

Riddle of the White Sea



The Riddle of the White Sea

Spring migration of Brent Geese studied by satellite telemetry

The migratory route to northern Siberia.

All 8 of the birds studied below were named after well-known researchers (both professionals and amateurs) and in brackets the code of their colour-rings is given), and by clicking on each name the corresponding radio trackings will be displayed on the map. Let us introduce them to you: Thomas (WCR=), Harry (WCR9), Bernard (W6R2), Andrew (WTR6), Mummi (WTR4), Hugh (W6RX), Jouke (W9R4) en Jan (W9R5).

Migratory routes of Brent Geese between 20 May and 20 July 1999

Scroll Down until the map is in view and Move your mouse over the individual migratory routes on the legend, to view them on the map. (Netscape 3/Explorer 4 and higher)

View all of the routes (point here)

— W6R2 - Bernard	— WCR= - Thomas
— W6RX - Hugh	— WCR9 - Harry
● W9R4 - Jouke	— WTR4 - Mummi
— W9R5 - Jan	— WTR6 - Andrew



Spring migration of Dark-bellied Brent Geese from the Wadden Sea in Western Europe to the breeding grounds on the Taimyr peninsula in northern Siberia is not a non-stop event.

Recent research has shown that it takes Brent Geese about three weeks to cover this distance of about 4500 -5000 km (Ebbing & Spaans 1995). Usually mass departure from the Wadden Sea can be observed between 20-25 May,

depending on the wind conditions. When strong head winds prevail, departure is delayed. In Sweden and Finland detailed direct observations of migrating Brent are made on an annual basis. From these observations it is likely that most birds fly directly from the Wadden Sea to at least the White Sea (Green 1998). However, the birds do not arrive on the Taimyr Peninsula before 10 June (Spaans et al. 1993, Ebbinge et al. 1999). Where do the birds stay before they move on to their breeding grounds? Bart Ebbinge in his 1992 PhD-thesis referred to this problem as 'The riddle of the White Sea'. Recent information by an international team led by Rudi Drent from the University of Groningen (NL) showed that near Arkhangelsk in the White Sea Brent Geese did stop to feed on eelgrass (*Zostera marina*) that just had emerged from under the sea ice. However, already in early June these birds moved on to more northerly areas.

To find out where and when important stop-over sites were located, and how Brent Goose migration was influenced by body and weather condition a joined project was started. In the spring of 1999 Martin Green from the University of Lund (Sweden), Preben Clausen from the National Environmental Research Institute (Denmark), Rudi Drent and Maarten Loonen from the University of Groningen (the Netherlands) and Bart Ebbinge and Gerard Müskens from the Institute for Forestry and Nature Research (IBN-DLO, the Netherlands) went to one of the major spring staging areas in the Wadden Sea: the island of Terschelling. We [caught 75 Brent Geese on 11 May with a cannon-net](#) on the island of Terschelling and selected out of the 40 adult males 8 birds of various body size and weight and fitted these birds with satellite transmitters. On that day the birds were already extremely heavy, but despite a very favourable westerly tailwind they did not depart.



Release of the newly marked Brent Geese on Terschelling on 11 May 1999

Spring departure.

Soon after the catch the wind shifted to a north-easterly direction and strong easterly winds persisted until 20 May. That evening Jan Ellens from Terschelling witnessed mass departure from Terschelling, and out of the 9000 birds staging on the island more than 8000 left in one day. The next day, on 21 May, Martin Green observed an even more impressive passage of Brent

Geese over Lund in southern Sweden, when 50,000 Brent passed within 2.5 hours. Yet another day later, on 22 May along the south coast of Finland about 100,000 Brent were observed. As you can see on the accompanying map 5 of our transmitter-birds moved along with this first massive wave of migration. The sixth bird departed from Terschelling on 25 May, the seventh moved the neighbouring island of Ameland, and the last one moved the mainland coast within the Wadden Sea and both were still there on 1 June.

11 May till 1 June 1999

Bernard was the first to leave Terschelling and flew over Schleswig-Holstein and Denmark on the 20th. Then **Thomas**, **Andrew** and **Mummi**, who were still on Terschelling on the evening of the 20th, were recorded above Schleswig-Holstein on the 21st, just like **Hugh**, who still gave a position on Terschelling in the morning of the 21st. So the first five males (also the heaviest birds) left with the major exodus from the Wadden Sea.

Jan was still on Terschelling in the late afternoon of the 25th, but flew over Denmark on the 26th.

Harry and Jouke did not yet leave the Wadden Sea before 1 June. They only moved locally: Harry to the island of Ameland, and Jouke to the foreshore of the Friesian mainland.

Bernard and Hugh arrived in the White Sea on the 23rd, **Andrew** and **Mummi** on the 24th, and **Thomas** who arrived at Lake Ladoga in Russia on the 23rd, did not move on to the White Sea until the 31st.

Jan arrived in the White Sea on the 28th, and moved further north on to the Kanin Peninsula on the 31st, as did two of the other males with satellite transmitters.

1 - 15 June 1999 Gradually moving east towards Siberia.

Thomas stayed in the White Sea until 10 June, and then moved north to the Kanin peninsula, and is still there.

Harry left Ameland in the Wadden Sea on 3 June, passed overnight over Denmark. He crossed the Baltic two nights later, and then crossed Finland on the night of 6-7 June, to arrive in the White Sea in the early morning of 7 June. Moved then on in a northeasterly direction and arrived at the mainland coast SE of Kolguyev island in the evening of 9 June, and stayed there since then.

Bernard stayed at the west coast of the Kanin peninsula until 9 June, and then moved up further north along the coast of the peninsula. Continued east on 10 June along the mainland coast to stop SE of Kolguyev island.

Andrew stayed in the White Sea until 9 June. Then moved NE along the coast and has since 12 June been on the mainland coast S of Vaygach island.

Hugh was still on the Kanin peninsula on 15 June.

Jan moved E from the Kanin peninsula on 2 June to the mainland coast S of Kolguyev island, and then continued E on 9 June to the mainland coast S of Vaygach island.

Mummi had safely reached the White Sea on 25 May, but ever since its transmitter failed, so we do not know its present position.

Finally **Jouke** is still in the Wadden Sea along the Frisian mainland coast.

16 June - 20 July arriving in Siberia

Thomas stayed south of Kolguyev Island until 25 June and then moved east. Stopped again south of Vaygach Island, and moved on to Yamal on 29 June. Not until 5 July he moved on to Taymyr to the Pyasina delta, stayed there several days before moving on to northern Taymyr: the delta of the Taymyra river, a well-known moulting area, particularly for non-breeders.

Harry stayed south of Vaygach until 29 June, flew then to Yamal, and moved to the northern end of this peninsula. On 4-5 July he flew on to the Pyasina delta, and then to northern Taymyr on 6 July.

Bernard flew on 19/20 June from Vaygach to the Taymyr peninsula, and thus was the only bird that reached the Taymyr peninsula soon enough to be able to start breeding there. In July he still moved around in northern Taymyr, so it is unlikely that he really did breed.

Andrew made a short stop on western Yamal on 25-26 June, then crossed this peninsula to eastern Yamal where he stayed till 28 June. Then he gradually moved further east and reached the Pyasina delta on 5 July. On 20 July he was still there.

Hugh stayed along the west coast of the Yamal peninsula from 25-28 June, moved north and stayed in northern Yamal from 29 June till 6 July. Finally moved on to Taymyr on 7 July, and is now still in northern Taymyr.

Jan stayed along the coast of western Yamal from 24 - 28 June, flew to northern Yamal and stayed there from 29 June till 2 July, then moved on to the Pyasina delta on 3 July, stayed there a few days and moved then on to northern Taymyr.

Mummi stopped transmitting while in the White Sea, so we do not have any further information as to where he might be now.

Jouke is still in the Dutch Wadden Sea, but did move around. First he moved to the former island of Wieringen, where he was also observed by local birdwatchers, and then moved east again to the small island of Griend, in the central part of the Dutch Wadden Sea where he was spotted both by the warden and by the Argos-satellite.

So 7 of our 8 transmitters are still working and 6 of them are now on the Taymyr peninsula. Their arrival on the breeding grounds was, however, extremely late, and they kept on moving during the breeding season, which excludes the possibility of successful breeding this year. If our birds are representative for the whole population of Dark-bellied Brent Geese 1999 will be a non-breeding year.

The batteries of the transmitters are expected to work till about mid July, and we will regularly update the maps so you can follow them on their way to the breeding grounds.

For further information you can contact [Martin Green](#)

Martin Green (University of Lund SV)
Preben Clausen (National Environmental Research Institute DK)
Rudi Drent (University of Groningen NL)
Jan Ellens and Harry Horn (Terschelling NL)
Bart Ebbinge and Gerard Müskens (IBN-DLO NL)

Literature

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[hier kan weer een link naar datzelfde boek dat ook eerder op de hoofdwebsite wordt aangeprezen]

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