

## Nomination

*Uria lomvia*, Thick-billed Murre



## Geographical extent

OSPAR Regions: I

Biogeographic zones: 2,3,8,12,13,15-20

Region & Biogeographic zones specified for decline and/or threat: As above

*Uria lomvia* is almost completely restricted to the high and low Arctic zones with open water and an adequate summer food supply, feeding mainly on fish, squid and crustaceans. It is an exclusively marine species, occurring offshore and along seacoasts. It winters mostly offshore, to the edge of the continental shelf, and along seacoasts and in bays where suitable concentrations of fish and invertebrates occur. During the winter, this species is found in flocks at sea, most likely related to non-random distribution of winter prey.

## Application of the Texel-Faial criteria

*U. lomvia* was nominated for inclusion on the OSPAR List with particular reference to the regional importance, decline, and sensitivity criteria, with additional information provided on threat.

### Global/ regional importance

The OSPAR breeding population for this species, though numerous, is concentrated in a relatively small number of colonies in Greenland, Iceland, Norway, Svalbard and the westernmost areas of Franz Josef Land. Therefore, *U. lomvia* qualifies under this criterion as a high proportion of the total population of the species in the OSPAR area is restricted to a relatively small number of breeding locations (all within OSPAR Region I).

Data showing the distribution of this species within the IBAs<sup>5</sup> found in the OSPAR Maritime Area<sup>6</sup> support this conclusion. The occurrence of this species within IBAs is largely restricted to fewer than 10 sites. In particular, three IBAs for this species within the OSPAR Maritime Area (Hælavíkurbjarg – Iceland; Bear Island and Høpen Island – Svalbard) hold very large concentrations of this species.

### Decline

The OSPAR breeding population was broadly stable between 1970-1990, but suffered declines over 1990-2000. The large population in Svalbard remained broadly stable overall, but the species suffered declines in Greenland [0-19%] and Iceland [30-49%], declining at an overall rate that, if sustained, would equate to a large decline [>30%] over 3 generations (BirdLife International, 2004). Recently published results of seabird monitoring in SW and NE Iceland showed that *Uria lomvia* decreased in both regions from the mid-eighties to 2005, at a rate of nearly 7% per annum (Garðarsson, 2006). Large colonies of *Uria lomvia* can be found in E Greenland, near Scoresby Sound. Surveys conducted in 2004 (by the Greenland Institute of Natural Resources (GINR); results analysed but not yet published – C. Egevang *pers comm.*) showed declines in these colonies, verifying the decline identified by an earlier 1995 survey (Falk et al. 1997). A 2004 French photographic survey of E Greenland colonies also found evidence of declines (results of this survey included in the Greenland Seabird Colony database, <http://www.dmu.dk/International/Arctic/Oil/Seabird+colonies/>).

### Sensitivity

This species is classed as sensitive. Its life history characteristics (relatively long lived, and slow to reproduce) suggest a low *resilience*, meaning that it would take a long time for a population to recover from any adverse effects from human activity. Age at first breeding is estimated at 5 years (infrequently 3 or 4 years during periods of colony expansion), and birds lay only one egg per clutch. However, where measured, breeding success is usually high with 70-80% of eggs laid producing fledglings (del Hoyo *et al.*, 1996).

The species also has a low *resistance* to threats including oil pollution, by-catch in and competition

<sup>5</sup> Important Bird Areas – areas identified by BirdLife International as being of importance for birds.

<sup>6</sup> Excluding purely terrestrial or inland IBAs.

with commercial fisheries operations, and being targeted for hunting – particularly in Greenland. This species is also sensitive to climate change and warming in the Arctic.

#### *Threat*

A serious threat to this species is the hunting in Greenland, particularly that which occurs during the winter season. Boertmann *et al.* (2006) report that a significant proportion of OSPAR's breeding population of *U. lomvia* winters in and around SW Greenland – the area being particularly important for birds from Svalbard and Iceland. Here they are threatened by (amongst other things) the unsustainable hunting that occurs in this region. Declines in Icelandic *U. lomvia* have been related to the winter hunting in SW Greenland (Boertmann *et al.*, 2006).

Other threats to this species include disturbance from hunting activity (separate from hunting mortality), egg-harvesting in some colonies, incidental kills in fishing nets, competition with commercial fisheries (particularly relevant to Iceland), and chronic oil pollution and oil spills. Climate change could also be a relevant threat for *Uria lomvia*: a recent paper speculated that the long-term declines seen for this species in colonies throughout Iceland could have been caused by large scale changes in their food supply associated with global climatic change (Gardarsson, 2006). The combination of increased daily temperatures and increased parasitism from mosquitoes resulting from warming in the Arctic has also been suggested as having a direct effect on increasing mortality of Arctic seabirds such as *Uria lomvia* (Gaston *et al.*, 2002).

### **Relevant additional considerations**

#### *Sufficiency of data*

There is reliable data describing declines of this species within the OSPAR area. More data would be useful to fully assess trends in Eastern Greenland and Iceland.

#### *Changes in relation to natural variability*

The effect of natural variability on population trends of this species has not been estimated – however the rates of decline seen in some areas e.g. Iceland, Greenland, seem to lie outside the realm of natural variability in population size.

#### *Expert judgement*

There is good evidence of both threats to and decline of this species in the OSPAR area.

#### *ICES Evaluation*

The ICES evaluation of this nomination (ICES, 2007) agreed that populations of this species are sensitive and under threat, and suggested some additional evidence for this, along with some extra references. These were taken into account in the production of this case report.

### **Threat and link to human activities**

*Cross-reference to checklist of human activities in OSPAR MPA guidelines*

*Relevant human activity:* Shipping and navigation; Fishing, hunting, harvesting.

*Category of effect of human activity:* Physical – Temperature changes. Chemical – Hydrocarbon contamination. Biological – Displacement (moving) of species; Removal of target species; Removal of non-target species.

Hunting (including disturbance effects), marine pollution and incidental capture in fishing nets are the main threats that are directly linked to human activities. Human activities are likely to have an indirect impact on the species via climate change effects as well.

### **Management considerations**

There is very little current management targeted specifically for this species. However, the Conservation of Arctic Flora and Fauna program of the Arctic Council drafted an International Murre Conservation Strategy that is being implemented by CAFF Member Countries, including Arctic countries in the OSPAR region (CAFF, 1996).

Areas holding recurrent concentrations in winter are difficult to designate for this species as they tend to vary in time and space according to the distribution of their pelagic prey, however there are a few particular areas where *Uria lomvia* concentrate regularly – often at upwelling sites or fjord mouths with strong tidal movements. It is particularly important to create some safe havens for wintering and breeding populations of this species in Greenland, where they can be protected from hunting.

The top three IBAs for this species within the OSPAR Maritime Area (excluding purely terrestrial and inland sites) are Hælavíkurbjarg – Iceland; Bear Island, and Høpen Island – Svalbard. These sites should be priority candidates for protection as OSPAR MPAs, as they hold the largest concentrations of this species found within IBAs in the OSPAR Maritime Area. Hælavíkurbjarg IBA

(Iceland) is already designated at the national level, as a national nature reserve (for landscape). However, none of the three sites above yet have international protection.

It will be important to gather more information about the status and distribution of this species along the East Greenland coast. None of the East Greenland IBAs are presently monitored – monitoring should be set up for these sites, and research should be done to pinpoint other important sites along the rest of the coast (these sites could then be monitored and/or protected as appropriate).

### Further information

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*Useful references:*

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