

# Information Sheet on Ramsar Wetlands (RIS) – 2009-2012 version

Available for download from [http://www.ramsar.org/ris/key\\_ris\\_index.htm](http://www.ramsar.org/ris/key_ris_index.htm).

*Categories approved by Recommendation 4.7 (1990), as amended by Resolution VIII.13 of the 8<sup>th</sup> Conference of the Contracting Parties (2002) and Resolutions IX.1 Annex B, IX.6, IX.21 and IX.22 of the 9<sup>th</sup> Conference of the Contracting Parties (2005).*

## Notes for compilers:

1. The RIS should be completed in accordance with the attached *Explanatory Notes and Guidelines for completing the Information Sheet on Ramsar Wetlands*. Compilers are strongly advised to read this guidance before filling in the RIS.
2. Further information and guidance in support of Ramsar site designations are provided in the *Strategic Framework and guidelines for the future development of the List of Wetlands of International Importance* (Ramsar Wise Use Handbook 14, 3rd edition). A 4th edition of the Handbook is in preparation and will be available in 2009.
3. Once completed, the RIS (and accompanying map(s)) should be submitted to the Ramsar Secretariat. Compilers should provide an electronic (MS Word) copy of the RIS and, where possible, digital copies of all maps.

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### 1. Name and address of the compiler of this form:

Egil Roll, Norwegian Directorate for Nature Management,  
Tungasletta 2, 7485 Trondheim  
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Designation date

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Site Reference Number

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### 2. Date this sheet was completed/updated:

April 2011

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### 3. Country:

Norway

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### 4. Name of the Ramsar site:

The precise name of the designated site in one of the three official languages (English, French or Spanish) of the Convention. Alternative names, including in local language(s), should be given in parentheses after the precise name.

Bear Island (Bjørnøya)

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### 5. Designation of new Ramsar site or update of existing site:

This RIS is for (tick one box only):

- a) Designation of a new Ramsar site ; or  
b) Updated information on an existing Ramsar site

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### 6. For RIS updates only, changes to the site since its designation or earlier update:

- a) Site boundary and area

The Ramsar site boundary and site area are unchanged:

or

If the site boundary has changed:

- i) the boundary has been delineated more accurately ; or
- ii) the boundary has been extended ; or
- iii) the boundary has been restricted\*\*

and/or

If the site area has changed:

- i) the area has been measured more accurately ; or
- ii) the area has been extended ; or
- iii) the area has been reduced\*\*

\*\* **Important note:** If the boundary and/or area of the designated site is being restricted/reduced, the Contracting Party should have followed the procedures established by the Conference of the Parties in the Annex to COP9 Resolution IX.6 and provided a report in line with paragraph 28 of that Annex, prior to the submission of an updated RIS.

**b) Describe briefly any major changes to the ecological character of the Ramsar site, including in the application of the Criteria, since the previous RIS for the site:**

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#### 7. Map of site:

Refer to Annex III of the *Explanatory Note and Guidelines*, for detailed guidance on provision of suitable maps, including digital maps.

**a) A map of the site, with clearly delineated boundaries, is included as:**

- i) a hard copy (required for inclusion of site in the Ramsar List): ;
- ii) an electronic format (e.g. a JPEG or ArcView image) ;
- iii) a GIS file providing geo-referenced site boundary vectors and attribute tables .

**b) Describe briefly the type of boundary delineation applied:**

e.g. the boundary is the same as an existing protected area (nature reserve, national park, etc.), or follows a catchment boundary, or follows a geopolitical boundary such as a local government jurisdiction, follows physical boundaries such as roads, follows the shoreline of a waterbody, etc.

The boundary is the same as for the Bjørnøya Nature Reserve established August 16<sup>th</sup> 2002. The boundaries were later expanded to 12 nautical miles December 12<sup>th</sup> 2008.

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#### 8. Geographical coordinates (latitude/longitude, in degrees and minutes):

Provide the coordinates of the approximate centre of the site and/or the limits of the site. If the site is composed of more than one separate area, provide coordinates for each of these areas.

Centre coordinates, Bjørnøya MPA (WGS 84):

Latitude: 74° 25' 45.0" N (74,42918 N)

Longitude: 19° 1' 6.5" E (19,018485 E)

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#### 9. General location:

Include in which part of the country and which large administrative region(s) the site lies and the location of the nearest large town.

The site includes most of the land area of the island Bjørnøya (the small area of the Meteorological Institute's weather station is excluded) and the territorial sea that surrounds it. Bjørnøya is an isolated island situated between the Svalbard archipelago and the Norwegian mainland; approx. 250 km from Svalbard and 450 km from the mainland.

**10. Elevation:** (in metres: average and/or maximum & minimum)

0 – 536 m.a.s.l.

**11. Area:** (in hectares)

298 300 ha (280 500 ha sea).

**12. General overview of the site:**

Provide a short paragraph giving a summary description of the principal ecological characteristics and importance of the wetland.

The polar front, where Atlantic and Arctic waters meet, runs through the area Novaja Zemlja – Bjørnøya – and north along the west side of Svalbard. High primary production makes this an important foraging area. There is higher production and biological diversity in the warmer Atlantic waters south and west of the front than in the arctic waters to the north of it.

Seabirds dominate the animal life at Bjørnøya. 126 different species of birds have been seen on the island, of which 33 have been registered as breeding there. The seabird colonies in the southern parts of Bjørnøya are among the largest found in the Northern Hemisphere. It is estimated that over one million seabirds gather here during the breeding season. It is also an important resting and foraging site for birds migrating to and from Svalbard during spring and autumn.

The marine area surrounding Bjørnøya is important as nursery grounds for cod, haddock, saithe, herring, Norway redfish, Greenland halibut and American plaice. In total there are 24 fish species observed in these waters. Most of the Arctic whale and seal species can be found in the waters around Bjørnøya. Banks near Bjørnøya are hot spots for several summer migrating baleen whales.

**13. Ramsar Criteria:**

Tick the box under each Criterion applied to the designation of the Ramsar site. See Annex II of the *Explanatory Notes and Guidelines* for the Criteria and guidelines for their application (adopted by Resolution VII.11). All Criteria which apply should be ticked.

1 • 2 • 3 • 4 • 5 • 6 • 7 • 8 • 9

**14. Justification for the application of each Criterion listed in 13 above:**

Provide justification for each Criterion in turn, clearly identifying to which Criterion the justification applies (see Annex II for guidance on acceptable forms of justification).

(Capitalized letters shows the species' status on the Svalbard Red List 2010)

Criterion 1:

Bjørnøya with its extremely isolated location is considered as special. Because of the polar front the sea has high production which is the bases for the birdlife on the island. The bird cliffs is the most dominating habitat on the island, where the cliffs have one of the largest seabird colonies in the northern hemisphere.

Criterion 2:

Bjørnøya has breeding populations of many threatened bird species such as Common guillemot *Uria aalge* (VU), Black-legged kittiwake *Rissa tridactyla* (NT) and Razorbill *Alca torda* (EN). For further details please see point 22.

Criterion 3 :

Bjørnøya is considered as important for maintaining the biological diversity in the biogeographic region. The seabird colonies in the south of Bjørnøya are among the largest found in the Northern Hemisphere. It is estimated that over a million seabirds gather here during the breeding season. The island is home to the world's northernmost sizeable breeding colony of Common guillemots *Uria aalge*, and also has one of the world's northernmost colonies of Razorbills *Alca torda*.

Criterion 4:

Svalbard's populations of Pink-footed geese *Anser branchyrhynchus*, Barnacle geese *Branta leucopsis* and Brent geese *Branta bernicla brota* stop at Bjørnøya during their seasonal migration. At the south-bound migration in the autumn, nearly the whole population of Barnacle geese *Branta leucopsis* land on Bjørnøya. Further, many other threatened bird species breed on the island. For further details please see point 22.

Criterion 5:

The seabird colonies in the south of Bjørnøya are among the largest found in the Northern Hemisphere, and it is estimated that over one million seabirds gather during the breeding season. For further details and numbers of individuals please see point 22.

Criterion 6

Black-legged kittiwake *Rissa tridactyla* (NT) – approx. 125 000 breeding pairs.

**15. Biogeography** (required when Criteria 1 and/or 3 and /or certain applications of Criterion 2 are applied to the designation):

Name the relevant biogeographic region that includes the Ramsar site, and identify the biogeographic regionalisation system that has been applied.

**a) biogeographic region:**

1. MATZ – middle arctic tundra zone.
2. Arctic

**b) biogeographic regionalisation scheme** (include reference citation):

1. Zonal division based on the distribution of thermophilous vascular plant species. Vascular plants abundant on Svalbard are divided into five groups based on temperature demands and the distribution of these groups of species have been surveyed in 163 areas (In: Elvebakk, A. (1997): Tundra diversity and ecological characteristics of Svalbard. In: Wiegolaski, F.E. (ed.): Polar and alpine tundra. Ecosystems of the world 3: 347-359. Elsevier.
2. Biogeographical Regions, European Environment Agency, 2005

**16. Physical features of the site:**

Describe, as appropriate, the geology, geomorphology; origins - natural or artificial; hydrology; soil type; water quality; water depth, water permanence; fluctuations in water level; tidal variations; downstream area; general climate, etc.

Geology	The oldest rocks on Bjørnøya are from the Precambrian. These can be found in the Antarcticfjellet (Antarctic mountain) in the south of the island. The youngest rocks are from the Triassic. The bedrock consists of sedimentary rocks such as dolomite and limestone, sandstone, conglomerate and shale deposited in shallow
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	sea areas, deltas, lakes and riverbanks. Many of the rocks contain fossils ammonites, snails, brachiopods and corals. The bird cliffs in the south consist of dolomite limestone with horizontal ledges, ideal for breeding seabirds.
Geomorphology	The island is 20 km long from north to south and about 15 km at its widest, and has an area of 178 km <sup>2</sup> . The north and the west is predominately a plateau of up to 30-40 m.a.s.l., dotted with lakes and small ponds – approximately 740 in total, covering 10% of the area of the island. The south and east are dominated by tall mountain formations, which tower at up to 500 m. In the south there are steep cliffs, which are characteristic for this part of the island. These rise from the sea up to about 400 m. The dolomite pillars rising from the sea – Sylen (80 m) and Strappen (186 m) – are famous landmarks on the seaward side. On the northern coast there are several smaller sandy beaches. Apart from these, shoreline erosion has had a large impact on the coastline, creating a prominent edge along the shoreline, which makes landings difficult. There are many karst phenomena on the island such as caves and underground rivers. These can be found in the south in the valley Ymerdalen and in the river Jordbruelva.
Substrate / soil type	On top of the bird cliffs in the south there are peat deposits which are several meters thick, overlying cores of ice produced by the permafrost. These layers of turf are about 9000 years old.
Water depth / fluctuations	Bjørnøya is surrounded by a shallow sea. The difference between high and low tide is 1.2-2.2 m. Most of the lakes on the island are quite shallow. Ellasjøen is the deepest (35 m).
Climate	The climate is Arctic oceanic. Temperature differences between summer and winter are low. There is much wind and fog due to the prevailing polar lows, small-scale, short-lived atmospheric low pressure systems that develop over the ocean.  The year middle temperature is -2.4°C (Ottar 5-2005). July is the warmest month (+4.4°C) and January is the coldest month (-8,1°C). Annual precipitation is 371 mm (met.no)

### 17. Physical features of the catchment area:

Describe the surface area, general geology and geomorphological features, general soil types, and climate (including climate type).

Bjørnøya is the southernmost part of the Svalbard archipelago. It is surrounded by a shallow shelf sea, which is a continuation of the continental shelf of mainland Norway. The average depth in the Barents Sea is 230 m, and the shallowest areas are between Bjørnøya and Edgeøya (the Svalbard Bank). Some kilometers west of Bjørnøya, the depths of the Norwegian Sea plunge to more than 2000 m. The island measures about 20 km from north to south, is about 15 km at its widest and covers an area of 178 km<sup>2</sup>. Bjørnøya is strongly influenced by waves, which has formed high cliffs around most of the coast.

Despite its relatively cold climate, the Barents Sea south of the polar front is considered to be one of the most productive ecosystems in the world.

The polar front, where Atlantic and Arctic waters meet, runs through the area Novaja Zemlja – Bjørnøya – and north along the west side of Svalbard..

A combination of vertical mixing of sea masses during autumn and winter, which bring nutrition up from the deep sea, and a layering in spring and summer has a boosting effect on primary production. Influx and outflux of water also has a positive effect on vertical mixing and supply of nutrients. A thermocline develops in spring and during the summer as the surface water is heated by the atmosphere and by radiation from the sun. Together with warm Atlantic water the increasing heat also rapidly melts the ice, which covers the sea in the colder period of the year. The melted ice forms a layer of surface water with

low salinity which adds to the layering effect of the thermocline. This stable layer of water may reach depths of up to 50-60 meters in the south-western part of the Barents Sea.

The ice edge moves from Bjørnøya in the winter up to the north and east of Spitsbergen in the summer. However, some winters, the ice edge does not go as far south as Bjørnøya. When the ice is melting during spring and summer, there is a relatively short but intense period of primary production within a distance of 20-50 km from the ice edge as it moves north. This makes the ice edge an important foraging area for large numbers and groups of animals.

### 18. Hydrological values:

Describe the functions and values of the wetland in groundwater recharge, flood control, sediment trapping, shoreline stabilization, etc.

Shoreline erosion (waves and sea ice) has had a strong impact on the coastline. There are approx. 740 lakes and small ponds on the island. All fresh water originates from precipitation (water retention function).

### 19. Wetland Types

#### a) presence:

Circle or underline the applicable codes for the wetland types of the Ramsar "Classification System for Wetland Type" present in the Ramsar site. Descriptions of each wetland type code are provided in Annex I of the *Explanatory Notes & Guidelines*.

Marine/coastal: A • B • C • D • E • F • G • H • I • J • K • Zk(a)

Inland: L • M • N • O • P • Q • R • Sp • Ss • Tp • Ts • U • Va •  
Vt • W • Xf • Xp • Y • Zg • Zk(b)

Human-made: 1 • 2 • 3 • 4 • 5 • 6 • 7 • 8 • 9 • Zk(c)

#### b) dominance:

List the wetland types identified in a) above in order of their dominance (by area) in the Ramsar site, starting with the wetland type with the largest area.

A, D, O, Vt, Zk(b)

### 20. General ecological features:

Provide further description, as appropriate, of the main habitats, vegetation types, plant and animal communities present in the Ramsar site, and the ecosystem services of the site and the benefits derived from them.

Situated in the Arctic and characterized by:

- An extremely isolated island surrounded by a shallow shelf sea with high primary production.
- Steep cliffs with seabird colonies among the largest found in the Northern Hemisphere.
- Approx. 740 lakes and small ponds, covering 10% of the area of the island.

### 21. Noteworthy flora:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 14, Justification for the application of the Criteria) indicating, e.g., which species/communities are unique, rare, endangered or biogeographically important, etc. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.*

### 22. Noteworthy fauna:

Provide additional information on particular species and why they are noteworthy (expanding as necessary on information provided in 14, Justification for the application of the Criteria) indicating, e.g., which species/communities are unique, rare, endangered or biogeographically important, etc., including count data. *Do not include here taxonomic lists of species present – these may be supplied as supplementary information to the RIS.*

Bjørnøya has breeding populations of:

Common guillemot *Uria aalge* (VU) – approx. 70,000 pairs

Glaucous gull *Larus hyperboreus* (NT) – approx. 600 pairs

Black-legged kittiwake *Rissa tridactyla* (NT) – approx. 125 000 breeding pairs

Razorbill *Alca torda* (EN)

Thick billed murre *Uria lomvia* (NT) – approx. 110 000 breeding pairs

Lesser Black-Backed Gull *Larus fuscus fuscus* – 3-4 breeding pairs (northern border for distribution)

Fulmar *Fulmarus glacialis* – approx. 30 000 pairs

Atlantic puffin *Fratercula arctica*

Sporadically appearing:

Ivory gull *Pagophila eburnea* (VU)

Sabine's Gull *Xema sabini* (EN)

Steller's Eider (*Polysticta stelleri*) (VU according to IUCN red list)

Mammals (all rare sightings at Bjørnøya):

- Walrus *Odobenus rosmarus* (VU)

- Polar bear *Ursus maritimus* (VU)

- Harbour seal *Phoca vitulina* (VU)

(Capitalized letters shows the species' status on the Svalbard Red List 2010, except for the Steller's Eider where IUCN red list is used)

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### 23. Social and cultural values:

**a)** Describe if the site has any general social and/or cultural values e.g., fisheries production, forestry, religious importance, archaeological sites, social relations with the wetland, etc. Distinguish between historical/archaeological/religious significance and current socio-economic values:

Bjørnøya was discovered in 1596, and its history revolves around hunting; particularly that of walrus, polar bears, seals, whales and seabirds. In the 1900s, coal and galena were extracted for a short period. This has left several protected cultural heritage sites. There were both German and Allied activities here during the Second World War.

**b)** Is the site considered of international importance for holding, in addition to relevant ecological values, examples of significant cultural values, whether material or non-material, linked to its origin, conservation and/or ecological functioning?

If Yes, tick the box  and describe this importance under one or more of the following categories:

- i) sites which provide a model of wetland wise use, demonstrating the application of traditional knowledge and methods of management and use that maintain the ecological character of the wetland:
- ii) sites which have exceptional cultural traditions or records of former civilizations that have influenced the ecological character of the wetland:
- iii) sites where the ecological character of the wetland depends on the interaction with local communities or indigenous peoples:
- iv) sites where relevant non-material values such as sacred sites are present and their existence is strongly linked with the maintenance of the ecological character of the wetland:

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**24. Land tenure/ownership:**

a) within the Ramsar site:

State owned.

b) in the surrounding area:

State owned

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**25. Current land (including water) use:**

a) within the Ramsar site:

The island is visited by scientific researchers, both Norwegian and from other nations, in parts of the year. Most of the areas are untouched nature with no nearby human activity. In addition, tourists make landings every year within the borders of Bjørnøya Nature reserve. IN 2009 there were approximately 200 persons visiting Bjørnøya by boat.. Oversea Cruiseliners often sail close to the island on their way up to or down from Spitsbergen.

b) in the surroundings/catchment:

The number of inhabitants on Bjørnøya is low, and consists of a crew of nine persons (changed twice a year) which operate the meteorological station. Human activities like shipping and fisheries are present inside or close to the site. Fishing vessels can often be found in the waters around the south and the east of the island, where they find lee to reload or refuel.

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**26. Factors (past, present or potential) adversely affecting the site's ecological character, including changes in land (including water) use and development projects:**

a) within the Ramsar site:

The human activity on the island itself is low, and consists of a manned meteorological station and scientific research. Previous activities, such as hunting for marine mammals and birds, collection of bird eggs and excavation of coal and galena, are no longer taking place. Traffic on the island and close to bird colonies is strongly regulated. A low number of tourists visit the island yearly with expedition cruise vessels.

b) in the surrounding area:

The southern part of the Barents Sea north to 74° 30' N is formally opened to petroleum activities. However, in the *Integrated Management Plan for the Barents Sea and the Sea Areas off the Lofoten Islands* the Government has established a framework for petroleum activities on the basis of an evaluation of the areas identified as particularly valuable and vulnerable and an assessment of the risk of acute oil pollution. In accordance with this framework, no petroleum activities will be initiated within a 65-km zone around Bjørnøya.

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**27. Conservation measures taken:**

a) List national and/or international category and legal status of protected areas, including boundary relationships with the Ramsar site:

In particular, if the site is partly or wholly a World Heritage Site and/or a UNESCO Biosphere Reserve, please give the names of the site under these designations.

Bjørnøya was established as a nature reserve August 16<sup>th</sup> 2002. The boundary of the Ramsar site is the same as for the Bjørnøya Nature Reserve (see map).

b) If appropriate, list the IUCN (1994) protected areas category/ies which apply to the site (tick the box or boxes as appropriate):

Ia ; Ib ; II ; III ; IV ; V ; VI

c) Does an officially approved management plan exist; and is it being implemented?:

Yes (for the period 2005-2010). (The Management Plan (in Norwegian) has been provided with this RIS).

d) Describe any other current management practices:

Evaluation/revision of management plan every 5<sup>th</sup> year.

See also details provided under 26b.

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**28. Conservation measures proposed but not yet implemented:**

e.g. management plan in preparation; official proposal as a legally protected area, etc.

The proposed site is identified by the management authority as an area where it is necessary to revise the management plan.

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**29. Current scientific research and facilities:**

e.g., details of current research projects, including biodiversity monitoring; existence of a field research station, etc.

Bjørnøya is important for scientific research, especially that of seabirds and environmental contaminants/ecotoxicology. It has been a monitoring site for seabirds since 1986.

Bjørnøya is included in The National Monitoring Programme for Seabirds. Bjørnøya also is included as one of the key-sites within SEAPOP (SEAbird POPulations), which is a long-term monitoring and mapping programme for Norwegian seabirds.

Weather observations have been carried out from the Meteorological Institute's weather station since 1932.

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**30. Current communications, education and public awareness (CEPA) activities related to or benefiting the site:**

e.g. visitors' centre, observation hides and nature trails, information booklets, facilities for school visits, etc.

No such activities have been conducted, mainly because of the remoteness of the area and difficult access.

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**31. Current recreation and tourism:**

State if the wetland is used for recreation/tourism; indicate type(s) and their frequency/intensity.

Bjørnøya is visited by approximately 300 coastal expedition cruise tourists every summer. Small groups of guests led by guides land by zodiacs on the shore and do short walks in the area to study geology, vegetation, animal- and birdlife. In addition there are about 30 small private sailing boats sailing from mainland Norway to Svalbard every summer, and some of these also land at Bjørnøya. Recreational activities among the station Crew (Meteorological station) commonly include both hiking and use of recreational cabins. There are two areas on Bjørnøya that have a ban on visits parts of the year due to the birds breeding season. Oversea Cruiseliners often sail close to the island on their way up to or down from Spitsbergen.

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**32. Jurisdiction:**

Include territorial, e.g. state/region, and functional/sectoral, e.g. Dept of Agriculture/Dept. of Environment, etc.

Norwegian Directorate for Nature Management (DN), Tungasletta 2, 7485 Trondheim  
Ph +47 73580500

Fax +47 73580501

Email: [postmottak@dirnat.no](mailto:postmottak@dirnat.no)

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### 33. Management authority:

Provide the name and address of the local office(s) of the agency(ies) or organisation(s) directly responsible for managing the wetland. Wherever possible provide also the title and/or name of the person or persons in this office with responsibility for the wetland.

The site is managed by the Governor of Svalbard, which is under the instruction of DN on matters concerning nature conservation issues. Address: Governor of Svalbard, PO Box. 633, N-9171 Longyearbyen. Phone: +47 79 02 43 00  
Email: [postmottak@sysselelmannen.no](mailto:postmottak@sysselelmannen.no)

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### 34. Bibliographical references:

Scientific/technical references only. If biogeographic regionalisation scheme applied (see 15 above), list full reference citation for the scheme.

Elvebakk, A. 1989: *Biogeographical zones of Svalbard and Jan Mayen based on the distribution patterns of thermophilous vascular plants*. Unpubl. manuskript, Universitetet i Tromsø.

Norwegian Polar institute: <http://npweb.npolar.no/>

Forvaltningsplanen for perioden 2005-2010

Cruisehåndbok for Svalbard

Norsk Polarinstitutt Meddelse nr. 143 1997: Dokumentasjon og verneverdier på Bjørnøya

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Telephone: +41 22 999 0170 • Fax: +41 22 999 0169 • e-mail: [ramsar@ramsar.org](mailto:ramsar@ramsar.org)