about the impacts of climate change in the Arctic make these protected areas more important as reference areas for research.

Environmental protection is an integral part of a coherent Svalbard policy, which stipulates that environmental considerations are to prevail when they conflict with other interests. This entails that the various sectors in Svalbard also have a separate responsibility for avoiding such conflicts and for helping to achieve the environmental goals.

The Government will continue to uphold the environmental goals from Report No. 9 (1999–2000) to the Storting, Svalbard, in its administration of Svalbard and continue to pursue the ambitious objectives that these goals express. However, the Government deems it important that the goals for environmental protection in Svalbard capture developments occurring since the previous report and the challenges these entail. This pertains especially to climate change and Svalbard's increasingly important role as a platform for climate and environmental research. But also the growing stream of tourists and increasing use of Svalbard for raising awareness of the vulnerable Arctic environment and the threats faced by species and ecosystems are important in this connection. In this report the Government is supplementing the objectives from the previous Report to the Storting on Svalbard on a number of points. This will highlight Svalbard's value as an internationally important natural and cultural legacy and the importance of preserving large and essentially undisturbed reference areas for climate and environmental research. To meet the objective of preserving Svalbard's natural wilderness, the Government also view it as crucial that the policy instruments are refined and used in a manner that correspond to these challenges. The main objectives of environmental protection in Svalbard are presented in Chap. 7 Environmental protection.

4.2.3 A robust settlement in Longyearbyen – a viable local community

Although historically, the number of residents of Longyearbyen has varied, since the previous comprehensive review of Svalbard policy in 2000 there has been a substantial increase in population. At 31 December 2008, 2,018 residents were registered as living in Longyearbyen. As discussed in detail in Chap. 10 Longyearbyen and the other local communities, a number commute between the archipelago and the mainland, so that the real population is somewhat lower. Maintaining a robust community in Longyearbyen is a key part of Norway's policy towards Svalbard. The establishment of local democracy in Longyearbyen in 2002 has given the local population the right to help determine policy in important areas such as community and land-use planning, infrastructure, economic development and schools, day care and other family and child policies.

Coal mining operations have been very important to the Longyearbyen community. There has been coal mining in Svalbard for more than a cen-

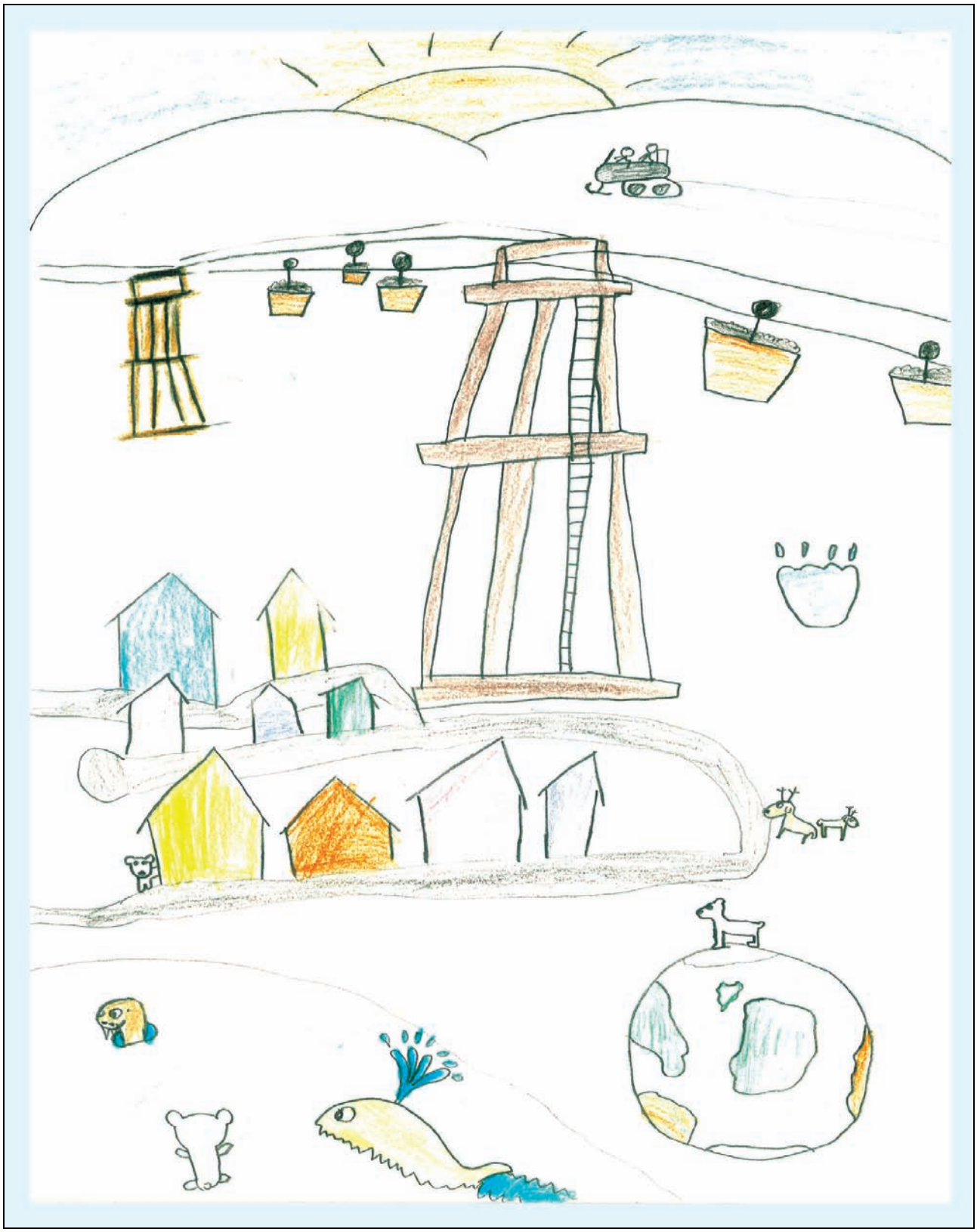


Figure 4.1 One of the three winners in the drawing competition "My Svalbard – why Svalbard is a good place to live" at Longyearbyen School.

Drawn by: Anne Ragnhild Fause, 7th grade.

tury, and coal mining continues to be the most important industry in Longyearbyen – both in terms of the number of jobs and for maintaining Longyearbyen as a family community. At the end of 2008 the Store Norske group had 386 employees, and most of the activity is now in the Svea mine, hereinafter referred to as Svea. In addition, there is a smaller mine near Longyearbyen, and considerable derived activity as a consequence of the company's operations.

In recent decades the Norwegian authorities have deliberately focused on diversifying the Longyearbyen economy by establishing and investing in activities related to research and education. Development of tourism has also been encouraged. This combination (coal mining, tourism and research and education) is often called "the three pillars" of the Government's policy, and the commitment to them has in the aggregate contributed to a robust community in Longyearbyen. The population growth in Longyearbyen is due primarily to the increase in activity in coal operations and its derived activities, education, research and tourism. The general increase in activity that has taken place in Longyearbyen in the past ten years has also itself attracted labour.

The Government notes that there has been considerable growth in Longyearbyen in the past decade. Further growth may trigger investment needs related to energy supply, housing, day care and school places, etc. This will also be a challenge to the local authorities in Longyearbyen. Such growth may come into conflict with the ambitious environmental goals set for the archipelago. By employing key policy instruments such as laws and regulations, the local and central administration, appropriations in the national budget as well as the exercise of state ownership, the central government authorities may help to steer developments in a direction compatible with the objectives of Norwegian Svalbard policy. At the same time, part of the responsibility for the development of the local community in Longyearbyen is the Longyearbyen Community Council, which through the Svalbard Act also has an obligation to guide developments in line with these objectives. For a detailed discussion of infrastructure etc. in Longyearbyen, see Chap. 10 Longyearbyen and the other local communities.

The rapid growth of Longyearbyen in the past decade was caused by simultaneous increases in activities connected with coal mining, tourism and research and education. According to NIBR report 2008:22, the population of Longyearbyen and Svea together would be approximately 40 per cent lower in the absence of coal mining. Coal mining is therefore crucial for maintaining Longyearbyen as a family community and keeping it stable. On the other hand, the future prospects of coal mining must be viewed in light of the fact that coal is a non-renewable resource. At the same time, trends suggest that in the future, existing and new, varied activities, especially in the areas of research, teaching, space-related activity and tourism will play an even more important role as a basis for the Longyearbyen community.

Following a review of the tax system in Svalbard in 2007, the Government introduced an up-to-date tax system that more closely matches the ordinary tax system on the mainland and international rules. Together with a low income tax rate, this will help to sustain a robust Norwegian community in Longyearbyen. The Government does not wish to plan for Longyearbyen becoming a "cradle-to-grave" community with a full array of services, which is also a precondition for the low tax rate in the new tax regime. However, Longyearbyen will be developed further as a high-quality family community with social welfare and other services adapted to the community's size and structure, within proper environmental limits.

4.2.4 Svalbard as a research platform

The Norwegian authorities have consciously focused on building up Svalbard as a platform for Norwegian and international polar research. In Ny-Ålesund, nine foreign research institutions have set up permanent research stations. Moreover, Russian and Polish institutions have research activities in Barentsburg and Hornsund, respectively. Svalbard has natural advantages, which, combined with a well-developed infrastructure, enables researchers from around the world to meet in Svalbard for scientific collaboration. The aim is for research activities to take place where Norwegian infrastructure has for the most part already been built.

In recent years it has become increasingly clear that climate change in the polar regions is of fundamental importance for the state of the planet as a whole. As discussed by way of introduction, the Arctic is undergoing dramatic climate changes that also are of great significance for the global climate. Svalbard is a key area for obtaining knowledge about what happens when temperatures in the Arctic rise. This applies both to climate impacts on ecosystems and species and studies of climate processes of global importance. In addition, Svalbard's geographic location is unique for investigating the

atmosphere and for downloading data from satellites in polar orbits. For that reason it is the Government's objective to continue to develop Svalbard as a particularly valuable and attractive platform for international collaboration in polar research. This topic is discussed in Chap. 8 of the report, Research and higher education.

4.3 Instruments in Norway's policy towards Svalbard

4.3.1 Introduction

Report No. 9 (1999–2000) to the Storting, Svalbard, described developments where the expansion of local administration from the 1970s, with a subsequent clearer distinction between public and private activities, led to responsibility and authority within the various sectors being largely decentralised. Changes in the state ownership structure in the 1990s resulted in administrative agencies being increasingly organised as limited companies. This has served to reduce opportunities for direct control in some areas and for using these companies as active instruments of Svalbard policy. The decentralisation of authority has continued in the 2000s. In addition, the growth of the private sector has accelerated, and today there are many more players in the Longyearbyen community than before. Longyearbyen also has a more diversified economy and array of services and resembles more a mainland municipality.

While coal mining is still the biggest employer, there has in recent years been an increase in both public and private sector activities, especially in tourism. Activity has also increased in research and higher education, in both Ny-Ålesund and Longyearbyen. Developments in the past decade have resulted in a more complex society, making coordination a more important and at the same time more demanding task than it once was.

The introduction of local democracy through the establishment of the Longyearbyen Community Council in 2002 has bolstered local participation in the management of community development in Longyearbyen. The Community Council has authority and responsibility in a number of areas, for the provision of public services and for development tasks within a geographically limited area: the Longyearbyen land-use planning area.

In the aggregate this development has altered some of the control mechanisms over development in Longyearbyen. However, central government still has powerful instruments for use in formulating Norwegian Svalbard policy. As mentioned by way of introduction, the most important of these are regulation through acts of law and other statutory instruments, the local and central administration, appropriations in the national budget and the exercise of state ownership in companies operating in Svalbard.

Since the previous report, environmental rules have been considerably tightened both through a separate, up-to-date environmental protection act with appurtenant regulations and through a considerable geographic enlargement of protected areas. The environmental regulations are the chief basis for central government control of land use in Svalbard. Within the protected areas the Protection Regulations are the most important tool for controlling activity and land use. In the areas that are not protected, activities and land use are regulated by strict, general environmental rules. In land-use planning areas surrounding the settlements, the Svalbard Environmental Protection Act and its accompanying regulations provide guidelines for land-use planning and activities that can impact the environment. The environmental rules are discussed in greater detail in Chap. 7 Environmental protection.

Since the Government is cognisant of the strong national interests and obligations under international law related to the archipelago, it believes that active central government involvement in further development there will be important for the future as well.

4.3.2 Acts and regulations

Norwegian private law, criminal law and procedural law apply in their entirety in Svalbard unless otherwise expressly stated. All other legislation applies only when it is expressly made applicable to the archipelago. Act No. 11 of 17 July 1925 relating to Svalbard (Svalbard Act) lays down this principle and other overarching rules concerning Svalbard. For instance, the King is granted extensive powers to issue regulations in a number of administrative areas.

Legislation is the most important policy instrument for Norway's exercise of authority in Svalbard and for advancing the objectives of its Svalbard policy. Traditionally, statutory regulation has been considered on the basis of assessments of suitability and of the need for the statutory or regulatory provision in question. However, developments in the past decade especially, when the normalisation of the Longyearbyen community was prominent, have resulted in legislation that was previously not deemed necessary for Svalbard now

being applied. In addition, the rules for Svalbard should be as identical as possible with those for mainland Norway.

This development is also justified by the fact that Norwegian administration is served by a set of rules in Svalbard that are as complete and effective as possible. However, matters of a practical or administrative nature or of international law may entail that rules, according to their subject matter, are not directly applicable in Svalbard. As is emphasised in Report No. 9 (1999–2000) to the Storting, Svalbard, the challenge remains to develop rules that are well-suited to local conditions and that can be effectively enforced on the basis of available resources. The Government wants the regulation of Svalbard to differ as little as possible from mainland legislation unless there are weighty reasons for any difference.

In its deliberation of the previous Report to the Storting on Svalbard, the Storting Standing Committee on Foreign Affairs, cf. Recommendation No. 196 (1999–2000) to the Storting, requested that the Government consider whether it might be appropriate to amend Section 2 of the Svalbard Act, so that Norwegian statutory provisions are to apply to Svalbard unless expressly stated otherwise. The Office of the Auditor General also pointed this out in its investigation of the management of Svalbard (Document No. 3:8 (2006–2007)). The Government has thoroughly reviewed this question and has concluded that such an amendment should not be made. For a detailed discussion of this and other topics related to legislation, see Chapter 5 Legislation.

4.3.3 Central administration

Historically, central authorities have had overriding and direct control over most of the Norwegian activities in the archipelago, but as pointed out earlier, today this control is somewhat more fragmented. It has gradually made sense not to treat Svalbard specially for administrative purposes beyond the areas where this special treatment is necessary.

The Ministry of Justice and the Police has a particular responsibility for coordinating the central administration's polar affairs. One of the most important policy instruments in the Ministry's work is the Interministerial Committee on Polar Affairs, cf. Instructions for dealing with polar affairs and for the Interministerial Committee on Polar Affairs (Committee on Polar Affairs Instructions) were laid down by the Royal Decree of 18 October 2002. The Committee on Polar Affairs is a coordinating and consultative body for the central administration's dealings with polar affairs and is to be a special advisory body to the Government as well in such matters. The fact that polar matters are submitted to the Committee on Polar Affairs does not change the decision-making authority of the ministry concerned and the appropriate minister's constitutional responsibility for the decision. For more on the Interministerial Committee on Polar Affairs, see section 6.2.1.

4.3.4 The Governor of Svalbard

The Governor of Svalbard is the Government's highest-ranking representative in the archipelago and one of the most important players in the local administrative apparatus in Svalbard and in managing the state's interests. In addition to administering Norwegian Svalbard policy and safeguarding Norway's rights and obligations under the Svalbard Treaty, the Governor has a key role in setting the agenda for Norwegian policy in the archipelago. Consistent and effective enforcement on the part of the Governor is a key element of Norway's compliance with requirements under international law regarding the archipelago, and not only with regard to the Svalbard Treaty, but also the Convention on Biological Diversity etc. Inspections and compliance monitoring are important instruments for enforcing rules over which the Governor is granted authority and in that way exercise authority effectively. For that reason it is important for the Governor to represent a decisive and capable organisation that is able to be present anywhere in the archipelago when the need arises.

The Governor's core duties consist of search and rescue and emergency response efforts in the archipelago, responsibility for the police and prosecuting authority as well as environmental management. Svalbard is Norway's largest police district in area, and the Governor has the same authority as a chief of police on the mainland. In virtue of being chief of police, the Governor is the head of the Rescue Sub Centre (RSC). Furthermore, in virtue of his authority as a county governor, the Governor has the coordinating responsibility for civil protection and contingency planning in the archipelago. The Governor is also an important government resource for emergency responses to oil spills in the archipelago, cf. Chap. 11.

The Governor has the responsibility for local environmental and cultural heritage management for the entire archipelago and discharges this through the Svalbard Environmental Protection

Act and its accompanying regulations and other legislation.

The population growth in Longyearbyen and a trend whereby more and more laws are applied to the archipelago have led to an increase in the Governor's duties in both scope and complexity. This is not least because the interest in Svalbard and the High North is increasing rapidly among national as well as international players, i.e. policymakers, business interests, scientific communities and the media. This is generating an increasing need for the Norwegian authorities to be present in the field, play a supervisory role and enforce rules. In addition, the formulation and introduction of new laws and regulations must constantly be assessed. With this increasing attention there is also a greater influx of various official and private delegations to the archipelago. For that reason it is important that in his administrative practices the Governor meets the high level of ambition that the Norwegian authorities have for Svalbard in areas such as research, knowledge and environmental protection. The Government wants the Governor to enhance his role as the Government's highest-ranking representative and in setting the agenda for Norwegian policy in the archipelago. For a more detailed discussion of the Governor of Svalbard, see Chap. 6 Administration.

4.3.5 Public finances

The Svalbard budget is submitted by the Ministry of Justice and the Police as a separate budget proposition at the same time as the national budget. Article 8 second paragraph of the Svalbard Treaty provides that taxes, dues and duties are to be devoted exclusively to Svalbard and are not to exceed what is required for the object in view in the archipelago. This is the reason for a separate Svalbard budget. The Svalbard budget provides overall information on all expenditure and revenue in the archipelago. The Government believes that the overall presentation is an important tool in administering Svalbard and gives the Storting an excellent overview of developments in the archipelago.

The Svalbard budget has grown substantially in the past decade, and the 2009 budget calls for total expenditure of NOK 231.7 million. This increase reflects the commitment to the High North and the general increase in activity in the archipelago. Expenditures continue to exceed revenues in the budget, and an annual allocation from Chap. 480 of the Ministry of Justice helps to cover the shortfall. At the same time, the increase in activity in the archipelago is generating higher tax revenues.

The Svalbard budget is largely an operating budget, where the biggest transfers pertain to the Governor's administration and transport (including helicopters and service vessel), the central government's buildings in Longyearbyen (Statsbygg) as well as grants to the Longyearbyen Community Council. The remaining transfers largely concern the operation of various state agencies. In the aggregate, the local community in Longyearbyen is substantially funded by government transfers. These transfers mean that the central authorities have considerable power by issuing guidelines for agency operation.

The Svalbard budget also provides a total overview of expenditure and revenue in other ministries' budget chapters. For example, substantial funds go for the operation of the University Centre in Svalbard (UNIS), Longyearbyen Hospital and the Norwegian Polar Institute, which are all key players in implementing Norwegian Svalbard policy. For 2009 a net amount of just under NOK 400 million in all will be appropriated through the national budget for various Svalbard purposes, which not only gives central authorities a responsibility for maintaining a firm commitment to the archipelago but also helps to guide developments in a direction that accords with the overriding objectives of Norwegian Svalbard policy.

Persons and companies have enjoyed favourable economic conditions in Svalbard. Lower income tax rates than on the mainland have been used as an instrument and incentive to ensure settlement and create and maintain activity. As part of the tax reform on the mainland, the Government also reviewed the tax regime in Svalbard, cf. section 4.2.3. It is important for the Government that the tax regime in Svalbard maintain low tax rates, while it should be simple and tailored to conditions in the archipelago. Furthermore, the system is to be based on solutions that ensure a competitive environment for investment and business enterprise in Svalbard, which will help to ensure a robust Norwegian community.

4.3.6 State ownership

The state owns approximately 95 per cent of all land in Svalbard. As the largest landowner the state can regulate activities in the archipelago within the framework set by the Svalbard Treaty, the Svalbard Environmental Protection Act and other laws and regulations. Active exercise of the role of landowner involves managing the land in accordance with the authorities' overriding objectives and per-

formance of private law functions appertaining to the property owner.

The mining company Store Norske Spitsbergen Kulkompani AS (called Store Norske or SNSK) owns the land inside Longyearbyen's land-use planning area, while the Longyearbyen Community Council is responsible for the infrastructure in this area, cf. Sections 31 and 33 of the Svalbard Act. To guarantee the Community Council's rights on SNSK property, an agreement has been concluded between the Council and SNSK. The agreement provides the Council with instruments to ensure that its planning decisions are carried out and to ensure local development for the good of the individual and for the Longyearbyen community.

The State Ownership Report states that one of the objects of SNSK is to contribute to a robust community in Longyearbyen. This agreement will be reviewed to see whether it adequately addresses the needs of local democracy going forward and whether it continues to support the main objectives of Norwegian Svalbard policy.

As shareholder the state controls the mining company Store Norske Spitsbergen Kulkompani AS with a 99.94 per cent stake, as well as Kings Bay AS, Bjørnøen AS and Universitetssenteret på Svalbard AS (UNIS), all wholly-owned state limited companies. The Ministry of Trade and Industry manages the state's shares in SNSK, Kings Bay AS and Bjørnøen AS, while the Ministry of Education and Research manages the state's holdings in UNIS. The Ministry of Health and Care Services owns Longyearbyen Hospital, in that the hospital is a department of the University Hospital of Northern Norway Trust.

The Government requires that Store Norske's mining operations be on commercial terms and independent of state aid. At the same time, the company's objects clause states that the company's activities are to contribute to the maintenance and further development of the community in Longyearbyen in a manner that supports the overriding objectives of Norwegian policy towards Svalbard. Ownership is managed according to the principles of proper ownership approved by the Storting though its debate on Report No. 13 (2006–2007) to the Storting, An Active and Long-term State Ownership, and generally accepted principles of corporate governance.

The Government has a long-term perspective on its ownership stake and does not want to reduce it. The same applies to the state's holdings in Kings Bay AS and Bjørnøen AS.

Universitetssenteret på Svalbard AS (UNIS) was founded in 2002 and replaced the University Courses in Svalbard foundation, which was founded by the four Norwegian universities in 1994. UNIS receives most of its appropriation over the budget of the Ministry of Education and Research. The establishment of UNIS has been a success, and today the university centre is vital for ensuring stable settlement in Longyearbyen.

Kings Bay AS provides support services in Ny-Ålesund for research and scientific activity and helps to develop Ny-Ålesund as an international Arctic scientific research station. The company, which receives its entire appropriation through the budget of the Ministry of Trade and Industry, is a key player in reaching the objective of further developing Svalbard and Ny-Ålesund as a platform for international polar research. The Ministry of Trade and Industry manages the holding in Bjørnøen AS. On Bjørnøya there is a weather station; otherwise most of the island is protected as a nature reserve.

SvalSat is owned by Kongsberg Satellite Services (KSAT), in which the state has a 50 per cent stake. It is the world's northernmost station for downloading satellite data and currently has 16 employees and turnover of over NOK 100 million per year. SvalSat is a world leader in downloading data from weather satellites in polar orbits.

4.3.7 Local administration by the Longyearbyen Community Council

As mentioned above, in 2002 the Longyearbyen Community Council, a popularly elected body, was established. The Community Council has a substantially broader area of responsibility than its predecessor, the Svalbard Council, in exercising authority in selected areas, in responsibility for providing public services and for development tasks. An important area assigned to the Longyearbyen Community Council is responsibility for social infrastructure not assigned to the state or other parties, including energy supply. The establishment of the Longyearbyen Community Council has resulted in an exercise of authority better tailored to circumstances and an administration similar to municipal government administration on the mainland with regard to legitimacy, authority and responsibility. The Community Council receives its appropriation from the Ministry of Justice and the Police through the Svalbard budget. This is primarily a block grant, but certain guidelines are provided through the letter of allocation and other contact between local and central authorities.

Figure 4.2 Longyearbyen

Photo: Birger Amundsen/Svalbardposten

Since the establishment of the Community Council, central authorities have been keen on developing a close dialogue with it. This pertains primarily to the Ministry of Justice, on account of the ministry's role as coordinating body for the central administration's polar affairs. Regular contact meetings are also held between the Minister of Justice and the Community Council. In addition, at regular intervals the Council meets in Svalbard with various Storting Standing Committees. The Ministry of Justice sees great value in this dialogue, to keep itself briefed on local challenges, but also to communicate central government policy and expectations to local authorities. These discussions make clear the importance of the role of local democracy. In the same way that local self-government is regarded to be the best and most effective way of organising local communities in the rest of Norway, it also provides a proper framework for Longyearbyen. For that reason the Government will underscore the importance of having established local democracy in Longyearbyen.

5 Legislation

5.1 Introduction

Legislation is necessary for societal development in line with the overriding objectives of Svalbard policy. Since the previous Report to the Storting on Svalbard, the community services in the archipelago, particularly in Longyearbyen, have become more like corresponding local communities on the mainland. This, combined with Norway's increasingly extensive obligations under international law in general, has led to a greater need to make new laws and regulations applicable to Svalbard. In its performance audit of Svalbard, the Office of the Auditor General pointed out that in some areas, Svalbard appears to be underregulated, cf. Document No. 3:8 (2006–2007). Furthermore, in its deliberation of this report (Recommendation No. 46 (2007–2008) to the Storting), the Storting maintained that any review of the principle for the application of laws to Svalbard requires thorough assessments. Against the backdrop of these observations and other important trends, this chapter will provide an account and assessment of the overarching legislative principles applying to Svalbard. The chapter will conclude with a review of the main features of a number of important areas of law and areas where the Government is assessing the need for changes.

5.2 Principles governing the application of legislation in Svalbard

5.2.1 Introduction

It is important to emphasise that in virtue of its sovereignty Norway may make all legislation that applies to the mainland applicable to Svalbard as well. The only limitation under international law is that the legislation must not conflict with the provisions of the Svalbard Treaty. The basis for the application of legislation to Svalbard is laid down in Act No. 11 of 17 July 1925 relating to Svalbard (the Svalbard Act). The Act provides the methodological legal basis for determining the application of legislation to the archipelago. Section 2 of the Svalbard Act reads as follows:

> "Norwegian private and penal law and the Norwegian legislation relating to the administration of justice apply to Svalbard, where nothing to the contrary has been provided. Other statutory provisions do not apply to Svalbard unless specifically provided."

In addition, Section 3 of the Svalbard Act stipulates that the mainland legislation shall automatically apply for rules relating:

> "[to] public officials, to payment for public acts, to coins, measures and weight, to time, to the provision of universal postal services, to electronic communications, to labour protection and to labour disputes".

Furthermore, Section 4 of the Svalbard Act grants the King authority to issue regulations concerning:

> "the church, school and poor relief services, concerning public order, concerning deportation, concerning the medical and health services, concerning the building and fire services, concerning combustible articles, concerning shipping, aviation and other communications, considering tourism, concerning patents etc., concerning mining, concerning salt-water fishing, concerning the catching of non-native marine mammals and other economic activities and concerning submission of data to the official statistics. The King may also issue regulations concerning restrictions on activities that may be harmful to research activities in certain areas of particular value to research."

Other provisions of the Svalbard Act also provide rules on the application of other legislation to Svalbard. For example, the fifth chapter "Longyearbyen Community Council" governs the application of provisions of the Local Government Act (Act No. 107 of 25 September 1992 relating to municipal and county authorities). A number of laws have also been given application through separate provisions in the particular act, e.g. Section 14 the Product Control Act (Act No. 79 of 11 June 1976) relating to control of products and consumer services) and Section 1–2 of the Child Welfare Act (Act No. 100 of 17 July 1992 relating to child welfare services).

5.2.2 Section 2 of the Svalbard Act

Pursuant to Section 2 of the Svalbard Act, all private law legislation applies automatically to Svalbard, where nothing to the contrary is provided. The same applies to criminal law rules and rules concerning the administration of justice. While private law legislation is not defined in Section 2, the terms is generally understood to be an umbrella terms for any regulation of the relationship between private parties. Furthermore, the second paragraph states that other statutory provisions do not apply to Svalbard unless specifically provided. Read in the context of the first paragraph, this implies that legislation characterised as "public law" (except for criminal or procedural law) applies only when specifically provided. What is "specifically provided" depends on a case-by-case assessment. In a ruling (Rt. 2007 p. 81), the "Nordpol Telecom case" the Supreme Court of Norway interpreted it to mean that some clear basis in the act, or in its preliminary studies, is required for public law rules to apply. The Supreme Court also emphasises hat in the area of the principle of legality there are even stricter requirements for this to be specifically provided. Nor is it sufficient for a statute to assume that other statutes will apply, unless these statutes are expressly made to apply. This was clear in the aforementioned case, where the public law portions of the Accounting Act were not deemed to apply, even though the Limited Liability Companies Act's private law portions implicitly assume the application of these provisions. For more on this ruling, see section 5.3 below.

5.2.3 Should the principle in Section 2 of the Svalbard be inverted?

In the aforementioned discussion of the Office of the Auditor General's report on the management of Svalbard, the Storting Standing Committee on Scrutiny and Constitutional Affairs stated that:

> "[t]he Committee is aware that in its deliberation of the previous Report to the Storting on Svalbard, the Storting Standing Committee on Foreign Affairs, cf. Recommendation No. 196 (1999–2000) to the Storting, requested that the Government consider whether it might be appropriate to amend Section 2 of the Svalbard Act, so that Norwegian statutory provisions are to apply to Svalbard unless otherwise expressly provided. According to the investigation by the Office of the Auditor General, a study of this matter has so far not been done. The Committee assumes that whether any such change should be made and whether more laws are to be made to apply in Svalbard is something that in the event needs to be considered and discussed carefully, so that all consequences are brought out in the open."

The question concerning the principle governing the application of laws to Svalbard has been taken up on several previous occasions, as the quotation makes clear. The Government has made a note of the Committee's statement and has studied the issues, including a discussion and assessment of a possible change in the principle concerning the application of laws in Section 2 of the Svalbard Act. The gist of this study appears below.

Historically, legislation concerning Svalbard has been based on assessments of suitability and practical considerations, especially on account of its geographic location, climate and other local conditions. This is the background for choosing at the time the principle appearing in Section 2 of the Svalbard Act. Especially in the period between 1925 and 1975, the archipelago was physically isolated for large portions of the year owing to ice conditions. Local conditions have also been traditionally determined by the resources, transactions and services of private companies. More recent Norwegian legislation has had the aim of better compliance with Norway's international obligations, at the same time as it addresses new needs and challenges. These two factors, the historical basis and more recent legislation, need to be taken into account in an evaluation of the principle regarding the application of legislation in Svalbard.

There are several arguments *in favour of inverting* the principle in Section 2. Firstly, there are a number of facts in its favour. The local community in Longyearbyen has grown in recent years along with a booming economy. The Office of the Auditor General points out these circumstances in the aforementioned report: "The development towards a more normal society in Longyearbyen has meant that it is increasingly desirable to make Norwegian legislation applicable to Svalbard." It must be assumed that amending Section 2 may contribute to more regulation. This normalisation of societal functions in Svalbard implies, in the Government's view, that one should in any case seek to make mainland legislation applicable to the extent it is possible. However, this can be done without having to invert the principle in Section 2.

Another weakness of the current system is the distinction between private and public law. This distinction is, as was noted, not defined in the Act and can create errors in interpretation. While it

was once easier to categorise public law and private law legislation, today entire sectors or areas of life are regulated, and such legislation contains both public law and private law elements. By inverting the principle in Section 2 of the Svalbard Act, this distinction will lose its significance. All legislation will then apply, unless the contrary is expressly provided.

It has also been claimed that the term "særskilt fastsatt" ("specifically provided") has an imprecise semantic content which creates doubts as to how it should be interpreted. However, in its aforementioned ruling in the "Nordpol Telecom case" (Rt. 2007 p. 801) the Supreme Court has helped to clarify this concept.

New laws are often passed with a separate authorisation to issue regulations for the King to determine the extent to which the act is to apply to Svalbard. However, the extent varies to which this authorisation is actually used. Even if the overriding principle in Section 2 of the Svalbard Act applies in these cases, and any private law rules in the law already apply to Svalbard, this legal technique can provide the basis for assuming that no part of the law applies if such a regulation is not issued. If the principle in Section 2 is inverted, doubts in these cases will no longer arise.

However, the Government would emphasise that there are still a number of special circumstances connected with Svalbard that argue *in favour of retaining* the principle in Section 2.

A weighty consideration is that legislation in the archipelago must not be at variance with the obligations Norway has under the Svalbard Treaty. If the main principle is for all laws to apply automatically to Svalbard, it may more easily have the unfortunate result of regulating matters in Svalbard in a manner that infringes the Treaty. This was also pointed out in Report No. 9 (1999–2000) to the Storting, Svalbard, page 28:

> "[If] public law legislation were to be made applicable to Svalbard without the requirement of specific provision, any lack of vigilance could result in a Norwegian provision being unintentionally made applicable, possibly resulting in a violation of international law and/or detrimental effects on foreign policy. These flaws could arise in relation to formal statutes, but especially in connection with delegated legislation in the form of regulations."

The principle for the application of laws also has an important aspect regarding the welfare system in Svalbard and how it is set up. For residents in Longyearbyen there is currently access to public health services in the area of general and emergency medicine, and access is provided to the most essential services that a working-age population needs, including schools, day care, dentistry services and midwife and public health nurse services. Even so, key entitlement legislation, such as the Social Welfare Act, does not apply to the archipelago. During residency in Svalbard, Norwegian nationals keep their previous addresses on the mainland entered in the national population register, which means that in the event of a need for services beyond what is available in Svalbard, they need to contact their respective local municipalities on the mainland and avail themselves of the services there. In the settlements outside of Longyearbyen, in Barentsburg, Hornsund and Ny-Ålesund, respectively, no provision of public services is made by the Norwegian authorities. Here the local services offered to inhabitants vary, but what they have in common is that the respective employer(s) arrange for the services, either providing them themselves or purchasing them.

This system has been regarded as an appropriate way to organise Svalbard communities, and the Government will continue to resist allowing Longyearbyen or other local communities to become "cradle-to-grave" societies. In this connection it is important to emphasise that the low tax rates in the archipelago precisely reflect the services that are available. An employed person in Svalbard pays an 8 per cent "flat" tax to the state (15.8 per cent including National Insurance contributions). Residents of Longyearbyen pay no local tax to the Longyearbyen Community Council.

By way of introduction it was pointed out that societal developments in Longyearbyen have meant that it is increasingly desirable to make Norwegian legislation applicable to Svalbard. But as mentioned above, conditions in Svalbard are nevertheless special. For that reason, developments toward normalised community functions do not necessarily require that all legislation be *identical* to that on the mainland. There will often be a need to consider case-by-case whether laws and regulations should be applied. Such assessments can be complicated and time-consuming. Moreover, if the principle in Section 2 of the Svalbard Act is inverted, situations may more easily arise in which a lack of vigilance can result in laws nevertheless being made to apply to the archipelago that provide entitlements that are not part of what is currently offered and that are contrary to current policy for what is desirable. The consequences of this may be ambiguity regarding what services are and should be available.

There are also certain characteristics of the society in Svalbard that argue in favour of maintaining the principle in Section 2 of the Svalbard Act. As mentioned above, Article 3 of the Svalbard Treaty contains a provision whereby nationals of all signatory states have "equal liberty of access and entry" to the archipelago. Consequently, the Immigration Act (Act No. 64 of 24 June 1988 relating to the entry of foreign nationals into the Kingdom of Norway and their presence in the realm) does not apply. However, prospective migrants are required to have a place to live and be able to support themselves, cf. Regulations No. 96 of 3 February 1995 concerning exclusion and deportation of persons from Svalbard. The lack of restrictions on entry to Svalbard pursuant to the Immigration Act is difficult to reconcile with a general application of modern entitlement legislation.

The entitlements available to foreign nationals in Svalbard depend *inter alia* on whether their employer may be said to be Norwegian in the sense of the National Insurance Act, cf. below. In the event they need health services, various social welfare services and schooling beyond what is provided for today, foreign nationals will have to avail themselves of the services available in their respective native countries. Nor can a foreign national acquire the right to citizenship merely by entering and residing in Svalbard. These rules also imply that foreigners do not automatically have access to mainland services. The reason this is being emphasised here is to illustrate further that Svalbard society diverges in some fundamental areas from society on the mainland, which underscores the need to be able to make case-by-case assessments of whether public law legislation should be made to apply to Svalbard and, if so, in what way.

Since the previous Report the local community in Longyearbyen has undergone changes in the direction of a more multicultural society. These changes have resulted in a need to clarify the legal situation in some areas, so that foreign nationals who come to Svalbard are made aware of the rights and obligations that ensue from residence in Svalbard. In view of developments in recent years, a need has arisen to be even clearer about the rights and obligations a person has as a foreigner in Svalbard. The local government bodies in Longyearbyen have taken this need seriously and have worked together to produce informational material to be distributed to newly arrived foreigners to Longyearbyen. The information covers everything from the system for the applications of laws to Svalbard to more practical information.

The Government firmly believes that in light of the discussion above, the current principle in Section 2 of the Svalbard Act should be retained. In the view of the Government, the best thing would be for the issue of the application of laws to Svalbard to be considered through separate processes, independent of the law's entry into force for the mainland. On a general basis there is reason to expect the application of laws to Svalbard to continue to increase. Moreover, the Government sees that there may be a need to examine more closely some practical matters concerning the application of laws to Svalbard and the principle in Section 2 of the Svalbard Act.

5.2.4 Section 4 of the Svalbard Act – the authorisation provision

Because of the special conditions in Svalbard, there has often been a need for certain modifications to an act of law before it can be made applicable to the archipelago. As mentioned by way of introduction, Section 4 of the Svalbard Act authorises the King to issue general regulations in a number of legal areas deemed to be important for the administration of Svalbard, among other reasons because conditions in these areas have diverged substantially from the situation on the mainland.

Thus Svalbard is administered in accordance with regulations that are laid down on the basis of powers granted by the Storting, and where the King's authority to lay down regulations in many cases is delegated to the competent ministry and, in some instances, further to a lower level of the public administration. This is a phenomenon that also makes itself felt on the mainland, but which – for practical reasons – may have developed more in Svalbard than on the mainland.

The Government attaches great importance to the administration of Svalbard having the broad support of the Storting. The regulations laid down for Svalbard are therefore often based on statutory provisions that already apply to the mainland, but are adapted as necessary to take account of local conditions and comply with the Svalbard Treaty. Furthermore, all bills and draft regulations concerning Svalbard are submitted to the Interministerial Committee on Polar Affairs to ensure that legislation concerning Svalbard is in accordance with the Government's policy towards the archipelago, including the objectives set out in previous documents submitted to the Storting. A good example of this practice is the new Regulations No. 153 of 15 February 2008 concerning cemeteries in

Longyearbyen and the spreading of ashes in Svalbard. These regulations are authorised by Section 4 of the Svalbard Act and are composed of provisions of the acts that govern these matters on the mainland (Act No. 31 of 7 June 1996 relating to the Church of Norway and Act No. 32 of 7 June 1996 relating to cemeteries, cremation and burials) and contain special rules adapted to conditions in Svalbard, e.g. concerning the creation of new graves on account of the permafrost in the archipelago. In keeping with established legislative practice, the Government intends to submit legislative propositions to the Storting in the form of statutes insofar as this is appropriate.

5.2.5 Scope of application

An important principle connected with the introduction of new laws in Svalbard is for them to apply to and be enforced equally in the entire archipelago. The previous Report to the Storting on Svalbard stated: "However, since the Act relating to Svalbard was enacted, and particularly during the years since Report No. 40 (1985–86) to the Storting was written, there have been changes in areas that may have significance for this legislative practice." It was pointed out that developments in Longyearbyen indicated that "it has proved desirable in an increasing number of cases to make statutes applicable" there, whereas the situation in other local communities may be different. It was further pointed out that "[t]he extensive regulation that is taking place in Norway in connection with adaptation to the EEA, […] is not automatically [being] pursued in the case of Svalbard." In view of these factors, the Report to the Storting concluded that the principle of equal application and enforcement should continue to apply, at the same time as the practice regarding issuing new rules with geographically restricted scope of application will be continued out of consideration for local needs.

As a rule, new legislation is to be made to apply to Svalbard, unless special circumstances argue against this. Norway's increasingly extensive international obligations also argue for this principle. The provisions are to be adapted to local conditions as needed.

In the past decade, Longyearbyen has come to resemble a mainland community. The establishment of a local-democracy government model in Longyearbyen may make it appropriate to put in place legislation that for practical and administrative reasons is made only to apply in the Longyearbyen land-use planning area.

Out of other considerations as well, in particular instances, legislative and enforcement practices may be necessary with a somewhat more differentiated approach to the various settlements or types of activities. For example, in some cases when introducing mainland regulations, the numerous foreign players in the archipelago may be emphasised. In exceptional cases taking these into consideration may argue in favour of transitional provisions or other forms of phasing-in, so as not to create unreasonable or unnecessary burdens and in this way provide opportunities for restructuring. However, a stipulation must be, cf. Report No. 9 (1999–2000) to the Storting, Svalbard, that when the regulations are implemented in practice the minimum requirements imposed by Norwegian legislation have been complied with.

The Government's basic principle is that the legislation applicable to Svalbard shall apply to and be enforced equally in the entire archipelago. For that reason the objective must be a uniform legal regime, where any needs for nuance in a particular case should be captured through time-limited transitional schemes or, in some instances, through exemption provisions. However, it is important that new legislation be made applicable in an order and at a pace that has been considered carefully with regard to the need for the legislation, the foreign players in the archipelago and the ability to enforce the legislation.

5.3 Commercial and company legislation

The previous Report to the Storting on Svalbard pointed out the need for clarification of the extent to which commercial and company legislation applies in Svalbard. These statutes are related in that they refer to and are dependent on one another. This close connection also pertains to the private law and public law rules. It was also pointed out in the report that "the same rules ought to apply to commercial activities as elsewhere in Norway as regards the establishment, dissolution and operation of commercial companies".

As mentioned above, in Rt. 2007 p. 801, the Supreme Court ruled on the application of key provisions of the Accounting Act (Act No. 56 of 17 July 1998 regarding annual accounts etc.). The case concerned the dissolution of a limited company with a registered office in Svalbard for its failure to submit annual accounts, cf. Section 16–15 of the Limited Liability Companies Act (Act No. 44 of 13 June 1997 relating to limited liability companies),

cf. Section 8–2 of the Accounting Act. In its ruling the Court concluded that Section 8–2 of the Accounting Act does not apply to Svalbard because the provision must be regarded as neither private law, as a part of the administration of justice nor as "specifically provided", cf. the terms of Section 2 of the Svalbard Act. In connection with the latter assessment it was pointed out in particular that the rules cannot be regarded as applying merely because the "rules in the Limited Liability Companies Act imply that the accounting rules shall apply" (Paragraph 42 of the ruling).

Consequently it must be assumed that unless otherwise provided, the public law portions of commercial and company legislation will not apply to Svalbard. This is a rather unfavourable situation. In addition to the uncertainty that otherwise manifests itself concerning the operating environment for business, the clarification by the Supreme Court has also resulted in the reversal of already implemented forced liquidations. In view of these circumstances, the Ministry of Finance is in the process of considering the extent to which the Accounting Act and Bookkeeping Act (Act No. 73 of 19 November 2004 relating to bookkeeping) should be made to apply to self-employed persons and others engaging in business activity in Svalbard. Following this work, other legislation in this area of law should be more closely evaluated. There should be a study of the extent to which public law rules in the following laws (and others) should be made applicable to Svalbard: the Limited Liability Companies Act, the Partnerships Act (Act No. 83 of 21 June 1985 relating to unlimited liability companies and limited partnerships), the Audit and Auditors Act (Act No. 2 of 15 January 1999 relating to audits and auditors) and the Foundations Act (Act No. 59 of 15 June 2001 relating to foundations). The Government will give this effort high priority.

With effect as of the 2008 income year, the Government has implemented certain amendments to Act No. 68 of 29 November 1996 relating to tax payable to Svalbard (Svalbard Tax Act). In addition to changes in taxation of wages and salaries, changes were made to the rules on taxation of sole proprietors and in the rules on company and capital taxation. The changes for sole proprietors were motivated by the desire to eliminate unfortunate discrimination between this group and partners in partnerships. After the change sole proprietors are to pay tax on the net profit of their business at the same rate as for wage and salary income (i.e. 8 and 25 per cent). In addition, the National Insurance contribution rate for sole proprietors has been reduced to the middle rate of 7.8 per cent, cf. Section 23–3 of the National Insurance Act.

Changes in company and capital taxation involve the introduction of a new and updated rate structure for company taxation. This tax rate has been disproportionately low over time and was no longer compatible with living and social conditions in Svalbard. In a modern era of greater openness and facilitation of cross-border transactions it is also important for these rates not to be set independently of corresponding rates in other countries. To avoid giving rise to future tax avoidance, this rate was raised from 10 to 16 per cent. In parallel with this, the tax-free allowance for ordinary income for personal tax payers was raised from NOK 10,000 to NOK 20,000.

An important instrument for business and industry is access to and use of statistics and registers. The Statistics Act (Act No. 54 of 16 July 1989 relating to official statistics and Statistics Norway) was made applicable to Svalbard in 2007, and Statistics Norway (SSB) has been allocated earmarked funds in the national budget to improve statistics regarding Svalbard. This is the result of years of work to strengthen the rules for statistics and registers in Svalbard. The population register for Svalbard has received new technology and has become more user-friendly. Two working groups that have evaluated this have also recommended that the Act relating to the Central Coordinating Register for Legal Entities (Act No. 15 of 3 June 1994) and the Norwegian Business Enterprise Registration Act (Act No. 78 of 21 June 1985 relating to registration of business enterprises) should be implemented for Svalbard. The question of the application to Svalbard of the register acts is being considered by the Ministry of Trade and Industry. This is an area that must be seen in conjunction with other efforts to consider whether commercial and company legislation is to be made to apply in Svalbard.

5.4 Working environment legislation

Pursuant to Section 3 of the Svalbard Act, statutes relating to labour protection (and others) apply to Svalbard "with such amendments as the King may lay down out of regard for the local conditions". Since the previous Report to the Storting concerning Svalbard, a new Working Environment Act (Act No. 62 of 17 June 2005 relating to working environment, working hours and employment protection etc.) has been passed. The Act applies to Svalbard in virtue of Section 3 of the Svalbard Act. Regula-

tions in pursuance of the Act also apply to Svalbard unless the contrary expressly appears in the regulations themselves. Only in certain cases are special exemptions made, so that for instance Regulations No. 794 of 30 June 2005 concerning safety, health and working environment connected with mining work do not apply to Svalbard. For mining operations in Svalbard, separate Regulations No. 33 of 18 January 1993 have been laid down for the coal mines in Svalbard.

In Regulations No. 9453 of 24 June 1997 concerning worker protection and working environment for Svalbard, several modifications were made to the Working Environment Act for Svalbard. Most of these special rules were repealed with effect from 1 January 2003. However, some modifications continued to be maintained through these regulations, such as the exemption from requirements for signage, labelling etc. in Norwegian.

The EEA Agreement directs Norway to implement minimum rules in the area of working environment and labour law in Norwegian legislation. The EEA Agreement does not apply to Svalbard, so that in principle Norway is not obligated to implement these minimum standards in the archipelago. Even so, not much need has been found for special exemptions for Svalbard.

5.4.1 Enforcing the Working Environment Act in Svalbard

No special provisions have been issued for enforcement of the Working Environment Act in Svalbard. For that reason the principle for enforcement is the Act's general rules in this regard. Pursuant to Section 18–1 of the Working Environment Act, the Norwegian Labour Inspection Authority is to monitor compliance with provisions of, or pursuant to, the Working Environment Act.

Pursuant to Section 18–6 of the Working Environment Act, the Norwegian Labour Inspection Authority may issue the administrative orders and make the administrative decisions in individual cases that are necessary for the implementation of these provisions. If an order is not complied with, and it is necessary, the Labour Inspection Authority may impose coercive fines or in extreme cases halt operations, cf. Sections 18–7 and 18–8 of the Working Environment Act. Violation of the Working Environment Act may also be subject to criminal sanctions, cf. Chapter 19 of the Working Environment Act.

It is the Northern Norway division of the Labour Inspection Authority that has the practical supervisory responsibility for Svalbard. The Labour Inspection Authority pays Svalbard two regular visits a year, giving priority to the most at-risk activities. In view of the risks inherent in mining operations, the Labour Inspection Authority devotes a substantial portion of its administrative resources in Svalbard to supervising these activities. These priorities cover the mines operated by Norwegian as well as Russian companies. In some cases there has been a need to issue reactions for violating working environment legislation, so that several of the workplace accidents at both the Norwegian and Russian mining operations were followed up by criminal sanctions from the public prosecution authority.

5.5 Social welfare legislation

Employment has traditionally been the actual basis for residence in Svalbard. For that reason, the legal rights to which a person is entitled as a resident of Svalbard can largely be linked to the needs of a working population. In step with the developments that have taken place in the archipelago, in Longyearbyen in particular, the array of services has grown. Since Norwegian citizens retain their affiliation with their home municipality, whenever they need services beyond those offered in the archipelago, they have to contact their respective local authorities.

Residents of Longyearbyen currently have access to a number of public services and social welfare benefits that are divided among various sectors: selected health services, services in the school and day care sector and family-related services. The various services are described in detail in section 10.1.5 Range of services including health and welfare services offered. The right to these benefits is governed by various kinds of legislation. Furthermore, the National Insurance Act entitles individual members – when certain conditions are met – to benefits to cover the loss of income in certain situations or to receive compensation for particular expenses in the event of various health or social welfare needs.

5.5.1 General health legislation

General health legislation has to a very limited extent been made to apply to Svalbard. Health matters in a broad sense are primarily governed by separate regulations for Svalbard: Regulations No. 3357 of 15 June 1928 concerning medical and health matters in Svalbard (hereinafter abbrevi-

ated the Health Regulations). The regulations are used to authorise the measures etc. that are carried out, e.g. supervision of food hygiene and water quality. The Longyearbyen Community Council has authority pursuant to the regulations within the Longyearbyen land-use planning area, and the Governor of Svalbard for the rest of the archipelago. In principle the measures correspond to those on the mainland, unless special reasons should indicate otherwise.

The most important health legislation that does not apply to the archipelago is the Patients' Rights Act (Act No. 63 of 2 July 1999 relating to patients' rights), the Health Personnel Act (Act No. 64 of 2 July 1999 relating to health personnel etc.), the Mental Health Care Act (Act No. 62 of 2 July 1999 relating to the establishment and provision of mental health care), the Specialised Health Services Act (Act No. 61 of 2 July 1999 relating to specialised health services etc.), the Dental Health Services Act (Act No. 54 of 3 June 1983 relating to dental health services), the Municipal Health Services Act (Act No. 66 of 19 November 1982 relating to municipal health services), the Communicable Diseases Control Act (Act No. 55 of 5 August 1994 relating to the control of communicable diseases), the Food Act (Act No. 124 of 19 December 2003 relating to food production and food safety) and the Health and Social Emergency Preparedness Act (Act No. 56 of 23 June 2000 relating to health and social emergency preparedness). The fact that these statutes do not apply means for example that no provisions have been made by the public authorities in Svalbard for mental health care for serious conditions or care for the elderly. If these services are needed the person in question needs to move back to his or her home municipality. The Ministry of Health and Care Services has begun an effort to consider whether all or portions of health legislation should be made to apply to Svalbard.

5.5.2 The National Insurance Act

Introductory sections of Act No. 19 of 28 February 1997 relating to National Insurance (National Insurance Act) contain provisions concerning membership for persons residing in Svalbard. Persons who *are* members before settling or beginning residence in Svalbard retain their membership, cf. Section 2–3 first paragraph of the Act. These persons will continue to be members regardless of whether they are working, non-working, self-employed or employed. Employed persons retain their membership regardless of whether they work for a Norwegian or foreign employer.

Persons who are *not* members become members if they become employed by a Norwegian employer in Svalbard, cf. Section 2–3 second paragraph. In this connection a "Norwegian employer" is any employer who pursuant to Norwegian law is obligated to report wages and other remuneration, for work and engagement inside and outside of employment, regardless of the employer's nationality. Contrariwise, work in Svalbard for an employer not subject to a reporting requirement will not result in membership of National Insurance for this category of employee.

On the basis of the rules above, persons covered by Section 2–3 are deemed to be members of National Insurance. However, it is the remaining provisions of the National Insurance Act that determine the benefits the individual is entitled to. Furthermore, the Act provides entitlement only to cash benefits and other similar allowances. Entitlements to specific medical assistance or other actual services from the public sector are governed by other legislation, e.g. the Patients' Rights Act. As was mentioned above, these relevant health statutes do not apply to Svalbard.

Because conditions in Svalbard are special and because a full array of services is not offered there, in a number of cases it will not be possible to satisfy the terms of the law by living in Svalbard only. For instance, a requirement for receiving rehabilitation benefits is for the member to be receiving active treatment aimed at improving his or her capacity for work (Section 10–8 second paragraph of the National Insurance Act) and a rehabilitation allowance is paid in the period the person in question is in a programme for the occupationally disabled (Section 11–9 first paragraph of the National Insurance Act). If the person in question cannot obtain such treatment or necessary and appropriate occupational rehabilitation measures do not exist in Svalbard, he or she will not be able to receive these benefits in the archipelago. In these situations, Norwegian nationals will be able to travel to the mainland to demand benefits and other services there. Foreign nationals with a right of entry to the mainland (such as persons with a work or residence permit, or who are nationals of other Nordic countries) may also travel to the mainland on a par with Norwegian citizens. For foreign nationals who do not have a right to enter or reside in mainland Norway, this arrangement means that in a number of instances they will not satisfy the conditions for the benefit in question. In this area the Act is the same for foreigners residing in Svalbard and other

groups who do not meet the conditions, e.g. persons residing abroad or foreign nationals who reside in mainland Norway who lose their work or residence permit. For more about foreign nationals' access to mainland Norway, see section 5.6.

5.5.3 The Child Benefit Act and the Cash Benefit Act

Child benefit is paid pursuant to Section 3 of the Child Benefit Act (Act No. 4 of 8 March 2002 relating to child benefit) for children residing in Svalbard who are members of National Insurance pursuant to Section 2–3 of the National Insurance Act. The same applies to the right to cash benefit pursuant to Section 2 third paragraph of the Cash Benefit Act (Act No. 41 of 26 June 1998 relating to cash benefits for the parents of small children). Cash benefit can be paid for children residing in Svalbard for more than three months. Pursuant to Section 2–3 of the National Insurance Act, children born in Svalbard are not members of National Insurance because they were not covered prior to their residency in Svalbard. The purpose of the provisions of the Child Benefit Act and the Cash Benefit Act is give those who are residents in Svalbard and are members of Norwegian National Insurance an entitlement to child benefit and cash benefit. Child benefit and cash benefit may therefore be paid for children who are born in Svalbard and live with their parents who are members of National Insurance pursuant to Section 2–3. If only one parent is a member of National Insurance pursuant to Section 2–3 of the National Insurance Act, the benefit is to be paid to the member parent.

5.5.4 The Education Act

The Education Act (Act No. 61 of 17 July 1998 relating to primary and secondary education) with regulations apply to primary and secondary schools in Svalbard insofar as these provisions are suited to local conditions, cf. Section 3 of Regulations No. 76 of 18 January 2007 concerning primary and secondary schools in Svalbard. The Ministry of Education and Research determines which provisions are so suited. Pursuant to Section 1, the children of Norwegian nationals have the same right and obligation to attend primary school while residing in Svalbard that they would have on the mainland. Children of foreign nationals have the right, but not the obligation, to attend primary schools while residing in the archipelago. Act No. 64 of 17 June 2005 relating to day care institutions (Day Care Institutions Act) has not been made directly applicable to Svalbard. However, it is a condition of the transfer of state grants to day care institutions that the guidelines in the Act be followed insofar as they are suitable, cf. Proposition No. 1 (2008–2009), the Svalbard Budget, p. 21, cf. also section 10.1.9 Formative conditions for children and adolescents.

5.6 Immigration and other aliens legislation

Pursuant to Article 3 of the Svalbard Treaty, all nationals of signatory states have "equal liberty of access and entry" to Svalbard, regardless of the purpose of their stay. Even though this right is enjoyed only by nationals of Treaty states, in practice all persons are granted access and entry to the archipelago, regardless of whether their native countries have acceded to the Treaty. No work or residence permit is required to travel to Svalbard. Nor is a visa required. A prospective migrant is required to have a place to live and be able to support himself, cf. Regulations No. 96 of 3 February 1995 concerning exclusion and deportation of persons from Svalbard.

As a consequence of this "equal liberty of access and entry" to Svalbard regardless of its purpose, immigration and other aliens legislation – which otherwise governs foreign nationals' entry into the Kingdom of Norway and their presence in the realm – will not be suited to Svalbard. In view of this, Act No. 64 of 24 June 1988 relating to the entry of foreign nationals into the Kingdom of Norway and their presence in the realm (Immigration Act) has not been made to apply to Svalbard. However, pursuant to Section 49 fourth paragraph of the Immigration Act, regulations may be issued concerning the control of foreign nationals coming *from* Svalbard, see more about this below. These rules were retained in the new Immigration Act (Act No. 35 of 15 May 2008), which is planned to enter into force on 1 January 2010.

Just like other foreign nationals, foreign nationals residing in Svalbard must comply with the rules of the Immigration Act when travelling to mainland Norway. This means that foreign nationals requiring a visa to enter Norway must obtain such a visa to travel to the mainland, cf. Section 25 of the Immigration Act. Certain foreign nationals are exempt from the visa requirement, including nationals of states with which Norway has concluded a visa-waiver agreement, cf. Section 105 of the Immigration Regulations (Regulations No. 1028 of 21 December 1990) concerning the entry of foreign nationals into the Kingdom of Norway and their

presence in the realm). These nationals may freely enter Norway and as a rule reside there for up to three months without a visa or other permit. If the stay in Norway is of a nature requiring a work or residence permit, it is generally required that the foreign national has been granted such a permit prior to entry, cf. Section 6 of the Immigration Act.

The Governor of Svalbard currently does not decide on applications for visas to mainland Norway. The task of the Governor is to issue visas granted by the Directorate of Immigration. Most cases are routine, and to expedite matters it would make sense for visa applications to be decided by the Governor. For that reason, Section 13 of the 2008 Immigration Act authorises empowering the Governor of Svalbard to decide on such cases.

Norway's participation in the Schengen system includes cooperation on the removal of the control of persons at internal Schengen borders and a joint border control at the external border of the Schengen area. That is, each member state is obligated to control its external Schengen border on behalf of all Schengen countries. The agreement concerning Norwegian membership in the Schengen system does not apply to Svalbard. This means that in principle the rules on entry and exit control across the external Schengen border will apply to travel to and from Svalbard. In the current Section 170 of the Immigration Regulations, the Act's and Regulations' rules concerning entry and exit have been made to apply to foreign nationals coming from Svalbard *to* another part of the realm, cf. Section 49 of the current Immigration Act. Section 6 of the new Immigration Act of 2008 authorises the issuance of regulations concerning the control of persons coming *from* or travelling *to* Svalbard.

Act No. 51 of 10 June 2005 relating to Norwegian nationality (Norwegian Nationality Act) applies in general to Norwegian nationality and also covers Svalbard, cf. Section 1. The Act does not contain any special rules for persons with foreign nationality who reside in Svalbard. This means that persons wishing to apply for Norwegian citizenship need to meet the conditions of the Act in the same manner as other applicants. Among the conditions of particular relevance to persons residing in Svalbard is that they need to have lived a certain length of time in the realm holding a residence or work permit and that applicants must meet the conditions for a settlement permit pursuant to the Immigration Act. As mentioned above, such permits are issued in pursuance of the Immigration Act, which means that the person in question must also meet the conditions set forth there. For a detailed account of the rules concerning citizenship etc., reference is made to the Directorate of Immigration website: www.udi.no.

Due to the increase in activity in Svalbard and the growth of the foreign presence in Longyearbyen and Ny-Ålesund, more immigration law issues have arisen, concerning foreign students, foreign spouses/cohabitants and children of Norwegian nationals, etc. In consultation with the Ministry of Justice and the Police, the Ministry of Labour and Social Inclusion will examine individual questions more closely in this regard and consider the need for special rules.

6 Administration

6.1 Introduction

In its essentials the structure of the apparatus for administering Svalbard remains unaltered, cf. the discussion in section 4.3. However, there have been some changes since Report No. 9 to the Storting (1999–2000), Svalbard, at both the central and local level. An increasingly diversified local community, a greater need for legislation and other trends are creating challenges not only for the central administration, but also for the local administration. The general activity level has risen, and more players are involved in the archipelago.

In view of these developments, the Interministerial Committee on Polar Affairs was bolstered in accordance with Recommendation No. 196 (1999–2000) to the Storting. At the same time, local democracy has been established in Longyearbyen through the creation of the Longyearbyen Community Council in 2002.

6.2 Central administration

6.2.1 The Interministerial Committee on Polar Affairs

The Ministry of Justice and the Police is responsible for coordinating Norwegian policy towards Svalbard. This responsibility is in part exercised through the Interministerial Committee on Polar Affairs. The Polar Affairs Department of the Ministry of Justice and the Police serves as the secretariat and is also responsible for informing the committee and presenting it with items of business. The current instructions for dealing with polar affairs and for the Interministerial Committee on Polar Affairs (Committee on Polar Affairs Instructions) were laid down by the Royal Decree of 18 October 2002. This followed the consideration by the Storting of Report No. 9 (1999–2000) to the Storting, Svalbard, in which the Storting Standing Committee on Foreign Affairs requested in Recommendation No. 196 (1999–2000) to the Storting that the position of the Interministerial Committee on Polar Affairs be strengthened in order to guarantee the necessary control and coordination of the central administration's dealings with Svalbard and other polar affairs.

The Ministry of Justice and the Police have initiated an effort to revise the Committee on Polar Affairs Instructions.

6.2.2 The Svalbard budget

Article 8 second paragraph of the Svalbard Treaty reads as follows:

> "Taxes, dues and duties levied shall be devoted exclusively to the said territories and shall not exceed what is required for the object in view."

A separate budget for Svalbard is presented every year in order to show the revenues and expenditures in Svalbard. Each year the Ministry of Justice and the Police submits the Svalbard budget as a separate budget proposition concurrently with the national budget proposal. The Svalbard budget comprises three main parts. First there is an overall presentation of developments in the archipelago and the Government's focus areas and priorities. This is followed by a presentation of the various chapters of the budget, before concluding with an overview of state appropriations for Svalbard purposes broken down by the areas of responsibility of all the ministries. The various chapters in the Svalbard budget have remained largely unchanged, with the exception of a few minor changes over the past decade. For instance, a new Chapter 3 Grant for the Longyearbyen Community Council has been created. The Ministry of Justice and the Police will consider a closer examination of the content of some of the chapters of the budget to ensure that appropriations harmonise in the best possible way with the objectives of the various chapters.

In recent years, tax revenues in Svalbard have risen as a consequence of the general increase in activity in the archipelago. Even so, expenditure in the Svalbard budget is higher than revenue, which means that each year the budget receives a supplemental allocation from the national budget. As Figure 6.1 makes clear, the Svalbard budget has grown substantially the past ten years, which reflects the increase in activity in the archipelago.

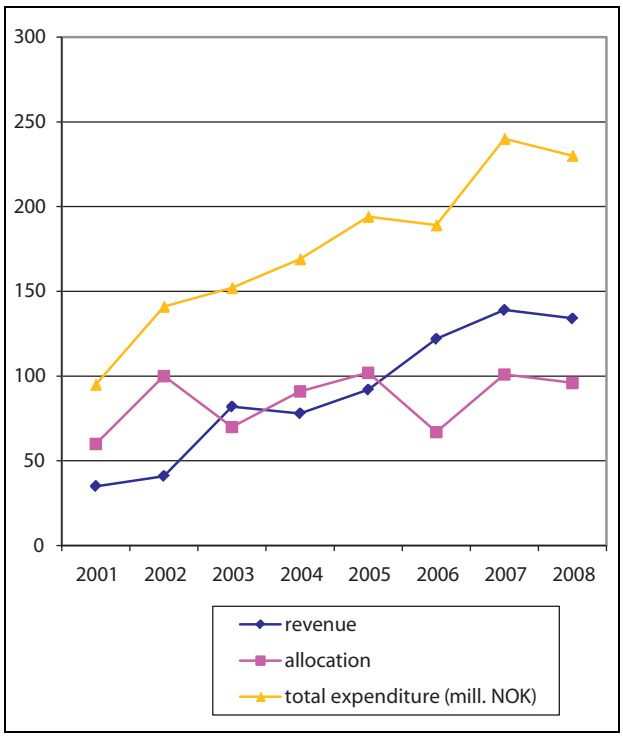


Figure 6.1 Overview of trends in the Svalbard budget, based on figures from the central government accounts.

Source: Report No. 3 to the Storting Central Government Accounts including National Insurance for 2001–2008

Parallel with the rise in total expenditure, the table shows that since 2006, revenues have been higher than the allocation from the national budget.

Report No. 9 (1999–2000) to the Storting states that: "[e]conomic transfers to Svalbard should not rise above the current level, and it is the Government's aim that they should be reduced in the long term. However, in the foreseeable future there will be a need for allocations, both for investments and for the operation of activities." As the figure makes clear, economic transfers to the Svalbard budget rose substantially from 2001 to 2002. This is due to the establishment of the Longyearbyen Community Council from 1 January 2002, and the fact that at the same time, the Community Council assumed ownership of Svalbard Samfunnsdrift AS (SSD). In 2002, the appropriation for the newly founded Longyearbyen Community Council was NOK 41 million, while its predecessor the Svalbard Council received NOK 1.8 million from the Svalbard budget in 2001. As the 2000s wore on, the allocation to the Svalbard budget rose in step with investment related to infrastructure in Longyearbyen (energy, school, church etc.), construction of the Svalbard Research Centre and the Marine Laboratory in Ny-Ålesund.

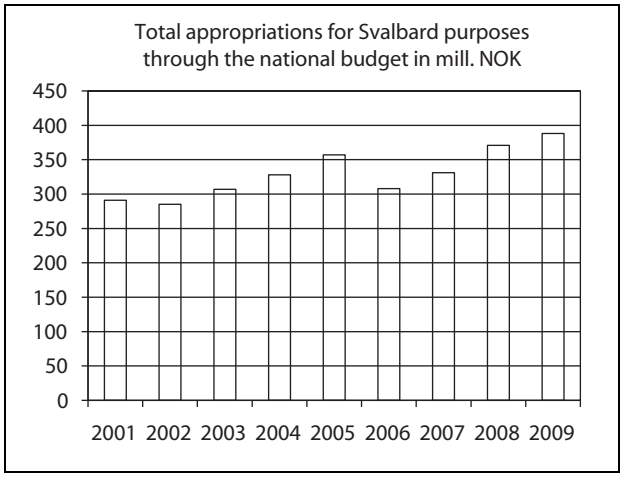


Figure 6.2 Total appropriations for Svalbard purposes through the national budget.

Source: Proposition No. 1 to the Storting, the Svalbard Budget, 2001 to 2009

Figure 6.2 shows the total appropriations for Svalbard purposes through the national budget. The increase throughout the past decade is primarily due to a greater focus on research and education in the archipelago.

The Government believes that the Svalbard budget guarantees the Storting and the public a coherent presentation of developments in the archipelago, while it provides information about the authorities' priorities and commitments in the archipelago. For that reason the Government will continue the arrangement of presenting a separate Svalbard budget.

6.3 Local administration

6.3.1 The Governor of Svalbard

The Svalbard Act of 17 July 1925 established a special administrative system for Svalbard. Section 5 of the Svalbard Act reads as follows: "In Svalbard there shall be a Governor". The Act entered into force in 1925, and since then there has been a Governor of Svalbard. In the beginning the office consisted of only one person, but over the years the organisation has grown, and today the office has around 34 full-time equivalents (FTEs).

Instructions for the Governor's responsibilities and tasks are set out in the Royal Decree of 20 April 1979. They stipulate that the Governor is the Government's highest-level representative in the archipelago. The Governor's chief task is to work to ensure that the Government's and the Storting's decisions are carried out, their objectives met and guidelines followed and to protect Norway's rights

and carry out Norway's duties under the Svalbard Treaty. Besides implementing Norwegian Svalbard policy, the Governor pays a key role in setting the agenda for Norwegian policy in the archipelago.

Although the Governor has a wide range of tasks, his core duties comprise safety and emergency preparedness efforts in the archipelago, the police and public prosecution authority and environmental management. Pursuant to Section 5 of the Svalbard Act, "The Governor shall have the same authority as a County Governor. The Governor is also chief of police and notary public". As county governor, the Governor of Svalbard is responsible for local environmental management for the entire archipelago, as well as for the management of cultural monuments and for some family law-related duties. With regard to supervisory tasks, the Government has assigned the County Governor of Troms the role of overseeing the Longyearbyen Community Council as school owner and authority over day care institutions. The Governor of Svalbard is to be responsible for Svalbard-related issues in connection with such supervision and shall also be able to participate in inspections. In the area of education, the Ministry of Education and Research is working to formalise the division of supervisory tasks in the Education Regulations for Svalbard.

A number of regulations assign duties and authority to the Governor of Svalbard in many areas. For example, the Governor monitors compliance with the Regulations concerning medical and health matters in Svalbard outside of the Longyearbyen land-use planning area and with the Regulation concerning the establishment, operation and use of satellite earth stations. Furthermore, the Governor performs duties authorised by the Regulations concerning the system for governing alcoholic beverages and the Regulations concerning fire services in Svalbard. The Governor is also involved in planning and implementation of meetings and inspections with regard to matters that fall directly under the relevant mainland authorities (e.g. the Norwegian Coastal Administration and

Box 6.1 The Governor of Svalbard

The post of the Governor of Svalbard was created in 1925. When the provision of the Svalbard Act concerning the Governor was debated in 1925, the Storting required that the administrative system and duties of the Governor could be changed as needed. For that reason, the Governor of Svalbard is not appointed as an officer of the Crown, and this arrangement has continued since that time. Nor has the Governor of Svalbard always resided permanently in Svalbard. The position has alternated between being permanent and under fixed-term contracts, and for three years during the Second World War the position was unfilled. From 1936 to 1953 the Governor of Svalbard fell under the Ministry of Trade/Industry, but otherwise the position fell under the Ministry of Justice.

Since 1925 many persons have held the office for terms of various lengths – far more than those who actually were appointed by the King in Council. Between 1928 and 1935, the County Governor of Troms, Johannes Bassøe, also functioned as Governor of Svalbard, and a deputy was assigned to Svalbard. Erik Haavie Thoresen served in the summers of 1929 to 1931, while Wolmer Marlow spent the winter from 1932 to 1933. Without a doubt the most well-known of the deputies is Helge Ingstad, who was the winter deputy in the years 1933–35. In 1935 the position was permanently in Svalbard again, and in the Governor's absence an Acting Governor was appointed. Among those serving for lengthy periods are Carl M. Rynning-Tønnesen (1955–56) and more recently Sven Ole Fagernæs (2005).

The following Governors of Svalbard were appointed following announcements of and applications for the position:

Johannes Gerckens Bassøe 1925–1935
Wolmer T. Marlow 1935–1942
Håkon Balstad 1945–1956
Odd Birketvedt 1956–1960
Finn Backer Midbøe 1960–1963
Tollef Landsverk 1963–1967
Stephen Stephensen 1967–1970
Frederik W. Beichmann 1970–1974
Leif T. Eldring 1974–1978
Jan S. Grøndahl 1978–1982
Carl A. Wendt 1982–1986
Leif T. Eldring 1986–1991
Odd Blomdal 1991–1995
Ann-Kristin Olsen 1995–1998
Morten Ruud 1998–2001
Odd Olsen Ingerø 2001–2005
Per O. Sefland 2005-

the Norwegian Labour Inspection Authority). The Governor's coordination tasks with regard to central government activities in Svalbard are becoming increasingly demanding, because the pace of change in the community is high, while legal conditions in Svalbard become increasingly similar to those on the mainland. At the same time, several mainland bodies, both the Norwegian Maritime Directorate and the Coastal Administration, have recently been granted direct authority in Svalbard. It is a crucial task to ensure that particular considerations regarding Svalbard – also viewed in an overall context – are taken into consideration by this exercise of authority.

The interest in Svalbard and the High North is growing rapidly among Norwegian as well as foreign players. With increasing attention there is a greater influx to the archipelago of various official and private delegations. The Office of the Governor of Svalbard notes this growing interest in the form of hosting duties, briefings and security detail in connection with the visits of royalty, statesmen and other officials. From 2005 to 2008 the number of briefings held by the Governor for various groups doubled.

The Office of the Governor has three departments: police, environmental protection and administration. The interpreter, legal adviser and tourism and information officer report directly to the Governor/Deputy Governor. In summer 2008 an organisation review was conducted to document the tasks of the County Governor and the resources and expertise available to the organisation to carry them out. In addition, an evaluation of whether the current organisation is adapted to the Governor's duties and objectives was held. The conclusion was that the current organisation underpins the management tasks performed by the Governor.

The review showed that the greater attention to Svalbard and the High North in general, the population increase in Longyearbyen and a trend whereby an increasing number of laws are applied to the archipelago have contributed to a significant increase in the Governor's duties in both scope and complexity. Furthermore, a wide range of areas of responsibility is assigned to the Governor, which challenges the organisation in terms of resource use, priorities, internal coordination and the division of labour. In view of the above-mentioned it is important to continue to enhance the role of the Governor of Svalbard to meet the level of ambition set by the Norwegian authorities regarding administration and the exercise of authority.

As a follow-up of the Storting's debate on Report No. 9 (1999–2000) to the Storting, Svalbard, an evaluation was done in 2004–2005 of the fixed-term arrangement for the employees of the Office of the Governor of Svalbard. In connection with the review, the arrangement was maintained, and the length of the fixed term was extended to six years. This provides a good balance between recruitment of qualified labour and stability in the organisation.

Police duties

As mentioned above, as the chief of police in Svalbard, the Governor has the same responsibility and authority as chiefs of police on the mainland. In addition to responsibility for the search and rescue service, the Governor also has responsibilities in the area of civil protection and emergency planning.

The Governor of Svalbard serves the inhabitants of Longyearbyen and the population of the other local communities in the archipelago, which all together comprises Norway's largest police district in area. The Governor attaches great importance to the collaboration with local volunteer groups, in the areas of rescue and emergency response services, hunting and wildlife management and various prevention efforts.

Crime in Svalbard is generally low. However, from time to time, various kind of accidents and violations of environmental protection and tourism legislation require resource-intensive investigations. This involves a need for a broad-based, long-term police effort, which puts a strain on a small organisation. In cases like these there is often broad cooperation not only across departments of the Office of the Governor, but also with other players such as the Directorate of Mining with the Commissioner of Mines for Svalbard and the Norwegian Labour Inspection Authority.

In the area of search and rescue in Svalbard, the Governor collaborates closely with local volunteer organisations, including the Longyearbyen Red Cross Rescue Team. New instructions for civil defence and emergency response efforts have been prepared for county governors and the Governor of Svalbard. In recent years the Governor's emergency response duties have also been expanded to also include nuclear preparedness, in line with the responsibilities of county governors on the mainland. The responsibility for planning and operative preparedness is vested in the police department. An effort has been initiated to clarify the division of roles between the Governor and local bodies in Longyearbyen with regard to various tasks in the area of civil defence and emergency response work.

Box 6.2 Trappers' stations in the future

Figure 6.3 Cape Wijk

Photo: Georg Bangjord

Overwintering hunting and trapping in Svalbard goes back to the early 1700s. Norwegian overwintering hunting and trapping increased in scope towards the end of the 1800s and continued until the First World War. Today, trappers live at five stations in the archipelago: Akseløya in Van Mijenfjord, Cape Wijk in Isfjord, Farmhamna in Forlandsund, Austfjordneset in Wijdefjord and Mushamna in Woodfjord. The two first stations are privately owned, while the Governor of Svalbard lends the other two out on a yearly basis. Today's trappers help to preserve an important part of Svalbard's history and culture, keeping alive Svalbard's oldest economic activity.

Preserving the trapping tradition is important. At the same time this is living culture that is undergoing transformation and should be developed further. For that reason, the Ministry of Justice, in collaboration with the Governor of Svalbard, will consider modernising the set-up for trappers in view of a growing need for observations services in the archipelago.

As previously the Governor ought to be able to grant applications for trapping activities within a certain trapping area. The main features of the current set-up for trappers should be continued to preserve the recognition and legitimacy of the trapping tradition.

One way to develop the set-up for trappers may be to assign some public-sector tasks to trappers. From the perspective of search and rescue and emergency response, it would be in the authorities' interest for there to be trappers' huts out in the wilderness areas and for them to be inhabited by qualified and experienced trappers, who in given situations can report on particular conditions. Other relevant tasks may be inspection and light maintenance of trappers' stations and fuel depots for search and rescue helicopters and reporting on conditions and light maintenance of buildings of cultural-historical interest in the trapping area. The same applies to observations that are of interest to the Governor's nature management.

In view of this, there will be closer ties between the Governor, field inspectors and the trappers in question, in a structure where the public interest in the area of supervision, control and emergency preparedness over large areas will be far better taken care of in an appropriate and economical manner.

An increase in activities in the High North as a consequence of ice-free areas may present challenges to the Governor relating to search and rescue and emergency response services. In this connection it is important that the emergency services in Svalbard, the police and the health service are at all times sized to meet this responsibility.

Environmental protection tasks

The Governor is the regional state environmental authority in Svalbard and is responsible for enforcing the environmental legislation and monitoring compliance with it. According to this legislation, a number of measures and activities require a permit from the Governor, who also has an important preparatory role in the effort to develop regulations and other policy instruments. The Governor's environmental protection tasks include the protection of areas, species management, cultural monuments, infrastructure development and pollution and land-use planning in areas where the responsibility has not been delegated to the Longyearbyen Community Council.

Act No. 79 of 15 June 2001 relating to environmental protection in Svalbard (Svalbard Environmental Protection Act) entered into force on 1 July 2002. The Act is framework legislation to cover protection of areas, management of flora and fauna, land-use planning, pollution, traffic and cultural heritage. Together with a number of regulations it unites in a single set of rules provisions that on the mainland are spread out among various statutes and regulations. These rules implement the ambitious environmental goals for Svalbard and give the Governor a well-suited and modern set of tools for managing the archipelago's natural environment and cultural monuments. At the same time, the entry into force of the new law and the creation of the Longyearbyen Community Council and Svalbard Environmental Protection Fund have led to new tasks in the form of advising, administrative procedures and supervisory efforts.

After the adoption in 2002 of the set of regulations pursuant to the Svalbard Environmental Protection Act, Bjørnøya and several areas in central parts of Spitsbergen were protected. In the protected areas the challenge is to develop good strategies to balance user and preservation interests within the framework of the purpose of preservation. A useful tool for accomplishing this are targeted management plans.

A crucial task for the Governor's environmental protection department is to follow up the requirements set for local activities and community services with respect to pollution and waste. In this connection, an important task is to ensure that localities with environmental toxins and hazardous waste are ascertained and the necessary action taken. This effort includes in some cases extensive collaboration with activities in Barentsburg. For Longyearbyen separate local refuse collection regulations are being drawn up with new and stricter standards for waste treatment.

The Governor of Svalbard approves the land-use plans that according to statute are to be drawn up for the settlements in Svalbard. The Longyearbyen Community Council is the planning authority for the Longyearbyen land-use planning area. The town is growing within the boundaries of the land-use planning area. This is leading to densification and increasing pressure on space. It is important to ensure reasonable use of this space. The shortage of new, unbuilt-on space necessitates greater densification and a more carefully considered use of space to limit conflicts between users, reduce environmental impacts and address civil protection needs. Consequently, there has been a considerable increase in the number of planning cases for consideration by the Governor. There is also an increase in the number of major projects for which environmental impact assessments are being done by the initiator as required by the Svalbard Environmental Protection Act. The largest projects, such as the planned expansion of mining operations, place heavy demands on the Governor and take up considerable resources.

It is also an important task for the Governor to document cultural monuments before they deteriorate and become ruins. In 2008 a multi-year documentation project was launched. There is ongoing work on new management plans for various areas and preservation purposes. The management of the collection of objects in the cultural history repository at the Svalbard Museum is a big responsibility, and extensive work remains for documentation and the condition of preservation to reach national standards.

The Svalbard Environmental Protection Fund was created in 2007 at the same time as the introduction of the environmental charge for travellers to Svalbard. The Governor of Svalbard has the secretariat function. The first allocations from the fund were made in autumn 2007, see also Box 7.1.

Tourism

The Governor is responsible for matters governed by the regulations concerning tourism and other travel and has a tourism adviser for handling these

tasks. The regulations shall ensure that visitors and others travelling in the archipelago do this in a way that protects their safety and the interests of the natural environment and cultural monuments. They contain provisions concerning a notification and insurance requirement for individual travellers and tour operators, and there is authorisation to submit claims to cover the Governor's expenses for search and rescue missions outside of close-in areas, regardless of culpability.

The Governor attaches great importance to close contact and communication with the tourism industry. For example, regular contact meetings are held with representatives of the local tour operators. The collaboration with the Svalbard Tourist Board and Arctic Expedition Cruise Operators (AECO) with regard to information for visitors and registration and statistics compilation is important. Efforts to change attitudes through information and communication helps ensure both compliance with the existing regulations and the development of a better understanding of the importance of addressing safety and environmental considerations. Thus, this effort is a good supplement to other policy instruments such as statutory and other regulation.

The information service

Svalbard's unique administrative system has necessitated the strategic use of information in order to maintain an appreciation for the exercise of Norwegian authority in the archipelago and to prepare the ground for administrative decisions. The growing political and media interest in Svalbard necessitates an active information service that can meet the demand from a number of different groups.

The creation of the Svalbard Global Seed Vault in 2007 did even more to help put Svalbard on the world map. For example, *Time* magazine named the Seed Vault the world's sixth-best innovation in 2008. Other examples worth mentioning are the travel publication *Lonely Planet*'s recent ranking of Svalbard as one of ten travel destinations that need to be experienced in 2009 and *National Geographic* magazine's declaration in 2008 that Svalbard is the world's best place to experience snow.

The Governor receives regular requests from major foreign news agencies for information and for an opportunity to do stories in the field. During 2007 and 2008, Al Jazeera, the BBC, CNN and Reuters all had representatives in Svalbard. This development must be expected to continue in the future.

Svalbard is also increasingly used by Norwegian authorities and others as a platform for visits for discussions on various issues, particularly as a "showcase" with regard to dialogue with partners on climate challenges. Although Svalbard is quite suitable in this regard, the influx places heavy demands on the Governor's information and visitors' service. There are reasons to believe that this trend will continue.

The growth in tourism and traffic in Svalbard has also necessitated an increase in the resources allocated to information directed at both organised tourism and individual visitors. The requirements in the Tourist Regulations and Svalbard's unique nature and climate mean that the Governor needs to devote a lot of resources to information aimed at tourists and others travelling in the field. The information centre "Svalbardporten" and the Governor's website are two important information channels serving these groups.

Each year there are accidents or serious incidents in the field involving residents or visitors. Situations like these create a surge of enquiries from families and the media, and the need for timely and correct information is substantial. The increase in the population, industrial and other business activity and traffic is leading to a greater risk of serious incidents involving large numbers of people. If such situations should arise, they place heavy demands on the Governor's communication preparedness, primarily vis-à-vis the population of Svalbard, but also vis-à-vis Norwegian and foreign media.

In 2008 the Governor's website was reorganised. The website now has a dynamic news page that helps to limit the surge of enquiries directed to the crisis or rescue management in the event of serious incidents.

Contact with foreign companies and activities

The Governor of Svalbard is in regular contact with all foreign activities in the archipelago. There is regular contact with the management of Trust Artikugol and with the General Consulate of the Russian Federation in Barentsburg, and the Governor will work to continue and deepen such contact. Even through the presence and information activities on the part of the Governor are growing, the need for general and specific information is still substantial. That is why regular contact meetings and office days are held in Barentsburg, and personnel from the Governor's office attend other meetings and inspections and participate in various official missions. In addition, the Governor holds an annual information meeting for the population in the town. These measures are important

for ensuring that people have a certain level of knowledge of the Norwegian administration and the authority of the Governor. Particularly when emergencies have arisen, experience has shown that knowledge of the exercise of authority in Svalbard is essential to ensuring the effectiveness and endorsement of the authorities' efforts.

6.3.2 Longyearbyen Community Council

Report No. 9 (1999–2000) to the Storting, Svalbard, contained a proposal to introduce local democracy in Longyearbyen. The Storting endorsed the proposal, in terms of organisation, authority and tasks, cf. Recommendation No. 196 (1999–2000) to the Storting. This was followed up by Proposition No. 58 (2000–2001) to the Odelsting, Act to amend the Svalbard Act etc., (changes to local democracy in Longyearbyen). On 1 January 2002 the popularly elected body the Longyearbyen Community Council assumed its powers, and from the same date the Svalbard Council was abolished.

The Longyearbyen Community Council is primarily organised and regulated like a municipal authority. Chapter 5 of the Svalbard Act lays down the legal framework and follows the system of the Local Government Act. Elections to the Council take place every four years, the same years as local government elections on the mainland, but later in the autumn, owing to the special conditions in Svalbard. The Election Regulations are set up in accordance with the Election Act for the mainland.

Like a municipal authority, the Community Council is a democratic venue, a service provider, an authority and community developer. 165 years of local self-government on the mainland prepared the groundwork well for local government in Longyearbyen. Elections and the proximity of local politicians give the inhabitants of Longyearbyen the same opportunity to influence their local community that inhabitants of mainland municipalities have. Local self-government is deemed to be the best way to bring about efficient service production tailored to needs and correct priorities. An important bonus is that well-functioning local democracy promotes popular participation and debate. For details see the discussion of local democracy in Longyearbyen in section 10.1.1. Development of local democracy.

The Svalbard Act and other laws and regulations assign the Community Council a number of tasks. One important task is responsibility for all community infrastructure in Longyearbyen that has not been granted to others, including responsibility for energy supplies. Other areas of responsibility are community and land-use planning, surveying and subdividing land, planning permission, roads, water and sewer, refuse collection, port services, fire services, cemetery operations, financial planning, trade and industry work, statistics compilation, social services aimed at children, adolescents and adults, child welfare, social counselling, work with youth, day care and school operation. In addition to assigned tasks, like municipal authorities, the Community Council is empowered to become involved in other duties. In view of the special conditions in Svalbard, there are some restrictions on the Community Council's general authority. Pursuant to Section 31 first paragraph of the Svalbard Act, the Longyearbyen Community Council may engage only in activities of general interest that are connected with Longyearbyen and are not provided by central government. In addition, the purpose provisions of Section 29 of the Svalbard Act also set some limitations on the Community Council in that its activities must be "within the framework of Norwegian Svalbard policy".

Since January 2006 the Longyearbyen Community Council has organised its operations so that strategic tasks, the exercise of authority and the overarching ordering function are carried out by the Community Council's own administration. Operational tasks for the community are generally performed by three municipal undertakings: one for services for children and adolescents, one for culture, and as of 1 January 2009, also Bydrift KF, with responsibility for the community's technical services. Previously Bydrift was a limited company 100-per cent owned by the Community Council. Through this change, the Community Council has placed all important community functions in a separate organisation.

6.3.3 Other central government agencies

Norwegian Polar Institute

The Norwegian Polar Institute is the central government institution responsible for mapping, environmental monitoring and management-related research in the Arctic and Antarctic, technical and strategic adviser for the central administration and technical adviser for the environmental directorates and the Governor of Svalbard on polar matters.

The institute's total store of knowledge, which is amassed through research and surveillance activities and physical presence, is intended to ensure a reliable and updated knowledge platform for administration and management and be the basis for the institute's advisory function. The Nor-

wegian Polar Institute is also to have a visible presence and activity in Svalbard, in order to make it a key contributor to the management of the archipelago environment and to the planning, coordination and facilitation of research there. The Norwegian Polar Institute is also to be the Governor's chief advisor on environmental issues.

The institute is to have permanent premises and permanent staffing in Longyearbyen and in Ny-Ålesund, have its own research and environmental monitoring operations in Svalbard and participate actively in national and international environmental monitoring and research collaboration in the archipelago. The Norwegian Polar Institute shall also help to encourage and coordinate national and international research in Svalbard through participation in research coordination bodies such as NySMAC (Ny-Ålesund Science Managers' Committee) and through collaborating on research projects and active use of its infrastructure, including research stations and field logistics.

Commissioner of Mines

The Directorate of Mining and the Commissioner of Mines for Svalbard (Directorate of Mining) is the central government agency tasked with management and exploitation of mineral resources and is an administrative agency directly under the Ministry of Trade and Industry. Its area of authority covers statutory enforcement, registration of rights, approval of extraction plans (operation plans) and supervision of mineral extraction operations. The Directorate of Mines' main office is in Trondheim. To perform the tasks of the Directorate of Mines in Svalbard, its Longyearbyen office is staffed by one employee for most of the year.

Svalbard Tax Office

The tax authorities for Svalbard have their own office in Longyearbyen. The tax office is organised as an office unit in Tax Region North and is organisationally under the regional manager there. The office unit assesses income tax and national insurance contributions for Svalbard and performs tax withholding. Currently the office in Longyearbyen has a staff of three.

Statsbygg

Statsbygg administers most of the state-owned properties in Longyearbyen. These include commercial buildings, institutions and 113 housing units. Statsbygg administers the weather stations on Bjørnøya and Hopen. Altogether Statsbygg administers a total of 42,000 m^2 of buildings in Svalbard, including Bjørnøya and Hopen. The operating costs of the hospital and school are covered by appropriations from the national budget, while the other buildings and housing are covered by the Svalbard budget. Statsbygg's activities related to Svalbard cover approx. nine FTEs.

Svalbard Church

Svalbard Church serves all residents of the archipelago, giving the pastor ecclesiastical responsibility for attending to all settlements in Svalbard. For that reason the pastor visits all local communities during the year, including the hunting stations. Barentsburg, Ny-Ålesund and Svea are visited several times during the year. In connection with visits of a Catholic priest to Hornsund, the pastor has also participated in mass there, and Catholic masses have been held in Svalbard Church itself as a service to the Catholic population. The church performs ordinary ecclesiastical duties such as church services, baptisms, confirmation, marriages, memorial services and spiritual guidance, in addition to other ecclesiastical activities performed by clergy and catechists. The Svalbard ecclesiastical district is part of the Tromsø deanship, which belongs to the North Hålogaland diocese. The church has a staff of three.

Avinor

Svalbard Airport, Longyear, is owned and operated by Avinor AS. Avinor Svalbard has 25 employees. As in the case of the other commercially unviable airports Avinor operates, shortfalls are covered by profits from the larger, commercially viable airports. For more about Avinor and Svalbard Airport, Longyear, see Chap. 11.

Longyearbyen Hospital

Longyearbyen Hospital is affiliated with the University Hospital of North Norway Trust. The hospital offers primary and specialist health services and is an accident and emergency care facility. Its overarching objective is to provide adequate health services to the population of Svalbard and to everyone travelling in and around the archipelago and adjacent waters in the Barents Sea. The hospital has a staff of 19. For more on hospital services, see Chap. 10.

7 Environmental protection

7.1 Introduction

In the opinion of the Government, Svalbard has an internationally important and valuable natural and cultural heritage, which Norway has a special responsibility to preserve. This was also emphasised in the previous Report to the Storting on Svalbard, where it was stated that Norway has a moral responsibility for preserving some of the last wilderness areas in Europe.

Protection of the natural environment is one of the key components of Norwegian Svalbard policy, and has been so for a long time. This is also based on the Svalbard Treaty, which has provisions concerning the preservation of Svalbard's natural environment. When the Treaty entered into force in 1925, the population of Svalbard reindeer, which was already drastically reduced, was protected. This was followed up later with the protection of species such as the walrus in 1952 and the polar bear in 1972. In 1973, protected areas were established that covered more than half of Svalbard's land area and territorial waters.

Today, preservation of the area's distinctive natural wilderness is one of the main objectives of Norwegian Svalbard policy, and Norwegian policy dictates that environmental considerations are to prevail in the event of a conflict between environmental targets and other interests, cf. Report No. 9 (1999–2000) to the Storting and Recommendation No. 196 (2000–2001) to the Storting. Since the previous Report to the Storting, this has been put into practice through new, modern environmental regulations and the establishment of a number of new protected areas. In 2002, the Svalbard Environmental Protection Act entered into force, and in the period 2002–2005 the protected areas were considerably expanded. Sixty-five per cent of Svalbard's land area and 87 per cent of its territorial waters are currently protected as nature reserves and national parks.

With the exception of a few settlements and their adjacent areas, Svalbard is still a large, contiguous wilderness area. These virtually undisturbed natural areas have great intrinsic value and are important for the protection of the vulnerable biodiversity that is found here. The areas also have great value as a source of knowledge and outdoor experiences. Since the previous Report to the Storting on Svalbard was submitted nearly ten years ago, the goal of protecting Svalbard's wilderness has become more important but also more challenging. This is due, *inter alia*, to the increasing rareness of pristine nature in the global context and the increasing vulnerability of Svalbard's natural environment as a result of global warming. At the same time, the pristine nature of Svalbard has become more important as a source of knowledge about climate change and the environment. This has resulted in a greater emphasis on the potential of the large areas of essentially undisturbed nature in Svalbard as reference areas for climate and environmental research, and a recognition that access to these areas is an important resource for Svalbard as a platform for international research. As a result of the growth in tourism and other traffic, it has become even clearer that the wilderness and cultural heritage are an important, but vulnerable basis for this industry.

Research, education and tourism constitute a large and increasing share of the activities of Norway and other nations in the archipelago. The Government regards the undisturbed natural environment in Svalbard as an important part of the basis for these activities and thus for Norwegian settlement and presence as well.

The Svalbard Environmental Protection Act and other environmental regulations are the most important policy instruments for ensuring that presence and activities stay within the constraints set by the conservation of the archipelago's unique wilderness. At the same time, environmental protection is an integral part of a comprehensive Norwegian Svalbard policy. This entails that each of the societal sectors in Svalbard is also responsible for avoiding conflicts with environmental considerations and helping to achieve the environmental goals. How this responsibility is followed up by the various sectors is described in greater detail in Chapter 11: Sea and air, Chapter 9: Industrial, mining and commercial activities and Chapter 8: Knowledge, research and higher education.

In the coming years, we will face completely new challenges in some cases with regard to pre-

serving Svalbard's natural environment and cultural monuments. Svalbard is one of the places in the world where climate changes are expected to be greatest. As the temperature rises and the polar sea-ice is retreating, we must expect major ecological changes that make it increasingly difficult for species that are adapted to the current climate to survive. At the same time, both the traffic and the interest in natural resources on and around Svalbard can be expected to increase still further.

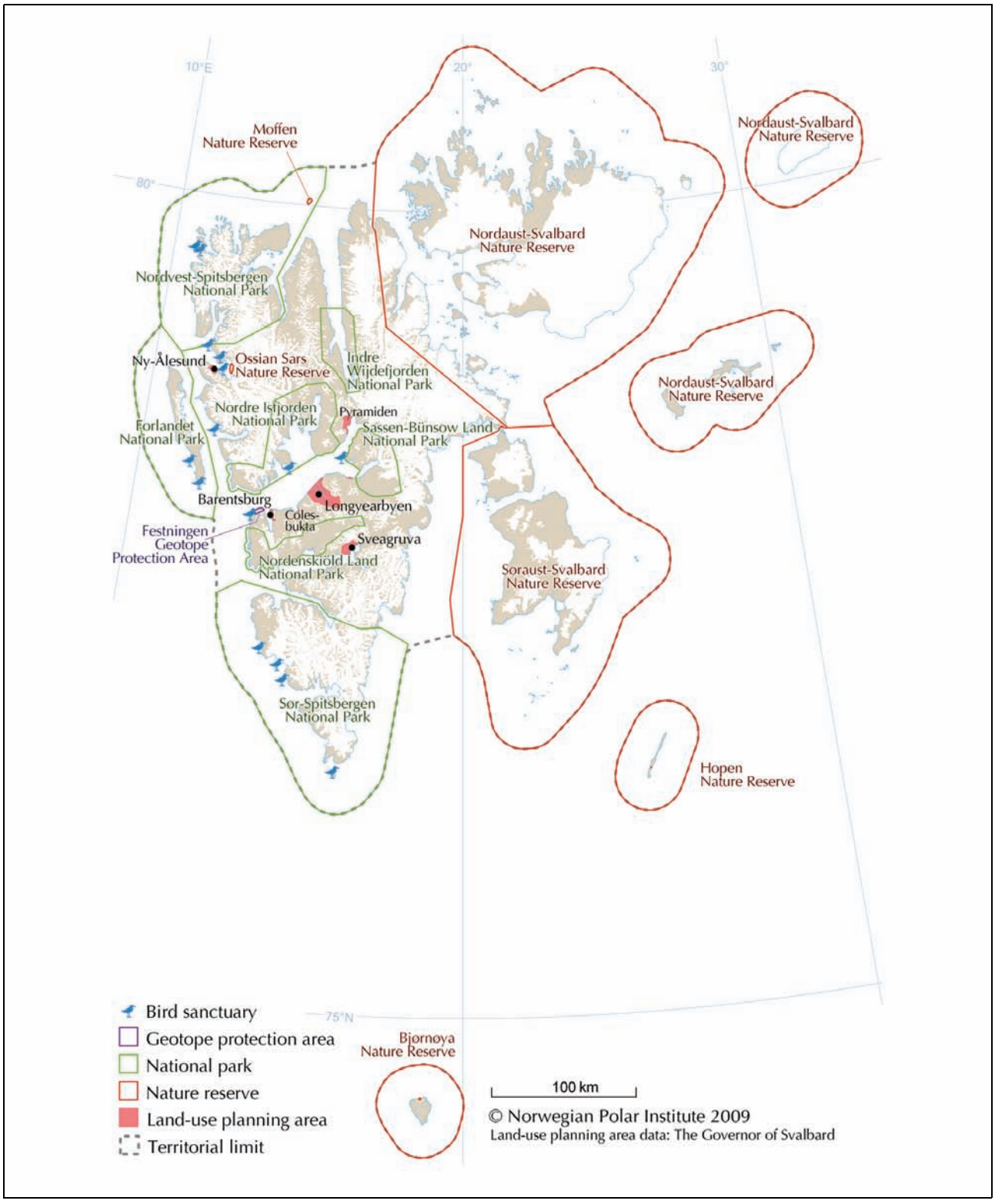


Figure 7.1 Boundaries for protected areas, land-use planning areas and territorial waters in Svalbard.

Source: Norwegian Polar Institute

When climate changes rapidly, the overall impact on ecosystems and species will increase. This underscores the need for a management that considers local activities, climate change and other external pressures in context and that aims to limit the total impact in accordance with the ambitious goals that have been set for preserving Svalbard's wilderness. The Government regards it as crucial that policy instruments be developed further and that measures be implemented in time to meet these challenges.

7.2 Main objectives

Preservation of the area's unique natural wilderness is one of the main objectives of the Svalbard policy; cf. Chapter 4 Main objectives and instruments. The Government bases the environmental protection in Svalbard on the following main objectives:

- On the basis of its internationally important natural and cultural heritage, Svalbard shall be one of the world's best-managed wilderness areas.
- Within the framework set by the Treaty and considerations of sovereignty, environmental considerations shall prevail in the event of conflicts between environmental protection and other interests.
- The extent of wilderness areas shall be maintained.
- Flora, fauna and cultural monuments that warrant protection should be preserved virtually intact, and natural ecological processes and biodiversity must be allowed to evolve virtually undisturbed by human activities in Svalbard.
- There shall be large and essentially pristine natural areas in Svalbard that meet the need for reference areas for climate and environmental research.
- The possibilities of experiencing Svalbard's natural environment undisturbed by motorised traffic and noise shall be ensured, including areas that are easily accessible from the settlements.

These objectives establish the framework for all activity in the archipelago.

7.3 Policy instruments and achievement of objectives

7.3.1 Status and achievement of objectives

The current state of the environment in Svalbard is essentially good and provides a good starting point for successful preservation of Svalbard's wilderness. Due to determined Norwegian conservation efforts over several decades, only a minor fraction of Svalbard's land area has been affected by physical encroachments such as roads and other infrastructure. Furthermore, most populations of mammals and birds have been allowed to recover after overexploitation in earlier times. Even though there are also species in Svalbard that are threatened or vulnerable, the archipelago has not been subject to the same negative trends as the mainland with regard to infrastructure development and changes in land use, with the consequent loss of biodiversity. With the exception of a few settlements and mining areas, Svalbard is still a large, contiguous wilderness area with virtually intact natural ecosystems.

Reductions in the extent of wilderness areas in recent decades have been incremental only, and are related to certain extensions of the infrastructure in existing settlements and mining areas. Despite several plans, a determined policy has enabled us to avoid the construction of infrastructure that intersects and leads to fragmentation of wilderness areas, such as roads, power lines, etc. connecting the various settlements and mining areas in Svalbard. Hence, the wilderness areas in Svalbard are still contiguous and unfragmented in accordance with the objectives for preservation of wilderness.

Other local impacts on the terrestrial environment are also moderate and due to various forms of traffic in the terrain.

Since the last Report to the Storting on Svalbard, traffic in Svalbard's natural environment has increased as a result of increased tourism, research activity and population in Longyearbyen. The increased traffic involves snowmobile, cruise and other boat traffic. For the most part, the traffic is motorised, and especially cruise traffic takes place to a great extent within the protected areas as well.

It is well known that the forms of traffic that occur in Svalbard can have impacts on flora, fauna and cultural monuments. It has been documented that the off-road driving with motor vehicles in some areas has resulted in considerable damage to the terrain and vegetation. Off-road driving in the

terrain is currently strictly regulated and the visible impacts are mainly vehicular tracks related to previous mining and exploration activity. Local damage to vegetation and cultural monuments has also been documented at frequently used disembarkation sites for cruise tourism.

In some areas, motorised traffic may at times diminish the possibilities for undisturbed outdoor experiences. This is particularly true near Longyearbyen during the snowmobile season and in some frequently visited disembarkation sites on the west side of Spitsbergen during the cruise season. There has also been a marked increase in the cruise traffic in the nature reserves in East Svalbard, where there are conflicting interests over the use of these protected areas.

The fauna in Svalbard are protected in principle, but a limited amount of hunting, trapping and fishing is allowed, primarily as recreational activities for local residents. The populations of most species are in good condition and little affected by the activities that currently take place in the archipelago, but for a few species, there is insufficient knowledge to ascertain this with certainty. The populations of species such as Svalbard reindeer, walrus, and polar bear as well as eider ducks and geese have recovered or are increasing after the overexploitation of earlier times. The exceptions include Greenland right whale and Brent-goose, which still suffer drastically reduced populations. Svalbard char have also been heavily harvested. In some river systems, the population of mature char was drastically reduced and nearly depleted through overfishing. There are also many signs of climate-related changes in the environment. Diminishing sea-ice in the fjords on the west side of Svalbard is already having an impact on ice-dependent species' use of these areas in the winter and spring. At the same time, the percentage of temperate fish species in the fjords has increased considerably. Species such as polar bear and glaucous gull have disturbingly high levels of certain environmental toxins. While the levels of "old" environmental toxins such as PCBs are slowly decreasing, the levels of some newer chemicals are increasing.

Seabirds, marine mammals and other species in Svalbard are directly or indirectly dependent on the biological production in the sea and factors that affect it. The populations of seabirds in Svalbard have not undergone the same negative trend as on the mainland. One exception is the collapse of the guillemot population on Bjørnøya in 1986–87, which was closely related to the collapse of the capelin population in the 1980s. Since that collapse, the guillemot population on Bjørnøya has recovered considerably.

The overall conclusion is that the extent of wilderness areas in Svalbard has been maintained. Even though our knowledge about the impacts of traffic is limited, an overall assessment of the state of the environment indicates that the impact on species and ecosystems as a result of local activity is still moderate. The most significant impact is still related to the remaining effects of overexploitation of living resources that occurred in earlier times. The levels of environmental toxins are disturbingly high in some species. The climate is changing rapidly, and we are probably already witnessing the first impacts of climate change on some populations. Depending on how traffic is controlled, there is a risk that a steadily increasing traffic will affect an increasing number of locations and areas in Svalbard. This is especially a challenge in the nature reserves on East Svalbard because of the role that these areas play as large and essentially pristine reference areas for research.

7.3.2 Current policy instruments

The most important policy instruments for the protection of the environment in Svalbard are the Svalbard Environmental Protection Act with accompanying regulations and the enforcement of these regulations, as well as monitoring of the state of the environment and activities that can have an impact on it. Monitoring and control of compliance with protection provisions and other environmental rules are handled by the Governor of Svalbard. These are tasks that are very important for compliance with the environmental regulations and that require a considerable input of resources.

In Svalbard, special rules concerning environmental protection have been issued in most areas instead of putting the mainland legislation in force. A new, modern Svalbard Environmental Protection Act entered into force on 1 July 2002. The Svalbard Environmental Protection Act is mainly a framework law that outlines the main principles for the management of the environment in the archipelago, and a number of regulations have been issued that supplement it. The objective of the Act is to maintain a nearly undisturbed environment in Svalbard with regard to a contiguous wilderness area, landscape elements, flora, fauna and cultural monuments. Within this framework, the Act makes room for environmentally benign settlement, research and commercial activities.

The Svalbard Environmental Protection Act and accompanying regulations regulate most areas

in the field of environmental protection in Svalbard, such as habitat protection, infrastructure development and traffic, protection of cultural monuments, land-use planning in the settlements, local pollution and waste, and hunting and fishing.

In many ways, the Svalbard Environmental Protection Act is a pioneering effort in environmental law and very important in the efforts to achieve the ambitious environmental objectives that have been set for Svalbard. The experience with the Act so far is that it provides a good basis for a comprehensive, long-term management of the archipelago.

After the establishment of several new protected areas and the extension of the border for the original large protected areas in the sea from four to twelve nautical miles in the period from 2002 to 2005, 65 per cent of the land area and 87 per cent of the territorial waters are protected. In the autumn of 2008, the Bjørnøya nature reserve was also extended to 12 nautical miles from land. Through this conservation effort, an outstanding representative network of protected areas in Svalbard has now been established, which encompasses all known habitats in the archipelago.

Together with strict general environmental regulations, the extensive protected areas provides a good basis for maintaining the extent of wilderness and avoiding future loss or fragmentation of wild

Box 7.1 The Svalbard Environmental Protection Fund

Figure 7.2

The Svalbard Environmental Protection Fund has provided funding to environmental protection and cultural heritage projects in Svalbard since 2007. During its first two operating years, the Svalbard Environmental Protection Fund has distributed NOK 8 million to 57 different projects and measures that shall contribute to the protection of the natural environment and cultural monuments in Svalbard.

The income for the Svalbard Environmental Protection Fund mainly comes from the environmental fee to visitors to Svalbard. The revenue to the fund is supposed to be used to initiate and encourage good projects and measures aiming at achieving the ambitious environmental objectives for Svalbard. The Environmental Protection Fund is supposed to help ensure that Svalbard's distinctive natural wilderness is preserved as a basis for experience, knowledge and sustainable use.

The revenue can be used in surveys and measures to survey and monitor the state of the environment, causes of environmental impacts and environmental impacts of certain activities, as well as restoring the environment to its original state. In addition, funding can be provided for management, maintenance and research in accordance with more detailed provisions in the Svalbard Environmental Protection Act. The revenue for the funds can also be used for measures to promote information, training and facilitation. The experience derived from Svalbard Environmental Protection Fund shows that the fund is important as a supplement to the ordinary environmental management and as a policy instrument to fill gaps in knowledge with regard to the state of the environment, causes and measures. The Environmental Protection Fund has also helped create a local commitment to promote the values of the natural and cultural heritage that Svalbard has to offer.

The challenges related to climate change, sustainable tourism and harvesting of the game and fish populations in Svalbard are relevant priorities for the fund in the coming years. The fund's revenue has been increasing, and if this trend continues, it may become relevant to provide support to larger and more long-term projects.

The Ministry of the Environment has appointed a Board of Trustees for the fund, and the secretariat for the Environmental Protection Fund has been located in the offices of the Governor of Svalbard.

areas as a result of infrastructure development. Outside of the protected areas, however, this depends on restrictive practices as regards permits for infrastructure development and effective enforcement of the regulations.

Starting on 1 July 2007 Regulations No. 3780 of 1 June 1973 concerning the establishment of bird reserves and large nature conservation areas in Svalbard were amended so that only light marine diesel fuel may be used as bunker oil within the large nature reserves on the east side of Svalbard. A cap of 200 passengers per cruise ship was also introduced in these areas. In 2008, the Act relating to harbours and fairways also came into effect for Svalbard. This act provides opportunities to implement a number of measures pertaining to fairways that are also important with regard to reducing the risk of accidental oil spills. This and other maritime safety measures are discussed in Chapter 11.

Management plans are an important policy instrument for the management of protected areas, e.g. in order to provide predictability to users and to clarify the implications of regulations for various activities. Management plans should give a more detailed account of the conservation objectives and put the Regulations concerning traffic and other activities that may affect the natural and cultural heritage into operation. So far, the Hopen and Bjørnøya nature reserves are the only protected areas for which management plans have been elaborated.

Regulations concerning harvesting in Svalbard, which regulate all hunting, trapping and fishing in the archipelago, were passed on 24 June 2002. These regulations are an important policy instrument for ensuring a management of the fauna in accordance with the environmental objectives and the principles of the Svalbard Environmental Protection Act. The regulations were amended in 2008 and among other things authority was given to the Governor of Svalbard to specify new Regulations concerning fishing for arctic char in Svalbard, cf. Regulations No. 865 of 30 July 2008.

Motorised traffic in the terrain and the use of aircraft in connection with tourism are regulated in separate regulations. This regulation regulates the motorised traffic in space and time and distinguishes between the places where residents and visitors are allowed to travel by snowmobile. Pursuant to this regulation, snowmobile-free areas have also been established, where outdoor recreation and tourism may take place undisturbed even in areas that are easily accessible from Longyearbyen.

A good knowledge base with regard to the environmental impacts of local activity and external factors such as climate change and long-range pollution, and not least the ways in which these factors interact is a necessary basis for good management. Hence, the gathering of knowledge through surveys, regular monitoring and environmental research is an important policy instrument.

Environmental monitoring in Svalbard is organised and reported through the environmental monitoring system for Svalbard and Jan Mayen (MOSJ). MOSJ is coordinated by the Norwegian Polar Institute.

Information is also an important policy instrument with regard to both disseminating knowledge about the protected and wilderness areas in Svalbard and the rules that apply to traffic and other activities. This is mainly taken care of by the Governor. The establishment of the information centre *"Svalbardporten"* has helped improve the information work considerably.

International cooperation is of great importance to the state of the environment in Svalbard. This is especially true in connection with protection of migrating species, the management of the marine resources in the sea around Svalbard and external factors that have an impact, such as climate change and long-range pollution. However, this kind of international cooperation is beyond the scope of this report.

7.4 Special challenges and measures

The current regulations and good state of the environment give the Government a good starting point for its efforts to preserve Svalbard's wilderness. At the same time, certain trends may pose major challenges for environmental protection in Svalbard. This applies not least to climate change, increasing traffic and potential changes in the activities as a result of a warmer climate that will make Arctic marine areas more readily accessible. In addition, the development in the settlements may pose a challenge to the environment. The environmental management must assess and deal with different factors that have an impact, such as climate change, pollution, infrastructure development, alien species, and disturbance so that the total impact in the long run does not reduce the extent of or the quality of the wilderness. This kind of management will make great demands on both fundamental knowledge and management's ability to adapt and tailor policy instruments and measures in response to changes in environmental con-

ditions and activity. In order to achieve the objectives concerning preservation of Svalbard's wilderness, it is crucial that the policy instruments be further developed and utilised in a way that meets these challenges, and that the efforts to establish a knowledge base that makes this possible be continued. Not least, there will be a need for a more systematic approach to surveying and monitoring the environment and good systems for adaptive management based on new knowledge.

In a situation where both local activity and external pressures are increasing, two key environmental management principles are of particular importance. First, the so-called precautionary principle has been incorporated into the Svalbard Environmental Protection Act. When sufficient knowledge is lacking about the effects that a measure may have on the natural environment or cultural monuments, the Act stipulates that authority shall be exercised with a view to avoiding possible damaging effects on the environment. Second, the principle of overall environmental pressure, which is also established by law in the Svalbard Environmental Protection Act indicates that all activity that is initiated must be evaluated on the basis of the overall environmental pressure to which the natural environment and the cultural monuments will then be exposed. These principles will be particularly important, in view of the ambitious goal that has been set to preserve the virtually undisturbed wilderness in Svalbard. It is also established in Norway's national strategy for sustainable development that the Government's environmental policy shall be based on the precautionary principle.

It is expected that climate change will have considerable long-term environmental impacts on Svalbard. The basic causes of climate change cannot be averted by means of policy instruments and measures in Svalbard. However, the policy instruments should ensure that local activities give necessary consideration to changes in climate and environmental conditions so that the least possible overall environmental pressure will be inflicted on vulnerable species and ecosystems.

The Government also regards it as important to strengthen Svalbard's status as a natural and cultural heritage of international importance and to increase the understanding among all involved parties of the measures that are necessary in order to conserve this valuable natural and cultural heritage for the future. The challenges posed by climate change to environmental protection in Svalbard are described in greater detail in Chapter 2. This discussion is a backdrop for the challenges that are described in the following section.

7.4.1 Biodiversity on thin ice

Challenges and measures

Although the biodiversity situation in Svalbard is good at present, species and ecosystems are vulnerable to many types of impacts. The assessment of the different species' vulnerability shows that there are also threatened species in Svalbard. The reasons for this are complex, and in many cases not fully understood. Nevertheless, the following causal factors can be singled out:

- hunting and trapping of mammals and birds in earlier times
- impact on the species' source of sustenance in the sea,
- impact on migratory species in their wintering areas and along their migratory routes,
- long-range pollution via air and water,
- climate change

So far, the groups of species that have been assessed to determine whether they are threatened are birds, mammals and vascular plants. All in all, 70 species in Svalbard are on the national "red list" of threatened species. Fifty-one of these are plants, sixteen are birds, and three are mammals.

Common to the causal factors that have been identified is the fact that they are primarily related to external pressures or activities in earlier times. While the remaining effects of hunting and trapping in earlier times are declining with time, other factors can be expected to become more prominent. This applies in particular to climate change, which can be expected to increase in importance and become the predominant threat. However, inputs of environmental toxins to the Barents Sea will also play an important role and may be enhanced by climate change. The seabird populations in Svalbard are also dependent on a fisheries management that takes the populations' nutritional requirements into consideration. Most types of fish that are important as sources of food for seabirds around Svalbard are currently in good condition or increasing in numbers.

The climate in Svalbard is rapidly changing, and it is probable that the living conditions for many species can be radically altered as a result of diminishing sea-ice, altered snow conditions and a longer growing season. Svalbard is an archipelago surrounded by pack ice and both species and ecosystems are dependent on an interaction between land and sea that is highly vulnerable to climate change. The fact that Svalbard is an archipelago also limits the land-based species possibilities of migrating north as the temperature rises. Thus,

Figure 7.3 One of the three winners in the drawing competition "My Svalbard – why Svalbard is a good place to live" at Longyearbyen School.

Drawn by: Alona Kulyk, 3rd grade.

protection of areas and species in Svalbard cannot prevent climate change from becoming a serious threat to biodiversity.

Nevertheless, the protection and the low pressure from local activities can help limit the overall impact and thereby help species and ecosystems to adapt more easily to climate change. According to the UN Intergovernmental Panel on Climate Change (IPCC), reducing other stressors, and hence the overall environmental pressure, is the most important management approach for limiting harmful effects of climate change on ecosystems and species. In such a context, an extensive protection of areas and species and strict regulation of local activities will continue to play an important role. Therefore, the Government emphasises the importance of limiting the overall impact on species and populations through necessary regulation of traffic and a continued restrictive attitude to harvesting and activities that entail degradation of the species' habitats.

The importance of a continued strict protection is emphasised by the fact that climate change may amplify other impacts. Less ice may result in more ship traffic (cf. Chap. 2) and other traffic and hence increase the risk of serious pollution and the disturbance of important habitats. Climate change is also expected to affect transport and accumulation of environmental toxins and to increase the negative impact on vulnerable species. For migratory species, environmental conditions could also be considerably changed in wintering areas and along migratory routes with potentially serious consequences for many species.

A continued active effort to reduce the discharge of of environmental toxins and enhance cooperation in international fora for the protection of migratory species and populations shared with other countries will play a prominent role in Norway's efforts to reduce the overall environmental pressure on species and ecosystems that are vulnerable to climate change.

A milder climate also increases the risk that alien species may spread to Svalbard and displace the archipelago's native flora and fauna. Already at present the seawater along the west coast of Svalbard has become more temperate. This may increase the risk that alien species that can be found in the ballast water and in fouling on the hulls of ships may gain a foothold and spread through Svalbard's environment. A risk analysis will be conducted for alien species in Svalbard as a basis for assessing measures to prevent the introduction and spread of such species.

It will be an important challenge to identify environmental changes early so that it is possible to adapt the management of these changes and limit their overall environmental pressure. In order to succeed in this, it is important to have adequate knowledge about how various species and ecosystems are directly and indirectly affected by climate change. The efforts to develop this knowledge are underway and will be advanced through surveys, monitoring and management-oriented research with the emphasis on impacts of climate change, environmental toxins and traffic on fauna, flora and threatened and vulnerable species. The framework for this work will be the existing environmental monitoring system for Svalbard and Jan Mayen (MOSJ). The establishment of a Centre for Ice, Climate and Ecosystems at the Norwegian Polar Institute will also help improve our knowledge of the most climate-sensitive and ice-dependent species and ecosystems in Svalbard. The national species project that is administered by the Directorate for Nature Management will also be of assistance in this context. As a follow-up to Report No. 8 (2005–2006) to the Storting, Integrated Management of the Marine Environment of the Barents Sea and the Sea Areas off the Lofoten Islands, a separate monitoring group has been established under the administration of the Norwegian Institute of Marine Research, which coordinates all monitoring of the marine areas in the North.

In March 2009, the Government submitted the strategy document *Nye byggesteiner i nord – neste trinn i regjeringens nordområdestrategi* (New building blocks in the north – the next step in the Government's High North strategy). In the strategy document, the Government draws up the main directions for the further development of the High North and outlines efforts and measures that ought to be carried out over a 10–15 year period. The priority given to the different efforts, the sequence of implementation and the rate of progress will be regularly assessed and be presented in the Government's annual budget proposal to the Norwegian Storting. In this strategy document, the Government has noted that the research communities in Tromsø should be further developed into a leading international centre for research on climate and the environment in the High North. One element in this effort should be the improvement of management-oriented expertise aimed at the needs in Svalbard for knowledge about the impacts of climate change and changes in industrial activity and traffic.

A number of policy instruments and specific measures related to infrastructure development, traffic, maritime safety and fisheries also play a major role in the preservation of biodiversity in Svalbard. This is described in greater detail in sections 7.4.2 and 7.4.3.

7.4.2 Traffic in Svalbard's wilderness

Challenges and measures

Traffic is a major challenge in the management of most large protected areas and other wilderness areas. Undisturbed natural environment and intact ecosystems are vulnerable qualities that require a more active management if traffic increases and spreads to new areas. This kind of management should ensure that the traffic's impact is limited to levels considered acceptable in different areas and ought to be based on a comprehensive analysis that also takes other types of impacts into consideration.

In recent decades, the traffic in Svalbard has increased. This increase includes snowmobile, cruise ship and other boat traffic. This growth can be expected to continue, partly as a result of increased tourism and partly because the interest in field-based research and the use of Svalbard as a meeting place is on the rise. Most of the traffic is motorised, and especially the cruise traffic takes place to a great extent within the protected areas as well.

Although Svalbard is large, it is usually special attractions such as cultural monuments, haul-out sites for walruses or other special natural phenomena and wildlife populations that are visited by tourists. The traffic is also greatest in the spring and summer when the environment is at its most vulnerable. To limit the impact on Svalbard's natural environment and cultural monuments as a result of increasing traffic, it is necessary to control the traffic in accordance with the value and vulnerability of the various areas and their conservation goals.

An important challenge here is the regulation of the cruise tourism within the nature reserve in East Svalbard. In recent years, there has been a

marked increase in the cruise traffic in these areas. At the same time, more attention has been paid to the value of preserving the nature reserves as reference areas for research. The Government regards it as important that the traffic in the two big nature reserves in East Svalbard be managed in a way that is in accordance with the objective of protecting them and that ensures the areas' quality as essentially untouched reference areas for research. This is due to the need to study biological impacts of climate change in the Arctic, cf. Chapter 8: Knowledge, research and higher education. Research fieldwork may also entail disturbances and other pressures. In some cases, it is necessary to conduct research in areas and at times when the natural environment is particularly vulnerable in order to obtain knowledge that is necessary in order to manage the natural environment or document environmental changes that are highly important for the environment and society. Thus, the overall result is that much of the traffic in Svalbard is taking place in areas and at times when the natural environment is particularly vulnerable.

In the long run, increasing traffic will result to a varying extent in wear on the natural environment and disturbance of the fauna as well as a greater risk of pollution. The magnitude of this impact and risk will depend on the volume of traffic as well as where, when and how it occurs.

The documentation of the effects of traffic on the natural environment and cultural monuments in Svalbard is still rather limited. This is partly because the increase in traffic in many areas is relatively recent and partly because the monitoring and survey of impacts is still rather modest in scope. Based on knowledge from both Svalbard and other places, however, it is well documented that the kinds of traffic that occur in Svalbard may have impacts on flora, fauna and cultural monuments.

Specific studies of impacts on Svalbard's fauna mainly evaluate behavioural responses and to a lesser extent impacts on population levels. Snow mobile traffic appears to have only a moderate impact on reindeer, but females and calves are vulnerable. It has also been documented that female polar bears with their young are easily disturbed. For these species, it cannot be excluded that they will be subject to "avoidance effects" that change the populations' use of habitats. Bird species such as eider ducks and geese and other ground-nesting bird species are easily disturbed by foot traffic in nesting areas and resting areas. This results in increased loss of eggs and reduced reproduction. It is also known that regular traffic near the dens of Arctic foxes will often result in the litter of young being moved elsewhere. Studies also show that helicopter traffic has a disturbing effect on seabirds, geese, ringed seals and walruses. As mentioned previously, it has been documented that off-road driving with motor vehicles, e.g. related to former mining and exploration activities, has a markedly negative impact on terrain and vegetation and that concentrated foot traffic results in the formation of footpaths. Considerable wear on vegetation, terrain and cultural monuments in some much-visited disembarkation sites has also been documented.

Studies are underway of the impacts of traffic on three haul-out sites for walruses in East Svalbard, but the data have not yet been processed. Flocks of females with pups are mainly found in the east, and these are easily disturbed. Studies of the impact of traffic on Brent-geese and barnacle geese have been made in the archipelago of Tusenøyane. These species are extremely vulnerable during the breeding and moulting seasons. The vulnerability of various species and areas to acute oil spills has also been relatively well documented.

When it comes to the ways in which various forms of traffic are distributed and have evolved with time, the best surveys are those of cruise traffic. Surveys of other traffic are of varying quality, and there is, for example, no detailed overview of the snowmobile driving of residents.

Roughly speaking, Svalbard can be divided into three zones on the basis of acceptable levels of impacts from traffic. The lowest acceptable impact level is in the nature reserves, which have the strictest form of statutory protection and "are protected in order to preserve large, contiguous and essentially untouched natural areas as reference areas for research", cf. the Protection Regulations. Experiencing nature is not one ofthe objectives for protecting these areas. In the three big national parks established in 1973, a somewhat greater amount of traffic and a somewhat higher level of impact are permitted. In addition to preserving untouched natural environments and their value as reference areas for research, their use for outdoor experiences is an important part of the conservation objective for these areas. In the remaining areas, which include central Spitsbergen and the settlements, acceptance of the impacts from traffic and tourism is generally higher than in the nature reserves and the national parks established in 1973. This also applies to the new national parks in central Spitsbergen.

When traffic increases, the need for comprehensive management increases as well, so as to

keep the environmental impacts at an acceptable level and deal with conflicting user interests. This increases the need for a more thorough and consistent control of the traffic. Relevant policy instruments may include zoning and channelling of traffic, limits on the volume, guidelines adapted to different locations and requirements for guides to be certified.

The cruise traffic in Svalbard has increased in recent years and has spread to the archipelago's more remote areas as well. Even though only a small percentage of Svalbard's total land area is directly affected by disembarkation from cruise ships, these areas often have important and vulnerable conservation values related to cultural monuments and fauna. In addition to the risk of wear and tear on cultural and natural monuments, vegetation and soils, cruise traffic can also cause disturbance of fauna and entail the risk of acute oil pollution.

The cruise traffic within the two big nature reserves in East Svalbard used to be modest, but since the beginning of the 1990s, there has been a considerable increase in the volume of traffic at the same time as more and more new areas are being visited. The so-called expedition cruise vessels travel in these areas during the summer season. People are brought ashore in various places to experience the natural and cultural heritage, and the choice of disembarkation sites depends to a great extent on weather and wind conditions. Moreover, one and the same vessel will often set passengers ashore in several different places during one and the same cruise so that the number of disembarkations greatly exceeds the number of passengers on board. The number of disembarkation locations and persons on shore in the nature reserves in East Svalbard varies somewhat from year to year depending on ice conditions. Since 2001, the number of disembarkation locations has varied from 34 (in 2008) to 75 (in 2005). The number of persons on shore in the same period varied from about 8,000 (in 2001) to about 13,000 (in 2006) (source: The Governor of Svalbard). Based on the objective of protecting the environment and the increasing interest in the nature reserves in East Svalbard as an especially important reference area for climate research, it is important to ensure that the impact of traffic be kept at a sufficiently low level.

The documentation of the extent of the disturbance and wear resulting from the increased cruise traffic is still limited, and the need for a more systematic survey and monitoring of impacts is great. The operators in the cruise industry in Svalbard have taken considerable responsibility themselves in order to limit the possible environmental consequences of their activities, e.g. through internal control, information measures, choice of boats and equipment and training of guides.

Traffic related to research and education in Svalbard is already extensive. A continued focus on the further development of research and educational activities in the coming years will also entail increased traffic and activities in the field. Furthermore, it appears that researchers would like to shift their geographical focus more to the eastern parts of Svalbard because the Arctic phenomena that they want to study are less prominent or absent in West Spitsbergen, which is affected by the Gulf Stream. This research ought to be considered in the context of the eastern areas' importance for climate research and future surveys, cf. Chapter 8: Knowledge, research and higher education. As previously described, the eastern nature reserves in Svalbard are protected in order to preserve large, contiguous and essentially untouched reference areas for research. That entails that it ought to be possible to utilise the areas for research and monitoring in accordance with this objective. At the same time, traffic and other activities related to research in these areas should be limited to research that cannot be conducted in other places, that has special relevance and that does not result in impacts that may be in conflict with the objective of protecting these areas.

Use of snowmobiles: More than 2,500 snowmobiles are currently registered in Svalbard. The number has more than doubled in the last decade (source: MOSJ). This indicates that the snowmobile traffic originating in Longyearbyen has also increased. With the exception of an increasing traffic on the east coast, the traffic is concentrated in central Spitsbergen. This is in keeping with the objectives for the development of tourism in Svalbard, where the plan is for the further development of tourism and traffic to be concentrated in this area. There has been a reduction in the amount of driving by residents in the Northwest Spitsbergen and South Spitsbergen national parks. Beyond this, there is little detailed knowledge about the volume and pattern of snowmobile traffic.

Measures

Improved knowledge

Solid knowledge about the extent and volume of various forms of traffic is important for environmental management. The same applies to knowledge about how the traffic affects the natural environment and cultural monuments in Svalbard.

There are also important gaps in the knowledge about the distribution and vulnerability of various habitats and species in Svalbard with regard to traffic. Therefore, it is necessary to develop a more systematic and comprehensive survey and monitoring related to traffic patterns, vulnerability and impacts of traffic. Improving our knowledge about the ways in which traffic affects the environment in Svalbard through surveys and monitoring will thus be an important task in the coming years. This applies to the vulnerability of both cultural monuments and various species and habitats to these impacts.

Management plans

Preparing management plans for the protected areas is a key policy instrument for managing various forms of traffic and for limiting the overall impact in keeping with the objectives of the protection measure. Management is defined here as various types of policy instruments, where channelling can be one of several relevant measures. Management plans should be a means of further clarifying and achieving the objective of the protected areas and providing guidelines for a comprehensive management. The plans should also ensure that the management has a sound scientific basis for various regulatory measures. Within the protected areas, these measures will be based on the provisions of the respective protection regulations. If any management plans are to be developed for areas which are not protected, they must be based on the Svalbard Environmental Protection Act and its accompanying regulations as well as the general environmental objectives for Svalbard. If necessary, these management plans may divide the individual protected areas into management zones with different objectives and balances between use and protection or between different user interests. In this way, management plans will be an important tool when it comes to striking a balance between the interests of research and tourism in accordance with the objectives of the protected areas.

At present, there are management plans for the nature reserves on Bjørnøya and Hopen. The Government wants to emphasise the importance of also drawing up management plans in the coming years for the remaining large protected areas, which will further clarify the protection provisions and provide further guidelines for traffic in accordance with the objectives of the protection measure. The potential for unacceptable impacts on the environment and conflict between different user interests indicates that there may be a need for management plans in areas outside the protected areas as well and especially in central Spitsbergen, where the brunt of the activities and traffic is located.

In order to come up with good management plans, it is important that the user interests be actively included in the process and not least that a solid knowledge base should be established with regard to vulnerability and impacts of traffic in protected areas.

Special considerations regarding measures concerning the various types of traffic

The cruise traffic

As mentioned above, the preparation of management plans for the protected areas will be an important tool for controlling all types of traffic, including those connected with cruise tourism. For most of the protected areas, provisions for protection were made at a time when there was much less traffic in Svalbard than there is at present. In order to ensure that the traffic is in accordance with the objectives of the protected areas, however, it has been necessary to amend some of these provisions. In the summer of 2007, amendments were made to the Protection Regulations for the two large nature reserves in East Svalbard, which entail requirements for fuel quality corresponding to light marine diesel for ships, and a cap of 200 passengers per cruise ship.

A proposal for provisions concerning the places where cruise tourists shall be allowed to disembark in the eastern nature reserves has been circulated for comment in 2008. The objective of the proposal is to limit the number of locations for disembarkation in order to preserve the two eastern nature reserves as large, contiguous areas with little anthropogenic impact as reference areas for research. In the consultation process, a number of contributions have been submitted calling for a review of various aspects of the part of the proposal that applies to disembarkation in the eastern nature reserves. This concerns both the extent to which the measures will provide an effective and sufficient protection of the nature reserves' value as reference areas and the consequences of new sailing patterns for the cruise industry. Maritime safety implications must also be further assessed. When the comments submitted in the consultation process have been assessed by the Governor of Svalbard, the Directorate for Nature Management and the Directorate for Cultural Heritage, the Government will decide what further actions must be taken on the proposals for amendments to the reg-

ulations for the nature reserves in East Svalbard. The viewpoints and information that have been submitted in the consultation round will be thoroughly considered and included in the basis for the Government's ongoing work on this matter.

The proposed amendments to regulations that have been circulated for comment also cover restrictions on access to certain selected cultural monuments and requirements for fuel quality corresponding to light marine diesel for ships that sail within the national parks in western Svalbard. It is important to the Government to reduce the risk of oil pollution in the protected areas and to ensure that important cultural monuments are sufficiently protected against traffic. The intention is to ensure that a decision concerning such amendments to the Protection Regulations will be passed in the summer of 2009.

Guidelines for research

Traffic resulting from research must be assessed in light of the increases in other types of traffic, the ambitious environmental objectives for Svalbard, the management category and conservation objectives of individual areas and the scientific need for undisturbed natural environments. In such a context, user conflicts may also arise, both between research and traffic in connection with recreation and tourism and between different research activities. The preparation of management plans for the protected areas will be an important tool for controlling all types of traffic, including those related to research. The Governor is working on guidelines for traffic related to research activities. These are to form the basis for requirements for field research and for measures to restrict research-related traffic and the risk of environmental impacts resulting from this traffic. Strict environmental requirements shall be specified for research in the field, and research that makes use of new methodologies that reduce the need for logistics, infrastructure and human presence shall be encouraged. Guidelines shall also be established for traffic in connection with research and production of films in Svalbard. These guidelines will be followed up with necessary and appropriate requirements and measures. The Government will also continue its efforts to ensure that traffic in and around Ny-Ålesund will not reduce the quality of the area as a platform for Norwegian and international research. Measures for better coordination of research field activities are described in Chapter 8.

Snowmobile traffic and non-motorised traffic in the vicinity of Longyearbyen. Both snowmobile traffic and non-motorised traffic and tourism are concentrated in the areas around Longyearbyen. This is also the preferred area for further development of tourism. At present there is substantial growth in the non-motorised sector of the tourism industry, and the potential for further growth is assumed to be considerable if conditions are arranged to promote it. A further development of non-motorised tourism is desirable and well in keeping with the ambitious environmental objectives for Svalbard. Therefore, the Government underlines the importance of ensuring a management regime that promotes dog-sledding and other forms of non-motorised outdoor recreation and tourism based in Longyearbyen. Efforts will be launched to assess how better arrangements can be made for this. Local tour operators will be involved in this work. The Government will also establish a better overview of the volume and patterns of snowmobile traffic in Svalbard.

Use of aircraft for sightseeing is prohibited in Svalbard, and its use for other purposes is strictly regulated. Pursuant to the Svalbard Environmental Protection Act, landing in the terrain requires a special permit. However, the use of helicopters in connection with research, management and other purposes is increasing. Helicopter traffic is very noisy and has a considerable potential to disturb the fauna. Thus, it is important that the use of helicopters in public administration and research and for other purposes be limited through a strict interpretation of the regulations and a better coordination and planning of activities in the field. Within the framework of the environmental monitoring system, MOSJ, efforts are being made to obtain a better overview of the total helicopter traffic in Svalbard.

New types of motorised traffic. Out of consideration for the environment, it is essentially undesirable to allow new types of motorised traffic in Svalbard. Plans for the use of hovercraft in Svalbard for the purpose of research have aroused the need for a stricter regulation of this type of motorised traffic. In the efforts to revise the Svalbard Environmental Protection Act, provisions regarding motorised traffic will be assessed, including the regulation and use of hovercraft.

7.4.3 Resource exploitation in our last wilderness

Challenges

Growing interest in the natural resources in and around Svalbard could trigger an increased number of applications for permits for activities

entailing significant infrastructure development in the natural environment outside of the land-use planning areas surrounding existing settlements and mines. The extent and location of development in these areas will determine the magnitude of the loss of wilderness areas.

Wilderness is a natural environment that has not been affected by significant infrastructure development. Limiting new infrastructure development that affects untouched natural areas is thus a necessary condition for the preservation of wilderness. The main challenge in this context is the constraints on future industrial activities in Svalbard.

Significant infrastructure development, such as roads, power lines, etc. is primarily relevant in connection with industrial exploitation of coal, oil and possibly other mineral raw materials within Svalbard's territory. There are potentially exploitable resources within and near existing protected areas and in other wilderness areas that are not protected. Development and installations related to tourism and research can also become an issue, but will scarcely be of the same extent or significance for the wilderness characteristics as industrial activities. Infrastructure development is usually also followed by other types of environmental impacts. For example, mining operations or petroleum operations also affect the natural environment through pollution and various forms of disturbance.

In the protected areas, significant infrastructure development is prohibited. Moreover, except for in the land-use planning areas, all types of infrastructure development require special permission pursuant to the Svalbard Environmental Protection Act. Requirements have also been specified for environmental impact assessment of all development that can be assumed to have more than insignificant effects on the natural environment. Assessments of whether a permit can be granted, and if so on what conditions, will be based on the impact assessment and put special emphasis on the importance of the development for the wilderness character and special conservation values. The objective of maintaining the extent of wilderness areas in Svalbard calls for a continuation of restrictive practices when it comes to permits and conditions pursuant to the Svalbard Environmental Protection Act for activities that entail development outside of the existing settlements and mining areas. A continuation of restrictive practices outside the protected areas will also be important for protected areas because significant infrastructure development near these areas can have a negative impact on their conservation values.

The marine areas that surround Svalbard are not open to exploration for petroleum. In Svalbard, claims have been granted on the basis of geological indications of petroleum deposits. A claim is a preferential right to exploit any resources that may exist within a specifically designated area. However, the claim grants no unconditional right to begin operations. A claim is a clarification of rights among private licensees, and any exercising of the right to a claim is subject to restrictions in other regulations, e.g. the Svalbard Environmental Protection Act.

Drilling for petroleum has previously been conducted onshore, most recently in 1990 within what is now Nordenskiöld Land National Park, but it has not resulted in any commercially viable discoveries.

In the vicinity of the island of Hopen and along the west coast of Spitsbergen, some claims have been granted on the basis of indications of petroleum deposits. Permits for exploratory drilling have not been granted in the territorial waters of Svalbard.

Svalbard's coastal areas have large populations of seabirds and marine mammals and are extremely vulnerable to oil spills. In the comprehensive management plan for the Barents Sea (Report No. 8 (2005–2006) to the Storting), the polar front, the sea-ice edge and the ice-filled waters around Svalbard (the territorial waters) are defined as especially valuable and vulnerable areas. It is also clear that the potential damage in the event of any oil spill will vary inversely with the oil spill's distance from the shore.

The Government attaches importance to preserving Svalbard's coastal areas as pristine as possible. As mentioned, fully 87 per cent of the territorial waters around Svalbard are protected as national parks or nature reserves. In these waters, petroleum operations cannot be permitted. In the parts of the territorial waters that are not protected, exploratory drilling and operations would require a permit pursuant to the Svalbard Environmental Protection Act in the same way as operations onshore.

As with former governments, this Government does not consider issuing permits for petroleum operations in the territorial waters around Svalbard to be in accordance with the Svalbard Environmental Protection Act, cf. section 9.5.

The Government will continue the current restrictive practices with regard to permits and conditions for activities that entail significant infrastructure development, extensive traffic, pollution or the risk of pollution that may affect wilderness

areas, protected areas or other especially vulnerable and valuable natural areas. In cases where a permit is granted for activities requiring infrastructure development, pollution or the risk of pollution outside the land-use planning areas, strict conditions will be imposed with regard to the scope and extent of the development, its location and physical design, traffic and other activities connected with the development, discharges and the risk of discharges and cleaning up and, if necessary, restoring the areas involved when the activities cease. The aim of these conditions should be to minimise the scope and impact of the infrastructure development and other environmental impacts resulting from the activity, and moreover to ensure that it is carried out in a way that makes it possible to restore the affected areas to their original natural state when the activity has been concluded. In order to ensure that we have a good, updated picture of the development situation at all times, the Directorate for Nature Management will extend their survey of areas without major infrastructure developments in Norway (INON) to also include Svalbard.

7.4.4 The environment in the settlements and their adjacent areas

Challenges

The environment in the settlements and their adjacent areas is affected by the activities that transpire there. Increased activity and a growing population may affect the environment through expansions of built-up areas and infrastructure, increased traffic, more hunting and fishing in adjacent areas and increasing discharges and generation of waste. In addition, energy use and transport and the resulting emission of greenhouse gases may increase. Longyearbyen and Svea in particular have grown considerably in recent years. How large the total impact on the environment in and around the settlements will be depends on the pace and patterns of further growth. This in turn will depend on the extent to which the authorities encourage and plan for further growth and the requirements that are specified for land-use, energy efficiency, traffic and emissions.

Land use. In the Svalbard Environmental Protection Act, provisions are specified concerning the land-use planning within specifically defined land-use planning areas around the settlements. The intention is that the objective of the Act shall be taken care of in the best way possible. In order to avoid the spread of activities and development outside the established areas of activity, the Act also states that activities related to settlement and business should as a rule be located in the land-use planning areas.

The settlements in Svalbard differ considerably in their nature, and there are different forms of land-use conflicts that must be resolved. There are also different administrative traditions in the Norwegian and Russian settlements, which entail different planning needs.

Longyearbyen has grown since the previous Report to the Storting on Svalbard. Building activity in Longyearbyen has increased, and so has the demand for new areas, especially for dwellings, research and education and business activity. Energy consumption has also increased. If the growth in Longyearbyen continues, this may give rise to a need for considerable investment in infrastructure.

The objective of the Svalbard Environmental Protection Act concerning environmentally sound settlement, research and commercial activities shall form the basis for further development of Longyearbyen and the other settlements in Svalbard. The Svalbard Environmental Protection Act has clear provisions about what is regarded as environmentally sound.

Land-use planning in Longyearbyen and other settlements is a key policy instrument for steering development in a desirable direction. The land-use master plan for Longyearbyen is now being reviewed and a new plan is expected to be approved in 2009.

Based on the objective of land-use planning and the possibilities of a holistic management of land use, it is important that the actual master plan designate areas for building purposes and specify how the land should be utilised, whereas the more detailed zoning plans provide a more detailed account of how the individual area is to be utilised. In the central area of Longyearbyen, there will be special needs for this kind of division of the planning work into two levels.

One of the main challenges in Longyearbyen is to adapt development to the area's existing environment and characteristics. All of the major land-use planning areas are facing challenges, especially with regard to the cultural monuments. This is clearest, however, in Longyearbyen, where growth has been most pronounced. A survey of the cultural monuments and their associated buffer zones in Longyearbyen has recently been conducted, which will be of great help for future land-use planning.

A particular challenge for Longyearbyen in the coming years will be to improve the incorporation

of possible risk of flooding and landslides into land-use planning. This is particularly due to climate change, which has resulted in altered precipitation, melting and hydrological conditions. These changes are likely to be amplified in the coming years. The ground on which Longyearbyen is built is vulnerable and can easily be affected by climate change. This is especially true in the areas surrounding the mouth of the river in the Longyeardalen valley. To a varying extent, climate change will also entail similar challenges for the other settlements in Svalbard.

Cultural monuments. Svalbard's settlements have a long history, and they include cultural monuments and environments that bear witness to different phases in the settlement's development. These cultural monuments are integrated into the built-up areas and have great value as historical symbols and sources of historical knowledge and awareness. When the current built-up areas have evolved in close connection with the historical core of the settlement, there may be conflicts between the protection of cultural monuments and further development of the settlements. The process of completing land-use plans for Svalbard's Norwegian and Russian settlements will help clarify the relationship between preservation and development. The follow-up by local authorities, however, will always be critical to the protection of cultural heritage.

Ny-Ålesund has Svalbard's biggest set of automatically protected cultural monuments predating 1946 (29 buildings). The settlement is also an important cultural environment that should not lose its historical character. A management plan for the protected buildings has been developed in cooperation between the Governor, Kings Bay and the Directorate for Cultural Heritage, and has proved to be an important step in the efforts to preserve the historical character of the settlement. Consideration has been given here to the fact that the interiors of some of the buildings can be modernised. The historical and cultural heritage of the area must be taken into consideration in any further development.

The cultural monuments from Longyearbyen's former mining period are important as sources of emotional and aesthetic experience and have great symbolic value. The protected cableway facilities and other technical cultural monuments require extensive and difficult maintenance. Climate change can speed up deterioration by increasing the rate of decay of wood and the destabilization of the uncompacted debris on the mountainsides in the Longyeardalen valley. Store Norske, which owns the aerial cableway facilities, ought to prepare a maintenance strategy in collaboration with the Governor. In Ny-Ålesund, Kings Bay has incorporated protection of cultural heritage in its management strategy.

There are also significant cultural heritage values in the land-use planning areas that surround the current and former settlement and areas of activity in Barentsburg, Pyramiden and Colesbukta in the form of mining installations and built-up areas from the post-war period. Most of these cultural monuments do not have any formal protection. Therefore, it is an important challenge to define what ought to be preserved and to cooperate with the owners on this.

Pollution and waste. Although the pollution situation in Svalbard is dominated by long-range pollution, local sources also contribute, especially in the areas around current and former settlements and mines. Emissions from power production and run-off of environmental toxins from old landfills, mine tailings and polluted soil are the biggest challenges here.

The Government regards it as highly important that local sources of pollution be brought under acceptable control so that the impact on the environment will be minimal outside the immediate vicinity of the relevant sources. In Ny-Ålesund, the research and monitoring activities are dependent on keeping the local anthropogenic impacts at a very low level. The discharges from settlements and other activities in this area must therefore be limited to a minimum.

The Norwegian Pollution Control Authority (SFT) has issued a discharge permit for coal mining operations in the Svea Nord mine and has plans to incorporate the mining operations in Longyearbyen into this permit so that it regulates all Norwegian coal mining operations in Svalbard. A corresponding permit has been issued to the coal-fired power plant in Longyearbyen with requirements for scrubbing a number of substances from the emissions. SFT has also notified Trust Arktikugol in Barentsburg that operation of the power plant there will require a corresponding permit to the one that has been issued to the power plant in Longyearbyen.

In the somewhat longer run, substantial new investment in production and the distribution of power and heat in Longyearbyen will have to be made. For more details, cf. section 10.1.3 Power supply.

For most of the locations with polluted soil in Svalbard, measures have already been taken or the risk of pollution is under control. For the locations

where there will still be activities, the status cannot be clarified before activities cease. For the remaining locations, the situation will now be assessed. Where it is deemed necessary, requirements for clean-up and recovery will be specified. According to the plan, the work shall be completed during 2010.

In 2008, the Governor and the Norwegian Pollution Control Authority commenced work on removing as many as possible of the local sources of PCB pollution in Svalbard. The so-called PCB project aims to survey sources of PCBs in all settlements in Svalbard and collect these sources for adequate destruction. The biggest challenges are in Barentsburg and Pyramiden, and a very good collaboration has been established with the Russian mining company Trust Arktikugol. The phasing out of the capacitors with PCBs from light fixtures has been completed in the Norwegian settlements. The clean-up in Barentsburg and Pyramiden and the supervision to make sure that the phasing out of PCBs is finished shall be completed in 2009. The possibilities of using the practical experiences from the project as a basis for international cooperative projects concerning PCB phase-out will be assessed further.

The environmental authorities will also clarify what ought to be done with the facades of buildings and polluted soil in Svalbard that have proven concentrations of PCBs. In connection with this, the environmental authorities will establish cooperation with the owners of the buildings and issue orders concerning measures that must be taken when this is deemed necessary.

7.4.5 Nomination of Svalbard as a World Heritage site

Challenges

UNESCO has signalled a clear interest in having Norway assess Svalbard as a part of the so-called World Heritage List under the World Heritage Convention. In June 2007, on the basis of recommendations from experts in the Directorate for Nature Management and the Directorate for Cultural Heritage, Svalbard was added to Norway's tentative list of areas that the State Party will consider for nomination to the World Heritage List in the coming years. Further efforts are now being made to assess Svalbard as a potential World Heritage site. In this process, a closer look will be taken at the basis for a possible World Heritage status and the areas that may be relevant for nomination. The potential consequences of any proposal that may be made for traffic, tourism, etc. will also be assessed.

Giving an area World Heritage status entails no independent restrictions on the utilisation of the site, but it is a prerequisite for inscription on the World Heritage List that the areas and values on which inscription is based are given sufficient protection pursuant to national legislation. World Heritage status can also result in increased international attention to Norway's management of the areas.

Svalbard has important conservation values related to its undisturbed nature, landscape and biodiversity, including large populations of seabirds and marine mammals with conservation value at the international level. The cultural and historical heritage represent the activities of many nations over a period of more than 400 years combined in a way that can scarcely be found anywhere else. It is the sum of these qualities that makes Svalbard unique, and that can justify World Heritage status and that therefore will be the natural basis for the demarcation of a possible future World Heritage site.

World Heritage is a trademark with considerable power to attract tourists. Although Svalbard is already an extremely attractive tourist destination at present, it must be taken into account that the area will attract even more interest and that the influx of tourists may increase if it is inscribed on the World Heritage List. World Heritage status may therefore be important for the development of tourism in Svalbard, at the same time as this status may give rise to increased pressure from traffic in vulnerable areas.

8 Knowledge, research and higher education

8.1 Introduction

Svalbard is the most research-intensive part of Norway and also the most international. For several hundred years, researchers have visited Svalbard, which in recent years has become easily accessible in terms of communications and can offer good living conditions for short or long-term stays. In recent decades, substantial resources have been invested in major infrastructure for research and monitoring, partly by Norway and partly through an international effort. In Longyearbyen, the world's northernmost university centre has been established. Norway is currently hosting research institutions from 20 countries that have a more or less permanent presence in Svalbard. Simply stated, education and research have become one of the main business sectors for this island community in the High Arctic. At the same time, this is a "sector" that requires that the area's unique natural wilderness be preserved. Large areas in Svalbard are protected, and indeed an important objective of this protection is to ensure large, essentially untouched reference areas for research. In addition, the Svalbard Environmental Protection Act was given a separate provision in 2004 concerning restrictions on activities that may have a damaging effect on research activity in particular areas that are of special value for research.

Arctic research has traditionally been mainly concentrated in the natural sciences. Arctic research is also of crucial importance for climate research. Changes in environmental conditions develop more rapidly and are more visible in the Arctic than at lower latitudes. This makes Svalbard a unique area for studies of physical and biological processes occurring as a result of such changes, which in turn gives Norway a special responsibility to advance our knowledge of the most pronounced global challenges of our time. Moreover, Svalbard has very good conditions for basic research in the natural sciences in a number of fields, and cultural monuments that are important for European historical research on hunting and trapping and scientific activities, to name two examples. Svalbard's location makes it possible to conduct unique atmospheric studies and satellite monitoring. The surrounding marine areas, which are feeding and nursery grounds for a wide range of marine species, are also of great importance to research, not least in light of the ongoing climate changes. Little is still known, for example, about how marine species react to these changes.

International involvement and cooperation with Norwegian researchers are responses to such basic conditions, and are most recently displayed within the framework of the International Polar Year 2007–2008. The largest polar research programme ever gathers researchers from many nations to focus on issues of importance for our common future. Norway contributes substantially to the Polar Year, partly through activities located in Svalbard. This also indicates that Norwegian research in and on the Arctic is on good terms with the global research community. At the same time, a strengthened Norwegian effort in the Antarctic, e.g. through the development of the Troll research station into a year-round station, creates new opportunities for Norwegian polar research. This allows for comparative studies between the two polar areas and a further development of areas where Norwegian research has special advantages.

The importance of polar research has increased in recent years, not least as a result of climate change. At the same time, our knowledge about the climate changes in the Arctic is limited. Paradoxically the climate models in the Arctic Climate Impact Assessment's (ACIA's) study forecast a partly ice-free Arctic Ocean by the middle of this century, whereas observations from recent years show that this situation is already well on its way to occurring. The insufficient knowledge should be seen in the context of our poor Arctic data basis and poorly developed Arctic climate models. Furthermore, the level of activity in the Arctic, whether it be tourism, shipping, petroleum operations or fishing, will probably increase in the coming years. This creates a need for more knowledge in order to improve weather reports, warnings about ice and icebergs, and safety and emergency preparedness, as well as to develop knowledge on satellite monitoring. Research and monitoring in Svalbard will help increase our knowledge in all of the above-mentioned areas.

Box 8.1 Investment related to research, education and monitoring

The major investments of importance to research, education and monitoring were made after 1990. Essentially, these included the establishment of UNIS, the establishment of a large radar facility near Longyearbyen for the study of the aurora borealis and other interactions between the sun and the earth, the Norwegian Space Centre's establishment of the Svalbard Satellite Station (SvalSat) for satellite communications near Longyearbyen, SvalRak for launching scientific rockets in Ny-Ålesund, the completion and opening of a number of research stations in Ny-Ålesund and the establishment and later new building of the monitoring station at Zeppelin Mountain, also near Ny-Ålesund.

The investment has continued during the last decade, and reflects both Norwegian and international interest in Svalbard as a research platform and research and education centre. A fibre optic cable from Longyearbyen to the mainland was completed in 2003/2004. UNIS has expanded. The Svalbard Research Park was opened in 2006 and has both Norwegian and foreign tenants. In 2008, UNIS opened the aurora borealis laboratory Kjell Henriksen Observatory (KHO) near Longyearbyen.

In Ny-Ålesund, the Marine Laboratory was completed in 2005. When India officially opened its research station in Ny-Ålesund in the summer of 2008, it was the tenth country to do so after the old premises had been renovated for research purposes in recent years. Institutions from Norway, Japan, South Korea, China, the Netherlands, Germany, France, Italy and the UK had previously established their own stations in Ny-Ålesund. In the National Budget for 2009, NOK 25 million has been allocated for the construction of a new power plant in Ny-Ålesund, where the old power station has been the biggest source of pollution. Investment in the new power plant under the direction of Kings Bay AS is an important contribution to the consolidation of Ny-Ålesund as an environment-friendly research centre.

8.2 Main objectives

The Government's policy for research and education in Svalbard has various dimensions. Because of the growing extent of the activities and the international presence, this policy is becoming a more and more important element in the management of the archipelago. Furthermore, it is an essential part of the Government's High North strategy, which points to knowledge as the actual "hub" of the effort. Finally, it is a key aspect of the national policy for research and higher education, which emphasises quality, internationalisation and utilisation of national advantages, among other things. The Government emphasises the following main objectives for the policy:

- Research and higher education are to be key elements in the Norwegian activities in Svalbard in the years to come.
- Svalbard shall be further developed as a platform for international research, higher education and environmental monitoring. The archipelago's infrastructure and unique research possibilities shall be exploited even better than they are at present. The infrastructure must be supplemented with measures that further strengthen Svalbard's position in the international development of knowledge.
- Norway should be a key player in the development of knowledge on and about Svalbard, not just a facilitator. A professional leading role must particularly be ensured through the professional standing and quality of Norwegian polar research.
- All activity should be in accordance with an overriding consideration of the environment. Research on climate and the environment is a natural focus area, and this research itself is dependent on the area being preserved unaffected by local impacts to the greatest extent possible.

8.3 Status and development trends

8.3.1 Basic investment

Institutions and other infrastructure of importance for research are especially located in Ny-Ålesund and Longyearbyen with a certain division of labour between the two settlements. Major scientific equipment for measurement and monitoring is established in both places, partly through an international effort.

Ny-Ålesund is defined as a "green" research station and should function as a natural science lab-

Figure 8.1 The University Centre in Svalbard and the Svalbard Research Centre.
Photo: Nils Petter Dale/UNIS

oratory. Other economic activities in and around Ny-Ålesund should be conducted within the constraints imposed by the research activities. Most foreign research stations are located in Ny-Ålesund. The Norwegian Polar Institute and Norwegian Mapping Authority also have stations there. Kings Bay AS is responsible for infrastructure and services in Ny-Ålesund. The company has the task of facilitating Norwegian and international research in the natural sciences and environmental monitoring there and in the surrounding area. As the administrative centre, Longyearbyen was the natural place to establish the university studies in Svalbard in 1993 (UNIS, now Universitetssenteret på Svalbard AS), and in general for any activities that require good communications and an extensive range of services. Based on different conditions, both settlements have undergone an important construction and development process in recent years. For a more detailed report of investment related to research, education and monitoring, cf. Box 8.1.

Exact figures for Norwegian and foreign investment in research infrastructure are not available. However, Norwegian investment in research infrastructure in Svalbard after 1990 is estimated at somewhat over NOK 1 billion, while foreign investment is estimated at about NOK 500 million in the same period.

8.3.2 The scientific presence

The concept of "polar research" includes activities in both the Arctic and the Antarctic and is regarded as an element of various scientific disciplines. In general, we can say that polar research takes materials and phenomena about and in polar areas as its starting point. Norway has long traditions in polar research, especially in the Arctic, and is regarded as a prominent research nation in this field. Measured by the number of scientific articles, Norway contributes 6 per cent of the total generation of knowledge in polar research compared with a contribution of 0.6 per cent in the world's total scientific production. Naturally, a substantial amount of Norwegian polar research is based in Svalbard, either conducted in the archipelago or based on data that has been gathered there. Internationally, research related to Svalbard has become more and more important, and researchers from Norwegian institutions account for a little less than half of the activities. The most important indicators here are scientific publication and the number of researcher full-time equivalents (FTEs). All in all, Norwegian polar research has undergone a significant increase in the last decade, and the same is true for the total international effort.

It is primarily UNIS and the Norwegian Polar Institute that give Norwegian research and knowledge generation a foothold in Svalbard. The majority of the Norwegian research is linked to Longyearbyen and the surrounding area. UNIS alone

Box 8.2 The University Centre in Svalbard

At the end of the 1990s, UNIS had 30 employees and a turnover of just as many million kroner. At the start of 2009, UNIS had 75 employees and a budget of NOK 110 million in turnover. UNIS provides instruction to nearly 400 students from 25 countries. About 160 guest lecturers and part-time employees (professor II) contributed to the educational programmes at UNIS in 2008. The number of students includes an increasing number of research scholars at the PhD level.

Employees and students at UNIS represent a total of more than 200 FTEs, and all live and work in Longyearbyen. When the employees' families are included, UNIS accounts for about 15 per cent of the population of Longyearbyen. When part-time staff and direct and indirect ripple effects are included, UNIS is assumed to account for between 20 and 25 per cent of the Longyearbyen population.

UNIS is mainly funded through government allocations. In 2009, appropriations from the Ministry accounted for about 75 per cent of the company's revenue. The remaining funds mainly come from the Research Council of Norway and from the private sector. The volume of externally financed research and education at UNIS more than tripled from 2006 to 2009 and has exceeded NOK 25 million per year.

UNIS offers programmes of study and conducts research based on Svalbard's geographical location in a High Arctic area and the advantages this provides. There are four main areas of study: Arctic biology, Arctic geology, Arctic geophysics and Arctic technology. Courses are taught in English, and about half of the students come from countries other than Norway. This is in keeping with the premises on which the centre was established. The four universities that originally established the centre are responsible for UNIS's academic activities. Subjects taught are included in ordinary curricula that lead to degrees at the bachelor's, master's and PhD levels at one of the mainland universities. As such, UNIS functions as an Arctic field station for the mainland universities, specialising in basic research and education in the High Arctic disciplines. UNIS is directed to cooperate with other educational and research institutions at the national and international levels and with the public and private sectors.

accounts for fully half of the FTEs in the research and education sector in the broad sense, and well over half of these – around 200 – are Norwegian. An important part of the research in Svalbard takes place in Ny-Ålesund, where a number of foreign research institutions have been established. In addition, Russian and Polish institutions have activities in Barentsburg and Hornsund respectively. In addition to launching and monitoring stations, Norwegian activities in Ny-Ålesund are especially tied to the Norwegian Polar Institute's research station (the Sverdrup Research Station), the Zeppelin Station and the Arctic Marine Laboratory.

8.3.3 A strategic diversity

Institutions such as the Norwegian Polar Institute, Kings Bay AS and UNIS have different strategic functions in connection with education and research in Svalbard. As time has passed, the need for organisational solutions that promote increased interaction among the Norwegian participants in Svalbard and between Norwegian and foreign interests has become greater and greater. Since it was established, the Research Council of Norway has been delegated tasks that are important to the scientific activity in the Arctic. Surveys, environmental monitoring and government-administration-related research in the polar areas are primarily handled by the Norwegian Polar Institute, which is also an advisor to the central administration and the Governor on polar matters. The Institute has extensive activities in Svalbard, including research and operation of research stations, environmental monitoring and operation of monitoring stations, topographical and geological surveys and environmentally-oriented dissemination of information. The Polar Institute also gives Norwegian and foreign research institutions that take part in joint projects access to the Institute's infrastructure. Furthermore, the Institute has bilateral agreements or "Memoranda of understanding" on cooperation within polar research with counterparts in a number of countries and also cooperates closely with Norwegian research communities.

In its capacity as a landowner in Ny-Ålesund, Kings Bay AS' mission statement was changed in the 1990s, giving the old mining company new

tasks of great importance to the scientific activities. Since then, the company's main task has been to ensure that the infrastructure and services available in and around the settlement benefit Ny-Ålesund as an arena for Norwegian and international scientific research and environmental monitoring and is in keeping with the researchers' needs, the Norwegian authorities' requirements and the technical development. Kings Bay AS also has the task of promoting a good, close collaboration between researchers and institutions that are based here.

In the course of its fifteen-year history, UNIS has expanded as a centre for Arctic studies and has become an essential element of the education and research platform of Svalbard. Both instruction and research have been improved, including externally funded activities. The Centre's involvement in the aurora borealis laboratory, Kjell Henriksen Observatory (KHO), research vessels, the Svalbard Research Park, the EISCAT radar installation, the coal mining operations in Svea, Ny-Ålesund, Barentsburg and Hornsund in cooperation with local operators, and most recently the acquisition of the radar system SPEAR from its former owner, the University of Leicester, are examples of active, outward-oriented activities, both national and international, and indicate an intention to be a key strategic player. Students and employees at UNIS also constitute a more and more important part of the local community in Longyearbyen.

As the authorities' key institution for funding and coordinating Norwegian research and as an advisory body on research policy issues, the Research Council of Norway has important tasks to perform in Svalbard. In 1993, the Research Council established the National Committee for Polar Research, which shall contribute, among other things, to a better coordination of national resources and logistics. The National Committee draws up strategic plans for polar research and assists in consultation to the Interministerial Committee on Polar Affairs and other administrative bodies. The largest polar-related efforts are funded through the Research Council, e.g. Norwegian participation in the International Polar Year.

In 1998, the Research Council of Norway established the Svalbard Science Forum (SSF) as an instrument for coordinating research in Svalbard. A new SSF with an enhanced mandate was appointed by the Interministerial Committee on Polar Affairs in 2005. In accordance with the mandate, SSF shall take care of both professional coordination and practical organisation of both Norwegian and international research activities. Svalbard Science Forum shall also take care of information services relating to research in Svalbard, e.g. through the upgraded database system RiS (Research in Svalbard). RiS now contains necessary information for researchers who want to work in Svalbard, including a project database with a well-developed search function.

For field research that involves travelling over large parts of the archipelago, permission must be obtained from the Governor, who requires registration in the RiS database before granting a permit. All in all, the development of the database system has already improved the overview of the research activities in Svalbard, to the benefit of both the authorities and research communities, and has allowed for a somewhat better coordination of these activities.

Both in Ny-Ålesund and Longyearbyen, separate collaborative fora have been established. The Ny-Ålesund Science Managers Committee (NySMAC) goes back to 1994 and gathers representatives from all institutions with permanent stations and major research projects in the town. The Norwegian Polar Institute runs the secretariat. NySMAC is meant to help avoid conflicts between existing and planned research projects and to help promote the development and effective utilisation of infrastructure and technical solutions. The Longyearbyen Science and Education Forum (LySEF) was established in 2008 with the purpose of promoting Longyearbyen as a base for research and education. This shall be done through coordination and various cooperative measures. UNIS runs the secretariat.

8.3.4 Cooperation without borders

Svalbard has become a meeting place for the Government's international network, where climate-related research and cooperation are given top priority. During the last three decades, the High North Study Tour and Svalbardkurset (the Svalbard Course) have helped create awareness and educate the participants on Arctic matters. Starting in 2005, the High North Study Tour has been arranged as an annual study tour in and around Svalbard for important collaborating countries and the European Commission. Matters pertaining to the Northern region, including those related to research, education and monitoring in Svalbard, are included on the agenda in the political dialogue with a number of countries. These matters are especially important in the cooperation with our Nordic neighbours, both bilaterally and in fora such as the Nordic Council of Ministers, the Bar-

ents Euro-Arctic Council and the Arctic Council. In recent years, climate change and other changes in the Arctic have had a prominent place on the international political agenda. Since 2006, Norway has organised an annual international symposium in Ny-Ålesund on changes in the Arctic with high-level participation from research, business and industry and political circles.

As described above, the multi-national scientific presence and international investment in Svalbard have increased substantially in recent years. Bilateral agreements on scientific and educational cooperation, which have been entered into in recent years with South Africa, Japan, the USA, India, France and China, may also play an important role in future developments.

Within polar research in particular, there are long traditions for research collaboration between Norwegian and Russian institutions. Russia accounts for the next largest number of annual researcher FTEs in Svalbard (13 per cent, compared with 47 per cent for Norway). It is important to achieve a dialogue and cooperation between researchers in the Norwegian settlements and Russian researchers in Barentsburg. UNIS can point to good results in the work to achieve this.

8.3.5 The International Polar Year 2007–2008 (IPY)

Polar research is particularly dependent on international cooperation. The third International Polar Year, under the direction of the International Council of Scientific Unions (ICSU) and the World Meteorological Organisation (WMO), is the largest polar research programme ever. All in all, about 50,000 researchers from 63 countries will participate. With a special appropriation of NOK 320 million divided over four years, Norway is one of the largest contributors. The funds are channelled through the Research Council of Norway. A considerable number of Polar Year projects, both Norwegian and international, have activities in Svalbard. These projects will provide very interesting data and research results and should therefore be continued.

One of the goals of the Norwegian effort in the Polar Year was that it should result in a considerable increase in permanent international cooperation and in foreign researchers' use of Norwegian infrastructure in Svalbard in cooperation with Norwegian researchers. It is already clear that this objective has largely been achieved. The Polar Year has resulted in increased use of Svalbard. At the same time, international networks have been strengthened and new networks have been established.

The effort entails an important national boost for polar research, which is a field where Norway has unique opportunities to contribute to the global development of knowledge. Combined with the infrastructure that Svalbard offers, it thereby strengthens Norway's international role in polar research.

Norwegian participation in the Polar Year has thereby contributed toward achieving the Government's main objective. It is important that this participation give long-lasting benefits to Norwegian research communities, and, among other things, contribute to increased international use of Svalbard also after the programme has ended. Maintaining networks established during the Polar Year is an important factor in this respect. Norway may also build on the experiences gained during the IPY in a further effort to develop Svalbard as a research platform.

8.4 Challenges, opportunities and principles

The Svalbard of the future will increasingly depend on the development, gathering and dissemination of information. This is an important perspective in the Government's policy, which will continue Norwegian involvement in the Arctic. This involvement simultaneously connects us more closely to the global society. It is an effort that confronts us with big challenges and opens up at least equally big opportunities if the challenges are well handled.

8.4.1 Environmental constraints

Increased research activity can give rise to conflicts both in connection with the natural environment and between various interest groups. In general, it is crucial to find a good balance between use and protection. The research that is conducted ought to be of such a nature that it only or best can be conducted in Svalbard, and it must always take the vulnerability of the environment into consideration. This caution must go hand in hand with the acknowledgement that knowledge through research is necessary in order to achieve a reliable management of the natural wilderness in Svalbard.

One of the goals is that scientific and educational activities should be mainly linked to the settlements and research stations and make use of established infrastructure. Within this framework,

Ny-Ålesund shall be further developed as a "green" research station with its main scientific focus on climate and environmental research. At the same time, activities in the field will be an important factor in both research and education. In order to limit the impact on the natural and cultural environment, emphasis must be given to coordination of practical and logistical aspects of the projects. It is also important to ensure good professional coordination among projects when it comes to the gathering of and experiments on biological material. Sharing of research data will often be expedient.

Activities in the protected areas in the archipelago must not be in conflict with the objectives and provisions of the protection and should as a rule be limited to activities that cannot be performed elsewhere. At the same time, preservation of essentially untouched reference areas for research, which ensure that the impact from local activities remains low, is an important justification for the protection. For much of the archipelago, e.g. the two nature reserves in East Svalbard, this is the main objective of the protection. Provisions concerning protection, which are supposed to ensure an undisturbed natural environment and intact ecosystems, are an important part of the "infrastructure" for Svalbard as a research platform. The protected areas are of particular importance for studies of effects of climate change and long-range pollution on species and ecosystems. Cf. section 7.4.2 for a further discussion of challenges resulting from traffic in these and other areas.

At present, there is no reason to believe that research in Svalbard will result in traffic and other environmental impacts that exceed acceptable levels. The Governor has made this assessment, but simultaneously points out that both the research activities and the need for traffic will increase in the coming years and especially in areas that are particularly vulnerable and fairly inaccessible. This mainly applies to the eastern nature reserves. These reserves have a pure Arctic climate and distinguish themselves from the western part of the archipelago, where the Gulf Stream gives rise to relatively mild and rainy conditions. Climate change, which is now a key area of polar research, is far more noticeable in the "Arctic" east than in the "Atlantic" west, and this is expected to have a determining effect on many researchers' travel itineraries.

In its performance audit of Svalbard, the Office of the Auditor General is concerned with providing an overview of all forms of traffic, including those related to research. The Governor indicates the same need with a view to clarifying the total environmental impact of the activities. This is also discussed in section 7.4.2. The development of the management plan must be based on this knowledge, and likewise for policies that are conducted on the basis of these plans. One possible policy instrument is the further development of reporting and database systems, cf. the discussion in section 8.5.6.

8.4.2 Worth promoting

Svalbard has become a land of opportunity for the development of knowledge. It will be a challenge for Norwegian authorities to see that the activities generally have a scientific profile that is based on the archipelago's special advantages.

First and foremost, it will be appropriate both nationally and internationally to take advantage of the opportunities that Svalbard provides for climate and environmentally oriented research, not least within the framework of the broad range of fields covered by polar research that have been given increased attention as a result of the Polar Year. These are areas where Norwegian research has considerable expertise and can play a leading role. The same applies to marine research, which is also of considerable importance to the survey of global climate changes, e.g. through studies of ice cover and open sea and of the consequences of climate change for the marine resources. The Marine Laboratory in Ny-Ålesund emphasises this, and, by virtue of its strategic location on the edge of the Arctic Ocean, it has become a key link in marine research networks. In the budget for 2009, NOK 22 million has been provided for a new resource centre for ice and climate, affiliated with the Norwegian Polar Institute in Tromsø, Norway, which will also be of great value to climate-related research in Svalbard. In 2008 and 2009, funds were allocated for the detailed design of new ice-breaking research vessels to replace an old and partly obsolete fleet. A final decision on the matter can first be made in 2009. Svalbard's geographical location below the magnetic cleft provides unique opportunities for studying the middle and upper layers of the atmosphere where the impacts from outer space are strongest. The good access to space-related infrastructure, especially around Longyearbyen, provides opportunities for studying the interaction between all layers of the atmosphere and space. The processes that control energy transfers among the layers of the polar atmosphere and between the atmosphere and space are important for the global energy balance and hence for the earth's climate. This research area is the object of

broad international cooperation. Eighteen universities and institutes throughout the world are leasing space in the new Kjell Henriksen Observatory.

There is growing interest in the two nature reserves in East Svalbard, which are an especially important reference area for climate research. The marine area off this coast has cold currents and a great expanse of sea-ice. The largest glaciers in Svalbard are located onshore. This is a typical High Arctic ecosystem with a primarily ice-dependent fauna. According to global and regional climate models, the biggest temperature increases are expected in this area. It is expected that research and monitoring in a number of climate-related fields, such as oceanography, glaciology and biology, will be conducted in East Svalbard in the coming years.

In recent years, international polar research has been angled to a great extent toward Earth System Science (ESS), which should provide an interdisciplinary perspective on the earth as an integrated system. It is difficult to understand how complicated systems work if we only study simple processes, and this makes it necessary to gain insight into the interactions among processes. Earth System Science contributes to these insights. The ESS perspective includes both the study of simple processes and the relationships among them and plays a particularly important role in the current massive international efforts, e.g. the International Polar Year. This perspective makes it possible to see the interaction between the polar areas and the rest of the planet. It provides the basis for the so-called SIOS initiative – Svalbard Integrated Arctic Earth Observing System; cf. a more detailed discussion in section 8.5.1.

Monitoring, surveys and the establishment of long time series are of fundamental importance for research and management, on land as well as in the waters around Svalbard, and they are also of commercial interest. In Svalbard, Norway has first and foremost a unique space-related infrastructure that fully or partially forms the basis for various types of activities such as atmospheric research, management of land and marine areas and commercial utilisation of meteorological data. In general, development and exploitation of the observation systems for space, oceans, land and ice will be an important aspect of a research and education policy for Svalbard. So far, the space-related infrastructure is the best developed, and it is an important task to utilise this infrastructure optimally. It is still a challenge to establish systems for consistent, extensive monitoring of oceans, land and ice.

Box 8.3 – Research in practice – the dinosaur hunters

"The head measured three metres; the teeth were as long as cucumbers. The monster could have seized a Morris Mini in its jaws and nearly swallowed it whole."

That is how palaeontologist Jørn Hurum from the Natural History Museum at the University of Oslo describes the 15 metre long pliosaur that was discovered and partially excavated in Svalbard in the summer of 2007 and 2008. The discovery is popularly referred to as the "sea monster from Svalbard – Predator X". The discovery is described as a global sensation because it is the world's largest and best preserved pliosaur to be discovered so far.

In the summer of 2001, geology teachers discovered a number of connected bones of a plesiosaur during an excursion with students from UNIS. As a follow-up, excavations were conducted in 2004 under the direction of the Natural History Museum. In the immediate vicinity of the original discovery, eleven more skeletons were found. In 2007, the expedition excavated the partial skeleton of a new giant species.

Bones of various marine reptiles have been found at various places in Svalbard together with footprints of a 60 million year-old mammal, a pantodont, and various types of dinosaurs. Recent research shows that reptiles of many types swam in the sea around Svalbard 150–140 million years ago and were common here during the Jurassic Period.

As a step in demonstrating Svalbard's unique features, geological history and its polar natural heritage, the award-winning Svalbard Museum is working to make a cast of the "sea monster from Svalbard" which will be exhibited in a separate building at the Svalbard Museum. This may become an important supplement to the museum's efforts to communicate Svalbard's environmental and cultural history.

Many Norwegian institutions cooperate on research in Svea, e.g. SINTEF (The Foundation for Scientific and Industrial Research at the Norwegian Institute of Technology) and UNIS are cooper-

ating on research related to oil spills. Svea is also an arena for technological research and education related to construction on permafrost and operations in ice-filled waters.

Scientific activity within several disciplines are conducted in Svalbard. Ny-Ålesund is the location of important monitoring stations that are dependent on untouched surroundings. In Longyearbyen, a large facility for satellite monitoring and downloading of data has been established, and the activities at UNIS are important for academic fields such as Arctic geology, geophysics and biology. It is important to ensure that the opportunities for basic research in the natural sciences in Svalbard can be completely utilised by both Norwegian and international institutions.

Research for economic growth and commercial development must be undertaken within the constraints of particularly strict environmental requirements in the Arctic area. For Norway, the harvesting of marine resources has rich traditions, which the Government wants to further develop with the necessary caution. Marine bioprospecting has attracted great expectations. Marine bioprospecting is not an industry in itself, but a research and development tool in the area of biotechnology, which is based on a systematic search for unique genes, biomolecules and organisms from the marine environment. This tool aims to develop products for commercial or socially beneficial purposes. The area of application is broad; results and products have potential within a number of business areas and have global marketing possibilities. Examples include new medicines, ingredients for taste and nutritional content in food and animal feed, enzymes and microorganisms for processing food and/or animal feed, and industrial processes related to the production of textiles, cellulose, biomass and/or renewable energy and applications related to the oil industry.

The Government is working on a national strategy for marine bioprospecting. The requirement for state-of-the-art expertise in a number of fields calls for regional, national and international cooperation in both research and business. Investing in marine bioprospecting, where Tromsø will play an important role, and it will be natural to extend that role to Svalbard, is part of the Government's High North strategy.

Svalbard is also somewhat linked to a strong national and international attention with regard to carbon capture and storage and hence to the conflict between energy and/or business and environmental concerns. UNIS has exploited the geological advantages in Longyearbyen and the Adventdalen valley to develop a field laboratory for carbon capture and storage in cooperation with a number of research institutions, companies and GASSNOVA.

Figure 8.2 Excavation of pliosaur.
Photo: Natural History Museum, University of Oslo

8.4.3 Quality, division of labour and cooperation

The Government wants Svalbard to be an attractive arena for researchers from throughout the world. At the same time, Norway must not just play the role of facilitator, but must also be an active participant in the professional activities. In many areas, representatives for Norwegian institutions ought to be able to assume a professional leadership role. This is important both for helping to coordinate the activities in Svalbard and for ensuring that it shall benefit Norwegian scientific and educational communities. The premises for achieving this kind of objective are that the Norwegian institutions have the scientific standing and quality to make them attractive partners for foreign colleagues in the coming years. In this context, it will be a key task to ensure recruitment to Norwegian polar research. Special policy instruments and measures are discussed further in section 8.5.

Norway has good researchers, but relatively small research communities. In addition, polar research often entails special costs. Therefore, it is extremely important that resources be marshalled, e.g. through a sensible division of labour between

institutions and research communities, and that these cooperate in turn when this is appropriate. Within the framework of the activities in Svalbard, it is very important that the professional activities in Longyearbyen and Ny-Ålesund respectively complement each other and work together to ensure a strong and comprehensive research effort. In consultation with the Research Council of Norway, strong participants such as UNIS and the Norwegian Polar Institute have a special responsibility for seeing that this kind of objective may be achieved.

Infrastructure and geography make it natural to have a somewhat broader professional profile in Longyearbyen than in Ny-Ålesund. For example, atmospheric research, the utilisation of earth survey data, Arctic technology aimed at geotechnical engineering, structure on permafrost, and ice-cover ought to be given priority in Longyearbyen, together with Arctic basic research in the natural sciences with its basis in programmes of study at UNIS and the opportunities offered by satellite stations. Research in Ny-Ålesund should consistently utilise Ny-Ålesund's distinctive characteristics as an unspoiled laboratory for research in the natural sciences on marine, terrestrial and atmospheric issues. Work is being done on a common research plan for Ny-Ålesund and its adjacent area (currently called the Kongsfjorden International Research Base – KIRB), which shall include both Norwegian and foreign participants and where Norway, acting through the Svalbard Science Forum, is intended to be responsible for coordination and implementation; cf. section 8.5.5.

UNIS plays an important role in the part of the Government's High North strategy that applies to Svalbard in general and to Longyearbyen in particular, where the institution has an increasing impact on social development and visions for the future. The Centre also helps enable Longyearbyen to become a stable, year-round family community. The Government ultimately supports the Centre's ambitions of becoming a leading international centre for Arctic studies. In addition to the necessary professional and budgeting considerations, however, the Centre must balance its plans for expansion against the environmental concerns and against the local community's capacity to handle that growth.

Given the vulnerable Arctic natural environment and Svalbard's geopolitical position, it is important that UNIS strive for optimal utilisation of established infrastructure and encourage the sharing of both material and immaterial resources. On this basis, UNIS should continue its efforts to establish partnerships with Norwegian and foreign institutions.

UNIS should continue its active pursuit of external resources and cooperate with various players in Svalbard. All of these activities should be aligned with the company's main mission and help strengthen and defend the Arctic creative commons. It is important to achieve good cooperation between UNIS and the educational institutions on the mainland, based on UNIS's special expertise and advantages.

The activities of the Norwegian Polar Institute have considerable breadth and a long history in Svalbard. The Institute's experience and expertise are of great value for other participants – whether it be the authorities or individual researchers. The Polar Institute's overall knowledge base should be the foundation for the Institute's advisory function. The Norwegian Polar Institute should continue to be visible in Svalbard, e.g. in order to be able to make a positive contribution to the management of the environment in the archipelago.

The Norwegian Institute of Marine Research is the leading institution for marine research in the Barents Sea. The Institute monitors the trends in climate, pollution and the marine ecosystem and has many long time series. The Norwegian Institute of Marine Research should continue to be the leading marine institution in the Barents Sea and will be an important element in the Government's High North strategy. There is a cooperative agreement between the Norwegian Institute of Marine Research and the Norwegian Polar Institute, whereby the Norwegian Institute of Marine Research works primarily in open waters, whereas the Norwegian Polar Institute's activities take place primarily on the drift ice and in the permanent ice zone.

8.5 Special policy instruments and measures

The Government's policy for further strengthening Svalbard as a centre of research and education is for the most part formed in dialogue with international partners. A number of special policy instruments and measures aim to make Norway a stronger player in the global development of knowledge on Svalbard. They include new national and international investments, the further development of the administrative machinery for coordinating activities and greater emphasis on promoting Norwegian professional research expertise.

8.5.1 Further development of Svalbard as an international research platform – SIOS

In a few years, Svalbard may become the actual node of European Arctic research with special emphasis on climate-related observation systems. The European Strategy Forum on Research Infrastructure (ESFRI) has now included a proposal for a project for the development and coordination of observation systems in Svalbard in its revised "road map" of new large-scale infrastructure of pan-European interest. ESFRI was established in 2002 as an advisory body for the European Commission and has representatives from both the EU countries and associated countries such as Norway. There is tough competition to be included in the "road map", which includes the need for major infrastructure within many scientific areas, ranging from astronomy and nanotechnology to the social sciences. In other words, it may involve installations as fundamentally different as databases and libraries, radar installations and monitoring stations, telescopes, communications networks, observatories and research vessels.

It is of great importance that the projects represent several important institutions and that they concern as many countries as possible. In 2006, 35 projects were included in ESFRI's road map; Norway has interests in 11 of them. In December 2008, the road map was updated for the first time. Two Norwegian-run project proposals were included this time. In addition to the Svalbard project, a project for carbon capture and storage was included. The Norwegian University of Science and Technology and SINTEF have been in charge of the task of formulating this proposal.

The Svalbard project has the acronym SIOS (Svalbard Integrated Arctic Earth Observing System). The application to be included on the road map was drawn up by UNIS, the Norwegian Polar Institute, the Norwegian Space Centre, the University of Tromsø and the Research Council of Norway. So far, the project is supported by several prestigious institutions in seven different European countries beside Norway (Germany, France, England, Finland, Poland, Russia and the Netherlands). In consultation with other affected ministries, the Ministry of Education and Research has given the Research Council the task of managing the pre-project phase. The Research Council is thereby given responsibility for an application for support for the so-called "preparatory phase" through the EU's framework programme. A steering committee has been appointed, and the Ministry of Foreign Affairs and the Ministry of Education and Research have supported the work in the first phase. The preparatory phase with funding from the framework programme usually lasts for 2–4 years.

SIOS consists of two main elements. One element involves further developing and complementing existing observation systems in Svalbard and in the area around the archipelago and organising these into a comprehensive infrastructure that supports data gathering from land, sea, ice and atmosphere. The second main element will be the establishment of a "knowledge centre" in Longyearbyen, which shall store and integrate data from relevant infrastructure. This will provide a basis for cooperation on research and monitoring, interdisciplinary projects, education and the dissemination of information, while contributing to regional and global climate models.

As a large international project led by Norway SIOS will contribute to the utilisation and further development of the infrastructure in Svalbard. It will be an important policy instrument in the Government's efforts to achieve the objectives of the High North strategy, the management of Svalbard and the national research policy. The positive reactions that the project has encountered internationally reflect the great interest in climate-related polar research in general. This research has also played a key role during the Polar Year. This means that the SIOS initiative will be a natural continuation of both Norwegian and international efforts in recent years. Among other things, it will be a node in the planned SAON (Sustained Arctic Observing Network), a network within the framework of the Arctic Council, which will follow up the Polar Year in the coming years and help follow up the EU's Arctic strategy, in which research and monitoring are key elements.

Administrative and legal matters related to the permanent organisational model, operation and cooperation with international partners in Svalbard will be clarified in the Research Council's preproject in 2009. It will be natural to draw on experiences gained from other ESFRI projects and on the work conducted under the direction of the European Commission to develop a legal framework for common European infrastructure. However, it is already reasonable at present to assume that SIOS will be a separate international organisation with offices in the Research Centre in Longyearbyen.

8.5.2 Transfer of data

Ny-Ålesund is included in a global research network consisting of 25 research stations with so-

called VLBI (Very Long Base-line Interferometry) antennas. These are big radio telescopes that provide very accurate data on the earth's movement in the solar system as well as data which may be used to monitor the earth's rotation and the movements of the earth's continental plates. This data facilitates scientific work of great importance in climate research, oceanography, astrophysics and geophysics. Ny-Ålesund is an important part of the global VLBI network because of its location near the North Pole. The station functions as a central point for all stations in the Northern Hemisphere.

Ny-Ålesund is currently connected to the rest of the world through a radio link to Longyearbyen. However, this link has a limited capacity, and it may therefore be relevant to evaluate possible solutions in order to increase the data capacity between Ny-Ålesund and Longyearbyen in the coming years.

8.5.3 Time series for monitoring and research – East Svalbard

The most untouched parts of Svalbard will be of particular interest for research and monitoring in the coming years, cf. the discussion of the eastern nature reserves in section 8.4.1. Since the area has been so little visited, there is no comprehensive basic study of long-term monitoring that will make it possible to survey changes in physical, chemical and biological conditions over time. The development of East Svalbard and the adjacent marine areas as an arena for high-tech environmental monitoring is a long-term task and must be based on a well-developed plan.

8.5.4 Polar recruitment

If Norwegian polar research is to maintain its standing and be further developed in key areas, it is necessary to make an effort to recruit younger researchers and to train more technical personnel. This need applies to the situation in the natural sciences in general and is intensified by the fact that both universities and research institutes are facing a period with retirement from top positions in polar research. In addition, there are often substantial costs for travel and logistics in the relevant fields.

The Government wants to enhance the recruitment to research, especially in mathematics, the natural sciences and the technical fields. The Government also expects that the increased international activities in the polar areas and the opportunities this creates for professional contacts may help encourage recruitment. It will be important to prevent the costs for travel, lodging and logistics from limiting the utilisation of the good infrastructure for research and education in Svalbard.

Separate grants to cover special expenses in connection with Arctic research in the field have existed for a number of years, in a first phase under the direction of the Norwegian Polar Institute. In 2006, funds became available through the Research Council of Norway. The arrangement is administered by the Svalbard Science Forum in consultation with the Norwegian Polar Institute, which allocated NOK 1.2 million and NOK 0.5 million respectively to this measure. There is considerable interest in the grants, and it is argued that only about half of the best applicants have been awarded grants. The Research Council of Norway wants to substantially increase the funding for these grants and amend the regulations for receiving support so that it can also include foreign institutions, possibly in cooperation with Norwegian institutions. For 2009, a small lump sum grant has been added to the Research Council of Norway's budget to help increase this type of activity. The Government thinks there are grounds for considering a more permanent increase in funding for this arrangement, which in addition to Norwegian applicants should include applicants from foreign institutions. It should also be possible for UNIS to apply for funds to cover extra expenses in connection with field work in Ny-Ålesund.

The grants help promote increased recruitment and national and international cooperation. It also gives Norway opportunities to manage the research activities by setting criteria for allocation that require that synergies be created, overlapping be avoided, gaps in knowledge be filled and the infrastructure be utilised better year-round – i.e. in the winter half of the year as well.

The education at UNIS is part of the curricula at the mainland universities, and UNIS has the special task of training researchers in Arctic conditions. The mainland institutions must exploit the advantage inherent in UNIS to the greatest extent possible in the recruitment to Norwegian polar research. Schemes that can forge links between academic and student communities at UNIS and communities affiliated with foreign research stations in Svalbard should be assessed.

8.5.5 Bilateral and multilateral cooperation

As mentioned, international research activities and international investment in research and research infrastructure in Svalbard have increased considerably in recent years. By participating in international research collaboration in Svalbard, Norway

can ensure quality and renewal in its own Svalbard-relevant research, bring back new knowledge from the scientific forefront and share the risk and costs of investment in infrastructure etc.

In accordance with a Norwegian-Russian agreement, funds have been earmarked for research collaboration between Norwegian and Russian research institutions in Svalbard. These funds, which amount to NOK 3 million per year, are allocated to Norwegian institutions that collaborate with Russian researchers in Svalbard. The funds are of great importance for the collaboration between the two countries. The Government will assess whether similar arrangements can be established with other countries. It will be advantageous if the funds can be used by a number of countries simultaneously.

8.5.6 Earmarked for Svalbard

Norway's role during the Polar Year includes considerable financial support over a number of years and is a good example of what we can achieve. The Government will strive to preserve and further develop the legacy of the Polar Year after the programme period has ended. The experiences gained from some minor efforts aimed directly at Svalbard, e.g. through Arctic grants and strategic funds for international cooperation, have also been positive.

In general, the earmarking of funds for activities in and around Svalbard makes an important contribution to the utilisation of the capacity offered by the island community. Programmes initiated by Norway, in which international participants can be invited to take part with their funds and their projects, are among the possible new measures. So far, this type of co-financed effort is on the drawing board under the name of "flagship programmes" and has been discussed, among other things, as a possible policy instrument in the development of Ny-Ålesund as a research centre. When there is agreement among different actors on this topic and other professional matters, the Research Council, acting on Norway's behalf, may evaluate the proposals and possibly earmark funds for one or more programmes. Cooperation should be established with at least one country – preferably several – that will also make financial contributions.

A separate "Svalbard programme" – or several such programmes – of this kind should not prevent research institutions and the like from also applying for funds for Svalbard-related research through other relevant programmes.

8.5.7 Coordinating the diversity

With increased activity, the need to improve both practical and professional coordination has become more pressing. When it comes to practical and logistical matters, the Office of the Auditor General in its performance audit of Svalbard has called for a better overview of research in general and of traffic associated with these activities and has emphasised the importance of practical coordination in order to spare the environment to the greatest extent possible. The database system Research in Svalbard (RiS) involves several advances in this field; cf. the discussion in section 8.3.3.

Pursuant to the Svalbard Environmental Protection Act, the Governor must grant a permit to traffic and various types of field research. Through active use of the RiS database and in cooperation with SSF and the Norwegian Polar Institute, the Governor should continue to perform the tasks that are delegated to his/her office at present, still using the criteria that are now used in the processing of research applications.

The Governor has only a limited possibility of making professional assessments of research applications. So far, the Norwegian Polar Institute has been a highly valuable advisor when professional judgment must be exercised and competing interests weighed. Increased activity, especially in the vulnerable protected areas, will probably result in a need to strengthen the professional assessment of the applications.

The Government thinks that it must be possible to meet these needs by further developing the institutions that already exist in Svalbard and that these must be made capable of meeting future challenges. The most natural course of action will be to consider the practical coordination of the research in connection with a general strengthening of the Research Council of Norway's presence through the Svalbard Science Forum. SSF already administers the RiS portal, which, among other things, will include information on the location of the research activities and various forms of relevant traffic in the archipelago at any given time. This involves maintaining important aspects of the current division of responsibility, but raising the visibility of SSF's role in support of the Governor's efforts. In virtue of its professional expertise and separate responsibility for research logistics, the Norwegian Polar Institute must continue to be an important partner.

The Research Council of Norway has been given more and more responsibility for funding

Svalbard-related research, most recently through Norwegian efforts during the Polar Year, but this has not been reflected in a significantly greater presence and conspicuousness in Svalbard. This limits the Research Council of Norway's opportunities to contribute to an effective professional research coordination, which Norwegian authorities think there is a need for. The Government thinks that the Research Council of Norway must attend to this coordination in a more active way. The Government does not find it necessary to establish new bodies to fulfil this function; cf. the discussion of a strategic diversity in section 8.3.3. The easiest and most natural course of action will be to further develop SSF's administrative organisation. This may contribute to better research management, increased cooperation, planning and comprehensive prioritising of the research in Svalbard.

The National Committee for Polar Research acting on behalf of the Research Council of Norway should undertake a further evaluation of professional tasks that could be delegated to a revitalised SSF. For example, it will be important to involve SSF and make its contributions more apparent in connection with the international cooperation. SSF should also play a more active role in the further development of Ny-Ålesund as a research arena. One of the goals for Norwegian authorities is for Ny-Ålesund to emerge as a research arena where cooperation among nations creates consensual professional and strategic research goals. SSF already plays a role in the efforts to develop a common research plan for the players in Ny-Ålesund. An expanded secretariat may provide a professional management that is needed in order to help define the professional profile and gradually follow it up. This will also promote close ties with a number of the Research Council of Norway's Svalbard-related programmes and other policy instruments, which may contribute to an essential coordination of the research activities in and around Ny-Ålesund.

The research and educational institutions in Svalbard and their tasks have evolved over a period of time and have contributed to a gradual development toward a more knowledge-based island community. On the basis of their premises, the various institutions make important contributions to the dialogue and interaction with each other and with foreign players of importance for Svalbard and the surrounding area. At the same time, the need for improved coordination of Norwegian efforts has become clearer, primarily as a result of the increased foreign involvement. The Government is in favour of strengthening the Research Council of Norway's position in the Arctic, which also assumes a continued close cooperation with other players. Thus, it entails a moderate change, which aims to combine the advantages of Norway having a Research Council with the expertise possessed by other important institutions.

9 Industrial, mining and commercial activity

9.1 Coal mining – Store Norske Spitsbergen Kulkompani AS

9.1.1 Company history

Store Norske Spitsbergen Kulkompani AS (abbreviated to Store Norske or SNSK) was founded in 1916 and mines coal in Svalbard. In 1973, the Norwegian state acquired a third of the shares in the company, and since 1976, the state has owned a 99.94 per cent stake. The Ministry of Trade and Industry manages the state's holding in SNSK.

At present, the mining operations are mainly located in the Svea Nord mine at Svea, a mining community at the head of the Van Mijenfjord. In addition, SNSK operates the smaller Mine 7 near Longyearbyen.

Up to 1989, coal mining was the dominant industry in Longyearbyen, and the SNSK group was responsible for operating the infrastructure and providing many of the services there. In Report No. 50 (1990–91) to the Storting on industrial measures for Svalbard, the Government advocated a policy of trying to increase the diversification of profitable economic activities. Through a reorganisation of SNSK in 1989, the activities related to community services (housing, roads, energy supply, etc.) and tourist activity were spun off in wholly-owned subsidiaries, Svalbard Samfunnsdrift AS (SSD) and Spitsbergen Travel AS. An economic development company was also established. In 1993, the state purchased all the shares in Svalbard Samfunnsdrift from Store Norske. Thereafter, SNSK was supposed to concentrate on coal mining and related activities and not perform activities that could better be handled by others.

For many years, SNSK's coal mining operations at Longyearbyen operated at a loss and were maintained with subsidies from the national budget. The reasons for the state's involvement in the company and the financial support it provided were mainly national considerations. The coal mining operations were regarded as an important policy instrument for ensuring Norwegian activity and settlement in Svalbard. The jobs related to the coal mining operations made substantial contributions to a stable, year-round Norwegian industrial activity and settlement in Longyearbyen.

In 1997, SNSK launched a study of the possibilities of continuing the coal mining in Svea Nord, a large coal field about 5 km North of Svea. The deposits in Svea Vest, which had been mined since 1997, were played out, and the mine was closed down in October 2000. The remaining reserves in Mine 7 were small. If there were to be any long-term continuation of coal mining, it would have to be in Svea Nord. The only alternative was a controlled liquidation of SNSK. Future operations at Svea Nord would be dependent on the employees commuting between Longyearbyen and Svea. In the revised National Budget for 1999, SNSK was allocated NOK 27 million to initiate the work on an exploration drift in Svea Nord, cf. Proposition No. 67 (1998–99) to the Storting on new priorities and supplementary allocations in the 1999 National Budget.

9.1.2 Developments in the company since the previous Report to the Storting on Svalbard

In the autumn of 2001, SNSK commenced production in Svea Nord. Previous studies and pilot operations indicated that the Svea Nord field had resources that could provide the basis for 20–30 years of operation. In the consideration of Proposition No. 2 (2001–2002) to the Storting on Store Norske Spitsbergen Kulkompani AS and the Svea Nord project, cf. Recommendation No. 67 (2001–2002) to the Storting and the Storting's resolution of 19 December 2001, it was established that the mining operations should be commercially viable and independent of state support. Furthermore, approval was granted to spin off the mining operations in Svea at year-end 2001 into a wholly-owned subsidiary of SNSK, which was given the name Store Norske Spitsbergen Grubekompani AS (SNSG). At the same time, the Storting approved an allocation of NOK 50 million in new share capital to SNSK. It was assumed that these funds would be used as equity in SNSG.

In recent years, SNSK has been confronted with major challenges in the Svea Nord mine:

water penetration, fire and other disruptions of operations. In 2003, a miner died after being struck by a falling rock, and in July 2005, a miner died as a result of oxygen depletion after a gas accident. On 30 July 2005, a fire broke out in the main shaft in the Svea Nord mine. The fire caused extensive damage to mining facilities and equipment, and the operations in Svea Nord did not commence again until 1 April 2006 after an eight-month shutdown.

In the period before the conclusion of the insurance settlement, the need arose to give the company a capital infusion. This was done in the form of a subordinated loan of NOK 250 million from the state. This loan was supposed to be repaid when the insurance settlement was concluded. The company redeemed the subordinated loan in September 2008.

In 2007, Store Norske Boliger AS was spun off from SNSG and organised as a wholly owned subsidiary under SNSK. The objective was to protect the residential properties in Longyearbyen from a possible bankruptcy of SNSG. The Store Norske group currently consists of a parent company, Store Norske Spitsbergen Kulkompani AS, and the wholly-owned subsidiaries, Store Norske Spitsbergen Grubekompani AS, Store Norske Gull AS and Store Norske Boliger AS. At year-end 2008, the group had a total of 386 employees, of which 337 were employed in the mining company.

Store Norske is the largest private landowner in Svalbard and owns 2006 km^2 of land, including the land in Longyearbyen. The company has entered into a cooperative agreement with the Longyearbyen Community Council concerning management of the land, cf. section 4.3.6.

Store Norske is also the largest claim-holder in Svalbard with 316 claims. After the introduction of the Svalbard Environmental Protection Act in 2002, large areas in the archipelago were protected. The areas that were protected were also subject to claim, and altogether 98 of the group's claims were subject to restrictions due to protection. At the same time, a graduated claims fee was introduced in the protected areas, and the protection was defined as the basis for receiving dispensation from the obligation to work the claims. The group has chosen to retain the claims that are located in currently protected areas.

SNSK has mineral deposits in areas in Svalbard that are not protected, and the purpose of founding Store Norske Gull AS in 2003 was to continue to work these deposits. Store Norske Gull currently conducts the company's mineral prospecting in Svalbard.

In addition, SNSG has conducted surveys in Finnmark County and on the island of Senja. The results of these surveys caused SNSK to approve a new objects clause for the company at the ordinary general meeting in June 2007. Article 1 of the Articles of Association was given an addition that reads as follows:

> "The company can utilise its skills in environment-friendly resource exploitation in Svalbard and in Finnmark and Troms counties."

9.1.3 Coal mining at present

In Report No. 13 (2006–2007) to the Storting, An Active and Long-term State Ownership (the State Ownership Report), Store Norske Spitsbergen Kulkompani AS is classified in objective category no. 3. That entails that the state in its capacity as owner shall manage the company so as to enable it to achieve commercial goals and other specifically defined goals. In the consideration of Recommendation No. 167 (2006–2007) to the Storting, the Storting endorsed these goals. In the State Ownership Report, it is stated that the object of the state's ownership of SNSK is:

> "to help maintain and further develop the society in Longyearbyen in a way that supports the overriding goals of Norwegian Svalbard policy. The company shall be run according to commercial principles with the aim of achieving a market rate of return on invested capital."

As mentioned in the introduction to this chapter, the mining operations in SNSG are mainly concentrated in the Svea Nord mine. About 95 per cent of the coal production is exported. In addition, Store Norske has a smaller mining operation in Mine 7 near Longyearbyen, where about 35 per cent of the coal is delivered to the local energy utility.

SNSK's cost level is persistently high. To a certain extent, this is due to conditions that company has to accept as given, such as the business's location, operating conditions, safety requirements, general wage pressure and other conditions. Nevertheless, the cost trend has been worrisome in recent years and is a challenge for the company.

Proposition No. 2 (2001–2002) to the Storting on Store Norske Spitsbergen Kulkompani AS and the Svea Nord project states that the surveys that were available at that time indicated resources in the Svea Nord field that provided the basis for 20–30 years of operations, given a production volume of between one and two million tonnes a year. For various reasons, the production volume has been

considerably higher than that. In 2003, SNSG won approval to invest in a tunnel from Svea Nord to Braganzavågen, cf. Proposition No. 65 (2002–2003) to the Storting, Supplementary allocations and new priorities in the national budget including the national insurance in 2003. The proposition states that:

> "In order to ensure profitable operations, the mining company will have to have a higher annual production and sales volume than previously assumed. SNSG is now going in for a production volume of 2.5 million tonnes in the period 2003–2005 and then 2.0 million tonnes a year after that. This entails that the remaining lifetime of the deposit will be about 15 years."

After the fire in the mine in 2005 and the accident in 2006, Store Norske regarded it as important to regain confidence in the company and to exploit a good coal market to improve its liquidity by increasing production to 4 million tonnes in 2007. Production for 2008 came to 3.4 million tonnes. According to SNSK's operating plans with the current production volume of about three million tonnes per year, it is now estimated that the coal deposits in Svea Nord will be played out in another 5–6 years.

After the Svea Nord mine came into operation, coal prices rose considerably up to the end of 2008, when prices fell. Higher coal prices gave the company the freedom to make investments and determine volume and the number of employees. This has been crucial for a good utilisation of available resources and the commercial success of the coal mining so far – despite the fire, accidents and other interruptions in operations.

9.1.4 Safety and environment

The Government stipulates that safety and environmental considerations must be given the highest priority in all assessments related to the mining operations.

Safety

In December 2007, the Office of the Auditor General initiated a study of the management of the state's ownership interests in SNSK. One of the reasons for doing so was two fatal accidents in Svea Nord in 2003 and 2005. In particular, the Office of the Auditor General questioned whether the safety work had been carried out in accordance with the Storting's requirements and whether NHD had sufficiently monitored whether the company had complied with the Storting's requirements in this area in the period 2001–2005. The Office of the Auditor General submitted a report to the Storting on 14 October 2008, cf. Document No. 1 (2008–2009) The Office of the Auditor General's report on the annual audit and control for the 2007 fiscal year.

Maintaining adequate safety in connection with mining operations is the most important task for the company's management and board of directors. It is the Northern Norway Labour Inspection Authority that monitors the safety regulations for the coal mines in Svalbard. However, the Ministry that owns the company conducts a special monitoring of safety in connection with the mining operations by regularly monitoring the work on social responsibility in general and safety in particular. The HSE conditions are a top priority topic in the Ministry's contacts with the company's management and will be brought up, for example, at the regular quarterly meetings and at the company's general meetings. In 2008, the company developed a comprehensive HSE system for internal control. According to the company's management, the system is being implemented according to plan.

Environment

On an equivalent basis with other activities in Svalbard, coal mining must be conducted in accordance with the ambitious environmental objectives and the environmental regulations that are in effect in the archipelago. The environmental constraints for industrial operations are discussed in greater detail in section 7.4.3. With regard to the goal of preserving the natural wilderness in Svalbard, it is especially important that the coal mining not reduce the extent of wilderness areas or have a negative impact on important conservation values.

9.1.5 Store Norske's plans for future coal mining in Svalbard

Resource base

SNSK is now making plans for future coal mining in other deposits to replace the current operations in the Svea Nord mine. Future coal mining in Svalbard under the direction of SNSK will be submitted to the Storting as a separate item of business when the project has been fully studied.

The company has made major investments in connection with the development of Svea Nord and associated facilities for the transport and shipping of coal. Major investments have also been made in the infrastructure of the Svea area. In the event of

coal mining in other, smaller deposits, it is probably a necessary condition for profitable operation and preservation of the environment that the infrastructure in Svea can continue to be used. Substantial new investment will be necessary for coal mining even in the case where existing infrastructure can be used.

After the planned closing of the Svea Nord mine in 2014, SNSK will assess possible further operations in four new locations in the Svea area, where existing infrastructure can be used. These are Lunckefjell (9), Svea Øst (4), the fringe zone of Svea Nord (6) and Ispallen (11), where the numbers in parentheses indicate the estimated size of the coal reserves in millions of tonnes. Remaining reserves in Svea Nord are estimated at 15 million tonnes. Thus, in the company's estimation, there is currently a total of about 45 million tonnes of remaining surveyed coal reserves in the Svea area.

Planned coal mining at Lunckefjell

Based on geological surveys of the resources at Lunckefjell, which is located northeast of the Svea Nord mine, it is estimated that the field will yield 9 million tonnes of recoverable coal. This will provide a basis for operation for somewhere between four and eight years. If there should be mining operations at Lunckefjell, it will be necessary to build a transport road between Svea Nord and

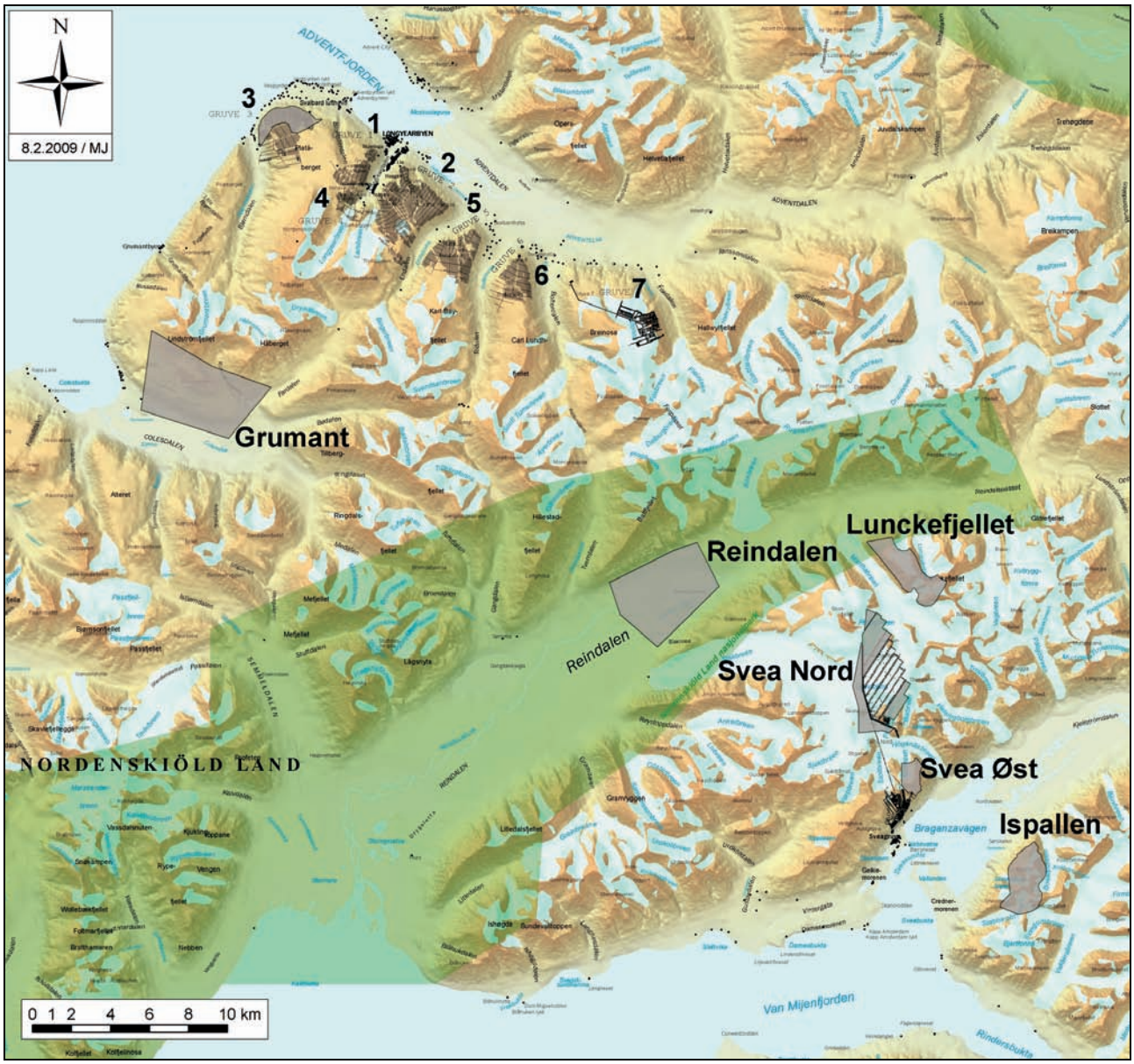


Figure 9.1 Map of claims and resources

Source: SNSK

Lunckefjell across the Märthabreen Glacier, i.e. a stretch of about two kilometres. According to the company, the discharges of environmentally hazardous substances will be modest, and it is planned that when the mining is terminated as many of the traces of the mine as possible will be removed. To this must be added the openings out of Svea Nord and into Lunckefjell. The development will occur right up to the border of the national park in the Reindalen valley. Discharges of mine water can drain into the park.

Plans for new mining operations will require an environmental impact assessment pursuant to Section 59 of the Svalbard Environmental Protection Act. In June, the Governor of Svalbard in consultation with the Directorate of Mining established a research programme for the Lunckefjell project that would focus on the topics of natural environment, society and climate. In this research programme, the question of runoff into the national park will be an important one. It is also specified in the research programme that an overview shall be prepared of coal mining's contributions to emissions of greenhouse gases. Among other things, this overview shall include emissions of greenhouse gases from the combustion of mined and sold coal.

A zero alternative including the consequences associated with closing down the coal mining operations shall also be studied. SNSK plans to submit the environmental impact assessment and application to the Governor in the autumn of 2009. According to plan, the Governor shall circulate the environmental impact assessment for comment in October 2009 with a two-month deadline for inputs. The environmental authorities' resolution, including any permits, is expected in the third quarter of 2010. In order to facilitate coal mining at Lunckefjell, a necessary investment on the order of NOK 1 billion has been estimated. The company is currently assessing various production paths and methods of operation. Among other things, the Lunckefjell project's estimated profitability is sensitive to changes in expected start-up date, the price of coal, the exchange rate on the dollar and the cost level, including the number of employees.

If the project goes ahead and a permit is issued, the main project will be prepared with a view to the start-up of operations in the actual deposits around the middle of 2013, with the transport of construction equipment and road building beginning in 2010. The start-up is thus planned to be coordinated with the removal of the remaining coal panels in the Svea Nord mine.

The Government's work on the Lunckefjell project

Essentially, the Lunckefjell project is an investment decision for SNSK's Board of Directors. However, the project constitutes a substantial investment that is associated with a relatively large financial risk and will have a significant effect on the company's equity and dividend capacity, among other things. These are key questions for the owners, and thus it is natural that the project be submitted to the general meeting.

In keeping with the administration of ownership, it is clearly a necessary condition that SNSK's coal mining should be commercially profitable. The Ministry of Trade and Industry wants to evaluate the Lunckefjell project on the basis of its own assessments of the company's calculations and by hiring an independent adviser. Final consideration in the ministry also requires that the project be issued a permit pursuant to the Svalbard Environmental Protection Act. According to the schedule, this may occur in April 2010 or alternatively in the autumn of 2010. Before then, the environmental impact assessment and the company's application to the Governor will have been completed. In addition to commercial profitability, key evaluation criteria for the Government will include the project's effect on the settlement in Longyearbyen and its environmental impacts. Future coal mining must also be carried out in a way that conforms to the ambitious environmental objectives in Svalbard. The Government further specifies that safety must be given the highest priority in all assessments related to mining operations. Profitability must not come at the expense of safety or the environment.

Future coal mining and the Svalbard community

SNSK envisions that the resources in the Svea area can sustain coal mining until 2023. However, this time horizon assumes the opening of new mines in Lunckefjell and Ispallen, which is dependent in turn on commercial profitability and the projects being environmentally acceptable.

The company is currently evaluating production paths for the remaining resources in Svea Nord and likewise in Lunckefjell in the event of any operations there. If the production volume is reduced to 2 million tonnes per year, the resource base can be further extended. According to the company, it ought to be possible to achieve this without substantially reducing profitability. The company has expressed a manpower goal of 310 employees in 2010. This assumes that the downsizing will occur through natural wastage. As men-

tioned, the group had a total of 396 employees at year-end 2007, 337 of which were employed in the mining company. To this can be added a considerable number of externally hired crews.

The commercial and social analysis for Svalbard for 2007 shows that SNSK makes a good contribution to stability, year-round activity and family community in Longyearbyen. Coal mining is by far the largest basic industry in Svalbard, and when derived activities are included, coal mining accounts for 40 per cent of the total full-time equivalents (FTEs) in Longyearbyen and Svea.

At the request of the Ministry of Justice and the Police, the Norwegian Institute for Urban and Regional Research (NIBR) has analysed the relationship between production and employment in SNSK and the social development in Longyearbyen. Although most jobs related to coal mining are in Svea, and a large percentage of the employees in SNSK commute to the mainland, NIBR report 2008:22 makes it clear that a possible disappearance of coal mining will have major ripple effects in the local community. According to the NIBR report, these effects may be limited to some extent by encouraging alternative activities, such as research, education and ecotourism.

The company's working hour arrangements are important for the community in Longyearbyen. Through the employee organisations, a proposal was submitted a couple of years ago for an arrangement with 14 days on the job and 14 days off, and it has been possible to institute this as a trial scheme. SNSK's Board of Directors decided in the spring of 2008 to continue this arrangement for an interim period lasting until January 2010. The arrangement gives the employees better opportunities to travel from Svalbard to the mainland and was initially a trial scheme for one year. One reason for the introduction of this trial scheme was the lack of family dwellings in Longyearbyen and of jobs for spouses or cohabitants.

Studies show that about half of SNSK's employees currently commute to the mainland on their time off. Increased commuting may make Longyearbyen seem more like a commuter society as opposed to the family community that has evolved over a period of time. This can lead to problems with keeping the school and day care institutions open and will weaken some of the basis for a robust local community. Store Norske has now gone in for devising arrangements for working hours and dwellings so that there will be less commuting and the company's residential properties will be more fully utilised. The company is also signalling its intention to develop a new recruitment policy, suited to attracting more miners to settle in Longyearbyen. Together with the company, the Ministry of Trade and Industry will review the experiences from the trial scheme and evaluate on this basis whether it may be relevant to discuss continuing such arrangements with the Board of Directors.

Coal mining as a policy instrument in the Svalbard policy

One of the five main objectives of Svalbard policy is the maintenance of Norwegian communities in the archipelago. This objective has been met through the family community in Longyearbyen. At present, more than 100 years after its foundation, coal mining is still the most important mainstay for this community. However, coal mining is based on a non-renewable resource. It is also vulnerable to fluctuations in the price of coal, and recent history has shown that unforeseen events may have major consequences for this activity.

Coal mining has traditionally taken place in the vicinity of established communities and throughout history has also formed the basis for Longyearbyen and other communities in the archipelago. At present, Norwegian coal mining is mainly based in the Svea area. There are also mining operations in Longyearbyen. Based on the current situation, as mentioned above, there can be a basis for mining in the Svea area up to 2023. This assumes that it is commercially viable to open new mines in the Svea area, with Lunckefjellet the first development project after Svea Nord is played out, or alternatively the fringe zone, Ispallen and Svea-Øst. It is also a necessary condition that the projects separately and aggregately are acceptable on the basis of environmental considerations and the goal of preserving the natural wilderness in Svalbard the way this has been regulated through the Svalbard Environmental Protection Act.

Continued coal mining is essential for maintaining Longyearbyen as a family community. It is the Government's view that coal mining should continue within the strict constraints set by environmental legislation and commercial profitability and in a manner that supports the objective of Store Norske Spitsbergen Kulkompani to help support a robust community in Longyearbyen. Existing infrastructure for coal mining operations should be used where possible. At the same time, it is important to support existing and new, diversified activities in Longyearbyen. This is especially true of the activity at UNIS, a further development of Svalbard as a platform for research and education and fur-

ther development of tourism and space-related activities. Developments in the various areas must be considered in context and assessed in view of the overriding objectives of Svalbard policy, including the ambitious environmental goals for the archipelago.

The Mining Code for Svalbard

The right to apply for, acquire and exploit natural deposits is regulated by the Mining Code for Svalbard, laid down by the Royal Decree of 7 August 1925. The Mining Code is based on two principles: equal access to conduct exploration and mining operations on the basis of the principle of non-discrimination and first finder's right to be issued a so-called claim (area where the right to mining operations is granted). As previously mentioned, SNSK currently has 316 claims in Svalbard, which cover a total area of about 3,000 km^2. In 2007, there were a total of 382 claims, and the Russian company Trust Arktikugol is the second largest claim holder with 50 claims. Pursuant to Section 15 of the Mining Code, a claim holder is obligated to commence mining operations within the claim. However, this obligation to work the claim is not absolute, and dispensation can be applied for on terms that are further specified. The Commissioner of Mines makes his/her recommendation on the matter to the Ministry of Trade and Industry, which can issue dispensation from the requirement concerning the obligation to work the claim. If the claim holder does not fulfil the obligations pursuant to Section 15 or dispensation is not granted, the claims will lapse. Others can then apply for a claim in the area. This means that if SNSK on the basis of various assessments decides upon permanently closing down the mining operations in Svalbard, the claims will lapse in time and may be exploited by others. However, the restrictions on the possibility of carrying out infrastructure development that has an impact on the natural wilderness and the protected areas in Svalbard will be the same for other players as they are for Store Norske. These restrictions are discussed in greater detail in section 7.4.3.

Figure 9.2 Woodfjord. A chance encounter with polar bears.

Photo: Bjørn Frantzen

9.2 Tourism

In Report No. 50 (1990–1991) to the Storting on industrial measures for Svalbard, the Government wanted to facilitate the development of tourism as a basic commercial activity in Svalbard. It was established that the development should occur within the constraints set by considerations with regard to the vulnerable natural environment. Since the early 1990s, there has been a rapid growth in tourism in Svalbard. The number of registered commercial guest nights at hotels or guest houses has risen from barely 20,000 in 1991 to over 86,000 guest nights in 2007.

The support of tourism was followed up in Report No. 9 (1999–2000) to the Storting, Svalbard, where it was established that tourism had become an important basis for settlement and economic activity in the archipelago and especially in Longyearbyen. At the same time, it was also shown that increased traffic and visits to certain locations had resulted in increased wear on vegetation, soil and cultural monuments in addition to greater noise and disturbance of fauna.

Together with coal mining and R&D activities, tourism is currently one of the basic industries in the archipelago. The Government thinks that a further development of tourism in Svalbard is important. This may contribute to a more diversified economic structure in Longyearbyen and may provide a basis for increased economic growth. Together with other industries and activities, tourism will contribute to a robust settlement and less dependence on coal mining. In order for tourism to make further contributions to a more robust and diversified family community, it is important that more year-round jobs be developed.

At the same time as the Government arranges for a further development of tourism in Svalbard, it is an overriding objective that Svalbard shall be one of the world's best managed wilderness areas and the best preserved High Arctic tourist destination in the world. The ambitious environmental objectives and environmental legislation for Svalbard will continue to provide the framework for the development of tourism.

The growth in tourism in Svalbard, in terms of visitors, employment and the number of companies has been considerable in the past decade. The growth has occurred in waves. The growth in the period 1999–2001 was especially rapid, before it levelled off in the period 2001–2005. The last few years have seen another increase in the number of guest nights (cf. table 9.1)[1].

In 2007, the tourism industry directly employed 211 persons and contributed to 83 FTEs in derived activities. The industry had a turnover of about NOK 317 million (cf. tables 9.2 and 9.3) and generated a turnover in local purchases amounting to about NOK 88 million. Since 2003, the growth in the number of FTEs and in turnover has been significant, even though the number of available beds in Longyearbyen has remained about the same.

[1] Figures in table 9.1 for the number of guest nights and the occupancy rate in 2008 have been adjusted in the English translation of this Report, due to new statistical information received from Svalbard Reiseliv AS after the submission of the Report to the Storting. The text in the preceding section has been adjusted accordingly. The Storting has been informed of these changes.

Table 9.1 Number of guest nights, beds and occupancy rate in Longyearbyen, 1999–2008

Year	2000	2001	2002	2003	2004	2005	2006	2007	2008
No. of guest nights	61,277	76,154	74,433	71,049	77,926	76,570	83,049	86,097	88,951
No. of beds	620	630	642	709	720	715	722	711	773
Occupancy rate	36.5	42.6	38.1	36.0	39.2	38.8	43.7	45.6	44,8

Source: Svalbard Reiseliv AS – Annual Report 2008

Table 9.2 Number of FTEs directly employed in the basic industries in Longyearbyen, 2003–2007

No. of FTEs directly employed	2003	2004	2005	2006	2007
Tourism	165	182	172	189	211
Mining	247	286	338	384	484
Research	85	83	97	104	111

Source: NIBR – Social and commercial analysis for Svalbard, 2008

A sizeable programme of activities and other experiences has been developed in Longyearbyen in the last twenty years. Taking into consideration the size of its urban population, Longyearbyen can currently offer a highly diverse tourist product. Much of this involves activities in connection with the natural environment, such as guided hikes in the vicinity of the town, kayak trips, ice caving beneath glaciers or snowmobile and dog-sled safaris. Guest surveys indicate that it is precisely these activities that most tourists want to experience. Out of consideration for the environment and the tourists' safety, the Government thinks that the tourist product must be developed within strict safety and environmental constraints. Cruise tourism constitutes an important part of the tourism in Svalbard. Cruise tourism can be divided into two main segments: overseas cruise tourism, where the boats come from far away, and expedition cruise tourism, where Longyearbyen is the start and endpoint of a cruise in the waters of the archipelago. The tourists and the staff from overseas cruise ships are more or less self-sufficient, but contribute to the trade in goods in Longyearbyen and Ny-Ålesund during disembarkations. The expedition cruises are combined to a great extent with accommodation in Longyearbyen before and after departure and thereby contribute to a somewhat greater extent to local economic growth. Cruise tourism is aimed at affluent customers. Therefore, it is important to develop a good programme that persuades the cruise passengers to choose to make use of this commercial and cultural offering.

Svalbard has been devoted considerable international attention in recent years. The opening of the Svalbard Global Seed Vault in 2008 was covered by a large international press corps. Furthermore, it is expected that marketing, such as the BBC documentary about Northern Norway and Svalbard in the autumn of 2008 and *Lonely Planet*'s listing of Svalbard as one of the ten destinations that ought to be visited in 2009, will result in an increased influx of foreign tourists in the coming years. The efforts to evaluate whether areas in Svalbard should be nominated for the list of the world's natural and cultural heritage are discussed in section 7.4.5. Possible status as a World Heritage site may result in increased interest in Svalbard as a tourist destination.

Table 9.3 Turnover (in NOK million) in the basic industries in Longyearbyen, 2003 – 2007

Turnover (NOK million)	2003	2004	2005	2006	2007
Tourism	215	259	254	289	317
Mining	940	1,311	1,142	1,235	2,008
Research	81	98	82	109	142

Source: NIBR – Social and commercial analysis for Svalbard, 2008

9.2.1 Operators

The tourism industry in Svalbard consists of a number of large and small companies that offer various products for both summer and winter tourism. Most of the companies are locally based and have their entire activity based in Svalbard, but foreign operators also offer tourist products in the archipelago, e.g. expedition cruise companies.

The Svalbard Tourist Board was established in 1996 as a cooperative body for companies involved in tourism and tourism-related activities in the archipelago. The Svalbard Tourist Board was established in order to facilitate cooperation on marketing, quality assurance, competence building, product development and environmental measures in the tourism industry. Info-Svalbard, which comes under Svalbard Næringsutvikling AS, had the secretariat function for the Tourist Board until 2001. Starting in 2001, Info-Svalbard changed its name to Svalbard Reiseliv AS and was acquired by the Svalbard Tourist Board. Svalbard Reiseliv AS currently has three permanent employees and is supposed to function as the coordinating body for tourism in the archipelago. Svalbard Reiseliv AS operates on the basis of action plans approved by the Svalbard Tourist Board and is the secretariat for the Tourist Board. Its areas of responsibility include the general marketing of Svalbard as a destination through the production and distribution of information material and statistics in addition to the operation of the tourist information office in Longyearbyen.

The Svalbard Tourist Board has prepared separate internal guidelines for organised tours with snowmobiles and consults with local authorities in Svalbard on guidelines for other types of traffic. The members have obligated themselves to comply with these guidelines.

In the previous Report to the Storting on Svalbard, it was emphasised that the industry itself should be given greater responsibility for the development of tourism in Svalbard through the current Svalbard Reiseliv AS, which was assumed to be an important partner for the authorities in the development of tourism. This has been a good strategy, which the Government will continue.

The Svalbard Tourist Board cooperates well with the authorities in Svalbard with regard to the development of an environment-friendly tourist product. The Government is in favour of continuing and further developing this cooperation.

The Svalbard Tourist Board currently has 60 member companies, all of which are located in Svalbard. In 2006, Svalbard Reiseliv AS, the public space in the Svalbard Museum and the Governor's Environmental Information Office were co-located in the newly constructed Svalbard Research Centre in Longyearbyen. It is important to the Government that the synergy effects made possible by this kind of co-location be utilised in a good way.

Since 2001, Svalbard Reiseliv AS has received an annual subsidy of NOK 2 million from the Ministry of Trade and Industry. For 2009, this subsidy has increased to NOK 2.1 million. In addition, the member companies in the Svalbard Tourist Board contribute a user fee in connection with trade fairs, seminars and a separate training programme for guides that is organised by Svalbard Reiseliv AS on behalf of the Tourist Board.

Another form of cooperation in the tourism industry is the organisation, Association of Arctic Cruise Operators (AECO). This is an amalgamation of companies that operate expedition cruise vessels in the areas around Svalbard, Jan Mayen and Greenland. The secretariat of AECO is located in Longyearbyen, while the member companies are located in seven different countries, including Norway. The members operate a total of just over 20 vessels, everything from sailing vessels to cruise ships with more than 300 passengers. AECO is an interest group, but has also established its own internal guidelines for the member companies with regard to safety and the environment when conducting tour programmes. These guidelines have been developed after contact with the national authorities in the areas where the ships operate, and they have requirements that are stricter at times than those that have been incorporated in national legislation. The members have obligated themselves to comply with both the laws and regulations that are in force in the areas where the ships operate and with AECO's internal guidelines.

The tourism industry plays an important role in raising awareness of and informing visitors about the environmental challenges in the Arctic. Tourism in Svalbard has shown considerable responsibility in limiting possible impacts on the environment and maintaining the safety of the visitors through the development of its tourist products and guidelines for traffic in Svalbard's natural environment and with regard to informing visitors about the vulnerable environment in the Arctic. It is important that there be good contact between the tourism industry, the scientific community and the authorities. Mutual information and communication help ensure both compliance with the existing regulations and the development of a better understanding of the importance of attending to safety and environmental considerations. For a further discussion of the cooperation between the tourism industry and the Governor of Svalbard, cf. section 6.3.1.

9.2.2 Education and competency requirements for guides and tour leaders

In various contexts, Norwegian authorities have pointed out that quality and expertise in the tourism industry in Svalbard are important factors when it comes to considerations of both safety and protection of the environment.

The guide training that is organised by Svalbard Reiseliv AS on behalf of the Tourist Board is a good example of efforts to professionalise and improve the quality of tourism in Svalbard. Through practical courses and certification as so-called Svalbard guides, the training of guides should ensure the quality and improve the safety of the tour products that are offered in the archipelago.

On 1 April 2007, an environmental charge of NOK 150 was introduced for all visitors to Svalbard. The revenue from this charge goes to the Svalbard Environmental Protection Fund. The fund should be used to launch projects that contribute to the preservation of Svalbard's natural environment as a basis for experience, knowledge and economic growth. For more details about the Svalbard Environmental Protection Fund, cf. Box 7.1. With funding from the Svalbard Environmental Protection Fund, the Svalbard Tourist Board in collaboration with UNIS and Finnmark University College has drawn up a plan for a one-year university college programme of study in Arctic nature guiding.

In 2009, a total of NOK 1.25 million was allocated from the Ministry of Trade and Industry and the Ministry of Justice and the Police to launch this programme of study in the autumn of 2009. The students in the programme will gain competence in tour planning, tour management and acting as host. The programme of study shall lay the basis for development of sustainable tourism and ensure quality experiences that are adapted to the natural environment, culture and geopolitical conditions in

polar regions. This kind of programme of education in Arctic nature guiding may help improve the quality of the tourist product of Svalbard in its entirety, both by helping promote a safer and more justifiable traffic in the vulnerable Svalbard natural environment and by quality assuring the informative aspects of the role as guide.

As a follow-up of Report No. 9 (1999–2000) to the Storting, Svalbard, provisions were introduced during the revision of the tourist regulations in 2002 that give the Governor an opportunity to specify requirements concerning the documentation of sufficient and relevant knowledge of local conditions. However, it was also signalled in the Report that the possibility of introducing the right to require that tour operators use approved guides would be considered, e.g. by requiring that they had completed the guide and tour training that is now being provided by Svalbard Reiseliv AS on behalf of the Svalbard Tourist Board. However, these provisions have not been introduced. In view of the development of the tourist industry and the educational opportunities that are now offered, the Government thinks that there is reason to conduct a renewed evaluation of this matter.

9.2.3 Legal constraints

The Regulations of 18 October 1991 relating to tourism and other travel in Svalbard are one of the most important constraints with regard to developing tourist products in Svalbard. They were last amended by the Regulations of 18 June 2002. These regulations have provisions concerning guarantees, insurance and liability with regard to tour programmes and other tourism activities, and they apply to both tourist enterprises and individual travellers. They are intended to help protect the natural and cultural environment and to ensure that safety precautions are observed and that other rules are complied with. The regulations impose an obligation on travel agents, tourist carriers and individual travellers to notify the authorities and take out insurance prior to travel in certain areas in the archipelago. In addition, the regulations give the Governor authority to alter or prohibit tour programmes if that is deemed necessary. Other important regulations are the Regulations concerning harbours and fairways, the Camping Regulations and the Regulations about motorised traffic. The latter lay down guidelines for snowmobile traffic and prohibit tourist sightseeing by aircraft, while the Camping Regulations regulate tent camping in the archipelago.

The Svalbard Environmental Protection Act has the objective of maintaining a virtually untouched environment in Svalbard with regard to both the natural environment and cultural monuments. Within this framework, the Act allows room for environmentally justifiable settlement, research and economic development. If there is insufficient knowledge about the environmental impacts of new measures, authority shall be exercised with the aim of avoiding possible damaging effects on the environment – the so-called precautionary principle. It is also pointed out, however, that the legislation should not prevent settlement, research and economic development that are deemed to be environmentally justifiable. For a more detailed discussion of the Svalbard Environmental Protection Act, cf. Chap. 7 Environmental protection.

In recent years, a number of amendments to the regulations concerning protection and traffic have been passed, which apply to large parts of the archipelago. This trend will affect the cruise industry in the archipelago, among others, and makes requirements for continuous restructuring of the industry. The tourist industry has expressed a desire for more predictability with regard to new restrictions and rules, so as to thereby have a better basis for long-term planning – at the same time as increasing traffic and new traffic patterns create a need for regulation out of consideration for the environment and safety. When amendments are made in existing regulations, it is important that consideration be given to what the consequences of the amendments will be for business and industry, including tourism.

The development of tourist products has mostly occurred through a cooperation between the agents in the tourism industry and the authorities that administer key laws and regulations. It is important to the Government that this cooperation continue and be further developed. It can provide a basis for predictable operating constraints on tourism and the development of tourist products in an environmentally justifiable framework. At the request of the Ministry of Justice and the Police, the Governor has recently undertaken an evaluation of the Tourist Regulations, and some amendments to these regulations have been proposed. The Ministry of Justice and the Police will evaluate the proposals, and in light of this possibly recommend necessary amendments to the regulations.

9.2.4 Challenges and objectives

There is a potential for further growth in tourism in Svalbard, but seasonal fluctuations and the rela-

tively low occupancy rate are important challenges in that respect. The occupancy of lodging facilities is high in the high season, but in the low and shoulder seasons there is a great unutilised potential. The efforts to develop the course and conference market have helped improve the occupancy for the lodging facilities early and late in the seasons. These seasonal fluctuations are a challenge with regard to maintaining year-round jobs in Longyearbyen. Thus, it is important to make a purposeful effort to develop a tourist product that provides a basis for year-round employment in Longyearbyen.

As can be seen in figure 9.3, tourism in Longyearbyen is concentrated in two peaks: one in the period around the Easter vacation after the sun has returned and the other in the summer months. In the period of polar night from October to February, when the sun never rises above the horizon, there are relatively few visitors.

It is holiday and leisure travellers who spend the most money on tourism in Svalbard by paying for a number of activities and experiences in addition to buying food and beverages. Business travellers have a lower consumption. Therefore, it is important that the market for business travellers be better exploited. Holiday and leisure travellers are regarded as the market where the potential for growth is greatest, especially if more foreign tourists visit Svalbard. Sixty-five per cent of the current tourists to the archipelago are Norwegian.

The tourist industry in Svalbard notes that changes in flight routes and restrictions on the number of flights outside the high seasons make it difficult to do anything about the seasonal challenges. SAS's schedule of flights is seasonally adjusted, and SAS is currently the only airline that flies to Svalbard after Norwegian discontinued its route in 2008 after two seasons of operation.

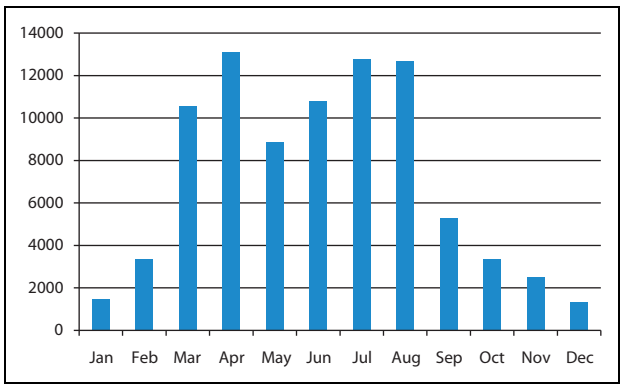


Figure 9.3 Number of guest nights per month in Longyearbyen, 2007

Source: Svalbard Reiseliv AS – Annual Report 2007

It is not desirable that tourist products be developed that may result in environmental or safety risks. Strict rules for traffic, combined with the obligation to notify the authorities and take out insurance should reduce this risk. In the event of increased traffic, there may be a greater impact on natural areas and cultural monuments that are vulnerable, and that may lead to land-use conflicts both with research and with various types of tourist products. The need for regulation of various types of traffic may also become greater. Maintaining the balance between development of tourism and the ambitious environmental objectives for Svalbard is challenging. This issue is especially relevant with regard to traffic related to expedition cruises in the big nature reserves in East Svalbard, where various measures to regulate the traffic will be assessed. This matter and other challenges and measures related to traffic in Svalbard are further discussed in section 7.4.2.

Ecotourism is a tourism niche that is well suited to the constraints that are specified in the Svalbard Environmental Protection Act and a natural target area for the tourist industry in Svalbard. The adventure and dog-sledding company, Svalbard Villmarkssenter AS, is one of the companies that is concentrating on this niche, and they have recently become a "Certified Norwegian Ecotourism Business". The symbol certification scheme "Norwegian Ecotourism" sets strict requirements for environmental and sustainable measures, good hosting and a locally based involvement in the community. The typical ecotourist is distinguished by being older, well-educated, affluent and interested in wilderness and outdoor activities. Thus, the profile of a typical ecotourist coincides with the typical Svalbard tourist. It is important to the Government that the tourist industry develop the tourist product in such a way that it does not damage the archipelago's foremost attraction, which is the undisturbed natural environment and the authentic wilderness experience. Most of the tourists visiting Svalbard have Longyearbyen as the point of departure for their visit, and it is desirable that the traffic be concentrated in the Longyearbyen area. It makes sense to facilitate a concentration of traffic in this area, while protecting other areas fully or partly from traffic. The further development of ecotourism and non-motorised tourism largely depends on how arrangements are made for this tourism and how land-use conflicts with regard to motorised traffic are handled. This is especially true in the areas around Longyearbyen, where a protection of areas that are attractive and provide sufficient space for development of non-motorised

tourism is an important factor. The need to make better arrangements for the non-motorised tourism is further described in section 7.4.2.

In order to extend the season, innovative ideas and product development will be needed in the industry. One example of these innovative ideas is the polar nights initiative, which attempts to increase the tourist traffic during the polar night, which has traditionally been the low season. They are attempting to do this by establishing a comprehensive marketing concept with the emphasis on the aurora borealis and outdoor activities during the polar night. This collaborative project has broad support in the business community and trade union movement in Longyearbyen, and the cooperative aspect of the project in particular is important in order to create good, comprehensive tourist products.

Longyearbyen also has a potential for much better utilisation of the local cultural and natural environments. In this way, another dimension will be added to the local community, both environmentally and as an experience, and Longyearbyen will be developed as an attractive tourist destination. In this context, the Environmental Protection Fund has already funded many good local development projects. One good measure that is under development is a nature and culture path. This is supposed to consist of information points around Longyearbyen that provide information about the location's natural environment, culture and history to visitors and residents alike who get around on foot or on a bicycle. Other local measures are observation points for bird watching and arrangements to promote colonies of eider ducks and other species. A collaboration between Longyearbyen Community Council and Svalbard Reiseliv has also resulted in a resolution that Svalbard shall become a so-called plastic-bag-free zone by year-end 2009. It ought to be possible to realise other measures.

In the previous Report to the Storting on Svalbard, it was emphasised that the efforts to arrange matters to facilitate tourism in Svalbard that is justifiable from both an environmental and a safety perspective would be continued. Since then, the Governor has developed a separate strategic plan for tourism and outdoor recreation in Svalbard. This plan was completed in 2005 and gives a description of the development, the status and body of legislation, and other tools in this area. In addition, it provides a summary of political goals and guidelines, and the most important challenges for the management of tourism and outdoor recreation are assessed. Strategies are then devised in the individual fields. The strategic plan is an important tool for the Governor in the administrative processing of matters pertaining to tourism and outdoor recreation in Svalbard.

In the former Report to the Storting, Svalbard, attention was called to various policy instruments so as to be able to influence the development of tourism in a direction that is justifiable with regard to the environment and safety. One measure that was emphasised was the possibility of introducing requirements that tours be part of organised programmes, e.g. snowmobile trips to the east coast or other remote locations on Spitsbergen. In connection with this, the Standing Committee on Foreign Affairs in the Norwegian Storting argued that it would generally be "useful if as much tourism as possible takes place in organised forms", cf. Recommendation No. 196 (1999–2000) to the Storting.

Among other things, this was followed up in the Regulations about motorised traffic from 2002, which specify strict constraints on traffic with snowmobiles for visitors. This kind of traffic outside of the central areas in Nordenskiöld Land is only permitted in a small area on the east coast and then only when accompanied by residents or as part of an organised tour programme.

Although some visitors to Svalbard travel on their own initiative, especially in the summer as hikers in the vicinity of Longyearbyen, most of the tourism takes place now as part of organised activities. The administrative practices, information measures and facilitation of organised programmes are factors conducive to this development. This applies in particular to snowmobile activities, where private rental of snowmobiles to visitors has flattened out during the past decade, while the number of participants in organised tour programmes has doubled during the same period.

Although it can be argued that the objective has more or less been achieved, the Government will also attach great importance in the coming years to keeping as much tourism as possible as part of an organised programme.

9.2.5 Assessments

The Government thinks that it is important to have a further development of the tourist industry as a basis for as much economic growth in Svalbard as possible – e.g. as a basis for settlement in Longyearbyen. This must occur in keeping with the Government's and the tourist industry's overriding objective of a sustainable ecotourism in Svalbard. This kind of further development will contribute to a more diverse economic structure in

Longyearbyen. An extensive effort to extend the high seasons and create more year-round jobs will result in a more stable local community at the same time as it will help increase the economic growth in the tourist industry.

9.3 Fisheries

Commercial fishing takes place in the territorial waters around Svalbard and in the Fisheries Protection Zone beyond those waters. Fishing in the territorial waters is far less extensive than fishing in the Fisheries Protection Zone.

Many of the stocks around Svalbard migrate between Norwegian, foreign and international marine areas. For migrating stocks, it is important to provide protection and management throughout their entire area of distribution. Pursuant to Act No. 91 of 17 December 1976 relating to the Economic Zone of Norway, a fisheries protection zone of 200 nautical miles was established around Svalbard by the Royal Decree of 3 June 1977. Thus, the reason for establishing a non-discriminatory fisheries protection zone was primarily to gain control of the fishing in the area in order to protect the resources and prevent unregulated fishing.

At present the fishing in this area is mainly for cod, shrimp and Norwegian spring-spawning herring. Various forms of regulation have been established for the different fisheries, including quota regulation of the cod and herring fisheries and effort regulation of the shrimp fishery. Regulations concerning fishing in territorial waters around Svalbard are laid down pursuant to the Svalbard Act, whereas regulations concerning fishing in the Protection Zone are laid down pursuant to the Act relating to the Economic Zone of Norway. Quotas were first established in 1986 when Norway established Regulations concerning the regulation of cod fishing in the Fisheries Protection Zone around Svalbard. The fishing effort permitted for each country was established on the basis of their earlier fishing activities in the area. As a result, Norway, Russia, the EC and the Faroe Islands are permitted to fish for cod in the Fisheries Protection Zone.

In July 1996, regulations of the shrimp fishery in the territorial waters around Svalbard and in the Fisheries Protection Zone were laid down. The regulation of the shrimp fishery entails that vessels from Norway, Russia, Canada, the EC, Greenland, the Faroe Islands and Iceland can take part in this fishery. The fishing is effort-regulated, which entails that the fishing effort permitted for each country has been established on the basis of their earlier fishing operations around Svalbard. Restrictions have been introduced with respect to the number of vessels that may be used for shrimp trawling and the number of fishing days allowed in the territorial waters around Svalbard and in the Fisheries Protection Zone.

The provisions governing fishing are the same for the territorial waters around Svalbard and in the Fisheries Protection Zone. They include provisions on logbook recording, mesh size in fishing gear, the use of sorting grids, minimum sizes and so on.

The Norwegian Coast Guard and the Directorate of Fisheries share the responsibility for the executive part of the control of resources in the areas under Norwegian fisheries jurisdiction. A significant share of the Coast Guard's resources are used in the Northern marine areas. The Coast Guard is part of the Norwegian Armed Forces, and provisions concerning the Coast Guard's mission and exercising of authority are specified in the Act relating to the Coast Guard and the instructions to the Coast Guard. The Coast Guard's exercising of control and enforcement measures in the territorial waters around Svalbard shall be in accordance with directives specified by the Governor of Svalbard.

It is essential that the living marine resources are managed in such a way that it will be possible to continue harvesting them in the future in our marine areas, also including Svalbard, and that biological diversity is maintained in the short and long term. In this context, it is important to concentrate the fishing on mature fish and to restrict the catches of small fish or bycatch of species subject to strict bycatch provisions due to the stock situation. If the intermixture of fish under the minimum size or of other species is too high in the catch, the Director General of Fisheries will close the relevant area. Many of the stocks around Svalbard are migrating stocks. Thus it is important that the management, control and enforcement regulations protect the stocks equally well throughout their entire area of distribution, including around Svalbard. The control of fishing in the territorial waters and the Fisheries Protection Zone around Svalbard should be as good as in other areas under Norwegian fisheries jurisdiction. International obligations concerning resource management and control must also be implemented in the marine areas around Svalbard. It is in the interest of all fisheries nations that there be a genuine control of the outtake of fish in these areas and that illegal fishing be halted.

9.4 Space-related activities

Svalbard's geographic location is ideal for space-related activities, both for studying the atmosphere and downloading satellite data. Svalbard plays a key role in Norwegian space-related activities. One of the Government's objectives is to target space-related activities as part of Svalbard's future economic base.

9.4.1 General background

The space-related activities in Svalbard are undergoing rapid development. Its northern location gives Svalbard a competitive advantage when it comes to the downloading of information from satellites in polar orbits. Svalbard is the only easily accessible place for communication with satellites in all kinds of polar orbits. Thus, downloading of satellite data from Svalbard helps make the operation of satellites in polar orbit more efficient. There has therefore been a big demand for the services provided by the station in Longyearbyen.

Svalbard's location is ideal for studying the atmosphere and phenomena associated with the aurora borealis. Svalbard's accessibility and northern location, together with educational and research teams etc. associated with the University Centre in Svalbard (UNIS), result in an active research community. Among other things, UNIS is involved in research in Arctic geophysics and studies of the aurora borealis.

9.4.2 Current activities

The mainstays of the space-related activities in Svalbard are the downloading station, Svalbard Satellite Station (SvalSat) and the Svalbard Sounding Rocket Launch Facility (SvalRak). SvalSat downloads information from satellites in polar orbits, and SvalRak provides launch services for scientific balloons and rockets.

SvalSat is owned by Kongsberg Satellite Services (KSAT). SvalRak is owned by Andøya Rakettskytefelt (ARS). The Ministry of Trade and Industry, acting on behalf of the Norwegian State, owns 50 per cent of KSAT and 90 per cent of ARS. Through its subsidiary Norsk Romsenter Eiendom AS, the Norwegian Space Centre has delegated the authority to manage the state's ownership interests in the companies and is represented on the boards of directors of these companies.

The Svalbard Satellite Station, which is located at Platåberget near Longyearbyen, is the northernmost station in the world for downloading satellite data and currently has 16 employees and an annual turnover exceeding NOK 100 million. Through efficient utilisation of SvalSat, Norway avails itself of its geographic advantage. This has made Norway a significant international player in the downloading of satellite data, and SvalSat is a global leader in the downloading of polar meteorological satellites. Through the downloading in Svalbard and at the Troll base in Antarctica, KSAT is the only company in the world that can offer downloading of information at both the North and South Poles.

SvalRak is a launching facility for research rockets in the vicinity of Ny-Ålesund. Since Svalbard lies very close to the Magnetic North Pole, the rocket launching range is especially well-suited to studies of the aurora borealis and other special phenomena in the Arctic. In 2008, a new campaign was initiated with the launching of scientific rockets at SvalRak. In addition to Norwegian researchers, the main users of the facility are Japanese and American. There is also increased interest in the release of large stratospheric research balloons from Svalbard.

Major international players, such as the American, European and Japanese aerospace organisations, in addition to many other major players in space-related activities, make use of services and infrastructure at SvalSat. The European Space Agency (ESA) makes use of the installations at Platåberget near Longyearbyen in both commercial and research-related activities. ESA is a major customer for downloading information from Platåberget. Svalbard is also utilised as a test area for monitoring sea-ice and glaciers by satellite. There is also a possibility of a separate field centre located at Longyearbyen in connection with space weather monitoring under the direction of ESA. Pursuant to the regulations on electronic communication, special permits are required for the establishment and operation of earth stations for the downloading of satellites in Svalbard.

As part of the development and test phase, ground-based infrastructure has been placed in Svalbard and at the Troll base in Antarctica among other places. According to plan, the stations shall be included in the permanent infrastructure for Galileo. Permanent ground-based stations will have value for Norway both as a part of the global infrastructure and because their operation will allow access to important processes in the EU and in EU member states, both in normal operation and in crisis situations. The station in Svalbard is of particular interest with a view to ensuring adequate performance from Galileo in the High North as well.

Major investments have been made in order to strengthen SvalSat's position as a leading provider of space-based services. In 2004, fibre optic cables were introduced for the transmission of data from Svalbard to the mainland. This gives the mainland real time access to data from the satellites as well. The development was financed through an agreement with the National Aeronautics and Space Administration (NASA) and the National Oceanic and Atmospheric Administration (NOAA) in the USA and is owned by Norsk Romsenter Eiendom AS.

9.4.3 Further developments

There is reason to believe that the international interest in the use of the space-related infrastructure in Svalbard will increase. Satellite data downloaded in Svalbard is increasingly used for monitoring sea-ice conditions, oil pollution and ship traffic. This is critical information in order to avoid collisions and environmental crime at sea.

Efforts are being made to integrate the space-related activities with other observation platforms. SIOS (Svalbard Integrated Arctic Earth Observing System) has the objective of utilising Svalbard's unique conditions in order to establish an Arctic earth observing system in and around Svalbard. This entails integration of studies of geophysical, chemical and biological processes from research and monitoring platforms, including satellites.

With this system, Norway will also be able to help study the solar system. NASA has recently discovered large glaciers beneath the surface of Mars. Norwegian researcher's interpretation of satellite data and field measurements from glaciers in Svalbard may become important in the future for the understanding of glaciers and possible biological life on Mars and other planets. NASA and ESA regularly use Svalbard for testing equipment that is used in space journeys for the purpose of studying the solar system.

Space-related activities give rise to high tech jobs in the northernmost counties of Norway and in Svalbard. The increase in such activities in Svalbard will result in increased interest from both national and international scientific communities. This will have effects on other activities in Svalbard, including local economic activity.

Space-based infrastructure makes useful, cost-effective contributions to the population and the economic activity in Svalbard. Good examples of this are environmental monitoring and maritime emergency response, which are especially important for the High North, including Svalbard. The need for space-based services will continue to increase in areas such as civil protection, the environment and climate. The fibre optic cables to Svalbard are an example of how the space-related infrastructure benefits residents and researchers in Svalbard through rapid, secure Internet access.

9.5 Petroleum operations

The marine areas that surround Svalbard are not open for exploration for petroleum. Drilling for petroleum has previously been conducted onshore, most recently in 1990 within what is now Nordenskiöld Land National Park without any commercially viable discoveries being made. Permits for exploratory drilling in the territorial waters of Svalbard have not previously been granted. Both in the vicinity of the island of Hopen and along the west coast of Spitsbergen, claims have been granted on the basis of indications of petroleum deposits. A claim is a preferential right to exploitation of the resources within a specifically defined area, but it entails no automatic right to commence operations unless the claimholder is granted a permit pursuant to the Svalbard Environmental Protection Act and other regulations that are in force in Svalbard. As with former governments, this Government does not consider issuing permits for petroleum operations in the territorial waters around Svalbard to be in accordance with the Svalbard Environmental Protection Act, cf. section 7.4.3.

The marine areas that surround Svalbard are not open for exploration for petroleum. In the comprehensive management plan for the Barents Sea (Report No. 8 (2005–2006) to the Storting), the polar front, the sea-ice edge and the marine areas around Svalbard (the territorial waters) are defined as especially valuable and vulnerable areas.

In the areas around Svalbard, there is Norwegian and international research activity. Parties playing a significant role in these activities include Russia, Germany, the USA and Sweden. These countries perform scientific studies where they must apply for a permit in each case in order to conduct the studies. The nature of these studies is essentially not petroleum-related, but more inclined toward a general study of the earth's crust and in particular the deeper parts of it. In these studies, geophysical methods are employed that are different from the gathering of conventional seismic data. One of the objectives is to understand the mechanism of tectonic lift for the whole Barents Sea, and this has general relevance for the storage of petroleum in the Svalbard area.

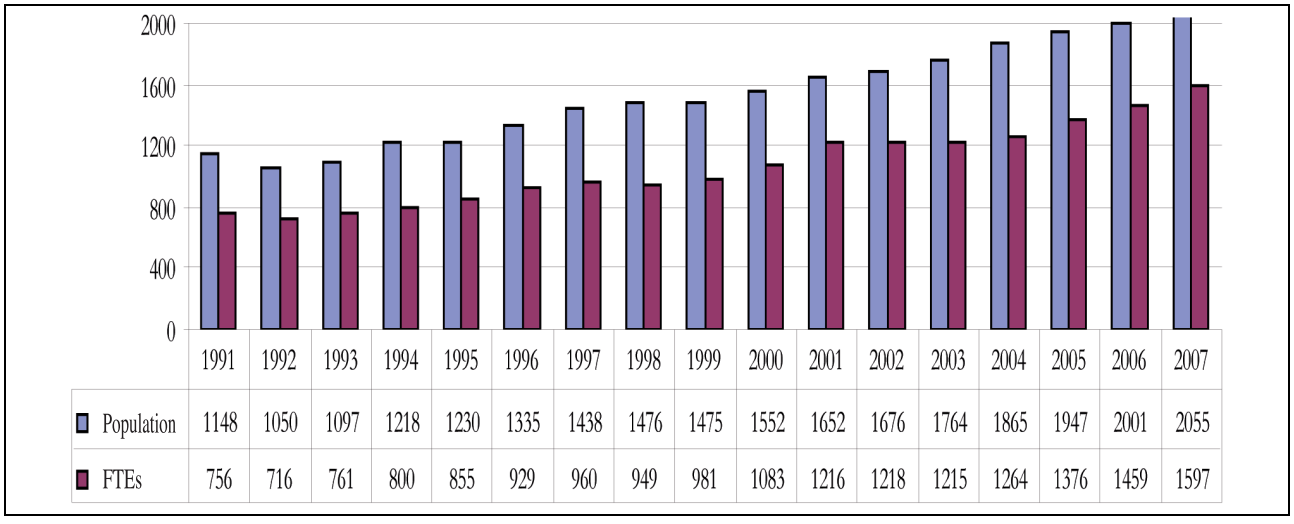
10 Longyearbyen and the other local communities

10.1 Longyearbyen

Since the previous Report to the Storting on Svalbard, Longyearbyen has continued to evolve in the direction of resembling a mainland municipality, and has consolidated its position as a modern family community, with a well-developed public infrastructure and a generally good array of services. However, the Government assumes that Longyearbyen will not become a "cradle-to-grave" community, which the Storting also endorsed in its debate of the Office of the Auditor General's administrative audit of Svalbard, cf. Recommendation No. 46 (2007–2008) to the Storting, Recommendation from the Standing Committee on Scrutiny and Constitutional Affairs. This means, for example, that public services in important fields such as health and social affairs are non-existent or are limited. For more details see Chapter 5 Legislation. The review of the tax system in Svalbard in 2007 concluded that a tax level approaching that of the mainland would probably trigger demands and expectations of an expansion of services in Longyearbyen. This could potentially put pressure on the objective that Longyearbyen is not to be a "cradle-to-grave" community, changing the nature of the Longyearbyen community in the long term. An expansion of health and social services would, moreover, have major economic consequences. The continuation of a non-cradle-to-grave community has therefore been adopted as an important premise for the low tax level in the archipelago.

A wider variety of economic activities has been facilitated in Longyearbyen since the beginning of the 1990s. The effort has been a success and has resulted in the emergence of tourism, retailing, education and research as complementary and alternative industries to coal mining. The number of businesses in Longyearbyen has increased in areas including retailing and service production, and many of these are aimed at visitors. Consequently, the array of private services in Longyearbyen is relatively ample, even compared with offerings in mainland communities of similar size.

The number of inhabitants has also risen in step with the general increase in activities in Longyearbyen. However, in its deliberation of the previous Report to the Storting on Svalbard, the Storting found that a population of 1,200–1,400 was sufficient for maintaining a viable and stable family community. At the same time it was pointed out that the number of inhabitants could vary somewhat in size depending on random changes in the composition of the population. Throughout its his-



	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Population	1148	1050	1097	1218	1230	1335	1438	1476	1475	1552	1652	1676	1764	1865	1947	2001	2055
FTEs	756	716	761	800	855	929	960	949	981	1083	1216	1218	1215	1264	1376	1459	1597

Figure 10.1 Change in population and full-time equivalents (FTEs) in Norwegian communities in the archipelago 1991–2007.

Source: NIBR – Bjørnsen and Johansen (2008)

tory, coal mining has been the mainstay of the Longyearbyen community. In connection with this Report to the Storting, the Norwegian Institute for Urban and Regional Research (NIBR) reviewed the importance of coal mining to Longyearbyen at the request of the Ministry of Justice. NIBR concluded that coal mining still represents the most important mainstay in the community, and the analysis shows that by discontinuing coal mining 40 per cent of the FTEs in Longyearbyen and Svea would be lost.

According to the population register the population of the Norwegian communities in the archipelago passed the 2,000 mark in 2006. As previously described in the report, many of the employees of the mines and derived activities commute from Svalbard to the mainland during their time off. However, they are for the most part registered as living in Longyearbyen and are thus counted in the population register. The actual number of residents of the Norwegian communities in Svalbard is consequently somewhat lower than the figure of 2,055 shown in Figure 10.1.

Population changes in Longyearbyen are largely driven by the employment market, i.e. the number of jobs and inhabitants is closely linked. This is also illustrated in Figure 10.1 through the growth in the number of FTEs. It is still the case that people primarily travel to Svalbard in connection with employment. The growth of the population in the 2000s can therefore be attributed to a higher level of activity and associated demand for labour. The authorities note that with the current population and level of activity in Longyearbyen, the communities are nearing capacity with respect to infrastructure. Growth of the population and activities could trigger a need for investment in day care and school buildings, housing, water supplies and, not least, generation of power and heat. The mining company Store Norske is considering cutting its annual production volume and in conjunction with planned downsizing this could reduce the level of activity in Longyearbyen somewhat.

Another fact is that the structure of the population itself has changed. Foreign nationals now make up approximately 15 per cent of the population of Longyearbyen. This change is a reflection of the Svalbard Treaty's provision of equal liberty of access and entry in Svalbard for nationals of the contracting parties, which is currently enforced so that in practice access to Svalbard is equal for nationals of all countries. Consequently, the Immigration Act does not apply to the archipelago. The group of foreigners can be divided into three categories: foreigners from countries that are exempt from visa requirements for travel to mainland Norway, foreigners who have been granted a residence permit on the Norwegian mainland before coming to Svalbard and foreigners who come directly to Svalbard without any connection to mainland Norway. The foreign nationals represent a resource and an important addition to the community in Longyearbyen. At the same time it is also a challenge for Norwegian authorities to inform these residents of their rights and obligations ensuing from their decision to live in the archipelago. Foreign nationals in Svalbard who have no connection to any municipality on the mainland do not have the same access as Norwegian citizens to the welfare schemes of the mainland, see further details in Chapter 5 Legislation.

As shown in Table 10.1, Thai citizens make up a significant share of the population. Otherwise most foreign nationals are from the Nordic countries, Germany, Russia and other parts of Europe. Certain facts concerning foreigners in Longyear-

Table 10.1 Population of Longyearbyen by nationality. 31.12. 2002–2008

	2002	2003	2004	2005	2006	2007	2008
Norway	1450	1507	1591	1607	1699	1708	1692
Thailand	49	48	52	66	64	67	88
Sweden	35	39	42	47	42	50	51
Denmark	14	23	26	26	22	22	28
Germany	14	20	16	26	24	30	23
Russia	12	13	20	34	34	37	27
Other Europe	40	58	56	60	60	73	78
Countries outside Europe	23	16	20	20	21	26	31
Total	1637	1724	1823	1886	1966	2013	2018

Source: Svalbard tax office

Figure 10.2 "Me on my scooter on our way to the cabin in the evening." One of the three winners in the drawing competition "My Svalbard – why Svalbard is a good place to live" at Longyearbyen School.
Drawn by: Fredrik Lund, 1st grade.

byen are covered in more detail later in the chapter.

10.1.1 Development of local democracy

As part of the development of local self-government the Longyearbyen Community Council has been assigned important tasks. In 2002 the Community Council took over ownership of Svalbard Samfunnsdrift (SSD), and from 2007 responsibility for Longyearbyen School. One of the tasks of Bydrift KF (formerly SSD) is the generation and distribution of electric power and heat. By taking over the school the Community Council considerably expanded its responsibilities in the form of primary school, upper secondary education, day care facilities for schoolchildren, extracurricular cultural activities and Norwegian lessons for foreign language-speaking adults. Besides these tasks, the Community Council has important duties in line with municipalities on the mainland (cf. section 6.3.2).

The reason for introducing local democracy in Longyearbyen was, pursuant to Proposition No. 58 (2000–2001) to the Odelsting, the same as for municipal self-government on the mainland. By electing their own community council the residents of Longyearbyen have an opportunity to influence decisions and priorities concerning local matters. This provides better adaptation of services to local needs. Stronger local democracy stimulates greater participation among the local population, which in turn can have a positive impact on the sense of community in local life.

Introducing a new local democracy has been a special and important project followed up in two evaluations. At the request of the Ministry of Justice and the Community Council, NIBR carried out studies relating to the establishment of local self-government and the election of 2007. The first report from 2005 showed that half of the residents of Longyearbyen were opponents of local self-government. The second study from 2007 showed that a modest, positive change had taken place in atti-

tudes to local democracy. Voter turnout was around 40 per cent in both 2003 and 2007 and must be viewed in the context of major in- and out-migration in the population, few political conflicts, and general satisfaction with the public services that are provided.

The Government does not see that there is any alternative to local self-government in Longyearbyen in line with what applies to all other local communities in Norway. Nonetheless, it is important to be aware, as NIBR pointed out, that even though attitudes to local democracy have become a bit more positive, scepticism to local self-government is still quite prevalent. Another important point made by NIBR is that due to the need for a direct presence by government authorities in Svalbard, the local democracy's freedom of action is narrower than for municipalities on the mainland. In its investigation of the management of Svalbard (Doc. No. 3:8 (2006–2007)), the Office of the Auditor General said the Community Council has a demanding role in the interface between national and local politics. The importance of a formalised dialogue between central and local authorities was pointed out in this context.

The Longyearbyen Community Council has been and still is in the midst of an exciting period of rapid change. It is a young local democracy that has been in operation for only seven years, during which time two Community Council elections have been conducted. Experience indicates that local democracies are strengthened and acquire greater legitimacy over time. A local democracy has intrinsic value while at the same time central authorities benefit greatly from being able to deal with a local administrative body in Longyearbyen. It is for precisely that reason that the Government and the administration have emphasised close dialogue with the Community Council.

The Government wants local democracy in Longyearbyen to evolve and progress. While the state is responsible for facilitating and creating good operating parameters, it is primarily up to the Longyearbyen Community Council to ensure local development and sound political content. In the recently submitted Report No. 33 (2007–2008) to the Storting, Eit sterkt lokaldemokrati (A strong local democracy), the Government pointed out that local development is the responsibility of the municipalities. The municipalities have many opportunities to involve residents in shaping policy, for example by using community hearings, local referendums, beneficial use of ICT, emphasis of the ombudsman role of politicians etc. The democracy report also points out the right to make recommendations to the municipal council as an important means of exerting influence and that there are no restrictions in the Local Government Act (or the Svalbard Act) indicating that this right must be vested in the administration. These are also useful contributions with respect to the development of local democracy in Longyearbyen.

10.1.2 Infrastructure

An expansion of the private and public sectors has taken place in parallel with the increase in activities in Longyearbyen in the last decade. Another result of this is that large areas have been built on and densification in existing spaces has increased. Both homes and commercial spaces have been built, and overnight accommodation capacity has been increased to meet the demand in this area.The Longyearbyen Community Council is currently preparing a new land-use plan for Longyearbyen. The plan will lay the framework for future urban development in Longyearbyen. Spaces suitable for further development for housing and commercial purposes are limited in the land-use planning area. As the planning authority, it is therefore a challenge for the Longyearbyen Community Council to use the spaces efficiently and in a manner that provides freedom of action for further development. The Government believes that land-use planning and meeting current known needs should take any future tasks and opportunities into account.

Completed in 2005, Svalbard Research Centre gathers all the academic communities in Longyearbyen. The Research Centre is a beautiful building and also houses Svalbard Museum, which was awarded the prestigious European Museum of the Year prize in 2008.

Svalbard Global Seed Vault, which will help ensure protection of the genetic diversity of the world food plants for future generations, opened in 2008 (see separate piece in Box 10.1).

To accommodate the increased air traffic, a new terminal building was opened in 2007 at Svalbard Airport, Longyear. Furthermore, the increase in the population of Longyearbyen resulted in expansion of Longyearbyen School, and the expansion and building of a new day care centre. In 2007 the new Northern Lights Observatory (Kjell Henriksen Observatory) was opened in Adventdalen.

In 2004 subsea fibre optic cables were laid between Svalbard and the mainland to enable the Norwegian Space Centre to offer customers better and faster communication between the SvalSat satellite station and the rest of the world. However,

because its capacity is far greater than the current need for transmitting satellite data, Longyearbyen has one of the world's most modern Internet solutions and Norway's fastest Internet connection. After the fibre optic cable was laid SvalSat has also expanded its activities through the establishment of many downloading antennas. For more details about SvalSat see Chapter 9 Commercial activities.

Figure 10.4 Longyearbyen

Photo: Sander Solnes, the Governor of Svalbard

As described above the Government notes that Longyearbyen is in the process of reaching its capacity with respect to infrastructure. This may trigger investment needs including energy supply, housing, day care and student places and also pose challenges to local authorities in Longyearbyen. The state policy instruments for modifying such changes have evolved over time, and there is reason to believe that compared to before private players and interests will increasingly be able to affect the future development of the Longyearbyen community, with respect to its size and array of services. In this manner the development of Longyearbyen will increasingly resemble the development of local communities on the mainland. Nevertheless the Government believes that employing key policy instruments such as laws and regulations, the local and central administration, appropriations over the national budget and the exercise of state ownership will help to steer developments in a direction compatible with the objectives of Norwegian policy towards Svalbard.

10.1.3 Energy supply

With respect to the power situation in Longyearbyen, a 2002 consultant report from KanEnergi estimated that the current coal-fired main power plant that produces energy and district heating has a limited lifetime estimated to last until about 2020. At the same time the power plant is subject to Norwegian Pollution Control Authority (SFT) treatment requirements. Bydrift KF has estimated the investment costs relating to such treatment at approximately NOK 60–80 million. With the increase in activities that has taken place in Longyearbyen over the past decade and subsequent greater demand for energy and heat, the overall

Box 10.1 Svalbard Global Seed Vault

Svalbard
Global Seed Vault

Figure 10.3

The Svalbard Global Seed Vault was established by the Norwegian government in 2008, offering an additional safety net for preserving plant diversity, mostly of plants important for food and agriculture. In 2008, more than 320,000 different duplicates of seeds were sent to Svalbard from 22 national and international gene banks from all over the world. The purpose of the gene banks is to protect plant diversity and to prevent the loss of genetic characteristics that may be used in the future. To meet the challenges relating to the need for increased food production and climate change, it is important to have access to genetic diversity to be able to develop plants capable of adapting to new growing conditions and new production requirements. The seed vault will have capacity to accommodate 4.5 million different types of seeds and is built as three large caverns in the permafrost in a mountain near Svalbard Airport. The seed vault is administered by Norway via the Ministry of Agriculture and Food. NordGen, an institution under the Nordic Council of Ministers, is responsible for day-to-day operations and the Global Crop Diversity Trust in Rome is an important partner in the operation of the seed vault. Since its opening on 26 February 2008 the facility has become known throughout the world as the "Noah's Ark of Seeds" and the "Doomsday Vault". The interest it has generated has served to spotlight the important global effort to preserve and ensure sustainable development of plant genetic resources, and to promote Svalbard as an internationally interesting research community.

burden on energy supply in the community has grown. Consequently, the present coal-fired power plant is in the process of reaching its electricity production capacity limit. At the same time Bydrift KF is seeing a steady increase in the maintenance costs for the power plant. Continuing growing demand in Longyearbyen, resulting, for example, from the establishment of energy-intensive research infrastructure will moreover be able to trigger a need for considerable investment in energy production at an earlier time than what has been specified in the KanEnergi consultant report.

Sound infrastructure that enables the Norwegian community to meet challenges and take advantage of opportunities in this area is a priority task. The Ministry of Justice is aware that Bydrift KF, with the aid of external consultants, has initiated an effort to illuminate environmental accounts for new power production based on coal, diesel, oil or natural gas as a source of energy. It is expected that such accounts will be presented during the spring of 2009. In light of this, the appointment of a working group charged with preparing a report as the basis for further decisions that must be taken regarding future energy supplies in Longyearbyen, should be considered. The working group should be headed by the Ministry of Justice, which administers the Svalbard budget and annually appropriates funds to the Longyearbyen Community Council, and otherwise have representatives from relevant local and central players. The report, which is to ensure the best possible decision-making basis for the central authorities, should, on the basis of different scenarios for energy demands, contain a quality-assured analysis of the expected lifetime of the existing main power plant, with an overview of investment needs and future needs for maintenance of existing facilities. Furthermore, various proposals should be prepared for how the future energy supply in Longyearbyen is to be built.

In 2007 the Storting appropriated NOK 20 million for a new reserve power plant in Longyearbyen. The facility, a centrally located diesel power plant, was finished around the end of 2008/beginning of 2009. It was presupposed that this plant could also be the first step to a future main power plant. The remaining investment costs of the reserve power plant are covered by the Longyearbyen Community Council through user financing.

10.1.4 Longyearbyen port – needs and opportunities

As previously mentioned in the report, recent years have witnessed a trend of increasing ship traffic in the Arctic areas. Figure 10.6 shows the development of traffic in to Longyearbyen port. Longyearbyen currently has three quays: Gamlekaia (Old Quay), Kullkaia (Coal Quay) and Bykaia (Town Quay). The latter is Longyearbyen's public port, and covers the town's need for port facilities for heavy cargo and cruise traffic.

In connection with the deliberation of the 2006 Svalbard budget (Budget Recommendation No. 14 (2005–2006) to the Storting), the Storting through the Committee on Foreign Affairs stated the following: "The Committee is aware that the Longyearbyen Community Council is working on new land-use plans, including plans for the port area. The Committee will stress the importance of the affected ministries, in cooperation with local authorities in Svalbard, to determine the existence of any national needs and how such have to be preserved through the planning process."

Against this background, the Longyearbyen Community Council has in cooperation with the Governor of Svalbard studied the issues and need for the availability of port facilities in Longyearbyen. The various needs of the Longyearbyen Community Council, the Governor, the Coast Guard and other government agencies were described; at the same time, external consultants assessed the cost of building a new port.

A feasibility study looked at ground surveys and described various technical port solutions and their cost. The report concluded that building a port located on the west side of Bykaia will meet the stated needs. The cost overview that followed the report showed that this proposal, which was also the least expensive alternative, came to more than NOK 85 million.

Today, the ship traffic around Svalbard primarily consists of cruise and goods traffic, research-related shipping and fishing vessels used in com-

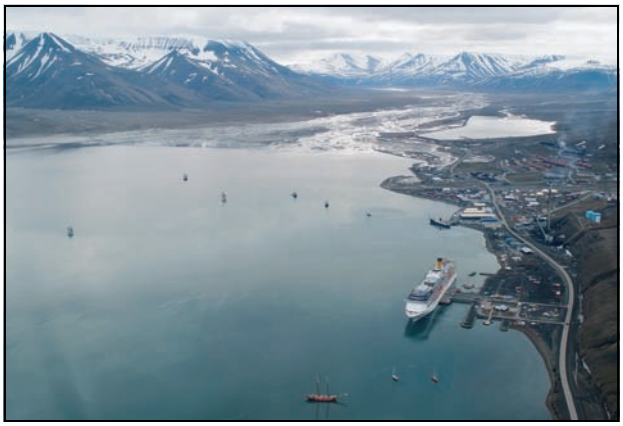


Figure 10.5 Longyearbyen port

Photo: Sander Solnes, the Governor of Svalbard

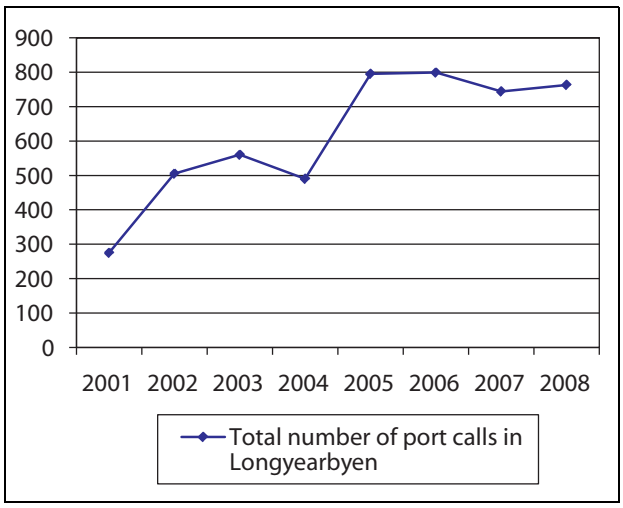


Figure 10.6 Number of port calls in Longyearbyen.

Source: Bydrift Longyearbyen

mercial fishing. The trend in recent years shows as mentioned that ship traffic to the Arctic areas is increasing in general, which is also confirmed in Figure 10.6, which shows that the number of calls in Longyearbyen has gone up considerably since 2000. In 2005 the capacity limit of Bykaia, which serves tourist and cargo vessels, was reached.

Figure 10.7 shows the increase in the total number of passengers arriving at Longyearbyen port. The increase is due to more ship calls in general plus the fact that ships, particularly cruise vessels, have become larger. In light of the capacity limitations, the main challenge for Longyearbyen is to serve the different needs of the various types of traffic within a relatively short summer season.

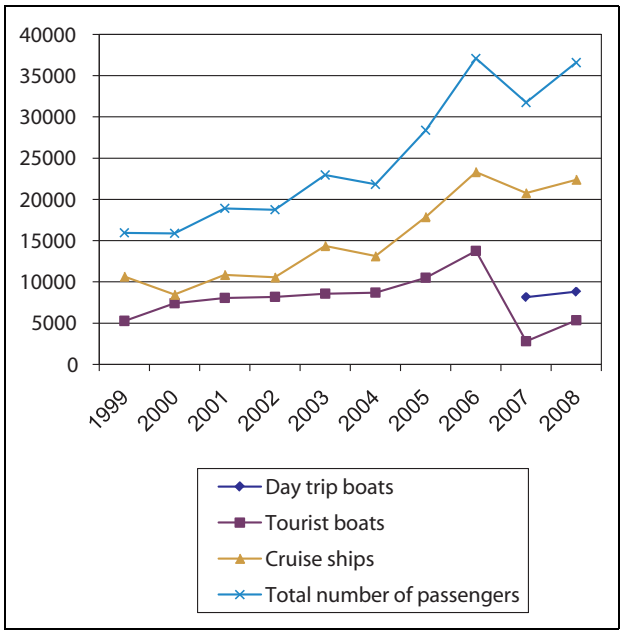


Figure 10.7 Number of passengers in Longyearbyen port.

Source: Bydrift Longyearbyen

As mentioned by way of introduction in the report, an ice-free Arctic Ocean during the summer may also open completely new east-west routes to international shipping. In light of increased commercial and industrial activities in the Arctic Ocean, Longyearbyen will have to expect to take on increasing importance as a base for rescue and pollution clean-up operations and with respect to maritime services. In this connection, existing know-how and expertise on Arctic technology and logistics found in various communities in Longyearbyen may be a resource that can be developed. Increasing maritime activity in the area will also place demands on bolstering the rescue and emergency response work in the archipelago and adjacent ocean areas.

10.1.5 Range of services including health and welfare services offered

Over time Longyearbyen has evolved from a "company-town" with a one-sided economic base and range of services provided by the coal company Store Norske Spitsbergen Kulkompani AS, to one gradually resembling an average mainland municipality in a steadily increasing number of areas. The broadening of the economic base and services is an important part of this. In many areas services are now fully equivalent to those provided by mainland municipalities with which it is natural to make a comparison. However, as previously described, Longyearbyen is not meant to be a "cradle-to-grave" community and the differences in the services offered are accordingly adjusted, cf. discussion in Chap. 4 Main objectives and instruments and Chap. 5 Legislation. Studies and research show that the population of Longyearbyen is basically satisfied with the services that are available. In particular this applies to the services for children and young people.

Services in Longyearbyen are provided by central and local government players, and by private and state-owned enterprises. A basic level of these services is provided via the Longyearbyen Community Council, the hospital in Longyearbyen, Governor of Svalbard and many other different private and state players. As mentioned, the Longyearbyen Community Council is the provider of all infrastructure services within the Longyearbyen land-use planning area. This includes generation

and distribution of electricity and heat as well as water and sewer, refuse collection, roads, port operations, building permits and local fire and rescue services. The local body is also responsible for operating the school and day care centres and children and family services. In addition, there are a number of other services and programmes under the direction of the Longyearbyen Community Council: library, sports hall and swimming pool, neighbourhood facilities, youth club, self-governing youth club and cinema.

The Longyearbyen Hospital division of the University Hospital of North Norway Trust is primarily an accident and emergency care facility. Outpatient examinations, evaluations and treatment of illnesses and injuries are also provided along with planned minor and intermediate operations.

Longyearbyen Hospital also provides a number of services that are not provided at hospitals on the mainland. In addition to general medicine as practised by general practitioners on the mainland, the hospital offers a midwife and public health nurse service, physiotherapy service, dental service including orthodontics, company health service and optician service.

Child and youth psychiatry services are also provided by mainland psychologists and psychiatrists who are regularly available for consultations, and a similar programme for adults is currently being tested.

Emergency medical services consist of the medical emergency call service, urgent care service, ambulance service, rescue helicopter service (organised via and in cooperation with the Office of the Governor) and air ambulance.

The services provided at Longyearbyen Hospital are meant for the residents of Longyearbyen and the other Norwegian settlements in the archipelago. Emergency medical services are also provided to others travelling in and around the archipelago and the adjacent ocean areas.

Today, the Longyearbyen Community Council offers Norwegian lessons to adult foreign nationals. This programme has been funded by an earmarked grant through the Ministry of Labour and Social Inclusion budget. This transfer will cease on 1 September 2010 due to the discontinuation of the transitional programme initiated in connection with the implementation of the Introduction Act (Act No. 80 of 4 July 2003 on an introductory programme and Norwegian language instruction for newly arrived immigrants). The Government believes providing Norwegian language instruction for newly arrived foreign nationals is of material importance to the Longyearbyen community, and will work to find solutions to be able to continue the programme after 1 September 2010.

In addition, a number of services are supplied by other private and public agencies in Longyearbyen. These services are both of a more infrastructure-related nature, such as airport and data and telecommunications, and service functions such as banking and postal services. In addition, the communities have a variety of shops, cafes and hotels, restaurants and other establishments. Situated in Longyearbyen, Svalbard Church is part of the Church of Norway. Open to all, the church may also be used by the other communities in Svalbard.

10.1.6 Postal services

Postal operations in and to and from Svalbard are carried out in compliance with Act No. 73 of 29 November 1996 relating to the provision of universal postal services (Postal Services Act).The overriding requirement Posten Norge has to meet is that its basic services, i.e. delivery of letter post up to 2 kg, of newspapers and periodicals up to 2 kg to subscribers, or of parcel post up to 20 kg, and basic banking services – have to be available to the population all over the country through a nationwide postal network.

Longyearbyen Post Office is the main office for postal services in Svalbard. Postal services are also provided at: Isfjord, Ny-Ålesund, Hornsund, Barentsburg, Sveagruva, Hopen and Bjørnøya. The level of service at these post offices varies. Longyearbyen provides full year-round services. Ny-Ålesund and Barentsburg have year-round branch office services. Elsewhere, services are somewhat more limited compared with a branch office. All mail to and from Ny-Ålesund is handled by Longyearbyen Post Office and sent on to Ny-Ålesund by air two or three times a week in the winter and up to five times a week in the summer. Most mail to and from Svalbard is flown between Tromsø and Longyearbyen, and mail services to and from Svalbard are now almost as good as on the mainland.

In the autumn of 2006 Posten began using its own cargo planes for carrying mail on the Tromsø-Longyearbyen route (Monday-Friday). This led to faster mail delivery. In particular the time it took to mail parcels was dramatically shortened. Posten now offers delivery of business parcels in Longyearbyen, thereby providing a service equivalent to “door-to-door delivery” to businesses on the mainland.

The cost of the air service is just under NOK 20 million per year. To utilise the cargo capacity that is available, the mail plane also carries ordinary

goods to the Svalbard store. The mail plane has thus provided considerably improved regularity for transporting goods to the store, particularly with respect to groceries and fresh meat, fish and produce. Posten regularly evaluates postal services and postal services for Ny-Ålesund, Sveagruva and Barentsburg and has regular dialogue with the largest companies in these communities. Russian authorities have applied to open their own post office in Barentsburg and want generally better postal services to and from Barentsburg. The Ministry of Transport and Communications is evaluating these issues.

The present postal services in Svalbard are considered to be satisfactory. There are no plans to make significant changes in the services. The aim is to keep the postal services at their present levels, subject to any adaptations called for by changes in settlement and/or activities in Svalbard. The Government is of the opinion that the principle of uniform postal rates for letters should apply to Svalbard. In other words, the price levels for services should correspond to the price levels for corresponding services on the mainland. Higher rates are charged for packages due to considerably higher freight costs than on the mainland.

10.1.7 Telecommunications services

The telecommunications network and services were liberalised in Norway in 1998. The telecommunications legislation, Act No. 83 of 4 July 2003 relating to electronic communications (Electronic Communications Act), applies to Svalbard with the exception of the competition rules in Chapters 3 and 4. The same authorisation regime applies as on the mainland, with the exception of authorisations relating to the establishment of satellite earth stations, where the provisions of the Svalbard Treaty necessitate special rules.

Although rules permit more commercial players, Telenor ASA is still the main provider of telecommunications networks and services to Svalbard. Previously, telecommunications traffic between the mainland and the archipelago was carried by satellite communications with limited capacity.

In 2004 Svalbard was connected to the mainland via fibre optic cables. Two separate cables were laid, one of which is a back-up. The purpose was to improve communications to and from Kongsberg Satellite Services satellite earth station at Platåberget, a mountain overlooking Longyearbyen.

Norsk Romsenter Eiendom AS owns the cables, and Telenor Svalbard AS has an agreement on operating the connection. Kongsberg Satellite Services (KSAT), Uninett and Telenor Svalbard lease cable capacity from Norsk Romsenter Eiendom, and use this capacity to provide their own services to their customers. The business community, public sector activities, research and education activities and the population in general currently have access to telecommunications services that are just as good as those on the mainland through the virtually unlimited capacity of the cables linking the archipelago to the mainland.

In 2005 a new radio link with considerably higher capacity than before was installed between Ny-Ålesund and Longyearbyen. This permits the operations in Ny-Ålesund to use the capacity in the fibre cables more efficiently. In 2006 a similar new radio link was installed between Longyearbyen and Svea.

Besides modern services for business and public administration, Telenor Svalbard currently provides modern triple-play solutions (telephony, IP-TV and broadband Internet) to the population in Longyearbyen and Ny-Ålesund. Today, approximately 2/3 of the homes in Longyearbyen and Ny-Ålesund have a broadband connection.

Going forward, it will also be possible to put other initiatives in place to use the capacity in the cables.

Both NetCom and Telenor have established mobile phone services (GSM) in Longyearbyen, Svea and Barentsburg. Both also cover large parts of Adventdalen, Van Mijenfjord and the Isfjord basin. In addition, Telenor has installed "turbo-3G" to deliver "mobile broadband" in Longyearbyen.

In compliance with the provisions of the Ecom Regulations, a frequency licence has been issued to the Russian mobile communications network in Barentsburg.

Telenor also provides maritime coastal radio services (VHF and HF) in Isfjord and large parts of the west coast of Spitsbergen. Isfjord Radio on Kapp Linné continues to be an important station for Telenor's maritime services, Avinor's flight communications and the AIS service (boat traffic).

10.1.8 Taxes, commuting

Effective fiscal year 2008 the Government made certain changes in the tax system for Svalbard. The amendments – cf. Proposition No. 1 (2007–2008) to the Odelsting, Skatte- og avgiftsopplegget (direct and indirect tax system) 2008 – statutory amendments, were a direct follow-up of the report

of a working group whose mandate was to review the tax system for Svalbard. The group's report was presented by the Ministry of Finance on 30 April 2007.

As a basic principle, 8 per cent tax is to be withheld from earnings in addition to National Insurance contributions for those who are members of the Norwegian National Insurance system. For combined annual incomes above 12 times the National Insurance basic amount, the tax withholding is 22 per cent. A new rate structure has also been devised for corporate and capital taxation; the tax rate for such income is now 16 per cent. The changes are meant to facilitate a stable, simple and practical tax system for Svalbard.

The 30 April 2007 report and the subsequent proposition for amendments to the tax system also called for an expedient working group charged with looking at other specific parts of the tax system for Svalbard. The mandate of this working group was to look at three different factors: current practice for commuting between homes on the mainland and work in Svalbard, certain special fiscal schemes for foreign settlements, and certain technical adjustments of the tax liability provisions.

In the report submitted in November 2008, the working group proposed tightening current taxation practices for commuting between one's home on the mainland and work in Svalbard. A proposal was made to discontinue the special wage taxation scheme applying to employees of Trust Aktikugol at the end of a statutory transitional period. Furthermore, the group proposed that after a gradual phase-in the ordinary rules for taxing wages shall also apply to employees of Trust Arktikugol beginning fiscal year 2015.

The report of the working group was circulated for a broad consultation in the autumn of 2008, with 1 June 2009 deadline for comments. After this process has been carried out and evaluated, the Government will follow up with any statutory and regulatory amendments that may be necessary.

10.1.9 Formative conditions for children and young people

The number of children and young people has grown in step with the evolution of Longyearbyen into a modern family community. In 2008, Longyearbyen's population of children and young people aged 0–19 totalled 372, up from 297 in 2000. At the same time the number of small children is growing the fastest, e.g. the number of children under the age of one doubled from 2002 to 2008. The percentage of foreign language-speaking children has also doubled since the 2002–2003 school year. During the 2008–2009 school year foreign language-speaking pupils from seven different countries made up 12 per cent of the pupils.

Longyearbyen has three day care facilities, all of which offer full-day day care places for children aged 0–6 years. Longyearbyen currently has 100 per cent day care coverage, i.e. an offer of a place within the maximum deadline of three months from the application date. All together, the day care facilities have added 52 places in the last two years on account of in-migration and a higher number of births.

The responsibility for Longyearbyen School was transferred from the state to the Longyearbyen Community Council starting 1 January 2007. Supervision of the school rests with the County Governor of Troms, with the Governor of Svalbard providing assistance on issues relating to Svalbard. Longyearbyen School has both a primary school and a section for upper secondary education plus day care facilities for schoolchildren and extracurricular cultural activities. In the Government's view, it is essential that the day care facilities and school in Longyearbyen continue to maintain programmes that keep pace with the population numbers and structure.

The upper secondary school offers general studies at all three levels and has an ambulatory system for vocational programmes. Under this system, the school attempts to offer the program or programmes desired by the majority of upper secondary pupils, usually in cooperation with the business community in Longyearbyen. The school does not have the capacity to offer vocational programmes at the final third-year level. The Longyearbyen Community Council's school board (Oppvekstforetak KF) has entered into a partnership with Troms County to enable upper secondary pupils in Longyearbyen to compete on equal terms with pupils from Troms County for school places in Troms. In this manner, the family does not necessarily have to return to their home county should Longyearbyen School not be able to offer the desired line of study. This agreement also makes it possible for pupils in Troms County to attend school in Longyearbyen if they meet specific criteria. However, the programme does not apply to foreign pupils. The reason for this is that only Norwegian citizens are in principle entitled to a place through their right to an education in their home county. The Government will consider the possibility of permitting the Longyearbyen Community Council to enter into exchange programme agreements between Longyearbyen School and

Troms County for the foreign pupils attending school in Longyearbyen. Through such an agreement the pupils concerned will be able to meet the criteria for what is called a residence permit for educational purposes on the mainland and will thereby be granted entry to the mainland for this purpose.

As with rural outpost schools on the mainland, the percentage of foreign language-speaking pupils can be a challenge in view of the special needs this group of pupils may have in regard to language instruction as well as other special needs. Furthermore, children with special needs are a challenge for Longyearbyen School, not least because several key laws do not apply. Apart from statutory benefits, the Government believes that the Community Council must assess which special programmes and services are to be provided to individuals on the basis of an overall assessment. Such an assessment must be seen in light of the resources the services require and be proportional with the rest of the services that are provided.

In line with state policy on sport, gaming funds have been allocated over the years to Svalbard to build and maintain the swimming pool and sports hall. In the same manner as for the mainland, each year gaming funds are allocated from the grant programme to local clubs and organisations to support the voluntary efforts of clubs that organise sports activities for children and young people.

Social, welfare and health services for children and young people are provided through a combined midwife and public health nurse function at Longyearbyen Hospital and by the Longyearbyen Community Council, department for children and family services (which by and large match similar services on the mainland): municipal health service, educational and psychological counselling service, social services and child welfare service. The Family Protection Office Act was applied to Svalbard in the spring of 2008. The Ministry of Children and Equality is working with local bodies to establish a service, which will likely be an ambulatory programme based out of the family protection office in Tromsø.

The public health nurse and midwife service is provided today by one person and includes a number of services: complete school health service, health clinic for mothers, children and pregnant women (while there are no ordinary obstetrics services in Longyearbyen, pregnant women are closely monitored due the long distance to the nearest ordinary delivery room), guidance for families with adjustment problems and provision of all types of vaccinations and inspection functions together with the Norwegian Food Safety Authority. The increased activities resulting from these services will make it necessary to consider an upgrade. The Longyearbyen Community Council is responsible for ensuring the well-being of children and young people through its municipality-like functions. These include youth work, which the Community Council has organised into four main areas: Project Young in Longyearbyen, Longyearbyen Youth Club, Longyearbyen Youth Council and a self-governing youth club. There is broad political agreement in the Community Council to give priority to providing a healthy formative environment for children and young people in Longyearbyen, cf. NIBR Report 2006:2 Democracy on the decline. The report also states that it is in this area people believe the Community Council has achieved most after the introduction of local democracy.

10.2 Other local communities

10.2.1 Ny-Ålesund

Situated in Kongsfjord on Spitsbergen, about 100 kilometres north of Longyearbyen, Ny-Ålesund is the northernmost settlement in Svalbard. At 1 September 2008 the community had 41 year-round residents, but its population multiplies many times over during the summer season. The origin of the settlement was coal mining, but these activities were discontinued following a major accident in 1962. Since 1965 the community has been a research station run by the state-owned limited company Kings Bay AS, which is both owner and has responsibility for operating the infrastructure at the site. The purpose of the company is to provide services to and promote scientific activities and to help develop Ny-Ålesund as an international Arctic science research station. With the exception of services such as the police, rescue and emergency response system, the services provided are mainly governed by what Kings Bay AS offers and facilitates through its activities. Ny-Ålesund does not have medical services and the hospital in Longyearbyen is therefore used when needed. Given the size and location of the place, its infrastructure, which includes a quay and air strip, is relatively good.

As mentioned Ny-Ålesund is connected to the fibre optic cable between Longyearbyen and the mainland. “Radio silence” is otherwise in place at the site, which is an advantage for scientists and their use of passive receiving equipment. In addition, the community has the world’s northernmost

post office and its own store. The vicinity otherwise features a large number of cultural monuments from mining operations and from the time the place functioned as a base for many North Pole expeditions.

Considerable investment has been made in Ny-Ålesund in the last 10 years. As a result the place is now a very good and functional base for international natural science research and climate monitoring. The overriding objective of this investment is to develop Ny-Ålesund into one of the world's foremost places for Arctic climate and environmental research. Opened in 2005, the Marine Laboratory is an example of these efforts. NOK 25 million has been allocated through the 2009 national budget to build a new and more environmentally friendly power station in Ny-Ålesund.

The international aspect of Ny-Ålesund provides the place completely special qualifications in a research context. Today, Norwegian, German, British, Italian, French, Japanese, South Korean, Chinese and Indian research institutes have a permanent base here. In addition to these, other research institutions also use the place without being there year-round. In all, around 20 countries conduct research projects in Ny-Ålesund each year on a variety of subjects including the climate, atmosphere, pollution, plants, animals and ocean.

The increasing international research interest in Ny-Ålesund serves to set strict standards for how the place is to be run. To protect the fjord area, including important research installations in the ocean and on the seafloor, the Svalbard Act was amended in 2005. A new provision now authorises restrictions on activities that may harm research, and separate regulations closing off large parts of Kongsfjord to fishing activities have been issued. The measures are a follow-up to Report No. 9 (1999–2000) to the Storting, Svalbard, and its discussion. In the Government's view, it is important to continue protecting Ny-Ålesund and the surrounding area as a reference area for research. In this connection the Government wishes to take a closer look at the cruise traffic in Kongsfjord and the challenges it creates. For further details see Chapter 8 on Knowledge, research and higher education.

Box 10.2 *Norge* over the North Pole 1926

Figure 10.8 The airship *Norge* in Ny-Ålesund.
Photo: Norwegian Polar Institute

While Svalbard has been the starting point for many North Pole expeditions, the first to arrive there was the airship *Norge* in 1926. The airship was designed and built by the Italian colonel Umberto Nobile, who was also its pilot. Funding was mainly provided by Lincoln Ellsworth, an American, while Roald Amundsen planned and headed the expedition together with Ellsworth. An airship hall measuring 110 metres long, 34 metres wide and 30 metres high was built in Ny-Ålesund – becoming Svalbard's biggest building – along with a 35-metre high mooring mast. *Norge* took off on 11 May 1926 with 16 men on board. The trip took 16 hours and on 12 May at 0130 hours the Norwegian, American and Italian flags were dropped down on the North Pole. *Norge* landed in Teller, Alaska on 13 May and was dismantled. This was the first undisputed observation of the North Pole. Roald Amundsen expected to find land, but could see only ice. Spitsbergen Airship Museum opened in Longyearbyen in 2008. The purpose of the museum is to communicate the history and the role the airship has played in the Arctic.

10.2.2 Sveagruva

Located at the end of Van Mijenfjord, Sveagruva (hereinafter referred to as Svea) is the site of Store Norske Spitsbergen Kulkompani (Store Norske)'s main coal mining operations. Operated since 2001, about 20 million tonnes of coal have been taken out of the Svea Nord mine. According to calculations, this mine will be exhausted in 2013–2015, and the company is working on plans for further operations at four other sites in the Svea area: Lunckefjellet, Svea Øst, the "Fringe Zone" and Ispallen. The idea is to be able to use already established infrastructure connected with the Svea Nord mine for mining these deposits, cf. the coverage in Chap-

Figure 10.9 Ny-Ålesund
Photo: Heinrich Eggenfellner

ter 9 on Industrial, mining and commercial activities.

Svea is a pure mining and production site and is operated by employees commuting from Longyearbyen, mostly by air. A requirement ever since the start-up of Svea Nord is that its operations would be based on commuting from Longyearbyen. Transport of all goods takes place either by boat or tracked vehicles from Longyearbyen during the winter.

10.2.3 Bjørnøya and Hopen

Bjørnøya and Hopen lie south and east, respectively, of the island of Spitsbergen. Even though Bjørnøya is located just about as far from the Norwegian mainland as it is to Spitsbergen, the island belongs to Svalbard.

Norway has been present in both of these places for many years, primarily through the manned stations of the Norwegian Meteorological Institute. Bjørnøya has about 10 people present at any given time, while all together four persons are stationed on Hopen. In addition, the sites can accommodate a few scientists if needed. All of the people permanently stationed on these two islands are employees of the Meteorological Institute and are engaged for six months at a time. However, the personnel also have functions in addition to purely meteorological duties, particularly concerning research activities, ambulance and rescue services.

The Government's High North strategy maintains that the Government wishes to maintain Norwegian activities on Bjørnøya and Hopen. To assess this in more detail, the Government appointed a working group in November 2006 to look at the Norwegian presence in these places. In step with greater activity in surrounding waters, and in the Arctic in general, there is no reason to believe that the importance of permanent presence will diminish. In the absence of any real alternatives, the Government therefore finds that the current presence of manned weather stations should continue.

10.2.4 Barentsburg and Pyramiden

Barentsburg lies in Grønnfjord in Spitsbergen and is following the closure of Pyramiden in 1998 the only local community in Svalbard with a permanent Russian company presence. The place was previously the site of extensive coal mining. In contrast to Longyearbyen, Barentsburg is still organised as a "company town" where the company Trust Arktikugol both owns and operates all activities at the site. In addition to mining, there is also some scientific activity, plus commercial activities in the form of a textile factory, a souvenir shop and a place to stay. The company has a quay in Barentsburg and helicopter operations in connection with the mining activities, with a landing field on Heerodden right outside the town.

Barentsburg has been hit by a series of accidents and other mishaps in recent years. At the beginning of 2006 a coal waste tip outside town started on fire after overheating for a long period. With the help of crews and equipment from Store Norske the fire was finally contained before burning itself out. In March 2008, a helicopter operated by Trust Arktikugol crashed during landing on Heerodden. In April the same year fire broke out in the coal mine below the town. Coal production had been reduced before that to a minimum and after the fire broke out, production ground to a halt. All together five people died in these incidents.

The nature of the activities in Barentsburg has changed and they have been cut back considerably in the last 10 years. From being a place to live for well over 900 residents in 1999, the town had about 440 residents on 1 September 2008. Some improvements have been made to the place of late but plans for major and important infrastructure are still unclear. A Russian government commission was appointed in 2007 to consider the future Russian presence in Svalbard. The Commission visited Barentsburg in the autumn of 2007. According to the plan, the Commission's report was supposed to be presented in the first half of 2008 but has yet to be submitted. It is presumed that the report will aim to describe challenges and opportunities for Barentsburg in the future and include proposals for any measures. How the environmental aspect of the activities in Barentsburg will be followed up is covered in Chapter 7 Environmental protection.

10.2.5 Hornsund

The Polish research station at Isbjørnhavna in Hornsund has been in operation since 1957. The station has been permanently manned since 1978, with around 10 scientists wintering there each year. Hornsund is also regularly visited by scientists and others who use the place as a base for shorter and more seasonable research assignments. The station is operated by the Institute for Geophysics at the Polish Academy of Sciences. Research at the site is related to many disciplines, including meteorology, seismology, glaciology and various forms of environmental monitoring.

11 Sea and air – transport, safety, rescue and emergency response system

11.1 Introduction

As described in Chap. 2 the High North and Svalbard are among the areas in the world that are most affected by climate change. At the same time, the areas are generally characterised by increased activity. The trend in recent years shows that ship traffic to the Arctic areas is increasing. A reduction in the extent of the sea-ice will make the area more accessible to passage by sea and other activities. For Svalbard this pertains especially to cruise tourism and other ship traffic.

As a consequence of a warmer ocean the range of major fish stocks may change. The range of many species is expected to move to the north and east. Indications that this is happening have already been seen. Trawling for cod is moving steadily northward and now takes place as far north as Isfjord (78 degrees north). There is also considerable reloading of fish by Bjørnøya. In the longer term, an increasingly ice-free Arctic Ocean may open completely new routes to international shipping between east and west. The shortest route through the Arctic Ocean from the major shipping ports on the European continent passes directly west of Svalbard. Major commercial and industrial activities in the Arctic Ocean could increase the importance of Svalbard to rescue and emergency response systems and provision of maritime services. The unique opportunities for downloading data from satellites also indicate that Longyearbyen can be an important platform for monitoring ship traffic in the Arctic basin.

As described earlier in the report, ship traffic to Svalbard has increased considerably in the last 10 years. Research-related voyages have also increased. This must be viewed in light of the fact that Svalbard has become a key area for obtaining knowledge about what happens when temperatures in the Arctic rise and how this may impact the climate in other places on Earth. This growth can be expected to continue, both as a result of increased tourism and population growth in Svalbard and because the interest in field-based research and the use of Svalbard as a meeting place is on the rise. In the aggregate this requires greater attention from the authorities so that the quality of safety and rescue systems at sea, in the air and on land is proportional to the level of activity.

11.2 Sea transport and safety at sea

The previous Report to the Storting on Svalbard, Report No. 9 (1999–2000) to the Storting, describes increasing sea transport in the archipelago, a change that has continued in recent years. The report furthermore stated that because marine charting was incomplete, and navigation aids few and far between in the waters around Svalbard, there was a particular risk of sea traffic accidents in the area. In addition, the legislation and administrative authority differed in certain areas from the mainland, and, with the exception of the Seaworthiness Act which applied only to Norwegian ships, neither the Harbour Act, the Pilotage Act nor other shipping legislation applied to the archipelago.

Since then the Interministerial Committee on Polar Affairs has highlighted safety at sea in the waters surrounding Svalbard, with recommendations on measures followed up by specific actions. The Harbour Act was applied to Svalbard effective 1 May 2008. This established the same legal framework in Svalbard as on the mainland for regulating and facilitating safe sea traffic. The application of the Harbour Act in Svalbard has been followed up by the Norwegian Coastal Administration, which has laid down regulations for arrival and departure reports for Svalbard, particularly regulations concerning vessel reporting obligations and sailing rules for the approach to Svea. An obligatory local guide service is being evaluated.

In addition to increased sea traffic in the waters around Svalbard, we see increased activities in the northern areas in general, on both on the Norwegian and Russian sides. This activity will also have an impact on safety at sea in Svalbard, and poses

further challenges to Norwegian administration that will have to be met by preventive measures.

Despite the fact that a number of the measures proposed in the previous Report to the Storting on Svalbard have been initiated, developments in both Svalbard and the northern areas require maritime safety in the waters around the archipelago to be subjected to thorough evaluation and for measures to be initiated where they are required.

The goal of the Government is to reduce the risk of undesired incidents during sea transport to Svalbard, so that damage to life, health and the environment can be avoided. Preventive measures are clearly the most important. As for the mainland, key maritime safety measures in Svalbard are the establishment and operation of maritime infrastructure and services, and requirements for and supervision of the design of ships and crew qualifications. In addition, requirements for fuel quality are important for limiting the potential for damage to the environment if an accident were to occur.

Sea transport is an international industry. The International Maritime Organization (IMO), a UN agency, develops international rules for shipping. International rules lay down important parameters for Norway's regulation of sea transport. The trend is toward increasingly stricter environmental and safety requirements. Regardless of where a vessel is it is subject to general requirements for ships and crews pursuant to international rules. By means of inspections and supervision the flag state is obliged to ensure that its own ships comply with the rules. In addition, foreign ships calling at Norwegian ports are inspected (port state control).

11.2.1 Status and risks

Maritime safety measures implemented in Svalbard in recent years have brought the level of safety closer to that along the mainland coast. However, the local and climatic conditions in the archipelago indicate that many conditions should be subject to special evaluation with a view to implementation of further measures.

Compared with the mainland, traffic density in Svalbard is modest. Svalbard consists to a large degree of particularly vulnerable natural areas worthy of protection. The overall potential for damage in Svalbard is therefore large, while the acceptance of the risk of environmental damage is similarly low. Acute oil spills from shipping are some of the incidents with the biggest potential for considerable and long-term damage to the natural environment. Due to the special conditions prevailing in Svalbard waters, the lack of marine charting and few navigation aids, the biggest risk of accidents is related to groundings and associated danger of oil spills. The risk is the biggest in the coastal waters where it does not take long before a spill reaches land. Preventive maritime safety measures are essential in the archipelago to prevent ship accidents with potentially huge consequences for life, health and the environment.

The low traffic density in Svalbard means that the probability of spills is also relatively low. In addition, the potential spill volume is smaller than along the coast of the mainland as a result of the absence of large oil tankers. The risk that large areas can be affected by spills is therefore similarly smaller. The amount of bunkers spilled in the event of an accident can still be considerable. The Arctic environment is generally vulnerable, and the lifetime of oil in Arctic waters is long. A spill can therefore impact the environment for a long time. Svalbard also has major concentrations of vulnerable biological resources gathered in small geographic areas. This increases the risk of considerable damage even with smaller spills, and major acute spills will in most cases affect adjacent protected areas.

The response time for taking action after an acute spill will be long in most places in Svalbard, depending on the distance to local oil spill protection equipment and vessels that have oil spill protection equipment permanently on board. On the east coast of Svalbard the response time will most likely be one to two days. Oil spills can therefore spread over large areas before oil pollution measures can be implemented.

Spills of heavy bunker oil will cause far greater and more long-lasting consequences than spills of light marine diesel, which disappear quickly from the surface due to evaporation and mixing with water. Use of light bunker oil will therefore provide a clear benefit for the emergency response to acute pollution. This applies both with respect to the scope of an action, and the consequences for the environment compared with a similar spill of heavy types of fuel. Fuel quality requirements will contribute to limiting the potential damage of acute spills. This has also meant the remaining environmental risk is largely linked to shipping of coal and other utility traffic to and from the settlements, see section 11.2.7.

Sailing in Svalbard represents special challenges in relation to the mainland, and navigation conditions around the archipelago are demanding. The accumulated knowledge of the waters and expertise of navigators that have sailed in the waters by Svalbard for many years represent an important contribution to reducing the risk of mari-

time accidents. On the other hand, an increase of ship traffic, with new players, will increase the risk of accidents if risk-reducing measures are not implemented.

Future challenges relate to many factors. Weather and ice conditions can change quickly, causing the waters along the coast to change. One challenge of retreating ice is that it exposes new sea areas that have not been surveyed but are tempting to put to use. Around half of the coastal waters around Svalbard, mainly the west and northwest coast, have been hydrographically surveyed using modern methods. This means that the current maps are inadequate. Navigation in poorly charted sea areas is associated with a higher risk than navigation in areas that are well mapped. Areas with reduced risks cause reduced safety for those sailing in the waters around Svalbard.

For 2008, 751 km^2, as shown in Figure 11.1, was surveyed. The pink areas show where hydrographic surveys are planned in coming years.

Furthermore, there is limited infrastructure for actions in the event of accidents and challenges in relation to the long distances in the archipelago relating, e.g., to the number of depots, suitable emergency ports and available towing vessels. This can mean that such accidents will have greater negative consequences for human life and the environment compared with similar situations on the mainland.

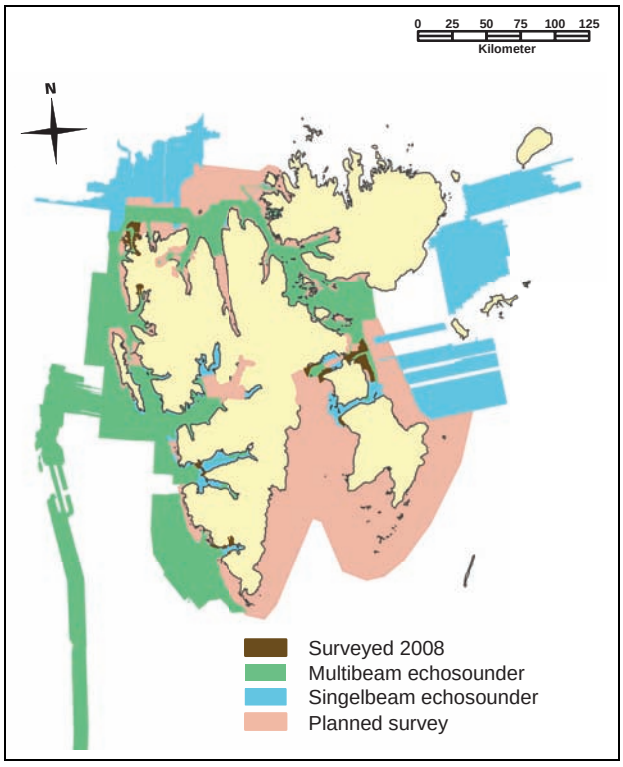


Figure 11.1 Sea surveying at Svalbard. Status and planned surveys.

Source: Norwegian Mapping Authority

The biggest environmental risk relates to bunker spills. In addition to the time and place, the consequences will depend on the quality of the bunkers, and how much is spilled. As on the mainland it is important that maritime safety measures are based on analyses, indicators and continuous monitoring of risk development in the area. Good contact is also desirable among affected parties operating in the area to ensure common understanding of the challenges.

11.2.2 Traffic basis

Ship traffic around Svalbard consists of overseas cruise traffic, expedition vessels, goods traffic, research-related shipping and fishing activities on the coast and in certain fjords. While the number of ship calls in Svalbard has been stable in recent years, we see an increase in the number of passengers. An increase in research vessel traffic is expected. Here, both the number of voyages and tonnage are increasing. The overseas cruise vessels have few calls, typically 1–3 disembarking sites. Though Svalbard is a small part of their voyage, some of the vessels call at Svalbard several times during the season.

The Norwegian Coastal Administration will survey the traffic basis of the archipelago with a view to any measures that can strengthen safety at sea.

Expedition cruise vessels usually start and end their tours in Longyearbyen. They sail along large parts of Svalbard and have far more disembarkations than the large overseas ships.

With respect to coal shipping from Sveagruva, there has been an increase from 14 ships in 1998 to 64 in 2007, while a decline has been registered in the number of fishing vessels, particularly the number of vessels fishing for shrimp.

Ship traffic to Barentsburg consists mainly of vessels that ship out coal, small cargo ships and tankers, and calls by cruise vessels. Like other ports of call in Svalbard, Ny-Ålesund has also noted an increase in ship traffic.

The Norwegian Coastal Administration will survey the overseas cruise traffic with a view to any measures that can strengthen safety at sea.

11.2.3 Relevant legislation

The Harbour Act and underlying regulations were applied to Svalbard effective 1 May 2008 by Regulations No. 342 of 11 April 2008 concerning har-

bours and fairways in Svalbard. Necessary local adjustments for the archipelago are contained in the regulations.

The main reasons for extending the Harbour Act to Svalbard are to strengthen maritime safety and improve opportunities to organise port operations in Svalbard. With the increasing sea transport it has been necessary to put in place appropriate rules for facilitating traffic. Furthermore, bolstered safety at sea will be an important contribution for protecting the vulnerable environment in the archipelago.

The application of the Act establishes a system and rules similar to those on the mainland. Via the Norwegian Coastal Administration, the Ministry of Fisheries and Coastal Affairs is responsible for administering the fairways and is authorised to stipulate specific fairway measures including traffic and speed restrictions and tugboat requirements. Longyearbyen port has been given formal authority to improve the facilitation of the traffic and ease the passage of vessels in the port.

Via the Norwegian Coastal Administration the Ministry of Fisheries and Coastal Affairs has been given the overriding responsibility for the lighthouse and buoy service, and will review the structure of the shipping lanes to give recommendations on better marking and mandatory traffic lanes. As previously, the Norwegian Polar Institute will undertake the practical deployment of beacons and buoys, now by agreement with the Norwegian Coastal Administration.

Table 11.1 Ship traffic to Longyearbyen 2001–2008

Number of calls (tourism)	2000	2001	2002	2003	2004	2005	2006	2007	2008
Cruise ships, overseas	23	27	29	42	32	50	40	53	49
Tourist boats	9	73	259	291	257	457	439	134	177
Day trip boats								268	250
Pleasure craft	46	41	57	61	85	64	71	44	74
Total number of calls	78	141	345	394	374	571	550	499	550
Cargo ships	5	11	29	19	20	57	78	62	54
Educational/research	28	47	47		23	51	64	69	41
Fishing vessels	50	51	43	27	20	25	27	17	21
Navy/Coast Guard	5	11	17	26	20	41	32	34	34
Polar-/Nordsyssel		14	24	25	25	39	36	48	55
Other vessels				69	8	11	12	15	16
Total number of calls (other)	88	134	160	166	116	224	249	245	221
Total number of calls	166	275	505	560	490	795	799	744	771
Layover days									
Cruise ships	17.0	19.5	16.5		17.2	20.9	15.5	25.8	31.5
Tourist boats	366.0	320.0	381.5		393.5	379.5	326.3	201.6	138.0
Day trip boats	-	-	-	-	-	-	-	152.2	135
Pleasure craft	133.0	142.0	192.0		220.0	193.0	172.0	129.0	240.0
Total number of layover days	516.0	481.5	590.0	579.0	630.7	593.4	513.8	508.6	544.5
Passengers									
Day trip boats	-	-	-	-	-	-	-	8168	8823
Tourist boats	7,425	8,058	8,190	8,585	8,707	10,508	13,761	2,824	7,342
Cruise ships	8,474	10,870	10,567	14,375	13,130	17,874	23,324	20,764	22,404
Total number of passengers	15,899	18,928	18,757	22,960	21,837	28,382	37,085	31,756	38,569

Source: Bydrift Longyearbyen

In recent years the number of navigational installations has increased and improved the marking of the approach to Kapp Amsterdam at Sveagruva. There is still a need to improve navigation instructions for this fairway. There is also a need for further installations due to the steadily increasing traffic around the entire archipelago.

To assess this in greater detail, the Norwegian Coastal Administration will proceed in 2009 on a risk-based review of the navigation infrastructure in Svalbard.

Act No. 9 of 16 February 2007 on ship safety (Ship Safety Act) entered into force on 1 July 2007. For Norwegian ships the law will be applied regardless of where they are, including Svalbard and Jan Mayen.

The Ship Safety Act replaced the Seaworthiness Act, which applied to Norwegian ships regardless of location. The King was also authorised to apply all or parts of the Act to foreign ships and foreign installations, including in the territorial waters of Svalbard. However, that was not done and ordinary port state control for foreign ships calling at Svalbard was not performed as is the case for foreign ships arriving in Norwegian ports on the mainland.

On the other hand, the new Ship Safety Act, with an extensive body of regulations has been applied to Norwegian territorial waters of Svalbard, with certain adjustments. This means that the legislation also applies to foreign ships. Under the rules, the authority to perform port state control of foreign ships has been assigned to the Maritime Directorate. The entry into force of the Ship Safety Act is part of the follow-up of the recommendations of the working group appointed by the Committee on Polar Affairs in September 2004 (the shipping group), and is an important contribution to strengthening maritime safety in Svalbard.

11.2.4 Monitoring and reporting

Monitoring of traffic is an important contribution to ensuring safe passage at sea. There is a reporting obligation through SafeSeaNet (SSN) for vessels above a certain tonnage limit or minimum length, with a certain amount of bunkers on board, and for all vessels carrying hazardous or contaminated cargo. Vardø VTS is responsible for monitoring the traffic around Svalbard. Today, AIS receivers are located only on Bjørnøya, in Isfjord, at Adventneset by Longyearbyen and at Sveagruva. The AIS receiver on Bjørnøya belongs to the Norwegian Coastal Administration, while the receiver in Isfjord and Longyearbyen belongs to Bydrift Longyearbyen. With respect to Sveagruva the Norwegian Coastal Administration initiated a trial project with the installation of a single AIS receiver, while operations are carried out according to a cooperation agreement between the Norwegian Coastal Administration and Store Norske Spitsbergen Kulkompani. Due to the fact that the Norwegian Coastal Administration does not have the same access to monitoring data in Svalbard as it does on the mainland, special regulations have been issued on position reporting for vessels in the waters of Svalbard.

A sufficient overview of ship traffic to Svalbard requires data from several sources. Real-time data is necessary for providing an understanding of the situation that makes it possible to respond quickly and efficiently in the event of incidents and accidents. This is best achieved by building a land-based AIS chain along the busiest fairways to the archipelago. The Government will consider establishing such a system in Svalbard. However, to achieve a total overview of ship traffic in the area, it is necessary to have data from the satellite-based AIS receivers or LRIT (Long Range Identification and Tracking), which the IMO has decided to establish. LRIT is a global civilian satellite-based system for identification and tracking of vessels. Norwegian authorities will follow up the international work on developing LRIT and ensure sound national implementation. The system is expected to be introduced in Norway in 2009, and will have a major impact on maritime safety in Svalbard. Further development of AIS via satellite will have a similar impact.

11.2.5 Local guide service

One measure that is being considered to strengthen maritime safety in the waters surrounding Svalbard is the formal establishment of a local guide service, i.e. an obligation to use a local guide while sailing in the waters around Svalbard. The term local guide means people with long experience and satisfactory knowledge of navigation.

Today, two forms of local guide services exist in Svalbard. One of the forms is used in connection with arrivals and departures at the coal terminal at Sveagruva. Today, the use of local guides is a condition for the Governor's permission to engage in coal shipping. The other form of local guide service is practised in connection with overseas cruise traffic. This is an informal and voluntary arrangement offered by private individuals. At the request of the Ministry of Fisheries and Coastal Affairs the Norwegian Coastal Administration has initiated a

project to study the possibility of establishing a mandatory local guide service. Work is now taking place on further specification of the contents of such a service and the vessels covered by the scheme. When the necessary clarifications have been made, the draft regulations will be presented to the Committee on Polar Affairs before being circulated for comment.

11.2.6 Fuel quality requirements

In 2007 the Government introduced a requirement that ships that call at nature reserves in eastern Svalbard shall not carry or use fuel other than light marine diesel (DMA). The purpose of this requirement is to limit potential damage in the event of acute spills within the nature reserves, where the acceptance of risk is particularly low. A proposal for a similar fuel quality requirement for ships that sail within the three large national parks on the west side of Svalbard has recently been circulated for comment.

The proposal includes necessary exceptions for utility traffic to and from the settlements and a time-limited exception for sailing into Magdalenefjord, which makes it possible for the cruise industry to adjust to the new fuel quality requirement.

With these requirements in place the remaining environmental risk will largely be connected with shipping of coal and other utility traffic to and from the settlements. Ship traffic to and from Svea through Bellsund and Van Mijenfjord represents a special risk to the environment because ships loaded with heavy bunker oil pass through challenging waters, where the potential damage from an acute oil spill is huge. Most of the area that will be affected by any spill has national park status. This indicates that the acceptance of risk must be low. Even if requirements the Governor has laid down for coal shipping together with the new sailing provisions for the waters in Bellsund and Van Mijenfjord help reduce the risk, the potential damage from a spill in the approach to Svea will still be large. Further measures to reduce the potential damage and risk of pollution in this area will be assessed.

11.2.7 Preparedness against acute pollution

Preparedness against acute pollution is an important damage-reducing measure. The formal basis for contingency planning and taking action against acute oil pollution is contained in the Svalbard Environmental Protection Act. Under Section 70 the Act states that any person engaged in an activity in Svalbard is required to prevent acute pollution and ensure measures if pollution has occurred to limit its impact. The emergency response requirements of activities in Svalbard are laid down by the Norwegian Pollution Control Authority.

In the event of acute spills of oil in Svalbard the person responsible for the spill will be responsible for cleaning it up. This is done under the supervision of the Norwegian Coastal Administration, which can delegate its authority to the Governor of Svalbard.

The Norwegian Coastal Administration is responsible for the state emergency response to acute pollution in Svalbard both within and outside 12 nautical miles from the base line (mean low water mark). Within 12 nautical miles the Governor of Svalbard is responsible for operations while the Norwegian Coastal Administration may also take charge of actions within 12 nautical miles. Outside 12 nautical miles the Governor of Svalbard is obliged to take action until the Norwegian Coastal Administration takes charge of the action. Responsibilities and tasks in Svalbard are regulated in a separate agreement.

The biggest challenge for the emergency response system in Svalbard is the climatic and geographic conditions, which put health, safety and the environment at particularly great risk. Ship traffic in the waters surrounding the archipelago takes place mainly during the summer months when the climatic conditions are as a rule the best. An action to limit the damaging effects of an acute spill presents challenges both to personnel and equipment. It is likely that any action against acute pollution will have to be interrupted for long periods as a result of ice, darkness, strong winds and cold. Cargo traffic mainly goes to Longyearbyen, Sveagruva, Ny-Ålesund and Barentsburg. Any action far from the settlements will also involve major challenges in connection with necessary logistics.

The need for emergency response equipment and the amount of it is calculated on the basis of the risk that exists for acute spills. The equipment that private enterprises use to deal with acute pollution is mostly gathered in Svea, and will handle the risk of activities in Svea and the fairway out of Akselsundet.

The responsibility of the Norwegian Coastal Administration for the state emergency response equipment in Svalbard involves procurement of equipment, maintenance and upgrading if necessary. In cooperation with the Governor of Svalbard the Norwegian Coastal Administration has established an emergency response depot in Longyearbyen, and some of the emergency response equip-

ment has been moved to Ny-Ålesund. In contrast to the state depots on the mainland the depot crews in Svalbard are employed by enterprises in Svalbard. The Governor of Svalbard has signed agreements with various players concerning the provision of crews for the depot force. In exchange they are provided access to the equipment at the state depot in Longyearbyen. The agreements ensure crews to handle Norwegian Coastal Administration equipment at the depot in Longyearbyen in case acute oil pollution occurs. Under the agreement the crews are to be capable of participating in the action for up to 10 days.

Of other state resources in Svalbard the presence of the Coast Guard is important for preventing accidents and for actions to clean up acute pollution.

11.2.8 Handling ballast water

As a result of ship traffic the last decade has seen an increase in the spread of species to sea areas. This could represent a serious environmental threat because ecosystems become imbalanced and species stand the risk of extinction. Climate change and an increase in ocean temperatures along the west coast of Svalbard will likely increase the chance of non-native species becoming established here. In particular, there are risks associated with the intake and discharge of ballast water from ships in international traffic.

In 2004, the International Maritime Organization (IMO) adopted a convention on managing ballast water, but it has yet to enter into force. Nevertheless, the Government has decided to design a national set of rules in line with the requirements of the convention. Draft regulations on ballast water were circulated in the autumn of 2008. Under the regulations all ships in the Norwegian Economic Zone or territorial waters that have taken in ballast water outside specified areas shall manage the ballast water by cleaning, replacement or delivery to reception depots. In the event of replacement the ballast water shall be replaced in areas lying in principle 200 or, alternatively, 50 nautical miles from the coast at ocean depths of more than 200 meters. Specifically defined replacement areas along the Norwegian coast are also listed. The regulations apply to Norwegian territorial waters, including the territorial waters around Svalbard and Jan Mayen, and in the Norwegian Economic Zone. The changes are expected to go into effect by the summer of 2009. Norway will then be one of the first countries in the world to adopt requirements for handling ballast water. This will help reduce the risk of introductions of non-native species in Svalbard too.

11.2.9 Evaluations

Together with greater activity in the High North, an increase in sea transport in the waters around Svalbard poses new challenges to maritime safety efforts around Svalbard. The increasing traffic must primarily be met by preventive measures that reduce the likelihood of accidents and that limit the impacts if accidents occur. Several measures have consequently been initiated to deal with the increased activities, and further measures have been evaluated to improve maritime safety in Svalbard.

The trend shows that ship traffic to the Arctic areas is increasing, at the same time as the Arctic sea-ice is being affected by climate change. This makes a continued increase of ship traffic likely, increasing the probability of a ship accident occurring.

Going forward, a key challenge will therefore be to adequately monitor changes in ship traffic. Adequate monitoring will provide ample opportunities to analyse any trends, so that necessary measures such as regulations and development of maritime infrastructure, services and emergency preparedness can be carried out. The combination of these contributions will be important for keeping the ocean area around Svalbard as clean and rich as possible. To implement good analyses about risk development and traffic development, reliable background information about the activities must be obtained. AIS and LRIT will be key sensors for obtaining this type of information. Analyses will secure a good foundation for implementing effective measures and for subsequently checking whether the measures have had the desired effect.

The Arctic Council recently presented an Oil and Gas Assessment – OGA report illuminating future challenges relating to oil and gas activities in the Arctic. Entitled the "Arctic Marine Shipping Assessment – AMSA", the report was presented to the ministerial meeting of the Arctic Council in Tromsø in April 2009. Both of these reports describe the future challenges in the area.

11.3 Air transport – background and development

Svalbard Airport, Longyear, is owned and operated by Avinor. Building of the runway started in 1973,

and the first plane landed at the airport on 14 September 1974. Svalbard Airport officially opened on 2 September 1975. In the autumn of 2005, the decision was made to expand the airport with a new terminal, which was opened on 10 December 2007.

The airport has a fluctuating traffic pattern due to the fact that the inflow of tourists is highly seasonal. Nevertheless, the airport is organised and operated in the same manner as Avinor's airports on the mainland. In recent years the airport has been upgraded by the installation of expanded security areas both along the runway and at the ends of the runway in line with new regulatory requirements. The new terminal building that was opened in 2007 to replace the old building is also dimensioned for the expected growth in air traffic.

The greater activity seen in the archipelago in the past decade is also reflected in the increase in the number of air transport movements at Svalbard Airport, Longyear. Avinor expects stable and moderate growth in the future, in line with developments listed in Table 11.2. Still, given the financial turbulence in recent months, there is some uncertainty concerning future growth.

As stated in the regulations concerning aviation in Svalbard, flights to Svalbard are to land initially at Svalbard Airport, Longyear, and the final departure of flights from Svalbard shall take place from the same airport. Besides Svalbard Airport, Longyear, which is consequently the only airport receiving direct flights from the mainland, there are airports in Ny-Ålesund and Svea, plus a heliport in Kapp Heer, Barentsburg.

The airport in Ny-Ålesund, Hamnerabben, is owned and operated by Kings Bay AS. Flights connect Ny-Ålesund and Longyearbyen 1–2 times per week in the winter and 2–3 times per week in the summer. The flights carry scientists and employees to and from Ny-Ålesund. Svea Airport serves the mining community of Svea. Located at the end of Van Mijenfjord, the airport is owned and operated by Store Norske Spitsbergen Grubekompani AS to transport company employees.

Table 11.2 Air transport movements at Svalbard Airport, Longyear.

Year	Number of air transport movements at Svalbard Airport, Longyear
2000	4 882
2001	5 890
2002	5 532
2003	5 963
2004	6 268
2005	6 062
2006	6 521
2007	7 064

Source: Ministry of Transport and Communications

11.3.1 Regulation of air traffic

All air traffic to Svalbard is subject to the rules of the Aviation Act (Act No. 101 of 11 June 1993) and Regulations of 23 November 1973 concerning aviation in Svalbard.

Because the EEA Agreement does not apply to Svalbard, the application of EU provisions on aviation included in the EEA Agreement must be decided separately.

Many Norwegian EU-related regulations on aviation have not been applied to Svalbard. So far, this has still had little effect in practice, because Norwegian players engaged in commercial activities in Svalbard are based on the mainland, and because approvals are granted pursuant to rules that apply where the company has its main office. All activities that the companies exercise at secondary bases in Svalbard will therefore take place in accordance with the companies' approval granted pursuant to rules applying to mainland Norway, including EU rules incorporated in the EEA Agreement. Together with the Civil Aviation Authority the Ministry of Transport and Communications will assess developments and the need for any changes in the rules in the future.

11.3.2 Aviation safety level

The Civil Aviation Authority believes on the basis of experience that aviation safety in Svalbard is at about the same level as in areas of mainland Norway, where similar flying takes place in uncontrolled airspace. Compared with the mainland, there are no special aviation safety challenges relating to air traffic in Svalbard beyond the challenges of flying in areas with the topographical and climate conditions that prevail there. By reviewing reported accidents and incidents in Svalbard, the Civil Aviation Authority has found no reason to conclude whether there are special safety problems.

The aviation legislation does not contain requirements for establishing radar services. Establishing such services is evaluated and decided by Avinor as the aerodrome operator and air navigation service provider. Based on the traffic density and type of traffic, the complexity of the traffic situation, type of aviation space to be served, and international criteria, Avinor has decided that

as of today there is no reason for giving priority to installing radar sensors in Svalbard.

In the autumn of 2008 Avinor concluded that three new navigation systems (distance measuring systems) were to be opened to ensure safer approaches to Svalbard Airport, Longyear and the airport at Svea. This will enable the instruments to estimate the aircraft's location at all times, and will considerably improve safety during approaches. Candidates for the siting of the navigation systems have been surveyed. The objective is for the systems to be operative in 2009–2010.

At present, Svalbard does not have an air traffic control service (air traffic controllers). The present air traffic service is regulated by regulations concerning the establishment, organisation and operation of air traffic services. When the number of air transport movements passes 15,000 in the two previous years and at least 7,500 of these air transport movements are instrument flights, an air traffic control service in the form of a tower control service will be established. An annual growth rate of 7–8 per cent in the number of air transport movements at Svalbard Airport will trigger such a demand over the course of a ten-year perspective.

The regulations permit the Civil Aviation Authority to demand the establishment of an air traffic control service in other cases following a discretionary evaluation of the traffic and the conditions at the airport in the widest sense, with emphasis on the number of air transport movements, traffic composition, complexity, meteorological and topographical conditions and the geographical location of the airport. The Civil Aviation Authority has undertaken such an assessment and decided that with the current traffic situation there is insufficient need to require the establishment of an air traffic control service at Svalbard Airport.

11.3.3 Helicopter traffic

Helicopter traffic constitutes an important part of the air traffic in Svalbard. Two companies, one Norwegian and one Russian, currently have helicopters stationed in Svalbard.

The Norwegian company Airlift AS provides helicopter services for the Governor of Svalbard under a separate agreement. Under the agreement, Airlift AS provides two helicopters for the use of the Governor. They may also be leased by other parties when the Governor does not need them. During the summer months, Airlift AS also operates other helicopters for clients in Svalbard, e.g. Store Norske Spitsbergen Kulkompani AS and the Norwegian Polar Institute.

Commercial aviation is not covered by any equal treatment obligation under the Svalbard Treaty. This is reflected in Norwegian legislation, in all aviation acts since 1923 and in long-term and consistent practice. Under the Aviation Act (Act No. 101 of 11 June 1993) only Norwegian citizens and companies may conduct commercial aviation activities on Norwegian territory, and all aviation shall be undertaken with aircraft that have Norwegian nationality. However, the Civil Aviation Authority may grant a dispensation from the nationality requirement when warranted by special grounds. For many years Russian helicopter operators have been granted a dispensation to carry out helicopter flights relating to mining operations. For other assignments permission must be applied for in each case. Such applications are decided by the aviation authorities following a specific assessment.

The authorities see that the increased helicopter traffic in Svalbard is a challenge, particularly with respect to flights to areas that are protected. Environmental considerations favour curtailing the current trend of steadily increasing helicopter use, including for research purposes. The increasing demand from private and public activities that wish to use helicopters in their activities in Svalbard was the reason the Governor tightened his practices in 2008 for processing applications for landing permissions. Under the stricter rules both Norwegian and foreign companies have to apply to the Governor for permission to land outside approved landing sites or in the terrain.

11.3.4 Evaluations and measures

Recent trends also show an increase in air transport to and from Svalbard, and in the archipelago in general. At the same time, climate models show that Svalbard is one of the areas in the world where the temperature is expected to rise the fastest as a result of climate change. One consequence of temperature fluctuations is that Svalbard will see more local fog. Over time, the change could consequently entail a need for increased safety measures, e.g. in the form of air traffic control services and radar installations.

11.4 Civil protection, rescue and emergency preparedness

The office of the Governor is the central body for planning and crisis management in the area of civil protection and emergency preparedness in Sval-

Box 11.1 Cooperation principle in Norwegian rescue service

The fundamental idea is that it should be possible to mobilise all emergency response resources in Norway – state, county, municipal, private and voluntary – to save lives. The public rescue service is thus organised as a collaboration of a number of public agencies, private and voluntary organisations.

Even though most public agencies have been established with a view to performing other primary tasks, many will still be able to provide important efforts in the rescue service.

This means that public activities not only cover their own expenses in connection with a rescue action, but also provide various consulting functions and rescue-related data etc. free of charge for the use of the Joint Rescue Coordination Centre and the Rescue Sub-Centres. The operating expenses of private companies and voluntary organisations are compensated according to agreement.

bard. However, other central and local agencies and undertakings also have responsibilities and tasks.

The role of the Governor in civil protection and emergency planning work is specified in Royal Decree of 18 April 2008, "Instructions for civil protection and emergency planning work for county governors and the Governor of Svalbard." The instructions, which specify the responsibilities of county governors for civil protection and emergency planning, establish that the Governor of Svalbard, who has the same authority as a county governor on the mainland, has overarching responsibility for civil protection and emergency planning in the archipelago. This means that the Governor of Svalbard, like county governors on the mainland, has duties relating to coordination, information, guidance and planning of the work of other bodies in this area, and for his office's activities relating to planning for and taking charge of crisis situations.

Because the administrative situation in Svalbard is different from the mainland, the instructions apply to the Governor as appropriate. Work is now taking place on clarifying roles and responsibilities for the various local bodies with respect to planning and crisis management. An important element of this is the preparation of an updated risk and vulnerability analysis, which is scheduled for completion at the end of 2009. The Government is considering forwarding a proposal on emergency preparedness requirements for the municipalities in the spring of 2009, with implementation in 2010. Regulations on emergency preparedness requirements for the Longyearbyen Community Council will likely take effect somewhat later.

However, following the initiative of the Governor a special emergency response council has already been established for Svalbard, patterned after the county emergency response councils on the mainland. The council has members from the largest and most relevant players in the context of emergency preparedness. With the same members, the emergency preparedness council will also function as a nuclear emergency preparedness committee. The Governor also heads the oil spill prevention committee for Svalbard.

The Police emergency response system was introduced on 1 July 2007. As a result all police districts on the mainland are in the process of reviewing and adjusting their emergency plans in accordance with the new national template. In his role as both county governor and chief of police the Governor of Svalbard will use this concept where it is feasible, and also adopt what is practical and sensible on the basis of the special circumstances prevailing in the archipelago.

11.4.1 Norwegian rescue service

The rescue service is understood to mean publicly organised and immediate efforts that require coordination to save people from death or injury resulting from accidents or dangerous situations, and which are not specifically met by established bodies or by special measures. The service is integrated, i.e. it covers all types of rescue missions (sea, land and air rescue). Irrespective of the type of incident the same organisation (function) will take care of land rescues, sea rescues and air rescues in cooperation with a number of players (see box 11.1).

The Norwegian rescue service is unique from an international perspective. It is sensibly based on Norwegian traditions, infrastructure and settlement patterns. Norway's completely integrated service and strong emphasis on cooperation, with extensive voluntary efforts, is a cost-effective system that cannot be compared with the organisation of rescue services in any other country.

11.4.2 Organisation of the public rescue service

The Ministry of Justice has the overriding administrative responsibility for coordinating land, sea and air rescue services and provides guidelines. Norway is obliged under UN conventions to establish a rescue service and provide search and rescue services in a specified geographic area. This obligation has been met by the establishment of two Joint Rescue Coordination Centres. In addition, 28 Rescue Sub-Centres, including the Governor of Svalbard, have been established to provide rescue services in current police districts. The core of the rescue service on land comprises the three emergency services: police, fire and ambulance. Together with voluntary organisations and other public and private entities, they provide services at the accident site.

As the chief of police, the Governor heads the Rescue Sub-Centre under the command of the Joint Rescue Coordination Centre Northern Norway in Bodø (JRCC-NN). The fundamental principles for the rescue service also apply to Svalbard. The Governor works with a number of bodies in Longyearbyen and in the other settlements. They include Longyearbyen Red Cross, Longyearbyen Hospital, Longyearbyen Fire Brigade, Avinor, Store Norske Spitsbergen Kulkompani AS, Kings Bay AS, Trust Arktikugol, plus other local and central players.

The rescue plan of the Governor of Svalbard is based on the model plan for rescue services in Norway and is regularly updated in line with new experience and social changes. The plan covers incidents and accidents at sea, on land and in connection with aviation. The Governor has also established a plan for acute pollution, nuclear accidents and pandemics, plus a general crisis management plan in addition to other emergency response plans.

In a thinly populated country such as Norway with its huge land and ocean areas, it is neither possible nor practical to build special permanent rescue forces. Instead, the resources that are available are used, whether they are public, voluntary or private. The resources are used at the request and management of the Joint Rescue Coordination Centre or a Rescue Sub-Centre.

11.4.3 Rescue resources on land

In his capacity as the head of a Rescue Sub-Centre, the Governor heads and coordinates all rescue missions on land throughout the archipelago. Staff are normally posted to the Office of the Governor at the same time as an on-scene incident commander is sent to the relevant area or accident site.

The resources available include a large number of well-equipped snowmobiles, two tracked vehicles and field equipment as needed. In addition, there is an extensive VHF-based communications network that forms the basis for operations communications during missions. The Governor works closely with Longyearbyen Red Cross Rescue Team and Airlift AS, which operates the Governor's two service helicopters. The crews undergo regular training and take inspection and reconnaissance tours to stay updated on snow and ice conditions. The Red Cross is organised into glacier, avalanche and vehicle groups, each of which has state-of-the-art expertise in its area. Regular exercises and courses are held and in advance of each season there is a Red Cross avalanche seminar that runs over several days in which the Governor is highly involved. Several exercises are also held each year in which personnel from the Governor's police department and members of Longyearbyen Red Cross work side by side in their respective functions. The Governor's helicopters are also a very important resource that is used when possible in all types of missions. However, rescue missions on land often take place on days and at times where the response capability of helicopters is limited by weather conditions. Co-training with the crews at the Governor's office and Red Cross, where Airlift is used in a logistics context, is therefore important.

Emergency preparedness is adapted to the risk assessment that exists at all times. The past ten years have witnessed a change in the direction of organised tours with guide, and private tours go to areas previously regarded as difficult to access. A good example of this is that a trip to the east coast of Spitsbergen used to be considered an expedition, whereas today it is regarded as feasible for most people. Better equipment in such as snowmobiles and navigation equipment are the main reasons for this.

11.4.4 Maritime rescue resources

At sea, the Governor's service vessel, the M/S *Nordsyssel*, is a very important resource. In 2002, the Governor signed a contract to lease the vessel for approximately 7 months of the year. The vessel is adapted to the needs of the Governor and is equipped for use in the rescue service. M/S *Nordsyssel* has high-speed light boats on board, a staff room, meeting room, modern communica-

Figure 11.2 MS Nordsyssel and the Governor's service helicopter.
Photo: Halvard R. Pedersen, the Governor of Svalbard

tions and navigation systems and sleeps 20 persons. The vessel has a helicopter pad, oil pollution equipment and has a reinforced hull for navigating in icy waters. The vessel is highly functional for the use and needs of the Governor. The Governor also has many high-speed small boats, one of which is defined as a duty boat that is easily accessible for rapid deployment in Isfjord.

In recent years the Governor has increased his emergency response capacity at sea. Several small boats have been purchased and M/S *Nordsyssel* has more capacity than the Governor's previous service vessel. The Armed Forces will support the Governor with the resources available in the area at all times. The Coast Guard represents a very important supplementary resource to the Governor's rescue preparedness. The Governor and the Coast Guard work closely together and cooperation is maintained by several meetings over the course of the year.

The increased cruise tourism also increases the risk of accidents at sea. In the summer of 2007 a vessel was close to a glacier in Hornsund when the glacier calved, throwing ice and water over the boat. Eighteen tourists were injured. After the accident the Governor, in cooperation with the Norwegian Polar Institute, initiated a study to determine a safe distance to glaciers that calve. Based on the report completed in the autumn of 2008, the minimum distance to glaciers should be 200 metres.

11.4.5 Rescue resources in the air

The Governor's helicopter service is a key element of the overall rescue preparedness in Svalbard. The Governor leases two service helicopters, an AS 332L AWSAR Super Puma helicopter and an AS 365N2 Dauphin helicopter, under a separate agreement with the helicopter company Airlift AS. The Super Puma rescue helicopter has been regularly upgraded with modern equipment and is highly practical and adapted to the special conditions with respect to climate, weather, darkness and type of mission. In 2004 the helicopter base in Svalbard was equipped with a Dauphin back-up helicopter, replacing the former Bell 212 helicopter.

The Dauphin helicopter does not have the same capacity as the Super Puma helicopter when it comes to de-icing equipment and range. However, the helicopter is vital for other rescue, cargo

and supervisory assignments that cannot be served by the Super Puma helicopter.

The Office of the Governor carries out between 50 and 60 search and rescue missions and ambulance calls during the year. Together with the helicopters of the Coast Guard and the 330 squadron on Banak (Sea King), the Office of the Governor constitutes the overall rescue preparedness in Svalbard and in adjacent ocean areas. The Armed Forces' helicopters and air resources are used when available in cooperation with the Joint Rescue Coordination Centre and the Governor as the Rescue Sub Centre.

The helicopters are also able to utilise the fuel depots deployed in a number of places in the archipelago, which gives them a greater operating range. Furthermore, AS Lufttransport operates a Dornier aircraft for commercial flights in Svalbard. This is a long-range aircraft which can be and has been used successfully, for example, for searching for ships in distress. The Governor has installed a communications base in this aircraft which makes it possible to communicate within areas that are not normally covered by the Governor's regular communications network. This aircraft also has equipment for flying out a rescue drop-kit to a ship in distress.

11.4.6 Assessments

In light of the increase in activities outlined above, it is important that the preparedness at sea and in the air match the level of activity. There is reason to believe that the Governor, as the leader of the Rescue Sub-Centre, will be even more important in the future in this work.

Preparedness at sea around Svalbard consists as mentioned of the Coast Guard and the Governor's service vessel. In the current situation, the Governor is without a service vessel from December to the end of April. During this period the public preparedness at sea is solely based on the presence of the Coast Guard. As a result of the meltdown of sea-ice and increased traffic in the waters of Svalbard and the Arctic Ocean in general, the Government believes that an extension of the sailing period of the Governor's service vessel should be considered in order to ensure better preparedness.

The Coast Guard contributes considerable capacity to search and rescue operations, and the Government will consider bolstering the presence of the Coast Guard in the ocean areas of the north.

Cooperating with other states on rescue operations can also be important in areas where there are long distances and few rescue resources. Norway has many multilateral and bilateral agreements on search and rescue and is evaluating the need to enter into more agreements in the future. In the context of the Arctic Council challenges connected with sufficient rescue preparedness have been pointed out in the "Arctic Marine Shipping Assessment – AMSA" report. In addition, the proposal has been made to develop a Memorandum of Understanding for rescue cooperation between Arctic states to strengthen the handling of rescue operations in Arctic waters. This proposal was presented to the April 2009 ministerial meeting of the Arctic Council in Tromsø.

12 Administrative and economic consequences

Three comprehensive Reports to the Storting on Svalbard have been published previously. The previous comprehensive Report to the Storting on Svalbard (Report No. 9 (1999–2000), Svalbard) was submitted in 2000 so that a new ten-year milestone is approaching. The Government therefore decided in December 2007 to commence work on a new Report to the Storting. The objective of the report is not only to capture the developments of the last ten years but to also put them into context with the Government's policy on the High North. The Government will return with proposals on specification and implementation of the measures mentioned in the report, in connection with the annual budget proposals.

The Ministry of Justice and the Police

h e r e b y r e c o m m e n d s :

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