

Spitsbergen - Realm of the Polar Bear

Naturetrek Tour Report

25 June – 5 July 2015



Three Polar Bears at a kill by Peter Dunn



Little Auk by Ed Drewitt



The Ortelius anchored in Smeerenburgfjorden by Martin Beaton



Arctic Fox by Sara Frost

Report compiled by Guides and Leaders
Images by Peter Dunn, Ed Drewitt, Martin Beaton and Sara Frost



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Ortelius Crew:	Captain Ernesto Barría International Crew of 41	Captain	
Including:	Robert McGillivray Lillian van Meurs Christian Gossak Mathew Crouch	The Netherlands Poland Austria Australia	Hotel Manager Chief Steward Head Chef Assistant Chef
Expedition Staff:	Rinie van Meurs Christophe Gouraud	The Netherlands France	Expedition Leader Assistant Expedition Leader
Expedition Guides:	Sebastian Arrebola Stefan Brandt Mick Brown David Drummond Barbara Post Ian Stirling	Argentina Denmark Ireland USA Austria Canada	
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Introduction

MV *Ortelius* was named after the Dutch cartographer Abraham Ortelius (1527-1598) who published the first modern world atlas, the *Theatrum Orbis Terrarum* (Theatre of the World) in 1570. MV *Ortelius* was built in 1989 in Gdynia, Poland, as a research vessel for the Russian Academy of Science and was named *Marina Svetaeva*. In 2011 she was purchased by Oceanwide Expeditions. The vessel was re-flagged and renamed *Ortelius*. Now the ship is sailing as a 125-Passenger vessel. *Ortelius* is 91 m long, 17.6 m wide and has a maximum draft of 5.80 m, with an Ice Strength rating of UL1/1A, top speed of 13 knots and one diesel engine generating 3200 kW.

This vessel was to be our home for the ten days, taking us as far north into the pack ice and some of the most beautiful arctic scenery in Europe. We encountered Polar Bears at a kill with the viewing last more than five hours. Other sightings included the magnificent Blue Whale, Walruses and many bird species such as Ivory Gulls, Brünnich's Guillemot and Little Auks.

Day 1

Thursday 25th June

London to Oslo or Longyearbyen

The majority of the group left the UK and either overnighted in Oslo or flew straight on to Longyearbyen to join those who had flown out the day before.

Day 2

Friday 26th June

Longyearbyen

16:00 GPS position: 78°13.8' N / 015°36.10' E. Weather: + 8°C, overcast, wind from NW, Force 3

By one o'clock in the afternoon, all of us were in Longyearbyen in Spitsbergen. This former coal mining settlement with a population of about 2,300 is one of the world's northernmost settlements.

Longyearbyen is named after the American, John Munro Longyear (1850-1922), one of the founders of the Arctic Coal Company (1906-1916). Coal is still produced in a mine near Longyearbyen but not in such quantities as in the 20th century.

Prior to boarding *Ortelius*, everyone spent the day or afternoon exploring Longyearbyen. Snow Buntings were busy foraging for their young, and the odd fledgling was already out of the nest. An Arctic Fox was trotting along the tundra between the airport and the town, while along the road out of Longyearbyen a colony of at least 40 female Eiders were sitting on their nests next to dog kennels – safety in numbers to protect against Glaucous Gulls and Arctic Foxes. A few clutches had already hatched; one family, out on the sea, was being protected by a number of females and a male, grouping round the ducklings as a gull circled overhead. Near the Eiders were a few pairs of Grey Phalaropes with a single Red-necked Phalarope, being photographed by one lucky client, and one or two Purple Sandpipers were busily feeding within metres of people. Barnacle Geese were also sitting on a nest. Out on the water, the odd Black Guillemot and more Eiders were spotted. And Arctic Terns were ever present, many nesting close to the road or on the saltmarsh where the Arctic subspecies of Dunlin was seen.

Our expedition ship and home for the next week, the *Ortelius* was anchored in Adventfjorden and members of our staff and crew drove us by Zodiac to the ship. Our stay on board started with a warm welcome in the lecture room by hotel manager Robert with a useful speech about the ship, from basic rules about the toilet system to high tech wifi and internet connections. We also heard a bright safety briefing by third officer John about abandon ship procedures and how to react in case of distress signals. This was followed by an exercise with gathering at the muster station. It's always good to know such things, and hopefully not put them into practice!

We then gathered around our expedition leader Rinie who introduced us to the rest of the team and we all toasted our great adventure ahead with Captain Ernesto Barría. After a great dinner, prepared by the chefs Christian and Mathew, we were sailing in the large fjord of Isfjorden. On both sides of Isfjorden, flat-lying sedimentary rocks, only 45–60 million years old, were exposed, very young compared to most other parts of Spitsbergen, and carved by recent glaciers to display beautiful U-shaped valleys. Tired after the long journey and the new impressions, the bunks were quickly found while the ship sailed into the open sea towards the North.

Day 3

Saturday 27th June

Kongsfjorden & Krossfjorden

12:00 GPS position: 78°57.1' N / 012°03.3' E. Weather: +9°C, overcast, no wind

After a steady sail north from Longyearbyen and along the west coast of Spitsbergen, we awoke to incredible views looking out across the scenic Kongsfjorden, surrounded by snow-covered mountains, glaciers and small

blue icebergs. The water was calm and, before breakfast, some early risers spotted a Blue Whale swimming through, at one point showing off its fluke and distinctive, small, slightly hooked dorsal fin. After a wholesome breakfast, we headed out in our Zodiac boats to the shore of Blomstrandhalvøya or “Marble Island”, named after a Swedish 19th century chemist and geologist, Christian Wilhelm Blomstrand (1826-1899), a member of the Swedish Spitsbergen Expedition in 1861. The rock here is over one billion years old and was metamorphosed into marble 400,000 years ago. Between 1910 and 1913 an Englishman Ernest Mansfield set up some trail mining here – but the marble disintegrated on its journey back to the UK as it warmed up; it was dumped overboard. Some of the buildings and steam machinery still remain today.

As we arrived on the beach, a Long-tailed Skua was perched on a pole attached to one of the small buildings. Its long tail was clearly visible. Another was sitting on the hill further behind. We explored the island in three groups – those going for a longer hike headed off first and those doing a shorter walk explored some of the nearby pools and beach. The Spitsbergen subspecies of Reindeer (*platyrhynchus*), small and short-legged, was in evidence with hair and faeces, and it wasn’t long before we spotted a few individuals feeding in the valley. A nearby pool, still half-frozen, was home to a nesting pair of Barnacle Geese – their nest was on a small island surrounded by free water. Half a dozen Arctic Terns were nesting around the goose. A male Long-tailed Duck was snoozing nearby. Across the way and on a different pool, a Red-throated Diver was sitting on a nest, again on a small island surrounded by now ice-free water. The hiking group continued up the slope before stopping to admire the views and sounds of the wild. We also admired an erratic boulder, made up of conglomerate rock, that had been brought here by a previous glacier. Beneath our feet, the tundra was covered in tough plants growing low to the ground, including flowering Moss Campion, Purple Saxifrage, Polar Scurvy-grass and Mountain Avens. Our botanist, Martin, was also able to find Drooping, Golden and Tufted Saxifrages, Hairy Lousewort and Polar Campion. As we headed back down, a male Rock Ptarmigan was standing against the backdrop of rock and scree, looking like a patch of snow. Two female Pink-footed Geese were sitting on eggs only 10 metres apart – one had a male keeping watch close by. The females were incredibly cryptic and kept their heads low to avoid being spotted. A few more Reindeer were also feeding in the valley. While exploring the older mining buildings, everyone got to admire a Long-tailed Skua, standing just metres away. This leg-tagged individual was colour-ringed and also had a transmitter to enable nearby scientists to study this bird’s migration.

After a well-earned buffet lunch, we headed west out of the fjord and encountered a Blue Whale. We spent time watching the animal shallow-diving and surfacing three or four times before going under again to feed. Its small dorsal fin was clearly visible. On a few occasions, it dived deeper, showing off its wide fluke. While we watched the whale slowly circling this part of the channel, another appeared from behind the boat, its tall columnar spurt a giveaway, before it also deep-dived. Meanwhile, Kittiwakes, Puffins, Little Auks, a Black Guillemot and Brünnich’s Guillemots flew by, in singles or small groups. A Bearded Seal, with distinctive long pale whiskers, was also swimming close to the port side of the ship.

We headed on into Krossfjorden, and spent the afternoon exploring the tundra and steep hills of a side bay known as Tinayrebukta. A Black Guillemot flew away from us as we arrived on the beach. Four Arctic Skuas flew around in the distance and, during our walks, up to four were seen together, often calling. A pair of Pink-footed Geese flew overhead, with the female in front. Half a dozen Reindeer were seen relatively close, sniffing the air and trying to work out whether to stay or leave. There were lots of signs of Reindeer, from moulted hair to an impressive pair of shed branched antlers on the beach. The plant life was only just emerging but some Polar Fir Clubmosses, from an ancient lineage, were seen on the hikers’ walk, along with Polar Saxifrage. At least

five different Rock Ptarmigans were spotted, including a pair, a male in half summer and half winter plumage, and good views of two males in flight showing their long primary wing feathers and black tail. From the peak of the hikers' walk, spectacular views across the glacier landscape made the walk even more worthwhile. As we headed back, there were more signs of wildlife from Ptarmigan feathers (with their double plumes), Reindeer antlers, an abandoned Purple Sandpiper's nest with two cold eggs, Arctic Fox droppings, the odd Eider duck egg, and various feathers from a predated goose. Back at the beach, the cold wind coming down from the glacier was whipping up the waves as we all headed back in the Zodiacs, ready for dinner at 7.45pm.

As we came to our dessert and coffee, we got a call to look outside – we were greeted with the most incredible views looking towards the Lilliehöökreen group of glaciers in the left hand fork of inner Krossfjorden, known as Lilliehöökfjorden. In gorgeous sunshine, the combination of ten larger and other smaller glaciers, all culminating together in the sea, was stunning. The glacial front is 7 kilometres wide, giving panoramic views. We were positioned in an area that 100 years ago would have still been glacial ice - in the past 100 years the front has retreated by 40%, a familiar trend with most, if not all, glaciers in this part of the Arctic. The water itself was dotted with lots of mini-icebergs while Little Auks, Brünnich's Guillemots and Fulmars were often flying past as we headed back out of the fjord. Overnight, still in daylight, we headed 130 miles north to our next destination.

Day 4

Sunday 28th June

Kongsfjorden & Krossfjorden

12:00 GPS position: 79°38.7' N / 013°27.2' E. Weather: +6°C, sunny & foggy, wind from NE, Force 2

We awakened to the sound of waves beating against the hull. Overnight the wind speed had increased and, at 7am, we had 31 knots of a cold north-easterly. Our course took us round Albert I Land, past Reinsdyrflya and southwards into Liefdefjorden.

As always, our plans are very flexible and changeable so today was a 'TBA' day. Due to the strong winds, we stayed on board and spent the morning ship cruising along the magnificent coastline enjoying the snow-covered landscape. A panorama of glaciers, moraines, beaches and mountains slipped past. We scanned the fast ice, shorelines and hinterland in the hope of spotting wildlife. Gulls, guillemots, and seals were seen, along with a Minke Whale. Little Auks passed to and from their colonies on the scree slopes. At 10.30 Mick gave a presentation which introduced us to the 'Birds of Spitsbergen'. Mick talked about the attraction of the Arctic for long-distance migrant birds in terms of food and habitat, and of the challenges they face in regard to having only a very short breeding season.

We dropped anchor at 1pm and, by then, the wind had dropped so it was time for a Zodiac cruise. After lunch, all 10 boats were pressed into service and we set off, wrapped up warmly, in search of wildlife. The Andøyane (the Duck Islands) attract a variety of birds and we began by scanning the shoreline for phalaropes. The advantage of having 110 pairs of eyes spread out in 10 boats soon became clear. Several pairs of Red (Grey) Phalarope were visible to us all. We watched them as they fed in the shallows and we saw the classic 'spinning' feeding technique. This is when the birds spin on the surface of the water in an effort to draw up invertebrate food from below. It is obviously successful. King and Common Eiders were seen as were several Red-throated Divers. A Great Skua and Arctic Skuas, along with hundreds of Arctic Terns, accompanied us as we circumnavigated the main island.

Happy to be back on board a warm ship two hours later, we gathered for the day's recap at 6.30. The recap covered some of the day's activities and outlined our plan for the next day. Ian gave us some tips with regard to spotting bears on the ice!

Day 5

Monday 29th June

In the pack-ice west of Sjuøyane

12:00 GPS position: 80°47.3' N / 018°39.9' E. Weather: +3°C, overcast to foggy, wind from NW, Force 4

This morning we woke up exactly where one should be on a "Polar Bear Special": in the drifting pack ice near the Seven Islands (Sjuøyane), with more than 6-8/8 ice cover and pretty much unlimited visibility. Actually, it is not so much just that the bears "like" that specific amount of ice cover, but rather that their primary prey, the Ringed Seal, does. Aerial surveys of Ringed Seals done in many parts of the circumpolar Arctic have shown that the seals show the highest preference for sea ice cover in the range of 6/8 to 8/8, probably because, in turn, such habitat has substantial populations of Arctic Cod, their favourite food, living beneath the ice itself. Although you can find some bears in almost any kind of habitat in Svalbard at one time or another, the very best places to search are areas of high ice cover over the biologically productive continental shelf, or in the bays and fiords of the archipelago that are still covered by the fast ice that formed in winter, precisely because those are the favoured habitats of the Ringed Seals and their availability is greatest. As well as Ringed Seals, the drifting pack ice over the continental shelf is also home to the much larger Bearded Seal.

For several hours, we scoured the pack ice for Polar Bears and, quite shortly, it began to sink in that much of the pack ice is rough enough to quickly hide a Polar Bear, despite its relatively large size. Although the Barents Sea population of Polar Bears, which includes Svalbard (Spitsbergen) and the sea ice east to Franz Josef Land in Russia, has been estimated to number in the vicinity of 2,700 (plus or minus 700 or so), they are pretty thinly distributed over a vast area of sea ice so that their density throughout the area is very low. Even with dozens of sets of keen birder binoculars scanning the ice, no bears were seen and only a small number of tracks, suggesting we were in a low density area. This was important to note because the distribution of bears varies constantly, depending on ice conditions and seal distribution, but it is often contagious, meaning that where you find one bear, there are often more around, especially if a seal or two has been killed, which attracts other bears by the smell.

By late in the morning, we decided to head a few kilometres to the east where we suspected the abundance of bears might be greater than the low density area we were currently in. Soon, two bears were spotted a couple of miles ahead of the ship, and soon it also became apparent they were feeding on a kill. Jackpot! Feeding bears stay around and let groups like ours, on a ship, observe and photograph them. From a distance, we could see that one bear was substantially larger than the other, but they didn't look like a mother and a cub. Then, as we approached, a third bear was seen downwind of the kill, heading purposefully upwind. Shortly after the Captain skilfully manoeuvred the ship to a position only a few hundred metres from where the first two bears were feeding, without disturbing them, the third bear arrived. It was similar in size to the largest of the original pair, which caused the smaller one to nervously walk away about 30 metres and stand watching the two larger bears feeding. After only about two minutes, the smaller bear apparently decided it would be safe to join the feast, so it

did so, and the three fed together for an hour or so before the larger of the two original bears moved away a few hundred metres and lay down.

So, many of us wondered, just what was going on here? Some wondered if it could possibly be a “family” group, or be related. However, a careful examination of the three revealed they were all adult males, two of which were large full adults and the third, while an adult, was a younger one. Clearly not a “family”. All were in excellent body condition. On a scale of 1 to 5, used by Polar Bear scientists to quantify body condition, the two larger bears scored 4/5 and the smaller one 3/4. What we were observing was, in fact, an exhibition of the evolution of very good judgement on the part of three powerful animals, heavily armed with teeth and claws, and thus capable of doing each other serious harm if they were to fight seriously over anything. Usually, the only thing worth fighting for, with serious intensity between males, is a breeding female. Consequently, fighting was avoided in this instance and, although active “competition” still took place, it was simply through eating almost non-stop. Throughout their time together, no sign of fighting or antagonism of any sort was detected through any of the binoculars, spotting scopes, or telephoto lenses as large as stinger missiles, that were all focused on the bears. On a few occasions during the feeding, one or another of the bears went to a nearby bit of open water and washed and licked some of the blood of their fur. This is quite typical of Polar Bears when feeding, along with occasionally rolling in the snow. Polar Bears are incredibly clean animals and actively clean their fur of grease or oil of both natural and unnatural origins. Such behaviour is important to their overall cleanliness and health in the wild, but research has also shown that such cleanliness also carries a liability. If a bear gets oil on its fur, it will quickly lick it off, swallowing it in the process, with the result that it may experience kidney failure followed by death.

When eating a seal, the bear that kills it, or gets there to join in the feed early on, as we were able to clearly view today, primarily devours the fat, leaving most of the muscle, skeleton, and internal organs untouched. In later scavenging by other bears, especially sub-adults, some of the meat (protein for growth) may be eaten. But, the innards remain, largely fed upon only by the numerous gulls (Ivory and Glaucous) that arrive to scavenge. The avoidance of eating intestines and focusing on the fat probably explains why so few parasites have ever been found in Polar Bears: no parasites that might be capable of infecting a Polar Bear are known to have an intermediate state in the fat of arctic seals. The seal being eaten was a fairly good-sized Bearded Seal, probably weighting 150-200 kilogrammes. They have very thick skin which the bears avoid eating, so we could see the skin carefully being pulled out to the side and the bears carefully shaving the fat from it with their incisor teeth.

Finally, a fourth bear, also large in size, attracted by the smell of the kill, strode quickly and directly up to the dead seal, at which point the smaller bear, the only one of the original three still eating, simply left and moved away a few hundred metres and lay down.

All in all, by the end of today we saw five Polar Bears, of which four provided exceptionally good viewing and observations of their behaviour and natural history: a great start to a Polar Bear Special!

Day 6

Tuesday 30th June

In the pack-ice nearby Sjuøyane

12:00 GPS position: 80°35.2' N / 021°10.8' E. Weather: +2°C, overcast, wind from W, Force 4

We had drifted from yesterday's Polar Bear feast site during the night, two-and-a-half miles amidst the pack ice. Fog enshrouded our bow at dawn and even offered an opportunity to see "fog-blink". Heading out at breakfast to the east between Sjuøyane (Seven Islands) and Nordaustlandet, we decided to do something different by looking for female Polar Bears with cubs to view. En route, around 10.15am, we encountered a single Walrus resting on a small ice floe. A nice close view was achieved by our Captain manoeuvring the ship. It raised its head, repositioned itself on the white crystal raft, and then covered its ears and eyes with right fore flipper and went back to sleep.

Not finding proper fast ice, we turned back west toward the pack ice sheet and, along the way, found a female Walrus with calf and several first-year animals, all on a small pan of floating ice. We approached very close and got good photos of all, with two yearlings remaining near the ice for longer. Ian presented an excellent Polar Bear ecology programme in the late afternoon.

Searching east through the charted ice fields, fog hampered our afternoon searching for the King of the Arctic. We enjoyed a detailed recap on Walrus, followed by a lovely dinner. We headed for the Hinlopenstretet and the Alkefjellet bird cliffs...our sites for tomorrow's activity!

Day 7

Wednesday 1st July

Hinlopenstretet & Lomfjorden

12:00 GPS position: 79°35.9' N / 018°28.8' E. Weather: +6°C, partly cloudy, wind from ESE, Force 3

This morning the weather gods were definitely on our side: calm sea, no wind and a little bit of sunshine. It was a perfect morning for a Zodiac cruise at Alkefjellet, an impressive cliff and home to an amazing amount of bird life. This is one of the most impressive places in Spitsbergen to view Brünnich's Guillemots breeding, at close proximity, packed tightly together on narrow rock ledges cutting across the face of this dramatic cliff. The rock shelves are only just wide enough for a bird to lay its single egg. Alkefjellet is one of the largest Brünnich's Guillemot breeding colonies on Spitsbergen, with an estimated 60,000 breeding pairs!

On our way to the cliff, we had already observed big flocks of Brünnich's Guillemot in the water, and a wonderful blue iceberg with some of them sitting on it: what a great motif!

The cliff itself was already an impressive sight; between 100 and 150 million years ago basaltic magma intruded in to the ancient layers of limestone in this region, and today this basalt layer is visible as a massive cliff. Beneath the cliff, under a sky peppered with black and white birds, some swooped low almost touching our heads. The nearer we got, the more we could see, and hear, and smell.

As we drove along the cliff, we could observe some dead birds in the water, immediately eaten by Arctic Skuas and Glaucous Gulls, who were fighting over the prey. Most of the Brünnich's Guillemots were already

incubating their eggs and showing us their black back. The Kittiwake nests could be seen much higher up on the cliff face, with the Glaucous Gulls always taking good lookout points over the colony and breeding birds. As we reached the end of the cliff, on the bright green slope, we spotted some Barnacle Geese, as well as some Snow Buntings. These slopes are fertilised by the guano and are attractive grazing grounds for other animals. Feverishly, we searched for the Arctic Fox, which is not easy to find here, as it is so well camouflaged. The great news came over the radio of the guides, that two foxes had been spotted! One was higher up in the vegetated slopes under the cliff, and all of us watched as it climbed, cat-like, along the rocky slopes. The other fox approached very close to the Zodiacs, on a snow field next to the shore: it was attracted to a dead Brünnich's Guillemot and started to feed on immediately. We watched this nice fox for a while, and ended our great morning with a short visit to a hanging glacier on the northern side of the bird cliff.

After lunch we were aiming for Lomfjorden, a fjord about 30 km in length. On its western side lies Faksevågen, the "Fakse bay", named after a horse in Norse mythology, and our landing site for the afternoon. On the beach, we split into groups according to our inclinations towards walking short or long hikes. The first to disembark were the long hikers, followed by the medium walkers and, at the end, the ones who preferred a more leisurely activity.

Close to the landing site, we found one of the highlight plant species of the area, the Spider Saxifrage, with its readily visible scions (or stolons). All the groups enjoyed a nice walk in the rich arctic tundra, full of Mountain Avens, Arctic Bell-heather and Purple Saxifrage. Several male Rock Ptarmigan were observed, busy with flying or sitting on their viewpoints. Some people were lucky enough to see mating Sanderlings, as well as Common Ringed Plovers and Purple Sandpipers looking for food in the tundra and on shore. Those on the long hike climbed more quickly up the slope to the plateau on the north side of the bay, and were rewarded with a wonderful view over the fjord, the glaciers, the large moraines, the river plains and an impressive ice cap in the distance. During the recap, we received some more information about the Brünnich's Guillemot, and we watched a little film about the diving activity of those birds and we listened to the singing!

Day 8

Thursday 2nd July

In the pack-ice west of Sjuøyane

12:00 GPS position: 80°44.1' N / 018°48.4 E. Weather: +1°C, overcast & foggy, wind from SW, Force 3

Back to the pack! As we came up to the deck to survey our surroundings, it was clear that the look of the pack was different from some of our earlier impressions. Somehow, even a bit strangely maybe, it seemed a bit lacking in visible signs of life. Visibility was reduced slightly by mist and, initially at least, light snow fell which limited the extent of our vision. It was also quickly apparent that we were not seeing seals or even footprints made in the snow covering the ice by bears. However, it didn't take long to identify a few factors that might be influencing the distribution of seals and bears. For a start, the floes were all small, ranging from about 30 to 80 metres across. The floes were also multi-sided with jagged corners, indicating they had been created within the last few days by a swell that rolled in under the ice from open water, causing it to fracture in that fashion. Thus, although the area had a high proportion of ice cover, any bear hunting there would have to be constantly going into the water, swimming briefly, and then laboriously climbing out on the next floe. Such travel is enormously costly in terms of energy expenditure while seeming to offer few opportunities to accumulate energy by catching a seal. Another indicator that we were, temporarily at least, in an area of lower productivity came from the Black-legged

Kittiwakes. Several of these birds usually accompany the ship when it is breaking through sea ice as we travel. When pieces of ice are overturned, there are usually lots of small Arctic Cod that have been protected from predation. However, in that area, we saw no Kittiwakes diving to feed, indicating there were few cod about.

After a few hours, we got into an area where the floes were much larger, anywhere from a few hundred metres to 2 or 3 km across, along with a few Ringed Seals, and the occasional bear track, indicating a marked improvement in habitat quality. It wasn't long before we found a large adult male Polar Bear, in excellent body condition. As we stalked him for a closer look, he hunted as he travelled across the floes, stopping to do an unproductive standing still hunt for about 5 minutes, before carrying on. The Captain manoeuvred the ship so we all had a good look as the bear passed by, ahead of the ship, at a reasonably close distance. He showed no signs of fear or stress, he also didn't have any interest in us and simply continued to walk away so we did not risk disturbing him by trying to follow and get closer.

It was fascinating to watch the Kittiwakes swirling about the bow and sides of the ship and dipping into the water for small darkly coloured cod that were once again being exposed as pieces of ice continued to be broken off and turned over. A few Fulmars glided by in continuous beautiful fluid motion, along with an Arctic Skua. The first exciting, but distant sightings of the Pomarine Skua were replaced by several close fly-pasts right in front of the ship, to the great pleasure of many excited birders.

Then, just when it seemed we were about as remote as we could be, in the drifting pack at the edge of the polar ocean, we got a call from a ship several kilometres off in the distant mists. It was the MV *Harsel*, on charter with a BBC Wildlife film team working on a documentary about polar bears and life in the pack ice. Their compressor for re-filling air tanks for diving to facilitate underwater photography had broken down and they needed to get a re-fill somewhere else, if possible. What do you think the chance of solving such a problem just when you need help, while cruising about in the pack ice somewhere north of the Svalbard Archipelago??? Well, since we just happened to have a compressor, and we were not occupied with a bear at that point, the *Harsel* tied up alongside of the *Ortelius*, their diving air tanks were re-filled, and a few of their passengers came aboard for a brief chat, including Doug Allen, the well-known BBC Wildlife photographer.

The fog cleared a bit after we finished with the *Harsel*, so we headed off through the pack in search of bears again. Although we saw a lot of tracks at one point, the visibility again became reduced and we found no more bears, though we knew they were around. At the same time, the continued searching for several hours, with dozens of pairs of binoculars and several telescopes about the ship, was a first-hand reminder of just how widely distributed, at very low density, the Polar Bears are out in the pack ice.

At one point, some of us saw a sleek newly-weaned Ringed Seal pup swimming about in the freshly broken ice floes looking for young cod. This was an interesting dietary reminder that it is the big flush of young Ringed Seals, born in early April, that provides the most important single food resource for Polar Bears throughout the Arctic. The pups begin to accumulate fat from their mother's milk within days. By the time they are weaned at about 6-7 weeks of age, they weigh 20-25 kg, are 50% fat, and not very experienced with predators. From the time they are weaned, to when open water predominates in early summer and the seals become pelagic and thus inaccessible, the bears must accumulate about 2/3 of the energy they will need for the entire year. Thus, staying focused on seal hunting is critical. The continued effort necessary for the population of Polar Bears to survive is underscored by the realization that each bear in the population requires an average of about 43 Ringed Seals (big

bears more and smaller bears less) or “Ringed Seal equivalents” each year (e.g., one Bearded Seal might be the equivalent of 2-5 Ringed Seals, depending on size). Then consider that the Svalbard population of Polar Bears, presently estimated to number about 2,700, requires roughly 116,100 Ringed Seals (or Ringed Seal equivalents) per year, and you realize how critical, and constantly demanding, hunting seals is for Polar Bears.

The most common methods by which Polar Bears hunt Ringed Seals are variations on the basic theme of “still-hunting” which means remaining motionless for long periods of time by a crack in the ice or a breathing hole, and hoping to catch an unsuspecting seal when it surfaces. The breathing holes in large floes of annual ice, where we saw large numbers of Ringed Seals hauled out throughout the trip, were self-maintained by the seals themselves through the winter so they could breathe when the water was completely covered by ice. However, by this time of year, most of the snow that covered and hid the breathing hole during winter has melted, exposing the water at the surface. At this time of year, “still-hunting” may be done by lying, sitting, or standing motionless, so as to not transmit any noise into the water below that might frighten a seal away when it returns to breathe. Energetically, still-hunting is probably most biologically important because the bear is not unnecessarily wasting energy while waiting for the packets of energy (seals) to come to it. Even so, the success rate of lying-still hunts (the most common form) documented in one study was only 1.5% of 223 attempts observed. The average length of a lying-still hunt undertaken by an adult male was about 68 minutes compared with 37 and 41 minutes for females accompanied by cubs of the year or yearlings respectively. The number of days it takes on average for a Polar Bear to catch a single seal, at this time of the year which is the best hunting of all, still ranges between about two and six days, depending on the sex and age class of the bear.

Day 9

Friday 3rd July

Fuglesongen & Smeerenburg

12:00 GPS position: 79°50.7' N / 011°23.4' E. Weather: +4°C, partly cloudy, wind from N, Force 4

Today we had an early start, with many of us waking up at four in the morning while we were passing by Moffen Island, a place known to have a couple of Sabine’s Gulls nesting on the beach. The chances were low but it was still worthwhile to be up to look for this rare bird. The island was busy with nesting Arctic Terns being harassed by a Great Skua. Up to 30 Walruses were hauled out on the island, with a few darker, wetter individuals coming to join them. A lucky few spotted one Sabine’s Gull flying briefly along the beach. Meanwhile, at least four light-bellied Brent Geese flew off from the islands – birds that spend their winter in Ireland. Other birds included Arctic Skua, Eiders and Glaucous Gulls.

Ortelius had left the sea ice the previous evening and steamed her way down to the northwest side of Svalbard archipelago. The plan was to visit a Little Auk colony at Fuglesongen, meaning “bird song”.

As we approached the site, we could see hundreds of birds flying around the ship and in the channels. Before going ashore Rinie let us know about the conditions of the landing site: a steep and rocky place, and yes it was! The landing site was rocky and slippery as the stones were covered by green algae in the intertidal zone. We made our way slowly to the first terrace, and from there we continued towards the colony, making an unexpected stop to take hundreds of pictures of a lovely Walrus that was looking at us from the water. He was huge, almost the size of a small car!

Once at the colony, we climbed up the slope to get closer to the birds. It was steep, boulder-strewn, and in some places we had to crawl like Arctic Foxes to get there. The boulders were covered in an array of impressive black-brown lichens, scratched off, the closer we got to the colony, by the thousands of tiny Little Auk claws.

The auks were flying over us, coming and going, and sometimes resting in groups very close to us. It was very exciting to see these little birds (one of the smallest species among the auk family) interact with each other. Many were singing to each other, and those sitting on eggs could be heard calling from the rocks below where we were sitting. Some showed exaggerated wing flapping before resuming normal flight – part of their display. Groups would suddenly take off in an impressive whirl of auks, usually in response to a passing Glaucous Gull.

After migrating south for the winter, the Little Auks return to their breeding sites around mid-April, to lay one egg that is incubated between 28 to 31 days. The chicks stay for four weeks in the nest, until they can fly. During this time, Little Auks feed primarily on Crustaceans (Copepods). We were visiting during the incubation period with birds waiting for their eggs to hatch.

After a quick visit to the dining room for lunch, we were ready at the gangway for our next adventure at Smeerenburg, a sandy bar and lagoon on Amsterdamøya, and a relatively short sail across the fjord from the Little Auk colony.

Once on land, we slowly approached the small group of male Walrus that were resting on the beach. This is the largest seal species in the Arctic. The tusks can be up to one metre long. Bulls can be up to three-and-a-half metres long and weight up to 1,500 kg, while cows reach two-and-a-half metres and weight 900 kg. While we were watching the animals on the beach, two males came out of the water and joined the group. We were amazed on how long it took the Walrus to come out of the water. They seemed to be enjoying the day as much as us!

We also saw the remains of the main base for Dutch whaling in Spitsbergen. We saw three of the 12 blubber ovens that can be seen near the beach. We couldn't stop thinking about what life would have been like during the first half of the 1600's when this station was fully operational, housing about 200 people. We ended this beautiful day sailing by the scenic glacier of Smeerenburgreen.

Day 10

Prins Karls Forland & Ymerbukta

12:00 GPS position: 78°08.5' N / 011°58.0' E. Weather: +6°C, sunshine, wind from NNW, Force 6

After an overnight sail from the north-west tip of Spitsbergen, we spent the morning exploring the deep seas 20-25 nautical miles off the west coast, towards Longyearbyen. After some whales were spotted before breakfast, we headed back north to catch up with them, seeing mainly Humpback Whales and one or two Blue Whales. In all directions, there were whale blows at varying distances. A few surfaced close to the boat, providing us with better views, including of the white upper side of the fluke of the Atlantic form of the Humpback. Leaving the whales behind, we headed south-east towards our afternoon destination, enjoying views of over 40 Fulmars circling close and gliding right past as they took advantage of the winds and passage of air moving over the ship. Great Skua, dark phase Arctic Skua, Puffins, Kittiwakes and Brünnich's Guillemots were also seen flying past. In

Saturday 4th July

the distance we had incredible views of the mountainous and glaciated landscape that borders the western coastline of Spitsbergen.

We sailed past beautiful scenery and entered Isfjord, the largest fjord in the world, which cuts 107 kilometres into Spitsbergen. In bright sunshine, we stopped for the afternoon at Ymerbukta, where we were surrounded by 360 degree views of blinding snow-capped mountains. We split into three groups and explored the impressive scenery and fresh moraines. The hiking group spent three hours heading up to views across the Esmarkbreen (Esmark Glacier) with breathtaking views of its crevasses and the wide, open plain of Erdmannflya. Displaying Purple Sandpipers, nesting Arctic Skuas, Snow Buntings, Pink-footed Geese, Kittiwakes and four King Eider were seen alongside a Harbour Seal and a Reindeer. The warmer climate compared to the north of the island meant many flower species were more advanced here including Mountain Sorrel, Golden Whitlow-grass, Purple and Tufted Saxifrages. A Svalbard Poppy had flower buds about to pop open. Meltwater streams were flowing amongst small melting snow fields that we crossed. The sedimentary rocks were full of fossils, particularly corals, crinoids and oyster shells – a reminder of Spitsbergen’s tropical past. We had an incredibly beautiful, sunny afternoon with spectacular views to suit – a remarkable way to finish our last day in Spitsbergen. We spent the evening looking across the sun-lit mountains in Isfjord before docking into Longyearbyen, further into the fjord, around midnight.

Day 11

Sunday 5th July

Longyearbyen, Spitsbergen

08:00 GPS position: 78°13.8' N / 015°36.10' E

It was now time to say farewell to our great adventure, to our safe floating home and to our lovely new friends! This morning *Ortelius* was alongside and we had an easy disembarkation. At 6.30am, a bus took us to the airport. Before we left, there was a final chance to watch Eiders, Black and Brünnich’s Guillemots, Arctic Terns, the odd Arctic Skua and Snow Buntings from the ship and near the airport.

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Species Lists

Birds (✓ = recorded but not counted)

	Common name	Scientific name	June/July									
			26	27	28	29	30	1	2	3	4	5
1	Pink-footed Goose	<i>Anser brachyrhynchus</i>		2	8			1			2	
2	Brant Goose	<i>Branta bernicla</i>								5		
3	Barnacle Goose	<i>Branta leucopsis</i>	✓	✓				8		4		
4	King Eider	<i>Somateria spectabilis</i>			12			5			3	
5	Common Eider	<i>Somateria mollissima</i>	✓	✓	✓		✓	✓		✓	✓	✓
6	Long-tailed Duck	<i>Clangula hyemalis</i>	✓	✓	2							
7	Rock Ptarmigan	<i>Lagopus muta</i>	2	6				6			1	
8	Red-throated Diver	<i>Gavia stellata</i>		4	8					2		
9	Northern Fulmar	<i>Fulmarus glacialis</i>	✓	✓	✓			✓	✓	✓	✓	
10	Northern Gannet	<i>Morus bassanus</i>	1	1					4		3	
11	Common Ringed Plover	<i>Charadrius hiaticula</i>						4				
12	Ruddy Turnstone	<i>Arenaria interpres</i>			1							
13	Sanderling	<i>Calidris alba</i>						4				
14	Purple Sandpiper	<i>Calidris maritima</i>	✓		10			4			2	
15	Dunlin (Icelandic)	<i>Calidris alpina schinzii</i>	1									
16	Red Phalarope	<i>Phalaropus fulicarius</i>	2		9							
17	Red-necked Phalarope	<i>Phalaropus lobatus</i>	1									
18	Black-legged Kittiwake	<i>Rissa tridactyla</i>	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
19	Ivory Gull	<i>Pagophila eburnea</i>			1	20	2		6			
20	Sabine's Gull	<i>Xema sabini</i>								1		
21	Great Black-backed Gull	<i>Larus marinus</i>			1		1					
22	Glaucous Gull	<i>Larus hyperboreus</i>	✓	✓	✓	✓	✓	✓	✓	✓	✓	1
23	Arctic Tern	<i>Sterna paradisaea</i>		✓	✓				✓	✓		✓
24	Great Skua	<i>Stercorarius skua</i>			2			1		2	3	
25	Pomarine Skua	<i>Stercorarius pomarinus</i>		1			1	1	4	2		
26	Arctic Skua	<i>Stercorarius parasiticus</i>	3	6	8	1	1	3		✓	4	
27	Long-tailed Jaeger	<i>Stercorarius longicaudus</i>		2								
28	Little Auk	<i>Alle alle</i>	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
29	Brünnich's Guillemot	<i>Uria lomvia</i>	1	✓	✓	✓	✓	✓	✓	✓	✓	✓
30	Black Guillemot	<i>Cephus grylle</i>	✓		✓	✓	✓	✓	✓	✓	✓	✓
31	Atlantic Puffin	<i>Fratercula arctica</i>	2	✓			✓	✓			✓	
32	Snow Bunting	<i>Plectrophenax nivalis</i>	✓	✓	2			4			✓	✓

Mammals

1	Arctic Fox	<i>Vulpes lagopus</i>						2				
2	Polar Bear	<i>Ursus maritimus</i>				5	1		1			
3	Walrus	<i>Odobenus rosmarus</i>					6			45		
4	Hooded Seal	<i>Cystophora cristata</i>						1				
5	Bearded Seal	<i>Erignathus barbatus</i>	1		✓	1		2				
6	Harp Seal	<i>Pagophilus groenlandicus</i>					7		1			
7	Harbour Seal	<i>Phoca vitulina</i>								1	1	
8	Ringed Seal	<i>Pusa hispida</i>			✓	✓	✓	2	✓	2		
9	Reindeer	<i>Rangifer tarandus platyrhynchus</i>	2	✓				6			3	
10	Blue Whale	<i>Balaenoptera musculus</i>		2							3	
11	Fin Whale	<i>Balaenoptera physalus</i>						2				
12	Humpback Whale	<i>Megaptera novaeangliae</i>			✓					5		
13	Beluga	<i>Delphinapterus leucas</i>						c.12				

Plants

Latin names	English name	Location
Pteridophyta		Ferns and their allies
Lycopodiaceae	Clubmoss Family	
<i>Huperzia arctica</i>	Polar Fir Clubmoss	Tinayrebukta
Equisetaceae		Horsetail Family
<i>Equisetum arvense</i> subsp. <i>alpestre</i>	Arctic Horsetail	Longyearbyen
Angiosperms		
Asteraceae		Daisy Family
<i>Taraxacum arcticum</i>	Arctic Dandelion	Longyearbyen
Boraginaceae		Borage Family
<i>Mertensia maritima</i> subsp <i>tenella</i>	Oyster Plant	Longyearbyen
Brasicaceae		Cabbage Family
<i>Cardamine bellidifolia</i> subsp. <i>bellidifolia</i>	Alpine Cress,	Ymerbukta
<i>Cochlearia groenlandica</i>	Polar Scurvygrass	Fugelsanga
<i>Draba alpina</i>	Golden Whitlow-grass	Blomstrandhalvoya
<i>Draba lactea</i>	Lapland Whitlow-grass	Ymerbukta
<i>Draba oxycarpa</i>	Pale Whitlow-grass	Faksevagen
<i>Draba pauciflora</i>	Tundra Whitlow-grass	Blomstrandhalvoya
Caryophyllaceae		Pink Family
<i>Cerastium arcticum</i>	Arctic Mouse-ear	
<i>Cerastium regelii</i>	Polar Mouse-ear	
<i>Honkenya peploides</i> subsp. <i>diffusa</i>	Sea Sandwort	Longyearbyen
<i>Minuartia biflora</i>	Tufted Sandwort	Ymerbukta
<i>Silene acaulis</i>	Moss Campion	Common
<i>Silene involucrata</i> subsp. <i>furcata</i>	Arctic White Campion	Longyearbyen
<i>Silene uralensis</i> subsp. <i>arctica</i>	Polar Campion	Blomstrandhalvoya
<i>Stellaria longipes</i>	Long-stalked Starwort	Ymerbukta
<i>Stellaria humifusa</i>	Arctic Chickweed	Longyearbyen
Ericaceae		Heather Family
<i>Cassiope tetragona</i> subsp. <i>tetragona</i>	White Arctic Bell Heather	Blomstrandhalvoya
Papaveraceae		Poppy Family
<i>Papaver dahlianum</i>	Svalbard Poppy	Longyearbyen
<i>Papaver cornwallisense</i>		
Polygonaceae		Dock Family
<i>Bistorta vivipara</i>	Alpine Bistort	Longyearbyen
<i>Oxyria digyna</i>	Mountain Sorrel	Longyearbyen
Ranunculaceae		Buttercup Family
<i>Coptidium x spitsbergense</i>	Svalbard Buttercup	Longyearbyen
<i>Ranunculus hyperboreus</i> subsp. <i>arnellii</i>	Tundra buttercup	Longyearbyen
<i>Ranunculus nivalis</i>	Snow Buttercup	Longyearbyen
<i>Ranunculus pygmaeus</i>	Pygmy Buttercup	Ymerbukta
<i>Ranunculus sulphureus</i>	Sulphur-coloured buttercup	Longyearbyen

Latin names	English name	Location
Roseaceae	Rose Family	
<i>Dryas octopetala</i>	Mountain Avens	Longyearbyen
<i>Potentilla hyparctica</i>	Arctic Cinquefoil	Longyearbyen
<i>Potentilla pulchella</i>	Tufted Cinquefoil	Faksevagen
Salicaceae	Willow Family	
<i>Salix polaris</i>	Polar Willow	Longyearbyen
Saxifragaceae	Saxifrage Family	
<i>Chrysosplenium tetrandrum</i>	Dwarf Golden-saxifrage	Blomstrandhalvoya
<i>Saxifraga aurea</i>	Arctic Saxifrage	
<i>Saxifraga cernua</i>	Drooping Saxifrage	Common
<i>Saxifraga cespitosa</i> subsp. <i>cespitosa</i>	Tufted Saxifrage	Common
<i>Saxifraga hirculus</i>	Marsh Saxifrage	Longyearbyen
<i>Saxifraga hyperborea</i>	Polar Saxifrage	Tordenskoldbukta
<i>Saxifraga (Micranthes) nivalis</i>	Alpine Saxifrage	Ymerbukta
<i>Saxifraga oppositifolia</i>	Purple Saxifrage	Common
<i>Saxifraga platysepala</i>	Polar Stoloniferous Saxifrage	Andøyane Islands
<i>Saxifraga rivularis</i> subsp. <i>rivularis</i>	Highland Brook Saxifrage	Longyearbyen
Scrophulariaceae	Figwort Family	
<i>Pedicularis hirsuta</i>	Hairy Lousewort	Blomstrandøya
Cyperaceae	Sedge Family	
<i>Carex nardina</i> subsp. <i>hepburnii</i>	Cushion Sedge	Blomstrandøya
<i>Carex rupestris</i>	Rock Sedge	Blomstrandøya
<i>Eriophorum scheuchzeri</i> subsp <i>arcticum</i>	Polar Cotton Grass	Longyearbyen
<i>Luzula confusa</i>	Northern Wood-rush	Blomstrandøya
Poaceae	Grass Family	
<i>Alopecurus ovatus</i> (<i>magellanicus</i>)	Polar foxtail	Longyearbyen
<i>Dupontia fisheri</i>	Tundra Grass	Longyearbyen



Brünnich's Guillemots by Peter Dunn



Fulmar reflection by Peter Dunn

Images from Spitzbergen



Long-tailed Skua by Ed Drewitt



All the group and guides by Ed Drewitt



Arctic Fox by Peter Dunn



Approaching the Ice by Martin Beaton



Ptarmigan by Sara Frost



Walrus by Sara Frost



Watching Polar Bears by Ed Drewitt



Pomarine Skua & Kittiwake by Peter Dunn

Map of the Journey



Polar Bear by Peter Dunn