

Where Have All the Whalebirds Gone?

Bart Kempenaers and Mihai Valcu are behavioral ecologists interested in mating behavior and fascinated by shorebirds. They work at the Max Planck Institute for Ornithology in Seewiesen, Germany, and migrate to Utqiagvik every summer. Johannes Krietsch is their PhD student.



In the summer of 2017, we stood at the shore near Utqiagvik (Barrow), the most northern city of Alaska, talking to a local Inupiat family who had just returned from a boat trip. When they found out we were studying red phalaropes, they replied “Ah, whalebirds! We used to see them in big numbers, what happened to them?” Good question!

The red phalarope is a somewhat odd member of the shorebirds. It has coot-like lobed toes, hence the name *Phalaropus fulicarius*, spends seabird-like most of its life on the ocean and is one of few species in which the typical sex roles are reversed. Indeed, females are the brighter-colored and more aggressive sex and although they do lay the eggs, it is exclusively the male that cares for eggs and young. As students of avian mating systems, we were intrigued by this bird. In the footsteps of Douglas Schamel and Diane Tracy from the University of Alaska in Fairbanks, who in the late 1970s had published their beautifully detailed observations of color-banded individuals, we wanted to learn more about the phalaropes' polyandrous habits. We hoped to find some females that laid a clutch of 3–4 eggs for at least two males in succession on



Pair of red phalaropes in Barrow, Alaska, in June – the female is on the right. Photo by Bruce Lyon

she flew north towards the coast again and was “seen” hanging out at a spit west of the Shishmaref Inlet. On the 3rd of August, she moved again, this time more than 100 km in a north-westerly direction, and drifted north of the Bering Strait. On 5 August, the female moved 175 km, east again, and on the 7th she was back at the coast, this time at the opposite side of the Shishmaref Inlet. On the 10th of August, she made her last trip, a 165 km dash to Great Diomed Island, from where we received the last signal on the morning of August 12th. We don't know what happened to her, but

many of the tagged females in 2017 never made it out of the Bering Sea. Did they become victims of climate change? Unusually high water temperatures, resulting in a harmful algal bloom during that period, and many dead seabirds found along the coast in that area point in that direction.

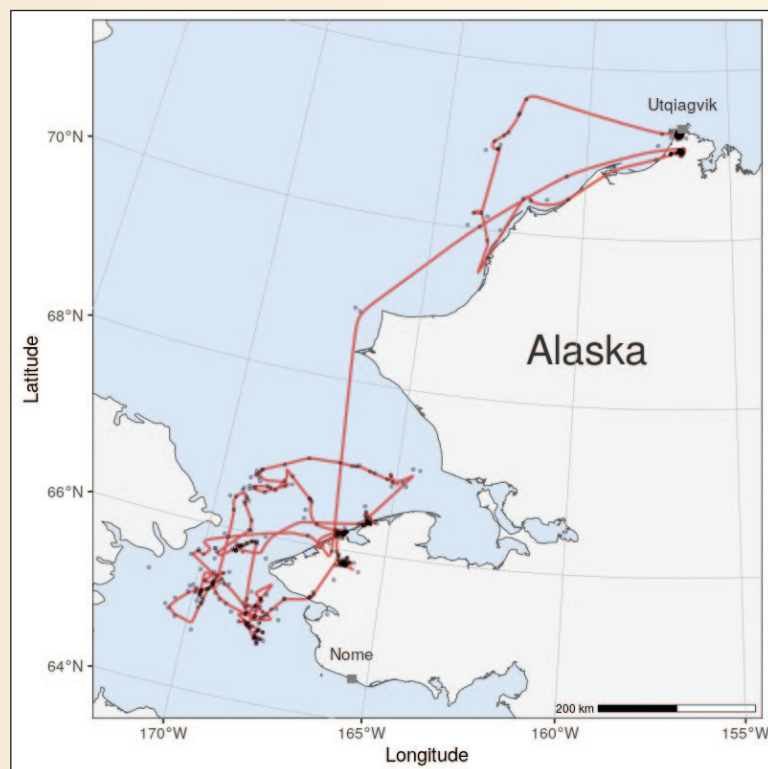
The tracking data we collected in 2017 and 2018 will help in answering many fundamental questions about the behavioral ecology of the red phalarope. Between studies of their mating behavior, movement ecology and wintering habits, we may even confirm the Inupiat's suggestion that red phalaropes indicate the presence of bowhead whales. Will we be able to find statistical evidence for such a bird-mammal association? And will our data together with those of Richard Lanctot and colleagues at the US Fish and Wildlife Service on the presence (and disappearance) of birds in the Beaufort, Chukchi and Bering Sea help us understand the oceanographic conditions these birds need to survive? Soon, we might be able to answer why the elder Inupiat see fewer whalebirds now than during their youth.



Tagged female “blue-white red” while foraging in a shallow pond. The yellow band on the upper right leg indicates the year. Note the thin antenna sticking up from the back.

our small study site, but we also relied on the most advanced tracking technology to find out about the geographical scale over which females attempt to find a free male and willing incubator during the short arctic season.

So, on 16 June 2017, we caught a female red phalarope at Emaikson (Freshwater) Lake, just south of the city and fitted her with a Microwave Telemetry 2g PTT tag. The season was late due to a thick layer of snow that took its time to melt, but the female stayed around and presumably produced a clutch. Whether disturbed by local festivities remains unknown, but on the afternoon of the 4th of July, she flew 200 km west, landed on the Chukchi Sea and drifted south-west towards Point Lay. Two days later, she moved 280 km back north-east along the coast and ended up on a tundra patch just 22 km south of the site where we had caught her. But the breeding season was already over and on the 10th of July, the female made her way to the Bering Strait, a quick trip of 800 km. For two weeks, she lived on the sea, drifting south past the Diomed Islands and around King Island. Surprisingly, she flew back north-east and inland, spending a few days in late July 45 km south of Shishmaref. Then,



Track of female red phalarope from Utqiagvik around the Chukchi Sea and Bering Strait.