

Short notes

SEABIRDS DROWNED IN FISHING NETS OFF JAN MAYEN (GREENLAND SEA)

ZEEVOGELSTERFTE IN VISNETTEN ROND JAN MAYEN (GROENLANDZEE)

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*Bits and pieces of fishing nets found at Jan Mayen island (central Greenland Sea) often contained the entangled remains of seabirds. Brünnich's Guillemots *Uria lomvia* and Little Auks *Alle alle alle* were the commonest species encountered, but also Puffin *Fratercula arctica naumanni* and Northern Fulmars *Fulmarus glacialis* were found. Pieces of coarse trawl nets and fine gill nets were found, and it is suggested that the birds drowned when the nets were discarded or lost (ghost-nets). Only few and brief visits were made on Jan Mayen's beaches between 1983 and 2000, but the recent finds suggests that substantial numbers of seabirds may drown in fishing gear around this remote island in the North Atlantic.*

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During a brief visit of Jan Mayen (71°N 8°30'W) in June 2000 remarkable numbers of dead seabirds entangled in fishing gear were found on the beach. Jan Mayen is a remote island in the Greenland Sea, situated approximately 1000 km west of Svalbard and Norway, 500 km east of Greenland and 600 km north of Iceland, that accommodates large colonies of seabirds (Van Franeker *et al.* 1998). Little is known of the commercial fisheries around the island, although the small shelf will probably restrict the possibilities for demersal fisheries. Pelagic trawls, long-lines and gill nets may all be used in this part of the Greenland Sea and in surrounding areas, for catches of cod *Gadus morhua* or other gadoids, Atlanto-scandian herring *Clupea harengus*, capelin *Mallotus villosus*, redfish *Sebastes* spp. or deepwater shrimp *Pandalus borealis* (FAO 1972).

On 11/12 June 2000, walking a stretch of only 2 km of beach between Maria Muschbukta and Kota (east of Haugenstranda) on the northwest side of the island, 24 bits and pieces of fishing net were found on the tideline (12 fragments/km). Of these, 18 (75%) contained at least one entangled carcass of a seabird (Table 1). In total, 29 Brünnich's Guillemots *Uria lomvia* (14.5/km), 22

Table 1. Entangled corpses of seabirds in pieces of fishing net found at Jan Mayen, 11/12 June 2000.

Tabel 1. Verstrikte lijken van zeevogels in stukken visnet gevonden op Jan Mayen, 11/12 juni 2000.

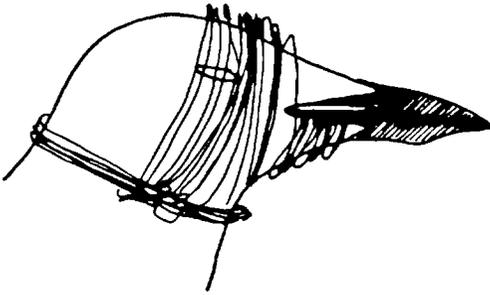
type of net	birds entangled	n =
light gillnet	16 Little Auks	1x
coarse trawl-net	2 Little Auks	3x
coarse trawl-net	1 Brünnich's Guillemot	2x
coarse trawl-net	2 Brünnich's Guillemot	7x
coarse trawl-net	3 Brünnich's Guillemot	1x
coarse trawl-net	4 Brünnich's Guillemot	2x
coarse trawl-net	1 Brünnich's Guillemot, 1 Northern Fulmar	1x
coarse trawl-net	1 Brünnich's Guillemot, 1 Atlantic Puffin	1x
coarse trawl-net	no birds	6x

Little Auks *Alle alle* (11/km), one Northern Fulmar *Fulmarus glacialis* and one Atlantic Puffin *Fratercula arctica* (both 0.5/km) were found entangled.

During previous brief visits of the island, annually between 1985 and 1988, and in 1998, entangled auks on Jan Mayen's beaches were not recorded. During a long-lasting expedition to the island in 1983, however, entangled Brünnich's Guillemots were recorded on five occasions (totalling 7 individuals). Of these, six were found entangled in fish nets (type not carefully recorded), while one individual had its head 'wrapped' in fine nylon thread (illustrated).

Jan Mayen has approximately 70 km of accessible beaches where debris and corpses may accumulate on the tideline. Extrapolating the finding of fishing nets on the beach in June 2000, would result into c. 840 fishnet fragments. Of these, 630 may have contained entangled seabirds, including 1000 Brünnich's Guillemots, 770 Little Auks and small numbers of Fulmars and Puffins. The arctic environment will 'conserve' corpses on beaches and the nylon netting is unlikely to break up very fast, so that the observed density of fishing gear and entangled corpses may have been the result of a very long period. The condition of the corpses found in June 2000 suggested that most had washed ashore at least a couple of months earlier (dried wing pairs, no flesh remaining on the sternum). However, Jan Mayen's beaches are heavily reworked by ocean, wind and ice so that debris washing ashore is more likely to become buried under sand and driftwood rather than to remain visible. Largely intact casualties were all in summer plumage, suggesting that the mortality had most likely taken place in spring or early summer 2000.

Most net fragments were at least several metres wide and long, although some pieces were distinctly smaller. The gill net fragment was very difficult to



Head of Brunnich's Guillemot with nylon thread around it (specimen JM023, 24 June 1983, Brielletårnet, Jan Mayen).

Kop van Dikbekzeekoet met mylondraad omwikkeld (verz. nr. JM023, 24 juni 1983, Brielse Toren, Jan Mayen).

Drawing C.J. Camphuysen)

measure, because it was simply a giant knot with wings sticking out, within a piece of coarse trawl net and mixed with plastic sheets (see photograph). The birds may have drowned when the nets were still in use or may have become entangled in so-called 'ghost-nets' (fragments of nets floating freely in the ocean). It is unlikely that any fishermen would cut a big 2x3m hole in a trawl just to free

(or get rid of) a drowned Brunnich's Guillemot. So, it is quite possible that most birds drowned in bits and pieces of fishing gear floating around in the Greenland Seas. Most nets examined in June 2000 were very similar in colour (bluish-green) and structure. Drift wood washing ashore at Jan Mayen is known to originate mainly from very distant areas, particularly from Siberia (Transpolar Drift Stream, East Greenland Current; Abarbanel & Young 1987; Johansen 1998). Johansen (1998) demonstrated a considerable potential for pollutants to reach Jan Mayen from the Kara and Barents Seas. Hence, in addition to local fishing activities, Barents Sea fisheries could be identified as the most likely and nearby source of ghost nests floating around Jan Mayen.

Auks are seabirds that are most commonly taken as bycatch in fisheries around Iceland (Petersen 1994). In those waters, for as far as auks are concerned, gillnets are the most common cause of fishing mortality. For the pelagic auks (Common Guillemot *Uria aalge*, Razorbill *Alca torda* and Atlantic Puffin) cod nets are the most dangerous, while lump sucker (*Cyclopterus lumpus*) nets have been identified as taking most Black Guillemots *Cepphus grylle*. Apparently, in Icelandic waters there have been incidences with up to 4000 auks drowned overnight in nets from one boat. In May 1990, about 10 000 auks were killed in cod nets off Grímsey (N Iceland). Auk mortality in fishing gear is of great and perhaps increasing significance, not only in the arctic but also in more temperate waters (Mead 1993). Petersen's report, as most similar accounts on bycatches of auks in arctic waters (e.g. Piatt & Reddin 1984; Piatt *et al.* 1984; Piatt & Nettleship 1987; Kampp *et al.* 1994), refers to bycatches in actively used gear. The observations at Jan Mayen suggest that these are mainly ghost-nets, trapping birds after being discarded or lost (Breen 1990). It is hoped



Little Auks *Alle alle* in gill net, June 2000 *Kleine Alken in warnet, juni 2000*
(photo C.J. Camphuysen).

that future visitors to Jan Mayen will check the presence of fishing nets containing seabirds, preferably survey at least a few stretches of coast, carefully describe the type of nets found with and without birds, and report their findings. With such additional data, a better idea of the scale and frequency of seabird entanglements in fishing gear around Jan Mayen may be obtained.

Tijdens een kort bezoek aan Jan Mayen (71°N, 8°30'W: Groenland Zee) in juni 2000 viel het op dat er op het strand veel stukken visnet te vinden waren en dat er in veel van die netten vogels verstrikt

zaten. Een systematische telling over een afstand van 2 km leverde 24 netfragmenten op, waarvan 18 (75%) met vogels erin. Het aantal slachtoffers varieerde van 16 Kleine Alken Alle alle in een stuk warnet ('gill net') tot een enkele Dikbekzeekoet Uria lomvia, Noordse Stormvogel Fulmarus glacialis of Papegaaiduiker Fratercula arctica (Tabel 1). Eerdere korte bezoeken van Jan Mayen in 1985-88 en in 1998 hadden geen vondsten opgeleverd, maar tijdens een maandenlange expeditie naar het eiland in 1983 waren ook al verschillende verdrinken Dikbekzeekoeten in visnetten of nylondraad aangetroffen. Zo te zien ging het steeds om verspeeld vistuig (ghost-nets). Wanneer de vondsten in 2000 (12 netfragmenten per km, 9 daarvan met verstrikte zeevogels erin) gebruikt worden om te schatten hoeveel slachtoffers er op de gehele 70km lange kustlijn kunnen zijn aangespoeld (alleen voor stranden waar drijfhout en afval kunnen aanspoelen en blijven liggen; de eigenlijke kustlijn is veel langer), dan zouden er op het moment van de telling ongeveer 840 netfragmenten gelegen kunnen hebben, 630 daarvan met vogels. In totaal zouden er zeker 1000 Dikbekzeekoeten en 700 Kleine Alken kunnen zijn aangespoeld. Toekomstige bezoekers worden opgeroepen hun vondsten te documenteren en publiceren, zodat een completer beeld ontstaat van de sterfte in rondrijvende brokken visnet in de omgeving van Jan Mayen.

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