

## Ramsar Information Sheet

Published on 10 May 2023 Update version, previously published on : 6 April 2018

# **Norway** Karlsøyvær



Designation date 6 August 2002 Site number 1192

Coordinates 67°34'11"N 14°39'19"E

Area 4 936,00 ha

## Color codes

Fields back-shaded in light blue relate to data and information required only for RIS updates.

Note that some fields concerning aspects of Part 3, the Ecological Character Description of the RIS (tinted in purple), are not expected to be completed as part of a standard RIS, but are included for completeness so as to provide the requested consistency between the RIS and the format of a 'full' Ecological Character Description, as adopted in Resolution X.15 (2008). If a Contracting Party does have information available that is relevant to these fields (for example from a national format Ecological Character Description) it may, if it wishes to, include information in these additional fields.

## 1 - Summary

#### Summary

Karlsøyvær is a marine archipelago with shallow waters, dotted with approximately 220 islands, skerries and islets, typical for the North-European coastal landscape. Helløya is the largest and highest island (101 m.a.s.l.). Habitats and ecosystems in the area vary from wet meadows, dunes and dune slacks, drift lines to brackish marshes and lagoons. The climate in combination with topography provide a diverse and varied vegetation cover, which however remains low, apart from some deciduous forest on a few of the islands. In total, more than 250 different plant species are registered in Karlsøyvær. The archipelago is among the largest coastal conservation areas found in Norway.

The site is one of several important areas along the coast for staging, breeding, moulting and wintering seabirds. Slovær is an especially important breeding area for great cormorants, gulls and the black guillemot. The central parts of Karlsøyvær (Karlsøya, Lågøya, Dragan, Einholmen, Dypingen and Engøya) host the largest breeding populations of waders, common eiders and red-breasted mergansers in the archipelago, while Bestemorholmen is an important breeding location for black guillemots. Karlsøyvær is also an important breeding- and nesting location for the white-tailed eagle.

The area is important for shoreline stabilization. Traditionally the site was used for eiderdown- and egg collection from common eiders; except for sporadic collection of eggs, this practice has now ceased. Other human activities include recreational activities, fishing, berry picking (cloudberry), and sheep grazing (Karlsøya and Hjelløya). Helløya is a former farmland that is now characterized by overgrowth.

Common eiders used to be a common breeding species in Karlsøyvær, but the population have drastically declined, along with populations of the Northern lesser black-backed gull, the great black-backed gull, the Northern lapwing and the Eurasian curlew. Mink has established as a species during the last decade, and is likely a driving force for the population decline seen for these breeding species. In particular for common eiders, the cessation of eider down and egg collection, and the subsequent loss of predator protection and the building of nesting houses, is likely a large contributor for the population decline seen for this species.

## 2 - Data & location

## 2.1 - Formal data

2.1.1 - Name and address of the compiler of this RIS	2.	1	.1	-	Name	and	address	of the	compiler	of th	nis R	JS
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Institution/agency | Norwegian Environment Agency Post box 5672 Torgarden, N-7485 Trondheim, Norway Postal address

National Ramsar Administrative Authority

Postboks 5672 Sluppen Postal address Trondheim Norway

## 2.1.2 - Period of collection of data and information used to compile the RIS

From year 1988 To year 2021

#### 2.1.3 - Name of the Ramsar Site

Official name (in English, French or Karlsøyvær Spanish)

## 2.1.4 - Changes to the boundaries and area of the Site since its designation or earlier update

(Update) A. Changes to Site boundary Yes O No O (Update) B. Changes to Site area No change to area  $^{
m (Update)}$  For secretariat only: This update is an extension  $\Box$ 

#### 2.1.5 - Changes to the ecological character of the Site

 $^{(Update)}$  6b i. Has the ecological character of the Ramsar Site (including No applicable Criteria) changed since the previous RIS?

(Update) Optional text box to provide further information

Common eiders used to be a common breeding species in Karlsøyvær, but the population has drastically declined, along with populations of the Northern lesser black-backed gull, the great black-backed gull, the Northern lapwing and the Eurasian curlew. Mink has established as a species during the last decade, and is likely a driving force for the population decline seen for these breeding species. In particular for common eiders, the cessation of eider down and egg collection, and the subsequent loss of predator protection and the building of nesting houses, is likely a large contributor for the population decline seen for this species.

## 2.2 - Site location

## 2.2.1 - Defining the Site boundaries

b) Digital map/image 1 file(s) uploaded>

Former maps 0

Boundaries description

The boundaries are the same as the existing nature reserve Karlsøyvær.

## 2.2.2 - General location

a) In which large administrative region does Nordland the site lie? b) What is the nearest town or population Bodø centre?

## 2.2.3 - For wetlands on national boundaries only

a) Does the wetland extend onto the territory of one or more other Yes O No 

Yes O No countries?

b) Is the site adjacent to another designated Ramsar Site on the territory of another Contracting Party? Yes O No  $\odot$ 

## 2.2.4 - Area of the Site

Official area, in hectares (ha): 4936

Area, in hectares (ha) as calculated from 4940.333 GIS boundaries

## 2.2.5 - Biogeography

#### Biogeographic regions

Regionalisation scheme(s)	Biogeographic region
Other scheme (provide name below)	Middle boreal zone (MbO2 – clear oceanic section)
EU biogeographic regionalization	2. Atlantic

#### Other biogeographic regionalisation scheme

1. Zonal division showing the variation in vegetation from south to north and from the lowlands to the mountains, and sectional graduation showing the variation between the coast and inland (In: Moen, A. 1998. Nasjonalatlas for Norge; vegetasjon. Statens kartverk, Hønefoss).

2. EU Habitat directive 92/43/EEC

## 3 - Why is the Site important?

## 3.1 - Ramsar Criteria and their justification

#### Criterion 1: Representative, rare or unique natural or near-natural wetland types

Other reasons

This is a marine archipelago with shallow waters dotted with numerous islands, skerries and islets. This kind of archipelago is typical in the North-European coastal landscape. The shores are mostly hard rock and gravel, but in parts of the archipelago there are calcareous rocks, wet meadows and brackish marshes occur on a smaller part of the area.

Some of the habitats in the Ramsar site are considered as coastal heatland (EN), hav meadow (NRL: CR) and semi-natural grassland (NRL: VU). Red list categories are given according to Norwegian Red List for Ecosystems and Habitat types 2021.

#### ☑ Criterion 2 : Rare species and threatened ecological communities

information

The site host some rare/threatened avian species, e.g. the Eurasian curlew (NRL: EN) and the Northern lapwing (NRL: CR). One can also find mammals such as the European otter (Ann. Il Berne Convention) Optional text box to provide further and the grey seal (NRL: VU).

> Additionally, the area host habitats and ecosystems such as coastal heath (NRL: EN), hay meadow (NRL: CR) and semi-natural grassland (NRL: VU).

#### Criterion 3 : Biological diversity

The area is a traditional breeding site for numbers of seabirds, e.g. the herring gull (NRL: VU), the blackbacked gull, breeding area for Northern Scandinavian and Baltic subspecies of the lesser black-backed gull. the Common eider (NRL: VU), and the white-tailed eagle, all characteristic species for this kind of archipelago in this biogeographic region.

## ☑ Criterion 4 : Support during critical life cycle stage or in adverse conditions

Optional text box to provide further information The area is an important moulting area for ducks and geese, important foraging area for Atlantic puffins and an important stagaing area for waders, ducks and geese during migration. The area also serve as a wintering site for some species.

## 3.2 - Plant species whose presence relates to the international importance of the site

<no data available>

## 3.3 - Animal species whose presence relates to the international importance of the site

Phylum	Scientific name	Oritorion	Species contributes under criterion	Size	Period of pop. Est.	IUCN Red List	CITES Appendix I	CMS Appendix I	Other Status	Justification
Others										
CHORDATA/ MAMMALIA						LC			National Red List: Considered as VU	Criterion 4: This area is important staging area for this species.

Phylum	Scientific name	Spec qualifies crite	s und rion	ur	contr	criteri	ion Si	op. ize	Period (	of pop. E	Est. 0	% ccurrenc	IUCN Red List	CITES Appendix	CMS Appendix	Other Status	Justification
CHORDATA/ MAMMALIA	Lutra lutra	<b>V</b>											NT	<b></b>		Ann. Il Berne Convention	Criterion 4: The site has a stable population of the breeding Eurasian Otter.
CHORDATA/ MAMMALIA	Phoca vitulina			0									LC				Criterion 4: This species used to breed here, whether that is the case present is uncertain, but the area is still important for this species.
Birds																	
CHORDATA/ AVES	Anser anser												LC				Criterion 4: This species uses this area during moulting.
CHORDATA/ AVES	Arenaria interpres												LC				Criterion 4: This species uses this area during breeding season.
CHORDATA/ AVES	Cepphus grylle												LC				Criterion 4: The site has a stable breeding population of this species.
CHORDATA/ AVES	Clangula hyemalis	<b>V</b>											VU			National Red List: Considered as NT	Criterion 4: Staging and wintering site for this species.
CHORDATA/ AVES	Fratercula arctica	<b>V</b>											VU			National Red List: Considered as EN	Criterion 4: This species uses this area during forage and staging.
CHORDATA/ AVES	Gallinago gallinago												LC				Criterion 4: This species uses this area during breeding season.
CHORDATA/ AVES	Gavia stellata												LC				Criterion 4: This species breeds in the area.
CHORDATA/	Haematopus ostralegus												NT				Criterion 4: This species uses this area during breeding season.
CHORDATA/ AVES	Haliaeetus albicilla	<b>V V</b>			70								LC	<b></b>	<b>2</b>		Criterion 3: Characteristic species for this kind of archipelago in this biogeographic region. Criterion 4: This species breeds in the area.
CHORDATA/ AVES	Larus argentatus	<b>V</b>											LC			National Red List: Considered as VU	Criterion 4: This species breed witin this wetland area.
CHORDATA/ AVES	Larus canus	<b>V</b>			70								LC			National Red List: Considered as VU	Criterion 3 & 4: The area is a traditional breeding site for numbers of seabirds, e.g. This species.
CHORDATA/ AVES	Larus fuscus fuscus																Criterion 3 & 4: The area is a traditional breeding site for numbers of seabirds, e.g. this species.
CHORDATA/ AVES	Larus marinus				70								LC				Criterion 3 & 4: The area is a traditional breeding site for numbers of seabirds, e.g. This species.
CHORDATA/ AVES	Melanitta nigra	<b>V</b>											LC			National Red List: Considered as VU	Criterion 4: This species uses this area during staging.
CHORDATA/ AVES	Mergus merganser												LC				Criterion 4: This species uses this area during moulting.
CHORDATA /	Mergus serrator												LC				Criterion 4: Staging and wintering site for this species.
	Numenius arquata	<b>V</b>											NT			National Red List: Considered as EN	Criterion 4: This species uses this area during breeding season.
	Phalacrocorax aristotelis	<b>V</b>											LC			Ann II. Berne Convention	Criterion 4: Staging and wintering site for this species.

Phylum	Scientific name	Species qualifies under criterion	Species contributes under criterion 3 5 7 8	Pop. Size	Period of pop. Est.	occurrence	IUCN Red List	CITES Appendix I	CMS Appendix I	Other Status	Justification
CHORDATA / AVES	Somateria mollissima						NT			National Red List: Considered as VU	Criterion 3: Characteristic species for this kind of archipelago in this biogeographic region. Criterion 4: Staging and wintering site for this species.
CHORDATA /	Stercorarius parasiticus						LC			National Red List: Considered as VU	Criterion 4: This species uses this area during breeding season.
CHORDATA /	Sterna paradisaea						LC			Ann. Il Berne Convention, Emerald Network	Criterion 4: This species uses this area during breeding season.
CHORDATA/ AVES	Vanellus vanellus						NT			National Red List: Considered as CR	Criterion 4: This species breeds within this wetland area.

<sup>1)</sup> Percentage of the total biogeographic population at the site

Capitalized letters shows the species' status on the National Red List 2021.	
·	

## 3.4 - Ecological communities whose presence relates to the international importance of the site

Name of ecological community	Community qualifies under Criterion 2?	Description	Justification
Sand-dune system	✓		National Red List: Considered as VU
Tidal meadow	✓		National Red List: Considered as VU
Semi-natural grassland	<b>2</b>		National Red List: Considered as VU
Coastal heath	Ø	Coastal heath is the dominating vegetation type. Karlsøyvær is one of six areas in Nordland with coastal heath suggested to be a reference area for coastal heath in Norway.	National Red List: Considered as EN
Hay meadow	V		National Red List: Considered as CR

#### Optional text box to provide further information

Capitalized letters shows the habitats' status on the National Red List for Ecosystems and Habitat types 2018.

Eelgrass meadow: Eelgrass meadows constitute important foraging sites for diving ducks and waders during staging.

Drift line: An area of the shore on which material is deposited or washed up. As a result, high richness of nutrients occur. Drift lines constitute important foraging sites for staging waterfowl.

## 4 - What is the Site like? (Ecological character description)

## 4.1 - Ecological character

Situated in the boreal vegetational zone, and characterised by:

- Shallow marine waters, with numerous islands, skerries and islets.
- Coastal substrate characterized by rocks and gravel shores, inland calcareous deposits occur (seashells and corals) creating substrate for flora dependent on calcareous soil.
- Highly differentiated vegetation types, depending on influence from seawater, e.g. tidal shand shore with drift lines, salt meadows, brackish meadows including brackish lagoons and freshwater ponds, herb-rich meadows.
- Typical flora contains Puccinellia spp., Carex subspathacea, Juncus arcticus ssp.balticus and Blysmus rufus.
- Brackish/aquatic flora typically includes Hippuris, Potamogeton and Myriophyllum.

## 4.2 - What wetland type(s) are in the site?

#### Marine or coastal wetlands

marino or codotar modarido				
Wetland types (code and name)	Local name	Ranking of extent (1: greatest - 4: least)	Area (ha) of wetland type	Justification of Criterion 1
A: Permanent shallow marine waters		1		Representative
D: Rocky marine shores		2		Representative
E: Sand, shingle or pebble shores		3		
H: Intertidal marshes		4		

## 4.3 - Biological components

#### 4.3.1 - Plant species

Other noteworthy plant species

Phylum	Scientific name	Position in range / endemism / other
TRACHEOPHYTA/PSILOTOPSIDA	Botrychium Iunaria	Nationally rare species
TRACHEOPHYTA/LILIOPSIDA	Carex appropinquata	Nationally rare species
TRACHEOPHYTA/POLYPODIOPSIDA	Cystopteris dickieana	Nationally rare species
TRACHEOPHYTA/LILIOPSIDA	Dactylorhiza incarnata	Nationally rare species
TRACHEOPHYTA/LILIOPSIDA	Dactylorhiza Iapponica	Nationally rare species
TRACHEOPHYTA/LILIOPSIDA	Gymnadenia conopsea	Nationally rare species
TRACHEOPHYTA/LILIOPSIDA	Lemna minor	Nationally rare species
TRACHEOPHYTA/MAGNOLIOPSIDA	Primula scandinavica	Nationally rare species
TRACHEOPHYTA/MAGNOLIOPSIDA	Ranunculus trichophyllus	Nationally rare species

## 4.3.2 - Animal species

#### Invasive alien animal species

Phylum	Scientific name	Impacts	Changes at RIS update
CHORDATA/MAMMALIA	Neovison vison	Potential	No change

## 4.4 - Physical components

## 4.4.1 - Climate

Climatic region	Subregion		
D: Moist Mid-Latitude climate with cold winters	Dfc: Subarctic (Severe winter, no dry season, cool		
Cilifate with cold willters	summer)		

The climate is typical Atlantic-oceanic with high annual precipitation (>1500mm and average 200-220 days with precipitation pr. year), wet summers and mild winters. October is the month that recives the highest amount of precipitation. Average yearly temperatures of 5,2 °C (Helligvær), with an average monthy temperature of -0,4°C in February and 12,2°C in July/August.

## 4.4.2 - Geomorphic setting

KIS 101 SILC IIO. 11/2,	Karlsøyvær, Norway		
a) Minimum elevation a	bove sea level (in metres)		
a) Maximum elevation a	1 1()1		
	metres)	tire river basin	
		rt of river basin	
		rt of river basin	
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	·	one river basin	
		ot in river basin	
		Coastal 🗹	
Please name the river basi	n or basins. If the site lies in a s	sub-basin, please also name	the larger river basin. For a coastal/marine site, please name the sea or ocean.
Norwegian Sea		·	
4.4.3 - Soil			
		Mineral 🗹	
	(Update) Changes		Increase O Decrease O Unknown O
	_	ole information	
Are soil types subject to	o change as a result of changing		
conditi	ions (e.g., increased salinity or	acidification)?	
	mation on the soil (optional)		
	aracterised by outcrops outcrops outcrops outcomes islets and skerries.		late, granites, etc.) and at places also calcareous rock. Typified by shallow
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4.4.4 - Water regime  Water permanence  Presence?  Usually permanent water present  Source of water that maintain  Presence?  Water inputs from precipitation  Stability of water regime  Presence?  Water levels fluctuating (including tidal)  Please add any comments  Shallow marine water amplitude is approx.  All fresh water in the additional stability of water permanents.  4.4.5 - Sediment regime	Changes at RIS update  Predominant water source  Changes at RIS update  No change  On the water regime and its de rs mostly less than six me 174 cm (Bodø harbour).  Area originates from predome  Sediment reg  Mixohaline (brackish)/Mixosalii (Update) Changes	Changes at RIS update  No change  eterminants (if relevant). Use etres deep at low tide; i cipitation.  Unknown  Unknown  at RIS update No change	this box to explain sites with complex hydrology.
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4.4.8 - Dissolved or suspended nutrients in water	4.4.8	<ul> <li>Dissolved</li> </ul>	or suspended	nutrients in	า wateı
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Unknown 🗹

## 4.4.9 - Features of the surrounding area which may affect the Site

Please describe whether, and if so how, the landscape and ecological characteristics in the area surrounding the Ramsar Site differ from the i) broadly similar O ii) significantly different site itself:

Surrounding area has greater urbanisation or development Surrounding area has higher human population density Surrounding area has more intensive agricultural use Surrounding area has significantly different land cover or habitat types

Please describe other ways in which the surrounding area is different:

Fishing

## 4.5 - Ecosystem services

## 4.5.1 - Ecosystem services/benefits

#### Provisioning Services

Ecosystem service	Examples	Importance/Extent/Significance	
Wetland non-food products	Other	Medium	
Wetland non-food products	Livestock fodder	Low	

#### Regulating Services

regulating cornect		
Ecosystem service	Examples	Importance/Extent/Significance
Hazard reduction	Coastal shoreline and river bank stabilization and storm protection	Medium

#### **Cultural Services**

Ecosystem service	Examples	Importance/Extent/Significance	
Recreation and tourism	Recreational hunting and fishing	Low	
Recreation and tourism	Picnics, outings, touring	Low	
Spiritual and inspirational	Cultural heritage (historical and archaeological)	Medium	
Scientific and educational	Long-term monitoring site	Medium	

#### Supporting Services

Ecosystem service	Examples	Importance/Extent/Significance
Nutrient cycling	Carbon storage/sequestration	Low

#### Other ecosystem service(s) not included above:

## Shoreline stabilization.

Traditionally the breeding population of common eider were used for down- and egg collection. The close relation between man and bird along the northern coast contributed to a high population of eiders (predator protection and erection of breeding-houses). This tradition has gradually faltered and is today only evident at a few revived sites (outside this site). This is likely a contributor to the population decline seen in the common eider population. Some egg collecting is still performed. It is also likely that harvesting of grass/hay and seaweed also occurred.

Smaller populations of sheep graze in the area.

The area is to a low degree used by residents and tourists, mainly for fishing, berry picking (cloudberry), and use of the houses/cabins.

The marine site was earlier included in the national monitoring program for seabirds (SEAPOP).

Have studies or assessments been made of the economic valuation of ecosystem services provided by this Ramsar Site?

#### 4.5.2 - Social and cultural values

i) the site provides 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

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ii) the site has exceptional cultural traditions or records of former civilizations that have influenced the ecological character of the wetland	
iii) the ecological character of the wetland depends on its interaction with local communities or indigenous peoples	
iv) 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	

<no data available>

## 4.6 - Ecological processes

<no data available>

## 5 - How is the Site managed? (Conservation and management)

## 5.1 - Land tenure and responsibilities (Managers)

#### 5.1.1 - Land tenure/ownership

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Category	Within the Ramsar Site	In the surrounding area
National/Federal government	<b>/</b>	<b>/</b>

#### Private ownership

Category	Within the Ramsar Site	In the surrounding area
Other types of private/individual owner(s)	<b>2</b>	

Provide further information on the land tenure / ownership regime (optional):

Within the Ramsar site:

Privately owned approx. 2/3 and State owned approx. 1/3.

In the surrounding area:

State owned.

## 5.1.2 - Management authority

Please list the local office / offices of any agency or organization responsible for managing the site:

Statsforvalteren i Nordland Postal address: Statsforvalteren i Nordland

N-8002 Bodø

E-mail address: sfnopost@statsforvalteren.no

## 5.2 - Ecological character threats and responses (Management)

#### 5.2.1 - Factors (actual or likely) adversely affecting the Site's ecological character

Human intrusions and disturbance

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Recreational and tourism activities	Low impact	Low impact	✓	No change		No change

Natural system modifications

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Unspecified/others	Medium impact	Medium impact	✓	No change		No change

Invasive and other problematic species and genes

Factors adversely affecting site	Actual threat	Potential threat	Within the site	Changes	In the surrounding area	Changes
Invasive non-native/ alien species	Medium impact	High impact	<b>/</b>	No change		No change

#### Please describe any other threats (optional):

## Within the Ramsar site:

The cessation of traditional agriculture with grazing animals and haymaking has led to an abandon of the unique collaboration between man and seabirds (predator control, building of houses for the common eider, and also to a succeeding overgrowing of the landscape).

The depopulation of the islands and the cessation of traditional agriculture with grazing animals and haymaking has likely resulted in a population decline for species such as the Northern lapwing, the Eurasian curlew and the common snipe resulting from overgrowing of important semi-natural open grasslands of which these species are associated.

Mink was established as a species on the islands in 2004, and in 2011 work began in order to try to manage the mink population. This is a highly prioritized task.

Efforts are also being made in order to prevent overgrowing, and grazing on additional islands in the archipelago is suggested. Overgrowing can also displace plant species important in order to keep the high biological diversity in the area.

In the surrounding area:

None known

## 5.2.2 - Legal conservation status

National legal designations

Designation type	Name of area	Online information url	Overlap with Ramsar Site
Nature Reserve	Karlsøyvær		whole

## 5.2.3 - IUCN protected areas categories (2008)

1	la Strict Nature Reserve
	Ib Wilderness Area: protected area managed mainly for wilderness protection
	II National Park: protected area managed mainly for ecosystem protection and recreation
	Natural Monument: protected area managed mainly for conservation of specific natural features
V	Habitat/Species Management Area: protected area managed mainly for conservation through management intervention
	Protected Landscape/Seascape: protected area managed mainly for landscape/seascape conservation and recreation
_	Managed Resource Protected Area: protected area managed mainly

for the sustainable use of natural ecosystems

## 5.2.4 - Key conservation measures

Legal protection

Legal protection		
Measures	Status	
Legal protection	Proposed	

**Species** 

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Measures	Status
Control of invasive alien animals	Partially implemented

#### Other

The Ramsar site is expected to be included as a part of the national plan for marine protected areas.

## 5.2.5 - Management planning

Is there a site-specific management plan for the site? Yes

Has a management effectiveness assessment been undertaken for the site?

If the site is a formal transboundary site as indicated in section Data and location > Site location, are there shared management planning Yes O No • processes with another Contracting Party?

Please indicate if a Ramsar centre, other educational or visitor facility, or an educational or visitor programme is associated with the site:

A new information folder is produced by the management authorities.

## 5.2.6 - Planning for restoration

Is there a site-specific restoration plan? Please select a value

#### Further information

Management of the mink population is a highly prioritized task. Discussions of introducing grazing fauna to additional islands in order to prevent overgrowing.

## 5.2.7 - Monitoring implemented or proposed

Monitoring	Status	
Birds	Implemented	

The marine site was earlier included in the national monitoring program for seabirds (SEAPOP).

## 6 - Additional material

## 6.1 - Additional reports and documents

## 6.1.1 - Bibliographical references

Forvaltningsplan for Karlsøyvær naturreservat Bodø kommune, Nordland. 2012-1017 Fylkesmannen i Nordland. Rapport 2011 – 6.

Sjøfugltelling i Karlsøyvær naturreservat 2017, NOF-notat 2017-14

Larsen, B. H. & Wergeland Krog, O. M. 2009. Karlsøyvær naturreservat i Bodø kommune. Naturtyper, fugl og sjøpattedyr. Miljøfaglig Utredning Rapport 2009:37. ISBN: 978-82-8138-366-1

Elven, R., Alm, T., Edvardsen, H., Fjelland, M., Fredriksen, K. E. & Johansen, V. 1988. Botaniske verneverdier på havstrender i Nordland. B: Beskrivelser for regionene Nord-Helgeland og Salten. Økoforsk rapport 1988:2B, pages 227-233. In Norwegian - botanical survey of beaches in Northern parts of Norway).

#### 6.1.2 - Additional reports and documents

i. taxonomic lists of plant and animal species occurring in the site (see section 4.3)

ii. a detailed Ecological Character Description (ECD) (in a national format)

iii. a description of the site in a national or regional wetland inventory

<no file available:

iv. relevant Article 3.2 reports

v. site management plan

<1 file(s) uploaded

vi. other published literature

#### 6.1.3 - Photograph(s) of the Site

Please provide at least one photograph of the site:



Beach meadow at Karlsøy a ( Nordland, 11-06-2013



Fjærkvitingen - Overgrowing of rich mire facing north ( Kjell Eivind Madsen/Fylkesmannen i Nordland, 12-09-2016



Sand dunes in Fjærkvitingen



Engøy a in Fjærvær. Overgrowing of beach meadow ( Kjell Eivind Madsen/Fylkesmanner Nordland, 12-09-2016 )



Engøy a in Fiæryær. Beach dow and beach swamp ( Kiell Fivind



Overview of Karlsøyvær ( Hilde Elv-Astrup/Fylkesmannen i Nordland, 15-09-2009 )

## 6.1.4 - Designation letter and related data

## **Designation letter**

Date of Designation 2002-08-06