# Two women, one dog – an inspiring Arctic adventure

*Meet the inspiring duo who found themselves isolated for longer than expected in an unforgiving, frozen no-man's land – all in the name of science*

At latitude 77.8750°N fierce winds, frequent storms and total darkness are expected in winter – not to mention temperatures dipping below -20°C. The vast, frozen north stirs up images of deep black polar nights, of bone-chilling blizzards that create a morass of white snow, a gateway to oblivion.

But it also unveils the neon northern lights, sparkling turquoise-coloured glaciers and powerful white mammals that roam the sea ice and never hibernate. And recently it has been the scene of an adventurous project, which saw two extraordinary women endure these harsh conditions to study the impact of climate change on the Norwegian archipelago of Svalbard.

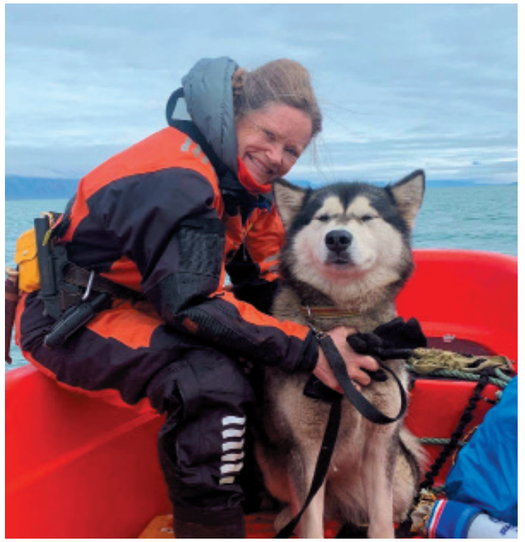
## Initiation and preparation

Hilde Fålun Strøm, a resident of this ice-bound archipelago, halfway between Norway and the North Pole, for more than two decades, was keen to take on an adventure in the wild. That her beloved Svalbard was in the grip of a climate emergency gave wings to an idea: to overwinter on one of its remote islands much like her Norwegian heroines Wanny Woldstad and Helfrid Nøis would have done. But, unlike those trappers, this campaign would be about data collection and scientific research rather than seal or bear hunting.

When Canadian compatriot and polar expert Sunniva Sorby agreed to participate, Hearts in the Ice was born. The decision to stay in a trapper's cabin, Bamsebu (bear's hut), would mean a primal existence for nine months, from August 2019 to May 2020. Located 140km from Longyearbyen, the northernmost settlement on earth, Bamsebu has no electricity, running water or heat, except for a stove.

In one of the most extreme weather environments on the planet, the amateur experiments undertaken by Hilde and Sunniva could have incredible value. Once word of the citizen science project came out, research entities including the space agency Nasa, the Scripps Institute of Oceanography, Norsk Polarinstitutt and the Norwegian Meteorological Society all signed up. Each organisation's intended project came with a specific protocol for data collection and observation.

The pair field-tested innovative technology for generating energy through solar and wind, plus a state-of-the-art electric



PHOTOGRAPH: LYNN HOUGHTON

snowmobile. Equipment was provided for them to stay in contact with the outside world and to share monthly lessons with 100 schoolchildren. Tonnes of wood needed chopping to provide a heat source. Target practice was critical, as was mental training to deal with isolation.

After months of intense preparation, Hilde and Sunniva were ready to start their Arctic adventure – and allowed me to tag along as press to chart the beginning of Hearts in the Ice.

## The pair set sail

So, on 13 September 2019, I join the pair's family and friends, plus a malamute named Ettra, who are all poised to board the *MS Nordstjernen* for the six-hour voyage from Longyearbyen to Ingebrigtsenbukta Bay in Van Kuelenfjorden.

As we embark, I meet two important people, Sunniva's siblings Bettina and Kris. Bettina says that Sunniva is the most intrepid person she knows. 'When a member of the first all-female Antarctica skiing expedition to the South Pole dropped out, my sister was recruited,' she explains. 'She trained for this by running up hills dragging huge tyres behind her.'

On arrival, anchor is dropped in the bay, which marks the official start of the Hearts in the Ice project. The next morning, everyone enthusiastically assists with getting provisions, gear, fuel, an electric snowmobile and a 1,000-litre water tank from ship to shore. To buoy spirits, we're serenaded by British soul singer Joss Stone. Yet, among all the camaraderie and light-hearted frivolity, there's a serious side to the proceedings.

Kim Holmén, director at the Norwegian Polar Institute, gives those assembled a lecture on climate change predictions. Presented while attired in his comical pink woollen cap, nonetheless, the prognosis is grim. With Svalbard being at the end of the Gulf Stream, the archipelago's west coast fjords no longer freeze in winter. The consequence of warming is more storms, more avalanches and, for fauna, the very real threat to their survival. Even the ice around the Global Seed Vault, a long-term storage facility housing the world's largest collection of crop diversity, is melting. The urgency of this mission is glaringly apparent. After three days, we depart with a serious message to take home, leaving the intrepid duo behind.

## The extraordinary ordinary

Hilde and Sunniva settle into a daily pattern. After the stove is lit, they write, read and answer emails, initially under their covers. Daily exercise includes doing press-ups, sit-ups, practising yoga, stretching and running. Most of the day is spent on scientific work and usually concludes with an evening meal and cuddles with Ettra.

Experiments start immediately. Insects are collected for a project that includes wildlife behaviour observation. Ice core samples measuring sea-ice thickness are retrieved, as are saltwater and phytoplankton. A drone is activated to take thermal imagery, the stomach linings of dead seabirds are analysed and the pair also find themselves collecting plastic.

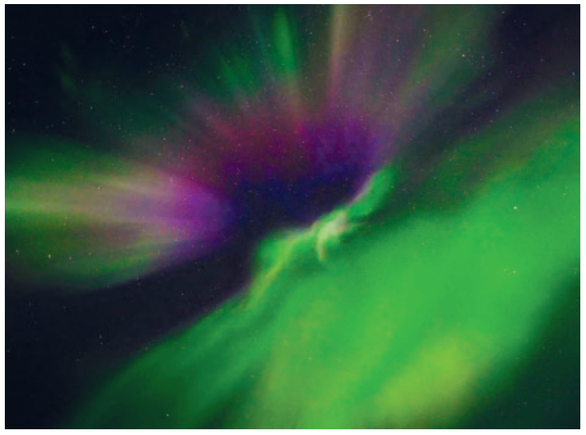
Soon, ice lines the edge of the shore and open water turns to slush. A yellow boat rests beside the hut, while a red one bobs in the bay tethered to a buoy 20m out. Keeping both boats' engines working is imperative, as these vessels are their only transportation should a cargo ship appear with supplies.

Their study of explorers' expeditions has taught the two the importance of ritual and helps in readying for a transformative event on 26 October, when the sun dips below the horizon, not to return until early February. They honour the last day of light by building a small fire, sprinkled with tobacco and sage. As the smoke curls towards the darkening sky, they spread the ashes of departed feathered friends.

The next day, Hilde and Sunniva are enveloped in complete darkness. They must now use 12,000 lumen headlamps and night-vision binoculars to navigate their surroundings. The world closes in and becomes the 20m² of their compound.

## Inclement environments

Since there are about 3,000 bears on the archipelago, vastly outnumbering the human population, a sighting early on is inevitable. It's been illegal to hunt polar bears in Svalbard since a multilateral treaty of 1973, so most are unafraid of humans and display unpredictable behaviour. Unlike their cousins in the Canadian Arctic, Greenland and Russia, the males don't hibernate, though females retreat into dens to have cubs. Once the sea ice freezes, which now takes longer than ever, these solitary animals spend the winter hunting on the ice.



One November morning, Sunniva has her first encounter. A female bear is nosing around only 2m from the hut. On seeing a human, it gets spooked and runs off, but the size and power of this animal catches the breath. That same day there's another sighting. Again, the animal retreats but the two women stumble across a bloodied reindeer. If the sea is not freezing as quickly as before, are bears now hunting something other than seals?

The ensuing darkness brings cold, wind and storms. But as these pass, the clear dark skies display the incredible patterns and electrifying colours of the northern lights – Aurora Borealis – which are the focus of another observational experiment.

On 10 December, Nasa launches a missile that disperses chemicals into the upper atmosphere, allowing the space agency to study daytime aurora, something that only takes place in Svalbard. The pair are on the ground to record and photograph the results. As the experiment helps the unseen be seen, it's not far off from one carried out by physicist Kristian Birkeland in 1899, deducing that aurora displays were powered by the Sun.

The weather becomes even more ferocious as the temperature continues to drop. It demands vast reserves of mental strength and it becomes increasingly critical to stay with a set routine. On New Year's Eve, King Harald of Norway gives a speech to the country's 5 million citizens, which includes Hilde. 'My wish tonight is that hope carries us all into the New Year. We know so little about what shall meet us on our path, and this makes us all vulnerable. We must realise that our world view is not the only view. And, yes, we must accept that we will be challenged, even hurt.'

The challenges now come fast and furious. A week later, a powerful hurricane hits with 60mph winds (force 11). Cold infiltrates every part of the hut. The wooden shutters creak and complain. With everything outside battened down, the pair's complete focus is on staying warm.

## Unexpected extension

The fjord freezes into a layer over the salty sea and polar bears now have easier access to the hut. Vulnerability is an issue. Darkness also plays with their minds. And while the yellow light in the hut is cosy it also means they never feel fully awake. Then as the weeks pass, the ever-present wind starts to abate and a soft luminescent pastel shade slowly begins to appear in the sky. Such is its enchantment that many migrate north to see this light before the sun reappears.

Early March 2020 and, with the original May departure date just around the corner, the pair must start organising the return to Longyearbyen. With their four-legged friend, they continue exploration of this landscape, in all its magic and majesty. But with the sun comes unexpected news: a newly discovered coronavirus, Covid-19, is now extending from Asia across to Europe and beyond.

Though this period of extreme isolation is a choice they've made, Sunniva and Hilde's families are also isolating because of the infectious and potentially fatal virus. The explorers share this thought via their blog: 'The air, the water, the sky, even the earth is taking a breather from us. For the first time, Mother Nature is taking a much-needed break from humans. When we can move freely again, let us try to be better stewards.'

News arrives that the *MS Nordstjernen* will be unable to come and retrieve Hilde and Sunniva on the designated May date, as the ship's sailing season has been cancelled because of Covid-19. With Norway's borders now closed, the pair decide that their only option is to stay at Bamsebu throughout the summer.

Ever upbeat, they continue collecting data as the land becomes engulfed in 24-hour sunshine. The pickup is now reorganised for later in the year, with friends and family looking forward to welcoming the two back.

On 30 August 2020, Hilde and Sunniva officially end their extended stay at Bamsebu and return to Longyearbyen. But, for them, the experiments and research carry on.

The winters might be bitter, but this frozen island world reveals its incredible beauty to those with time to savour it. It is home to a dizzying array of wildlife, birdlife – a unique natural environment that's worth saving.

Words: Lynn Houghton

*For more information and to pre-order* Hearts in the Ice – A historic account of the first women to overwinter in Svalbard, *visit heartsintheice.com*.

PHOTOGRAPHS: COURTESY OF HEARTS IN THE ICE, UNLESS OTHERWISE SPECIFIED