

# Brent goose count at Fuglehukfjellet

## 31.5. - 4.6. 2006

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### Introduction

On assignment of the Governor of Svalbard, we spent five days in Fuglehuken, Prins Karls Forland, to record migrating light-bellied brent geese (*Branta bernicla hrota*). The study is part of a program by the Governor to monitor important staging areas for brent geese on Svalbard. Our main task was to count staging brent geese and record ring codes. Due to small numbers of brent geese, we additionally counted pink-footed goose (*Anser brachyrhynchus*) nests on the mountain slopes.

### Methods

#### Transport and accomodation

We were transported by helicopter and stayed in the cabin of the Norwegian Polar Institute close to Fuglehuken fyr nearby the study area.

#### Study area and approach

In general, we followed the methods of earlier observations as described in Lagerborg and Varpe (1998). The counting area was Mosehjellen, along the west side of Fuglehukfjellet. We divided the area in four sub-areas as seen in Fig. 2. The plains were entirely snow free and on the slopes only small patches of snow in depressions were left. Due to the absence of a 'landkallen' we walked along the shore line not to disturb the breeding pink-footed geese. There was little activity of brent geese in the area, thus it was relatively easy to keep control over the different goose flocks using the area. The body condition of the geese in form of abdominal profiles (AP) was registered with help of AP drawings provided by Preben Clausen (Clausen, 2006). We used both, binoculars (10x42 and 10x32) and 1-2 telescopes with 20-60 oculars and registered the flight direction of departing flocks with compass and GPS.

### Results: Brent geese

#### 31.05.2006

**Observation time:** 17:50 - 23:30.

**Weather conditions:** sunny - slightly overcast, very little wind.

No brent geese were observed grazing in the area or passing by over the sea.

## 01.06.2006

**Observation time:** 13:00 - 00:00.

**Weather conditions:** overcast, very little wind.

### Staging birds:

Two pairs of grazing brent geese in area 3 (Table 1). None of the individual had rings.

**Table 1.** Brent goose observations, 1 June 2006.

	AP
1-male	0.6
1-female	2.3
2-male	1
2-female	2

### Flight observations:

Later (23:50), 55 brent geese passed the area along the coast line and disappeared behind the northern tip of Fuglehukfjellet.

## 02.06.2006

**Observation time:** 12:45 - 01:00.

**Weather conditions:** overcast, several periods of sleet and rain, easterly breeze.

### Staging birds:

One flock of 95 individuals grazed in the middle part of area 3. We managed to check approximately 90 % of all birds for rings and three rings were found (Table 2).

**Table 2.** Brent goose rings, 2 June 2006.

ring code	sex	AP	Comment
wY yL	male	1	paired with wTyB
wT yB	female	2,3	paired with wYyL
- red, metal	-	-	

We recorded all visible abdominal profiles in the flock in three observations bouts (Table 3, whereof the first two were made of Christiane (16:20 and 17:25) and the last of Nina (17:40). Each bout lasted approx. 10 minutes and the first bout was made from a position north of the flock, whereas the two others were done from a southern position.

An hour later, the geese had moved further north and we could collect plant and faeces samples. We observed the flock closely for approx. 2 hours and during that time no pink-footed geese were observed in the area. However, shortly before we collected the samples two pink-footed geese landed in the area, but stayed there only for approx. 15 minutes. The habitat was mostly mesic with some small melt water puddles. Freshly grazed grasses could be seen as well as some probing holes. The collected samples were stored cool until the return to Longyearbyen and subsequently dried for 24 h at 70 ° C.

### Flight observations:

12:45-13:00. Two flocks of brent geese individuals coming from north around the cabin and continuing towards the sea (Table 4). The first observed flock flew low on the water surface but kept

**Table 3.** Abdominal profiles of brent geese, 2 June 2006.

AP	Obs. 1	Obs. 2	Obs. 3
0.6	-	3	1
1	2	5	3
1.3	1	2	2
1.6	1	2	1
2	4	2	3
2.3	2	-	1
2.6	-	-	1

the direction until we lost it out of sight, whereas the second flock rose to migration height when leaving the coast line.

14:50. One flock flew up from the northern part of area 3, before we reached that area and turned towards the sea ( $300^\circ$ ), rising to migration height ((Table 4).

20:58. One flock of 37 birds passed us from South and split up in two flocks, one turning towards north ( $342^\circ$ ), flying low over the water surface and disappearing behind the northern tip of Fuglehukfjellet, the other flock rose to migration height and turned towards the sea ( $330^\circ$ )(Table 4). These 37 birds most probably were part of the grazing flock described above.

All potential migration flights are also shown in Fig. 2. As mentioned also in other years, we recommend that a third person stays at the cabin in order to record the direction of migrating flocks that disappear around the northern tip of Fuglehukfjellet.

**Table 4.** Brent goose flocks, 2 June 2006.

	Time	Size	Direction
1	12:45	28	$260^\circ$
2	13:00	13	$300^\circ$
3	14:50	22	$300^\circ$
4	20:58	13	$330^\circ$
5	20:58	24	$342^\circ$

### 03.06.2006

**Observation time:** 13:00 - 23:45.

**Weather conditions:** sunny during early afternoon, later overcast and some rain, little wind (from west).

We observed one individual grazing with 5 pink-footed geese. Later on the same individual was seen flying with 8 barnacle geese (*Branta leucopsis*).

### 04.06.2006

**Observation time:** 11:00 - 15:00.

**Weather conditions:** overcast, very little wind (from west).

We checked the area only from the northwest corner of Fuglehukfjellet, from where area 1,2 and the northern part of 3 can be seen. No brent geese could be observed.

## Results: Other observations

### Pink-footed geese

We counted the nests of pink-footed geese breeding in the area. We scanned the area with telescopes from the shore line, including all visible parts of the mountain slope and the rock glaciers. We used the same sub-areas as for the brent goose count and counted over a period of three days to cover the entire area. In total we counted 141 nests (Table 5). This number has to be considered as an absolute minimum, since the lower parts of the mountain slopes, as well as the area between mountain slope and rock glaciers could not be seen. To avoid disturbance we decided not to enter the breeding area for more precise nest counts.

**Table 5.** Pink-footed goose nests in the area.

Area	mountain slope	rock glacier
1	26	10
2	15	14
3	64	12

Beside single birds and pairs, several flocks of pink-footed geese were observed, with the largest flock consisting of 25 birds.

Five neck rings were detected, whereof 2 were high up in the mountain slope and it was not possible to read the two last digits (C ??, E ??). The other three rings were from nesting individuals on the slopes of the rock glacier: C4E, M57, E5R.

### Barnacle geese

Generally, numbers of barnacle geese in the area were low, with flock sizes between 1-8 and daily observations of 2-12 individuals. No ringed individuals were seen.

### Other birds and mammals

Beside the typical species from the bird cliff, we observed following species:

*Common eider (Somateria mollissima)* - Several pairs and flocks of common eiders were observed on a daily basis, with maximum numbers of approximately 20 individuals. Male birds dominated in most flocks.

*Purple sandpiper (Calidris maritima)* - One pair was observed in area 3 every day. On 3 June, a third individual was seen together with this pair.

*Arctic skua (Stercorarius parasiticus)* - Two territorial pairs were observed every day (area 2b and the southern part of area 3). All four individuals were of the light colour-morph.

*Great skua (Stercorarius skua)* - One pair of great skuas was observed every day. On 3 June, a third individual was observed at the cabin simultaneously with the pair flying over the sea.

Twice, we observed one or both individuals sitting on the sea surface and feeding on presumably a Brünnich's guillemot (*Uria lomvia*) for minimum 30 and 40 minutes, respectively. At 31 May, the pair was observed mating close by the cabin (Fig. 1).

*Glaucous gull (Larus hyperboreus)* - A common species in the bird cliff and on sea. On 2 June, an aggregation of 10 individuals was observed on the tundra in the southern part of area 3.



**Figure 1.** Mating of great skua, 31 May 2006.

*Snow bunting* (*Plectrophenax nivalis*) - We observed minimum 12 distinct pairs in the area.

*Reindeer* (*Rangifer tarandus platyrhynchus*) - Three male reindeer were seen around the cabin, whereas one female was observed in area 3.

*Arctic fox* (*Alopex lagopus*) - Six different individuals could be distinguished by their hair style. One fox with complete winter fur was found dead in area 3. On 1 June, a fox was observed attacking a female pink-footed goose on the nest. The female defended herself but could not prevent the fox to steal an egg. The male was feeding approximately 20 meter away out of sight from the nest. It returned immediately to the nest, when the female flew up.

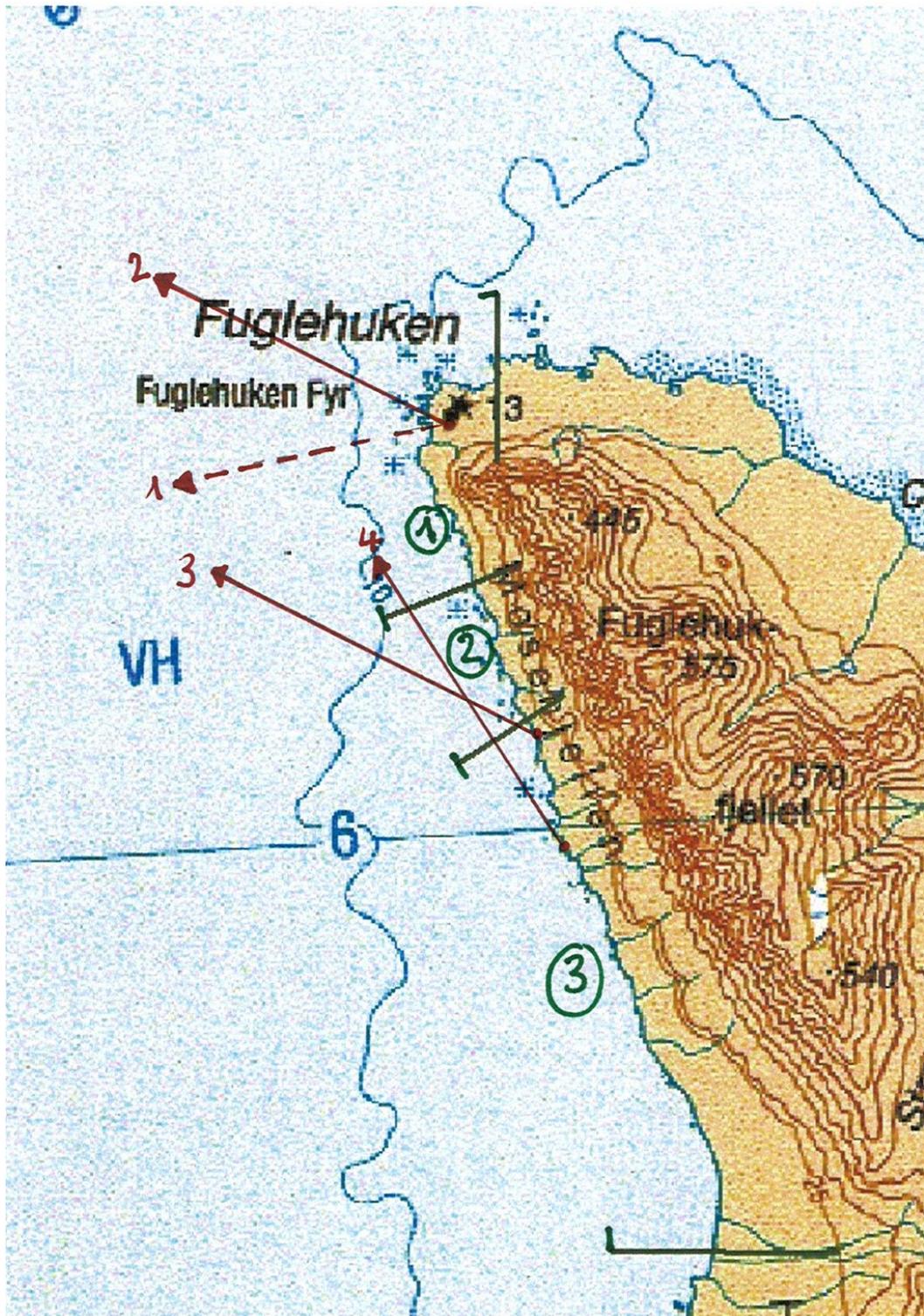
*Harbour seal* (*Phoca vitulina*) - Three observations of presumably harbour seals were made during the four days.

*Walrus* (*Odobenus rosmarus*) - Three individuals rounded the northern tip of Fuglehuken on 3 June.

## References

Clausen, P. 2006. Preben clausen's quick-guide til aflæsning af fargemærkede knortegjæs.

Lagerborg, M. and Varpe, O. 1998. Registrering av ringgås ved fuglehukfjellet. *Report to the Governor of Svalbard.*



**Figure 2.** Map over the study area. Subdivisions of the area are shown. The flight direction of four migrating flocks, as well as the position of the observer are indicated.