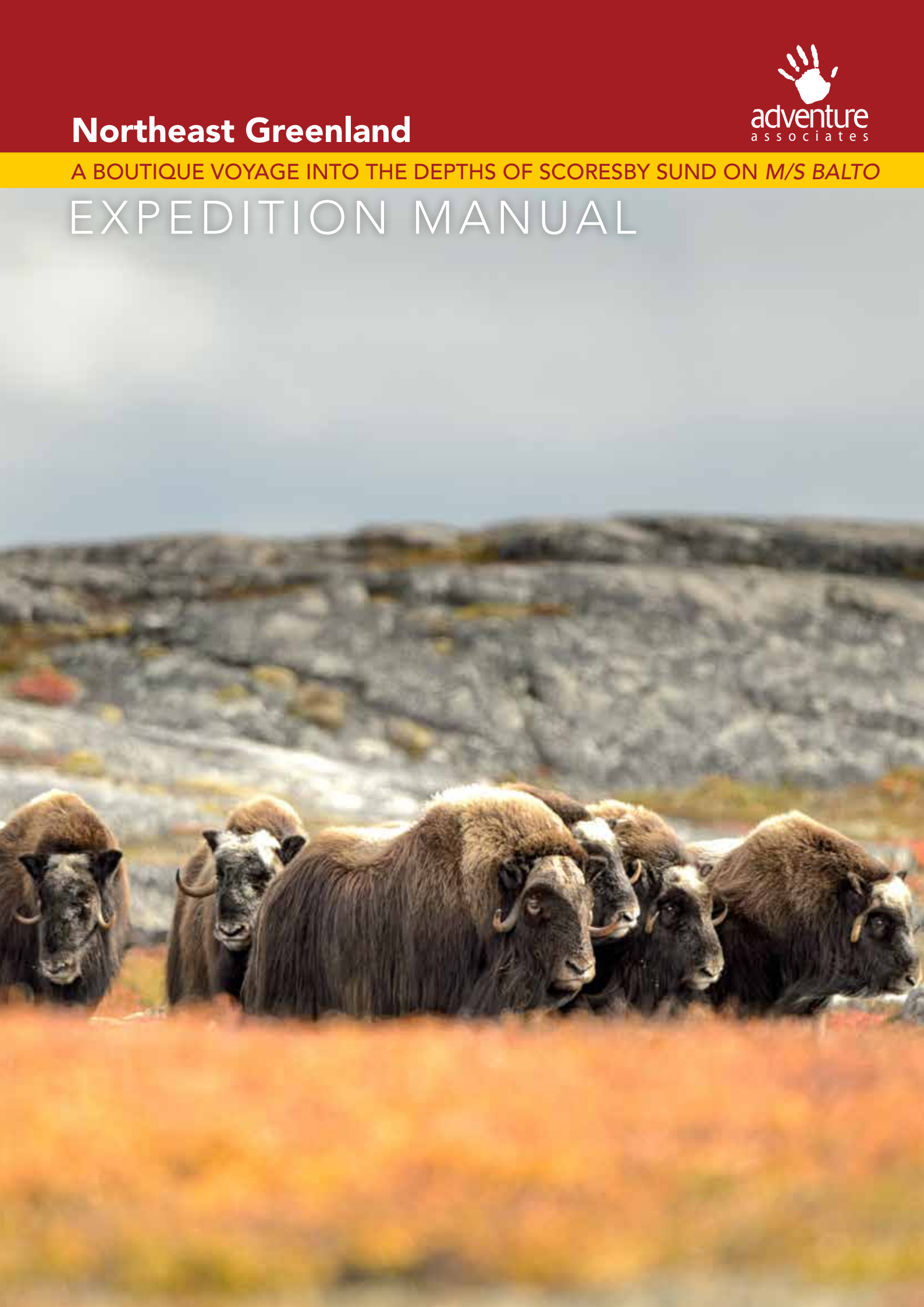
Northeast Greenland

adventure associates

A BOUTIQUE VOYAGE INTO THE DEPTHS OF SCORESBY SUND ON *M/S BALTO*

EXPEDITION MANUAL



Welcome aboard

We are thrilled that you will be joining us on this wondrous expedition to Northeast Greenland and the magnificent Scoresby Sund, the world's largest fjord system.

We'll experience Greenland's untamed wilderness onboard the charming little vessel *M/S Balto*, designed to explore the most remote fjords and take you to secret anchorages.

Greenland is a land of grand vistas, abundant wildlife and rich relics of early exploration. Over 3000 years, several waves of migration brought the Inuit people to the world's largest island, a majestic land that's also home to the iconic musk ox, reindeer, Arctic fox, Arctic hare and the king of the Arctic the mighty polar bear.

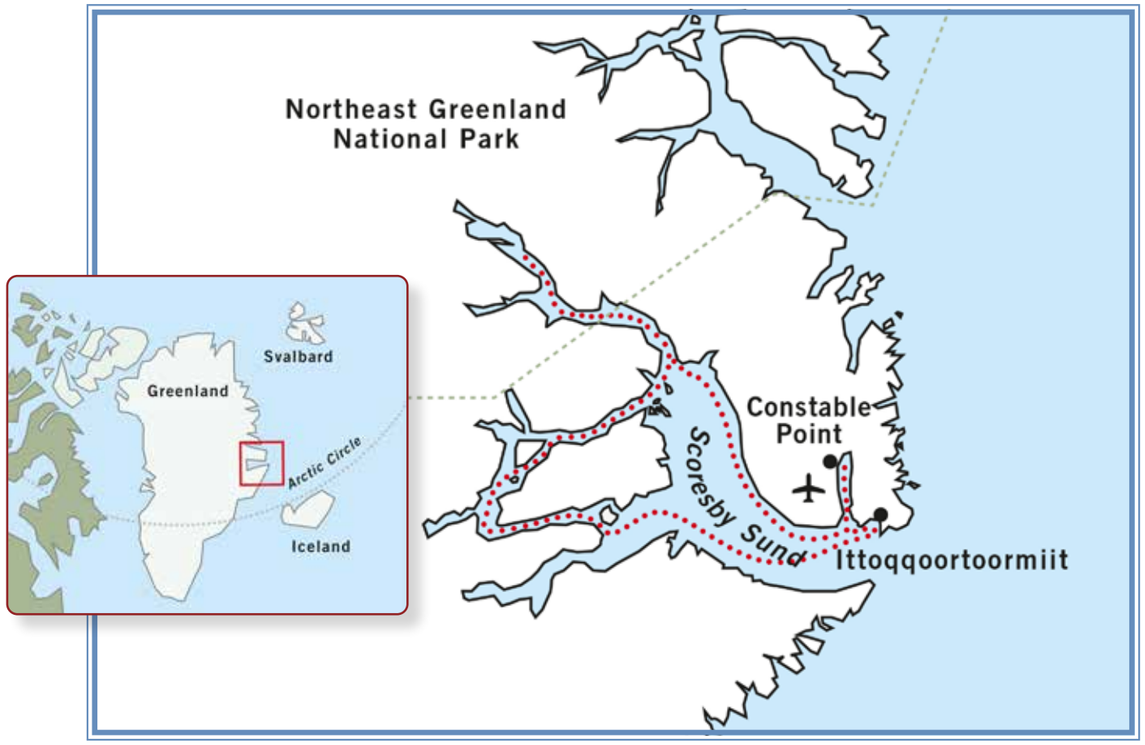
Its coasts are swept by frigid Arctic Ocean currents that sustain seals, whales and walrus and protect its spectacular ice sheet. Towering icebergs, aglow with summer's midnight sun gives way to early autumn opportunities to view Aurora Borealis – the northern lights.

We look forward to Welcoming you on board!

WHAT TO EXPECT ON THE EXPEDITION

It goes with out saying that polar travel is more unpredictable than a common cruise, so we encourage you to board the ship with a sense of adventure. Embracing the unexpected is part of the legacy, and excitement, of the expedition.

Traditional Greenlandic Dress



PROPOSED ITINERARY

Scoresby Sund stretches almost 300 kms from east to west. Numerous fjords radiate from the sound, the longest is 200 kms and extending to the edge of the inland ice cap. Scoresby Sund is one of the birthplaces of Greenland's famous giant icebergs and among the most scenically spectacular landscapes in the world.

Our aim is to spend as much time as possible outdoors, be it Zodiac cruising, hiking or wildlife viewing (or all three!) Our experienced Arctic team will use their knowledge to design a day-to-day itinerary that makes the best use of the weather, ice conditions and wildlife opportunities.

Our 8-day Northeast Greenland – Scoresby Sund In-Depth Adventure Onboard *M/S Balto* commences in Constable Point (Greenland).

WHAT'S INCLUDED

- 7 nights onboard *M/S Balto*
- All meals throughout the voyage, including snacks, tea and coffee
- Expedition Leader and guide
- All excursions and activities
- Guiding ashore and informative talks onboard
- All miscellaneous services taxes and port charges

WHAT'S NOT INCLUDED

- Any airfares, whether on scheduled or charter flights
- Pre and Post land arrangements
- Personal travel insurance
- Medical expenses, vaccinations, visa costs
- Excess baggage changes
- Personal expenses on board
- Gratuities for ship crew

PHOTO ELKA LINDNER

ITINERARY

The Itinerary below is just a sample of what we may encounter once we cast-off at Constable Point. The real joy of being on *M/S Balto* is the prospect of unforeseen wildlife encounters or of chance visits to rarely seen corners of the fjords.

Day 1
Reykjavik
We all arrive individually to Reykjavik and check into your hotel.

Day 2
Constable Point
Our group of guests will be meet for a transfer to the airport, from where we fly to one of the world's smallest airports, Constable Point, located at the end of a narrow fjord. We embark the *M/S Balto* and make ourselves at home. We are now in a part of the world where we are totally dependent on ice and weather conditions. Our exact itinerary depends on these factors and on the wildlife we encounter. Our ambition is to make landings every day with our rigid Zodiac crafts.

Days 3–8
Exploration of Scoresby Sund
We are travelling in one of the largest wilderness areas in the Northern Hemisphere. It introduces its visitors to some of the most spectacular coast lines in the world and the deep fjords are surrounded by majestic peaks and tundra covered slopes. We will use our sturdy Zodiacs to explore further afield, cruise amongst large stranded icebergs and make shore landings.

Scoresby Sund is the world's largest fjord system and could be explored for weeks. It offers some of the most spectacular scenery Greenland has to offer: jagged peaks as tall as 2000 meters coming straight out of the sea and rare glimpses of the Greenland ice cap, the largest ice cap in the northern hemisphere. Large glaciers pour into the sea, giving birth to an unexpected quantity of beautiful icebergs, some of them lager than high-rise buildings.

During our expedition we have good chances to spot magnificent prehistoric-looking musk-ox or the lovely white Arctic hare. We also keep

an eye out for snow bunting, gyrfalcon and ptarmigans. With an once of luck, we might encounter a polar bear. From the end of August, we have a great chance of seeing the magical Northern Lights.

We hope to circumnavigate Milne Land, the second largest island in Greenland, sailing through the narrow and spectacular Føhn Fjord, Røde Fjord and Ø Fjord. During walks on the tundra, we may find remains from early Inuit cultures that settled here. The archaeological record in Northeast Greenland is long and involves a remarkable diversity of groups that discovered and explored the region at least seven times over thousands of years.

As we sail into the rarely visited Nordvestfjord, we also enter the largest national park in the world at almost 1 million square kms. This fjord is often filled with icebergs making for challenging but spectacular navigation.

We also plan to visit Ittoqqortoormiit, home to some 450 Greenlanders and the only settlement in Northeast Greenland. It is located 500 kilometres north of the Arctic Circle and nearest town is Tasiilaq, 800 kilometres to the South.

In a town where the sea ice blocks ships from visiting most part of the year, hunting and fishing are the only ways of survival. During our visit we get a unique opportunity to learn more about the living and surviving in this remote part of the world.

Day 9
Disembarkation
In the morning we disembark in Constable Point and fly to Reykjavik and check into your hotel.

Please note: Our exact route will depend on ice, weather conditions and wildlife as well as permissions and restrictions from local authorities. The places mentioned are just examples of some of the many sites this region of Greenland has to offer. We always strive to maximize your experience. Please remember that flexibility is the key to a successful expedition!

SHIP DETAILS

M/S BALTO
Expedition Vessel

The *M/S Balto* named after the leading sled dog of 1925 Nome serum run. She was built for the highest ice class in Rauma, Finland, to serve as a government service vessel in the Baltic Sea. During 2019-2020, she has been totally refurbished and is now one of the roomiest and most elegant small polar expedition yachts in service. *M/S Balto* offers a relaxed luxury accommodation for 12 guests in 7 outside cabins, all with private facilities and lower beds.

On the guest deck you also find a cider lined sauna, accommodating 4-6 persons, with a cold shower and a small changing room. The richly appointed saloon and the beautiful dining room feature crotch-mahogany panelling, a bar, a card table, a library, coffee and tea stations. She offers a large restaurant style open galley, where you can check on the marvels of our chefs and sample freshly baked bread.

There are several open and semi enclosed deck spaces from where you can enjoy the stunning Arctic sceneries. You are welcomed by an international crew and the bridge is open for visitors.

The ship has been fitted with an electric diesel propulsion capable of maintaining versatile manoeuvring and survey speeds with no vibration. It is therefore ideal as film and photo platform. There is also a mud room for expedition gear and two Zodiacs for wilderness cruises and offshore experiences. *M/S Balto* is truly one of a kind when it comes to small polar expedition ships. Travelling with this unique 12-passenger ship offers a completely different and much more intimate experience of Greenland compared to a larger expedition ship.

A small group of merely 12 passengers gives us more flexibility, unique itineraries and more time ashore. Also, the footprints we leave behind are a lot smaller!

The *M/S Balto* is designed to explore the most remote fjord systems, visit isolated Inuit settlements and take you to secret anchorages to maximise each guest's experience in this unspoiled wilderness.

Ship's Bridge

M/S BALTO

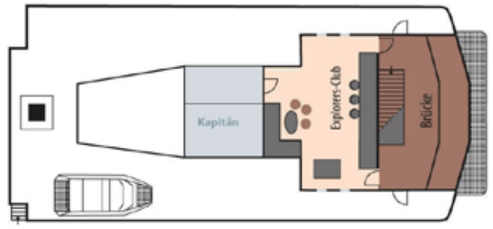
FLAG: Cook Islands
BUILT: 1975
PLACE BUILT: Finland
PASSENGERS: 12

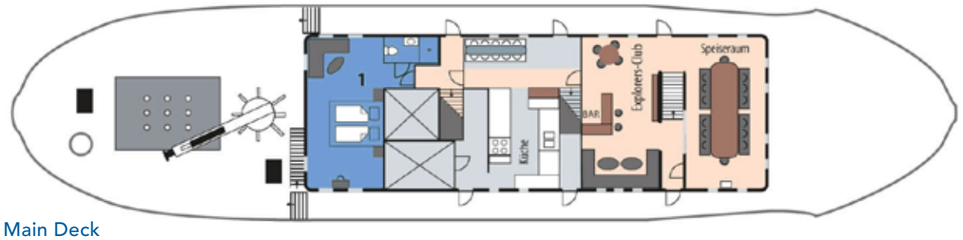
LENGTH: 39.75 m
BEAM: 9 m
MAXIMUM DRAFT: 3.2 m
SPEED: 9 knots

M/S BALTO DECK PLAN

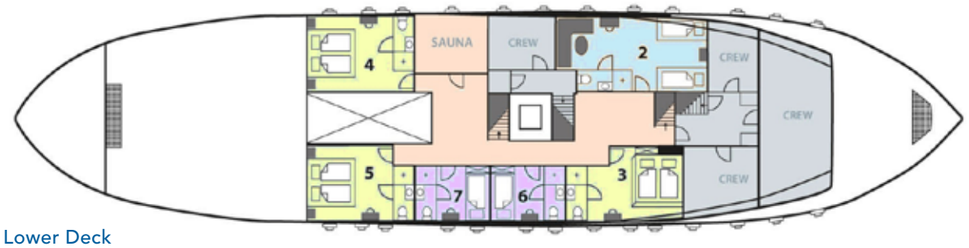
- OWNER'S SUITE: double bed with ensuite and lounge. Main deck
- SUPERIOR TWIN: twin beds with ensuite and lounge. Lower deck
- DOUBLE CABIN: double bed with ensuite. Lower deck
- SINGLE CABIN: one twin bed with ensuite. Lower deck

Top Deck





Main Deck



Lower Deck

Owner's Suite (lower deck)

Superior Twin (lower deck)

Double Cabin (lower deck)

Dining Room

GENERAL ONBOARD INFORMATION

BRIDGE: You are welcome to visit the bridge at any time, unless notified otherwise. This is an important working area and we ask you to respect the Captain's and Navigator's instructions. They may ask us to leave during times of difficult navigation. The ship is certified to the highest safety standards and is equipped with all survival gear such as life jackets and survival suits for all on board.

CABINS: There are seven outside cabins with either windows or portholes, all with private ensuites. All cabins are equipped with, wardrobes, desk and electrical outlets. In all cabins, you will find hair dryer, bathrobe, day-blankets, and hot water bottle, towels and sauna towels. Cabins will be cleaned and straightened daily. There is an "open-door" policy on board the ship and no cabin keys will be distributed.

COMMUNICATIONS: For passenger use *M/S Balto* can offer an onboard e-mail account charged by a setup fee and a data transmission rate. This e-mail account can be accessed from the passenger's own laptop via a wireless network from almost anywhere on the ship. The passengers can also buy phone cards for the satellite phone. For emergencies the ship can be contacted on Iridium Satellite Phone.

DINING ROOM/MEALS: The dining area seats all 12 passengers at once. Our chef on board prepares three meals a day. Breakfast and lunch are served buffet style and dinner is served at the table. The bread is baked on board. Coffee and tea are available all day and snacks are served in between meals. ***Please remember to inform us of any food restrictions in your personal information form.***

DRESS CODE: Since we are embarking on an expedition cruise, the dress code on board is informal. Please wear shoes with non-slip soles when moving around the ship.

ELECTRICAL: Electrical power is 220V and requires a 2-pin, round, European-style plug. We recommend that you bring an international adapter if you have devices that need to charge. There are outlets in every cabin.

LANDINGS & EXCURSIONS: There is a mud room for expedition gear and two Zodiacs for wilderness cruises and offshore experiences.

LAUNDRY: On trips exceeding ten days on board, extra laundry service can be provided, but a limited number of times. More information is provided on board.

LOUNGE: There is a spacious lounge with great views, a large sofa, a table with chairs, a small bar and a tea/coffee station. There is a cosy cast-iron stove. In the lounge you can find a small selection of wine, spirits, beer and soft drinks. Coffee and tea are available around the clock. Briefings, lectures and talks will be conducted in the lounge.

MEDICAL: There is no doctor on board but the officers and guides have first aid and basic medical training. The ship has basic medical supplies. People dependent upon regular medication should ensure they bring enough for the duration of the voyage. .

PAYMENTS: The currency on board the ship is USD. Credit cards (VISA, MasterCard, Amex) are accepted on board the ship. A tab of your expenses, for example bar purchases, will be kept throughout the expedition and will be payable at the end of the expedition.

SAFTY: *M/S Balto* is a vessel of extremely sturdy construction and seaworthiness and is equipped with all the modern safety, navigation and communication equipment.

SAUNA: There is a sauna onboard that accommodates 4-6 persons, has a cold shower and a small changing room.

SMOKING: There is no smoking inside the ship or on landings/excursions. Smoking will be allowed only in a designated area outside on the open deck. Please do not throw cigarette-butts in the water.

TIPPING/GRATUITIES: The ship's crew work very hard for us, there is no expectation for gratuities, however they would be very grateful.

WATER: The water on board is drinkable and of high quality.

norlandair FLIGHT DETAILS

Norlandair has gathered immense operational experience in the Arctic region and their aircraft are well equipped for flights within Greenland and Iceland.

DHC6 TWIN OTTER: Is a 19 seat STOL (short take off & landing) aircraft. Their versatility and manoeuvrability have made the Twin Otter popular in areas with difficult flying environments, such as the Arctic region.

BAGGAGE ALLOWANCE: One checked bag, max 20 kg is included in all fares, max size (length + width + height) is 158 cm (62 inches) preferred in a soft bag (large backpack or soft duffel bag for clothes and equipment). A soft bag is recommended as it is easily stored in your cabin. Due to limited space on board the flights only minimum hand luggage is allowed (small daypack, camera or similar), with a max weight 4 kg.

LOST LUGGAGE: Lost luggage is beyond our control. We recommend you take the following precautions:

- Pack your hand luggage with your essentials, such as medication and valuables
- Fly with your jacket & walking boots or gumboots onwith you on board
- Bring a change of underwear in your hand luggage
- If you have a travel companion, pack a few items in each other's luggage. If your luggage goes missing, you will still have some of your items available.

PHONES/COMPUTERS/POWER BANKS: It is recommended to travel with all electrical equipment such as phones, computers, rechargeable batteries, spare batteries and accessories in your hand luggage. If you choose to have electrical equipment in your luggage, you must ensure that the device is completely switched off.

FLYING TO NORTHEAST GREENLAND AND BOARDING THE VESSEL

Flights to and from Northeast Greenland operate based on weather conditions and other operational requirements. To and from the airport in Constable Point, flights only arrive and depart once a week (on Thursdays). You will land in the middle of a vast wilderness. There is only a dirt landing strip and 15 people working here. There are no roads that lead to any civilisation. There is one dirt road, approx. 2 kms, leading to the fjord, and *M/S Balto*. It is not an advanced walk, but make sure you are dressed for expedition. Transportation to/from the ship will most likely be by Zodiacs.

We are operating in an area where we are completely in the hands of the weather. It is not uncommon with flight delays due to fog. Therefore, it is very important that you book connecting international flights to/from Reykjavik with ample of time in between.

Constable Point

WELCOME TO GREENLAND

Thinking of Greenland probably conjures up images of the northern lights over frozen tundra, roaming polar bears, icebergs and Inuit culture.

Here are some essential facts about Greenland:

- Greenland, known as "Kalaallit Nunaat" in local Greenlandic
- The population of Greenland is 56,700 (2023)
- Total area (Sq Km) is 2,166,086
- The country is technically part of Denmark, but has home rule with its own domestic government.
- Greenland's capital is Nuuk, of around 18,000 inhabitants.
- The locals are called Greenlanders, and 90% are Inuit.
- The official language is Greenlandic.
- Greenlanders also speak Danish and English.
- The local currency is the Danish krone (DKK).
- The official religion is Evangelical Lutheran

Situated in the Arctic and Atlantic oceans, surrounded by a complex current system, the island is one of natural contrast, hosting all from deep fjords, glaciers, hot springs, grassy meadows and towering mountains. The island is also home to the Greenland Icesheet, the second largest ice sheet in the world after the Antarctic, the world's largest fjord system and largest National Park.

We love this jewel of the North and hope you will too!

EXPEDITION STAFF

EXPEDITION LEADER – HENRIK LØVENDAHL

Henrik has worked as an expedition leader and guide in both the Arctic and Antarctic since 1998. He has lead numerous voyages to Northeast Greenland, Svalbard, the Antarctic Peninsula, Papua New Guinea, along the Norwegian Coast and Scotland. He has travelled extensively to far and remote corners of the world, scaled Andean peaks, trekked in the Himalayas and dived in many exotic locations; but his greatest passion is the Polar region. Henrik and Sue spent three months living and working on the remote Sub-Antarctic island of South Georgia and ten months as dog-sled drivers on Svalbard during the Arctic winter. Most recently Henrik spent 6 month living in the mountains of Norway working as a dog-sled driver. He is truly at home in the world's wild places.

NATURALIST AND GUIDE – SUE WERNER

Sue graduated as a veterinary nurse before embarking on a more adventurous life as a professional outdoor guide mainly specialising in the Polar regions. Sue first ventured to the Arctic in 1997 on the *Kapitan Klebnikov*, completing the Northwest passage, High Canadian Arctic and was part of the first-ever circumnavigation of Baffin Island. Since then Sue has returned to the high Arctic latitudes every year and has spent a winter working in Svalbard as a dog handler and dog sled guide. Sue has a great passion for the Polar regions with a keen interest in the flora and fauna of the High Arctic. Sue will introduce you to some of the best places the Arctic has to offer.

WHY SCORSEBY SUND?

Scoresby Sund, English Scoresby Sound, deep inlet of the Greenland Sea, which penetrates eastern Greenland for 70 miles (110 km). Numerous fjords (the longest 130 miles) extend to the edge of the inland ice cap, where they are fed by large glaciers. The sound, charted by William Scoresby in 1822, is dotted with islands; the largest, Milne Land, is about 60 miles long and 25 miles wide and rises to 7,987 feet (2,434 metres). Ittoqqortoormiit (also called Illoqqortoormiut; Danish: Scoresbysund) is a hunting and fishing town founded in 1924 by Ejnar Mikkelsen. The town lies north of the sound's mouth at a place where fishing is possible throughout the year.

Scorseby Sund as seen from space.

William Scoresby, (born October 5, 1789, Cropton, near Whitby, Yorkshire, England—died March 21, 1857, Torquay, Devon), English explorer, scientist, and clergyman who pioneered in the scientific study of the Arctic and contributed to the knowledge of terrestrial magnetism.

At the age of 10 Scoresby made his first Arctic whaling voyage aboard his father's ship, the "Resolution," which he later commanded in 1811. In 1813 he established that the temperature of polar waters is warmer at great depths than at the surface. His Account of the Arctic Regions with a History and Description of the Northern Whale-Fishery (1820) contained his own findings as well as those of earlier navigators. His voyage to Greenland in 1822, during which he surveyed 400 miles (650 kilometres) of the east coast, was his last venture into the Arctic. He then began divinity studies at Cambridge and later became a clergyman. His new career did not, however, end his scientific work. In 1848, while crossing the Atlantic, he made valuable observations on the height of waves. He also voyaged to Australia in 1856 to gather data on the Earth's magnetism.

PHOTO: JOHN MCKIRDY

CLOTHING

The choice of clothing for cold climates is a very personal matter. It depends on your individual experience with cold conditions and can even depend on whether you feel you are more susceptible to the cold than other people. The following tips should help you to be comfortable and healthily warm in cold weather. We have found over the years that there can be considerable variation from summer to summer and people often say to us that they didn't use all their cold weather clothing. But it is certainly better to have more than not enough warm clothing.

In summer the average outside air temperatures in the areas we will visit are between +5^{0}C and –2^{0}C. Big storms are rare, but if one comes through, the temperature might drop dramatically. As we travel north east it will be colder than on the west coast.

Those who complain, 'It's not the cold, it's the wind,' are right. Wind removes the layer of warm air your body has heated around you to keep itself warm. A mere 6 k.p.h wind can carry away eight times more body heat than still air. The so-called wind-chill factor measures the increased cooling power of moving air, whether it's wind that is blowing over you, or your movement through the air. Being wet accelerates the loss of body heat. Air is a very poor conductor of heat, but water is an excellent one. If your skin or clothing gets wet, your body will lose heat much more rapidly. Even at 10^{0}C, you can suffer ill effects of cold if you are wet.

Avoid overdressing as this leads to perspiration; and in wet weather, wear **WATER REPELLENT OUTER GARMENTS** that will keep you dry on the outside but still "breathe" enough that moisture from your body can escape. Body heat is most likely to be lost from the hands and feet and the head. Keep them warm and dry. If the rest of your body is covered, as much as 80% of the heat you lose can come from your head; so be sure to wear a **WARM CAP** or **BEANIE**. For anyone out in the cold, it's far better to wear **LAYERS** of relatively **LIGHT, LOOSE, CLOTHING** than one thick, heavy item. Between each layer there is trapped air which, when heated by your body, acts as an excellent insulator. Avoid tight clothing, since it leaves no room for trapped air. **WOOL** and **SILK** are superior to cotton; because they can trap warm air. **SYNTHETIC FABRICS** that spring back into shape after compression are also good (i.e. polypropylene). When damp or wet, polyester is a better insulator than goose or duck down. The temperature on board the ship is between 17^{0}C and 25^{0}C, so there is a big drop when we venture outside to get onto the Zodiacs and travel ashore. The most important layer is the waterproof outer garment. Underneath that you will need 2 and in some instances 3 layers depending on the day – thermal underwear; thick, long sleeve shirt; jumper or fibre pile jacket. Your legs are generally not so susceptible to the cold but on most days you would also need thermal long johns. The most important footwear is gumboots or Sorrels if you already own them.

Dress onboard ship is informal and comfortable. Normal clothing on board is jeans; casual slacks or trousers; light, long sleeve shirts or t-shirts but a warm jacket should never be far away in case the call of "Bear" comes and you have to dash outside. A light pair of sports shoes with non-slip soles are handy to wear on the ship. A pair of sturdy **WATERPROOF** walking boots with high ankle can be used on some landings with longer walks. You will wear the rubber boots to shore then change to the walking boots on the beach.

WATERPROOF JACKET

A well fitting garment with attached hood that can be worn over your under layers with reasonable comfort. It is most important that this garment is thoroughly waterproof. The waterproof jacket is the most important layer of clothing. There is nothing worse than wind on wet clothes at near zero degrees.

WATERPROOF TROUSERS

Exactly the same requirements apply to the trousers as for your waterproof jacket.

FIBRE-PILE JACKET (POLAR FLEECE)

There are multi-choices of fibre-pile jackets available these days, but a 200 weight would be ideal. A woolen jumper of a similar weight is also appropriate

WARM TROUSERS

Fleecy tracksuit, or fibre-pile pants are suitable.

THERMAL UNDERWEAR

You should select reasonably thick thermal underwear. Long sleeve thermal top and trousers. You can also buy thermal socks. Wool is highly recommended.

WARM WOOLLEN OR DOWN SWEATER

Personal choice – thin ones are a good layer over your polypropylene underwear.

CALF TO KNEE-HIGH RUBBER BOOTS

These are your most important item of footwear and will be used on all of our shore landings with Zodiacs. Stepping out of the Zodiac to shore almost always involves stepping into water. The ground we walk over can also be wet and boggy due to melt water sitting on top of the permafrost. Buy them large enough to fit with thick socks, not too tight around the calf but not too sloppy. They need to be sturdy but comfortable for extended wear and walking. It may also be a good idea to purchase a thermal innersole or inner liner. They will keep your feet warmer for longer periods, when cruising in the Zodiacs. In Australia these can be purchased at most army surplus, farm or hardware shops. Choose a pair with strongly patterned soles – they will give you better grip; avoid sailing boots with flat non-skid soles.

SOCKS

Two pairs of socks and inner soles in your gumboots are more than enough to keep your feet snug. It is advisable to take thick and thin socks, as thick ones are too warm on board. You can also work out the best combination for your gumboots ashore if you have thick and thin socks. One pair of calf-length thick socks is very cosy.

GLOVES

It is advisable to take two to three pair of gloves. A pair of windproof/waterproof ski gloves is very good. A pair of lighter windproof fingered gloves for handling a camera. Some people find a large pair of rubber washing up gloves over thin polypropylene or wool gloves are a good combination for keeping hands dry in the Zodiac. These are another very important item of clothing, as cold, wet hands make you feel miserable. A spare pair of gloves should always be carried in case your first pair gets wet.

HEADGEAR

You will need a warm woolen cap or beanie that can be pulled down to protect your ears, forehead, neck and chin. The neck also needs protection with a woolen or synthetic scarf that can be wrapped around the face, when travelling against the wind.

USEFUL SUNDRIES

A camera with plenty of storage. Experience has taught us that it is advisable to bring an extra camera just in case of malfunction or accident. Be prepared with a standard European two round pin socket. The electrical supply on board ship is 220 volts, 50 Herz, for Australian appliances – there is no need for a converter.

PHOTO HENRIK LØVENDAHL

CHECK LIST

The average summer temperature is about +5° C. Weather conditions can change very quickly any time of the year and temperatures can drop below zero. It is not uncommon to experience strong wind with snow or light rain. The temperature inside the ship is warm so dress relaxed and comfortable.

Here is a check list with a few of the most important items to bring.

- [ ] Windproof/waterproof outer jacket and trousers
- [ ] Windproof and waterproof warm gloves
- [ ] Lighter windproof gloves
- [ ] Sturdy rubber boots suitable for walking
- [ ] Waterproof and warm walking boots (optional)
- [ ] Non slip shoes for walking around the ship
- [ ] Warm socks (liner and thick wool socks)
- [ ] Fleece or wool jumper/jacket (thick and thin)
- [ ] Fleece pants
- [ ] Warm hat
- [ ] Neck warmer or scarf
- [ ] Thermal underwear: long johns, preferably in wool; long sleeved top, preferably in wool
- [ ] Binoculars for wildlife viewing (good quality, very important)
- [ ] Small water resistant backpack for carrying stuff during excursions
- [ ] Waterproof bags for camera/electronic equipment
- [ ] Sun glasses, sun hat and sun screen
- [ ] Adaptor plug for European style power points (2 round pin)
- [ ] Personal prescription medications, seasickness prophylactic, headache medication
- [ ] Swimwear (if you intend taking a polar plunge)
- [ ] Collapsible walking poles

PHOTO HENRIK LØVENDAHL

GREENLAND MAMMALS

POLAR BEAR (*Ursus maritimus*)
The magnificent polar bear typifies the Arctic more than any other lifeform. Just being in the presence of the largest living carnivore on earth, sets the adrenalin flowing.

Although generally classified as a land mammal, the polar bear is, as its scientific name implies, just as much at home in the water as on the shore. Its huge furry paws are equally adapted as paddles in the sea as snow-shoes on ice and snow.

Exclusively circumpolar in distribution, this magnificent creature swims slowly and stealthily from ice floe to ice floe, looking for seals to dislodge and devour – especially ringed seals their favourite food.

Being so large and imposing, it has no enemies, apart

from human beings. Low temperatures do not bother it. Even in winter, protected as it is by a dense layer of fat and thick white (or creamy-white) hairs. Indeed, the polar bear's problem is not keeping warm in winter but keeping cool in summer.

The cubs are born in January in a den under the snow and tended exclusively by the female. Males are solitary for most of the year, and it is usually these lone males that are encountered by human visitors to the Arctic.

MUSKOX *(Ovibos moschatus)*
Although it's a member of the Bovidae family (as are sheep, goats and cattle), the muskox bears little resemblance to its nearest relations, or indeed, to any other animal.

During the last ice age, it was distributed throughout much of the northern hemisphere's glaciated areas but its current range is much smaller. Nowadays, wild herds are restricted to Kangerludduaq, Greenland and Northeast Greenland National Park.

The anatomy of the muskox, which weighs in at between 225 to 445kg, is one of nature's oddities. In front of its incredibly high shoulders, the enormous, low-slung head has two broad flat horns sweeping across the forehead rather like those of an African Cape buffalo, before curving outwards and downwards, then upwards and forwards. It's

incredibly thick and shaggy coat, with a matted fleece of soft hair (known as qiviut) underneath, covers the whole body, and hangs down like a skirt to almost reach the ground and swings from side to side when the animal runs.

Traditionally, wolves have been the muskox's main predator but polar bears have also been known to eat them. Their primary defence is to form a circle with the males on the outside and females and calves inside, trusting in the force of their collective horns to rip open any potential attacker. However, this defence has proven useless against human hunters, especially the Greenlandic Inuit people who love their beef-like meat and prize their warm qiviut hair. As a result, their numbers have been seriously decimated and only with restocking have they been able to thrive in their current range.

Although muskox isn't inherently aggressive towards humans, an animal that feels threatened can charge at speeds of up to 60km/h, and 'woe be' to anything that stands in its way. Keep at a safe distance of 200m and if the animal seems agitated or paws the ground, **DON'T RUN** but back off slowly until it relaxes again.

ARCTIC FOX (*Alopex lagopus*)
The Arctic fox is the region's most common and widespread land predator, and the most frequently observed, particularly as it is bold and inquisitive. It resembles the more familiar but shy red fox, of more southerly latitudes, but is smaller with shorter tail and legs, and blunter nose and ears. These features are no doubt an adaptation to the cold, since the smaller the surface area of appendages, the less risk there is of heat loss and frostbite. The Arctic fox does not hibernate, thanks to its adaption to life on the tundra, where it searches for small mammals, birds and their

nests and carrion. In lean times, even insects and berries. It also follows wolves and polar bears to scavenge the remains of their kill.

ARCTIC HARE *(Lepus arcticus)*
The largest of all hare species poses no identification problems as it is the only one resident in the Arctic. It is also fairly easy to observe, owing to its size, colour and behaviour. In Greenland, adult hares are pure white, apart from black tips on the ears. Although they blend into a snowy backdrop, they also inhabit tundra and rocky terrain,

where they stand out better, especially when they rear up and hop along on their hind legs. They are not shy, and they sometimes occur in large groups. The leaves and buds of the willow are the hare's favourite food.

WALRUS (*Odobenus rosmarus*)
The walrus is one of the most charismatic mammals in the Arctic. It is very social and you often see walruses lying close together in large groups on land. A walrus bull can be up to four metres long and weigh 1.5 tons, while cows weigh no more than one ton. Walruses have few enemies and feed on snails, clams, fish and crustaceans. Some, mostly elderly individuals have been noted to feed on seals. It seems to happen only occasionally!

The fearless walrus was hunted intensively for several hundred years, mainly for its valuable tusks, and the population decreased dramatically.

WHALES

NARWHAL (*Monodon monoceros*) The Narwhal is one of the world's most striking animals, and it spawned, by virtue of its long, spiralling tusk, one of the most charming myths

– that of the unicorn. Only the male sports the tusk, the longest recorded of which was 2.7m in length. It emerges from a hole in the left side of the upper lip, spiralling clockwise, and totally straight. The male may measure 4.7m, including its tooth. The female measures about 4.15m. Average weight for males is 1600kg and females 900kg. Breaking the water's surface to blow at intervals of about a minute the tusk is revealed first, followed by the dark blotched back with no dorsal fin.

BELUGA (*Delphinapterus leucas*) is a small toothed whale between 4-5m long. It has no true dorsal fin, which has given it its scientific name Delhinapterus: dolphin without

wing. The Beluga is the easiest of all whales to identify by its pure white colour, although this yellows with age. Rotund and robust, the beluga is a sociable creature, rarely alone, and relatively common around the ice. However, it has a ridge along the spine, darker pigmented than the body and often scarred by contact with the ice. Beluga fins have an important function when the whale moves in narrow places or swims slowly backwards.

MINKE WHALE (*Balaenoptera acutorostrata*) is the smallest baleen whale. Instead of teeth it has some 300 yellowish-white baleen plates on each side of its upper jaw. These plates work like a sieve when they catch their food, small zooplankton. Minke whales can be up to 10 metres long and weigh nearly 10 tons. Its body is slender and streamlined, dark grey on top with white or pale bands on the pectoral fins.

HUMPBACK WHALE (*Megaptera novaeangliae*) also belongs to the baleen family. It is black, with a white underside, and has longer pectoral fins than any other whale. An adult humpback whale is about 15 metres long, its pectoral fins are about 3.5 meters long and it weighs up to 40 tons. Humpbacks are known worldwide for their breaching (lifting whole body above the water) and for its unique singing.

SEALS

BEARDED SEAL (*Erignathus barbatus*) which lives year-round in the Arctic, is a large, solitary species whose remarkably bushy, walrus-like moustache makes identification easy when it lies on an ice floe, as it often does. It feeds mainly on clams scraped from the sea floor.

HARP SEAL *(Pagophilus groenlandicus*) is only slightly larger than the ringed seal but easily distinguished by its large, irregular dark patches on a paler background – giving a map-like pattern or, in the imaginative vein of its original name, a harp-like shape. Harp seals are denizens of deep Arctic waters, but they come inshore farther south in later summer to drop their pups on the ice.

RINGED SEAL *(Pusa hispida),* like the much larger bearded seal, is a permanent resident of the Arctic, and the one most often encountered. It is named after the diagnostic pale, ring-like markings on its grey upper parts. Unique among seals, the pups are born in a lair built by the female deep under the snow, with access through the ice floor to the sea below. They feed on small fish, krill and other small marine creatures.

BIRDS

NORTHERN FULMAR (*Fulmarus glacialis*) One of the world's most common and widespread sea birds, the fulmar resembles a miniature albatross in its effortless gliding flight on stiffly held wings, often accompanying boats for hours on end. Its tube nostrils show that it is indeed related to the albatross and other members of the petrel group.

PINK-FOOTED GOOSE (*Anser brachyrhynchus*) is both the largest and the most common goose species in the Arctic. It is relatively shy and difficult to detect. In late August the geese gather in flocks and by the last week of September, they will have gone south to their winter habitats in Denmark, Germany, Belgium and Holland. They return to the Arctic in early May each year.

BARNACLE GOOSE (*Branta leucopsis*) is smaller and nests in small colonies or in single pairs both on the tundra and the cliff walls. Thanks to successful protection of their migratory routes to Holland and their winter quarters there,

the number of individuals is now almost 30 000 – compared to only a few hundred geese fifty years ago. In recent years, some barnacle geese have chosen not to make the long migration northward, and nesting sites have been seen in Stockholm!

BRENT GOOSE (*Branta bernicla*) is approximately the size of a duck and it is the smallest goose in the Arctic. It arrives to the Arctic from its winter quarters in western Denmark and the British Isles in late May/early June. Brent geese almost always nest on tiny islands, where the Arctic fox cannot reach them.

GREAT SKUA (*Stercorarius skua*) is the largest of the skua family. It likes to put its nest near bird cliffs and sometimes acts as a predator not only pursuing gulls and auks to scrounge on their catch, but also attacking them in flight and killing their prey by drowning it.

ARCTIC SKUA (*Stercorarius parasiticus*) is the northern hemisphere's most common skua. Apart from the Arctic it is found along the coasts of both Sweden and the UK. In the Arctic it gets food in one single way: by stealing it from the kittiwake.

LONG-TAILED SKUA (*Stercorarius longicaudus*) nests sporadically in the Arctic, and is actually more common in the Scandinavian Mountain. It likes to feed on lemmings, ptarmigan chicks and snow buntings.

KITTIWAKE (*Rissa tridactyla*) numbers hundreds of thousands of kittiwakes in the Arctic. They are typical bird cliff dwellers and nest in close-knit colonies. You can hardly hear

your own thoughts when in the vicinity of a kittiwake colony, their characteristic three-toned sound shrieks among the cliffs. Its loud cry has produced its English name – Kittiwake.

IVORY GULL (*Pagophila eburnea*) is an Arctic beauty that never leaves the Arctic Ocean, not even during the dark season. It is a true survival expert eating everything from eggs, chicks and leftovers from polar bear dinners to seals' faeces and krill in the sea. It's entirely white plumage makes it easily recognisable. It is an endangered species throughout its circumpolar distribution area except for Alaska.

GLAUCOUS GULL (*Larus hyperboreus*) is a large and powerful gull which nests in scattered colonies near the large bird cliffs. Glaucous gulls like to eat all kinds of eggs and chicks, and find many other things edible. They leave the Arctic in September-October and will return in March or April. Winters are spent in the north Atlantic along the coasts of Norway, Iceland and Great Britain.

In addition to the three most common gulls, we may encounter the rare Sabine's gull (Larus sabini) and even the more rarely seen Ross's gull (Rhodostethia rosea).

ARCTIC TERN (*Sterna paradisaea*) holds the world record of long flights! Some Arctic Terns annually migrate from the Arctic to Antarctica.

ATLANTIC PUFFIN (*Fratercula arctica*) you need not be a great expert on birds to recognise this charming "sea parrot" with its colourful beak, orange-red feet and bulging breast. The Atlantic puffin is not particularly numerous in these higher latitudes, but nests in small colonies. The Atlantic puffin is slightly larger than its relatives on the Norwegian mainland.

LITTLE AUK (*Alle alle*) a high Arctic specie that nests in dense colonies among the scree at the base of cliffs. The world population is estimated to an incredible 15 million pairs. They are much smaller than other auks, similarly black above and white below but with a tiny stubby beak. Their "elfin laughter" is one of the strangest sounds of the High Arctic summer. The feed on small marine invertebrates.

BRÜNNICH'S GUILLEMOT (*Uria lomvia*) second to the little auk, Brünnich's guillemot is the most numerous among the auks. The birds spend the winter in large flocks in the Barents Sea and around Iceland, Greenland and Newfoundland.

BLACK GUILLEMOT (*Cepphus grylle*) doesn't form such a large colony as other auks do, but prefers to nest together in groups of around 50 other individuals. They often nest in caves and recesses, and as close to the sea as possible. During September-October the black guillemot heads out to sea. Many of them remain near the breeding grounds all year round.

COMMON EIDER (*Somateria mollisima*) nests in colonies on low-lying grass or moss-covered islands and islets during the summer months. It returns in April after having spent the winter along the northern coast of Norway. It is shy and

easily disturbed duck and it is forbidden to go ashore on islands with eiders during the nesting season.

KING EIDER (*Somateria spectabilis*) iis smaller than the common eider. The beautiful cock, as its Latin name implies is spectacular and unmistakable with its black body, white breast and beautifully coloured head. The female resembles the common eider but has a finer pattern and has a shimmer of red on her costume. King eiders are only seen early in the season often accompanied by common eiders.

PURPLE SANDPIPER *(Calidris maritima)* is most common among the wading birds. The purple sandpiper is a well-camouflaged blending well into the surrounding terrain, providing it protection from gulls, skuas and Arctic foxes. They nest on the ground, often in the same place year after year.

GREY PHALAROPE (*Phalaropus fulicarius*) is a high Arctic wading bird and a rare, specie that will visit land

only during the short nesting season. In them we find an inverse breeding pattern: when the female has laid her eggs the male will take over the responsibility for them and the chicks. Once the chicks are strong enough, they journey south to the sea far off the West African coast where they spend the rest of the year.

RED-THROATED DIVER (*Gavia stellata*) during the latter part of May arrive from their winter quarters along the North Atlantic coasts to their breeding grounds in the Arctic. The nest is usually placed on little islands in inland lakes. Divers feed on fish that is often caught away from the nest, usually in the sea.

SNOW BUNTING (*Plectrophenax nivalis*) is a songbird and a spring messenger! They nest – in everything from rock crevices and nooks to a secluded corner of an old hut. In August, families of snow buntings gather for their flight over the open sea to the Russian steppes in the southeast where they spend the winter.

ROCK PTARMIGAN *(Lagopus muta)* This is one of the few Arctic birds that stay put all year. When winter comes to the tundra the rock ptarmigan lives under the snow, feeding

off leaves, berries and young shoots. With their cryptic colouration they are hard to spot when crouching still on the ground, but in flight their white wings make them easy to observe.

PEREGRINE FALCON (*Falco peregrinus*) can appear anywhere, striking terror into almost any other bird as it dashes past. Often the first sign of its presence is when all the birds rise up in the air in alarm; that's the time to look for its rather pigeon-like silhouette but with sharper wings, a black moustache-like stripe and much more powerful flight. The closely related gyrfalcon *(Falco rusticolus)* also occurs throughout the Arcitc.

PLANT LIFE

The word 'Tundra' means 'treeless plain' and is loosely used to describe Arctic terrain above the tree line. Typically, it is open, bare ground with a patchy covering of low-growing vegetation – shrubs, grasses, reeds, sedges, flowering plants, lichens, mosses, liverworts and algae. All these plants have a tough time and their hold is precarious to say the least. In winter they are exposed to icy, drying and abrasive winds or are covered in snow, while in the spring thaw the easily eroded thin layer of poor-quality soil they grow in becomes waterlogged because of the permafrost below.

To survive in these conditions, plants need to keep low and maintain a good grip with their roots, which can expand only sideways. In the frier and higher parts of the tundra, typical plants include berry-bearing shrubs and a myriad of flowers like purple saxifrage whose blooms are the first harbingers of spring; moss campion, looking like a purple-studded pin cushion; mountain avens with its yellow and white single flowers, and various species of gentian, pushing up their incredibly blue trumpets towards the sky, Dry river beds are the favourite habitat for the broad-leaved willow herb – sometimes called river beauty or dwarf fireweed – the national flower of Greenland.

Unlike typical sturdy tundra flowers, the Arctic poppy seems to defy the elements with its delicate petals on slender stems – and, perhaps incongruously, is the one Arctic flower that everybody can name.

The damper parts of the tundra are where low-lying land is poorly drained owing to permafrost, where rivers overflow in the spring thaw, or where snow or ice remain well into summer. In such areas the nodding heads of cotton-grasses abound. Also, to be found are two remarkable carnivorous plants the round-leaved sundew and butterwort, whose sticky leaves produce an enzyme to digest trapped insects. Many other species await to traveller appreciative of botanical beauty.

Below, clockwise from top left: Moss Campion; Dwarf Birch; Purple Saxifrage; Broad-leaf willow herb; Arctic Cotton Grass.

PHOTO HENRIK LØVENDAHL

PHOTOGRAPHIC TIPS AND SUGGESTIONS

We expect that everyone will bring some kind of camera be it a mobile phone camera or a professional type SLR camera with all the bells and whistles. Photographing in the Arctic can be very challenging. Bright light reflecting off water, snow or ice with dark rocky backgrounds, grey, overcast sky, flat light and moisture in the air are all part of the High Arctic cocktail of light. But one of the greatest delights of being in the High Arctic is the mysterious light of full summer. Care is needed when photographing from a moving Zodiac because of the risk of salt water spray.

Below are a few simple tips and suggestions that may help you get sorted before you go. What ever camera you bring it is possible to get good images.

- Get to know you camera, make sure it is working correctly and that you understand all its main functions.
- Read and bring the instructions manual. Download an electronic version onto your PC.
- Bring extra memory cards and spare batteries and remember the battery charger…
- Have some way of keeping your camera equipment dry and safe during landings and Zodiac excursions. Lightweight nylon dry bags work well and are available in many sizes.
- Consider bringing a rain-sleeve to keep moisture off your camera equipment when out in the weather. Zip-lock bags are good for smaller cameras. A transparent plastic bag with a rubber band around the lens works for SLR type cameras.
- Tripods, Monopods and Beanbags: A good quality tripod is invaluable for the serious photographer. However they can be big, heavy and cumbersome to carry during landings. A monopod is lighter and can be used as a walking stick for support. A beanbag can be placed on the railing of the ship to support bigger lenses and dampens any vibrations.
- If you bring an SLR type camera a good zoom lens for wildlife photography will be handy. 200mm – 300mm is a good focal length. Keep in mind that on an SLR camera with a 1.5 crop-factor sensor a 200mm lens is equivalent to a 300mm lens on full frame sensor.
- There is no dedicated camera store in Longyearbyen. The supermarket has a few cameras and some accessories available for sale. Bring what you need from home.
- We recommend that you carry all photography equipment, cords and chargers and storage devices in your carry-on luggage in case your main luggage is left behind somewhere.

PHOTOS HENRIK LØVENDAHL

ENVIRONMENTAL GUIDELINES

OUR RESPONSIBILITIES

Tourism and cruise activities in the Arctic operate within a comprehensive framework of international and national laws and regulations to ensure safety and preservation of the environment.

YOUR RESPONSIBILITIES

From these set of guidelines we have picked out a few basic rules that we ask you to read carefully. Further information will be provided on board.

1. Leave no lasting signs of your visit
You must not leave any litter behind, including small items such as cigarette butts. Do not engrave on rocks or buildings and do not build cairns, rearrange stones or in any other way leave visible signs of your visit. Avoid stepping on flowers or plant beds if at all possible.

2. Do not pick flowers
In some parts of the Arctic flora is protected by law, in others not. But we regard all flora as protected and ask you to not pick flowers or other plants.

3. Do not take anything with you
We encourage you to leave the Arctic as it is. Cultural remains are protected. We ask you to leave stones, bones, antlers, driftwood and other items where they are.

4. Do not disturb animals and birds
We regard all fauna in the Arctic as protected and will avoid disturbing animals and birds as far as possible. When close to animals and nesting birds, avoid making loud noises and keep conversation low and calm.

5. Leave cultural remains alone
Cultural remains are protected by law and a zone of 100 meters around the remains is also considered a protected zone. Watch where you are walking and standing. Walk around and not in between objects. Do not take anything with you and do not attempt to touch or rearrange objects.

6. Take the polar bear danger seriously
Polar bears are potentially dangerous animals, but also vulnerable. It is of the utmost importance that you follow your guide's instructions. Important rules for behavior in polar bear areas are listed below.

7. Respect local culture and local people
When visiting local communities, please remember that you are a guest. Respect people and local cultures.

8. Be safe
Travel in Arctic areas may involve various risks. Rule number one is that you must always pay attention to and follow the instructions given by your expedition leader or guide. Never stray from your group.

Polar bears and firearm safety
Polar bears can be encountered anywhere, anytime! Although bears normally will try to avoid encounters with humans, they are potentially extremely dangerous to humans. But polar bears are also vulnerable. We will make every effort to ensure both your and the animal's safety and therefore the following rules are non-negotiable.

Staff members will be carrying firearms and other bear deterrents in areas where polar bears could be encountered. The staff is trained in firearm handling. But firearms can be dangerous. Do not make any attempt to touch or hold firearms.

POLAR BEARS

- Never stray from your group and the leaders carrying equipment to protect you.
- If you catch sight of polar bears, stay calm and immediately inform your guide.
- Never approach a bear if you catch sight of it.
- Never leave food anywhere in an attempt to lure polar bears.
- Follow your leader's instruction.

RABIES

Rabies has been detected in Arctic regions. Some animals, such as the Arctic fox, Arctic dogs and Arctic wolves are potential carriers of rabies.

- Never touch live or dead wild animals.

Thank you for helping us conduct respectful, environmentally-friendly and safe tourism in the Arctic.

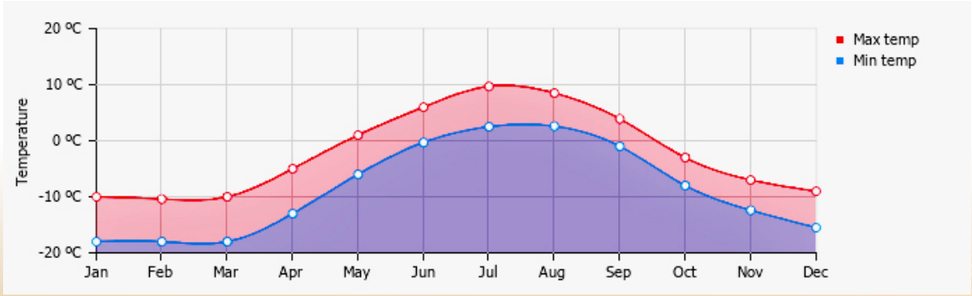
PHOTO HENRIK LØVENDAHL

THE MIDNIGHT SUN

As the earth revolves around the sun, the tilt of its axis creates our progression of seasons. We see the sun higher in the sky in the summer because the earth's axis "leans" toward the sun. When the northern hemisphere tilts towards the sun in summer, the entire area within the Arctic Circle remains in light for the entire day. If you live on the Arctic Circle, there is only one day during the year when the sun does not set – the summer solstice (June 21). As one travels towards the pole the number of days with 24-hour sun increase until, at the pole, there are six months of day and six months of night.

The Sun stays above the horizon during part of the summer and circles around the observer. It rises higher in the sky at noon and lower towards the horizon at midnight. Despite the continuous light, there is a marked variation in temperature during the day because of the changing angle of the sun.

AVERAGE DAY AND NIGHT TEMPERATURES IN ITTOQQORTOORMIIT (GREENLAND)



- Cold season / winter is in the months January, February, March and December.
- On average, the warmest month is July with 15°C (59°F)
- On average, the coolest month is February with -2°C (28°F)
- The average annual maximum temperature is: 5°C (40°F)
- The average annual minimum temperature is: -4° C (24°F)

PHOTO SUE WERNER

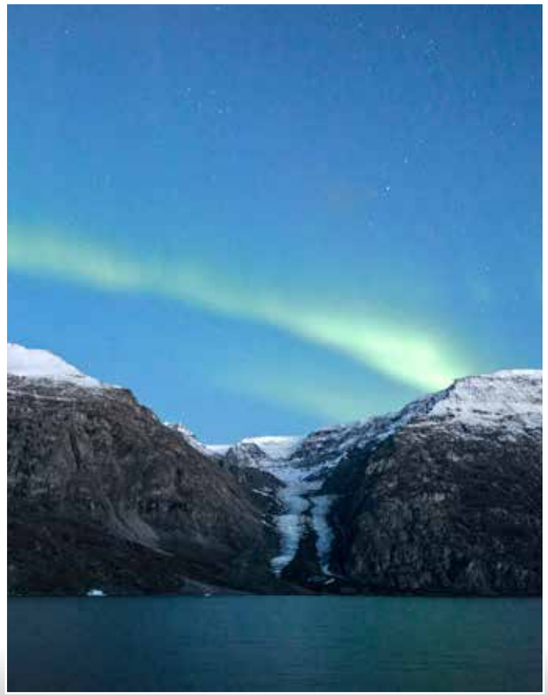
AURORA BOREALIS *(Northern Lights)*

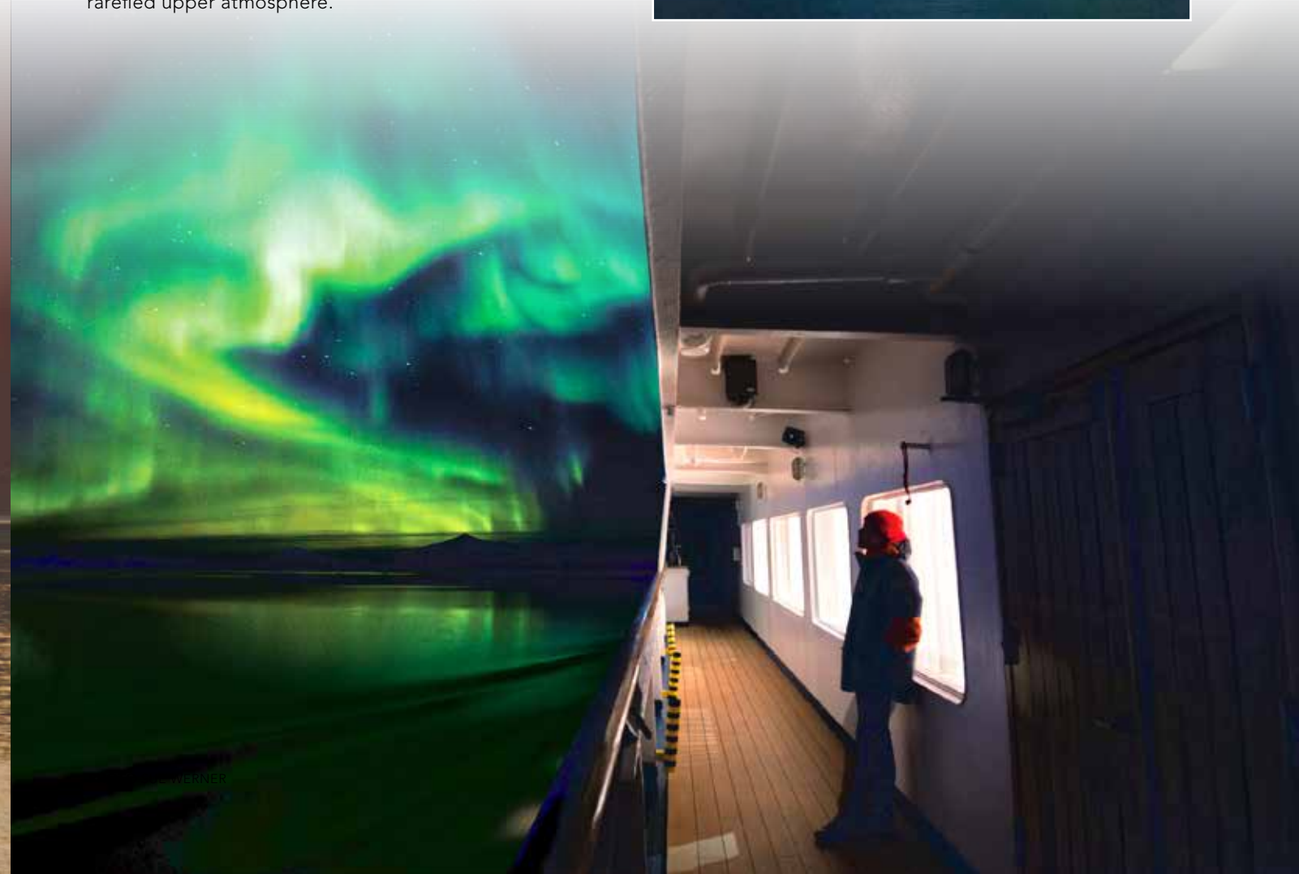
"So, tremble the northern lights their silver veil across the heaven, soon gold, soon green, soon reddish; spreading; gathering again in a breathless rush; vibrant illuminated silver threads in exuberant folds; sparkling luminous waves that journey on, and the brilliance lost only for a moment."

Fridtjof Nansen

Best seen in the winter months when the sun is well below the horizon from a latitude well north of Norway, the Aurora takes the form of arcs and beams of pulsating and flickering coloured lights quivering and shimmering and filling the upper sky, in the style of a fluorescent screen. The curtains and draperies of colour may be a mix of yellows, greens, violets and flaming reds, though green auroras are the commonest. Even in high summer there is a fair chance of seeing the effect, though it will be confined to smoky blacks and greys sweeping across the sky.

Aurora (borealis and australis) is confined to the magnetic pole areas, but they are performances displayed many kilometres high in the sky and stretched over thousands of kilometres wide. They are caused when electrically charged particles streaming towards earth from the sun strike oxygen and nitrogen molecules in the rarefied upper atmosphere.





SUGGESTED READING

We will have a small selection of reference books available on the ship.

GENERAL

Under the Great Ice
Climate, society and subsurface politics in Greenland
Author: Mark Nuttall

Exploring Greenland
Cold War Science and Technology on Ice
Author: Ronald E. Doel

One Thousand Days with Sirus Patrol
Author: Peter Schmidt Mikkelsen

SCORESBY SUND The fourth book in the series: *"Discovering North-East Greenland"*.
Author: Peter Schmidt Mikkelsen

Rocks and Ice: Landscapes of the North
Author: Rolf Stange

The Snow People
Author: Marie Herbert

Miss Smilla's Feeling for Snow
Author: Peter Høeg

The Ice at the End of the World
An epic journey into Greenland's buried past and our perilous future
Author: Jon Geriner

HISTORY

A History of Arctic Exploration
Author: Juha Nurminen

The First Crossing of Greenland
Author: Fridtjof Nansen

Farthest North
The great Norwegian polar explorer Fridtjof Nansen's classic account of the voyage of the Fram, originally published in 1897

The Last Viking: The Life of Roald Amundsen
Author: Stephen R. Bown

Ice Ship: The Epic Voyage of the Polar Adventurer Fram
Author: Charles W. Johnson

WILDLIFE

A Complete Guide to Arctic Wildlife
Author: Richard Sale

The Arctic: A Guide to Costal Wildlife
Author: Tony Soper

Polar Bears on the Edge: Heading for Extinction while Management Fails
Author: Morten Jørgensen

A Nature and Wildlife Guide to Greenland
Author: Benny Génsbøl

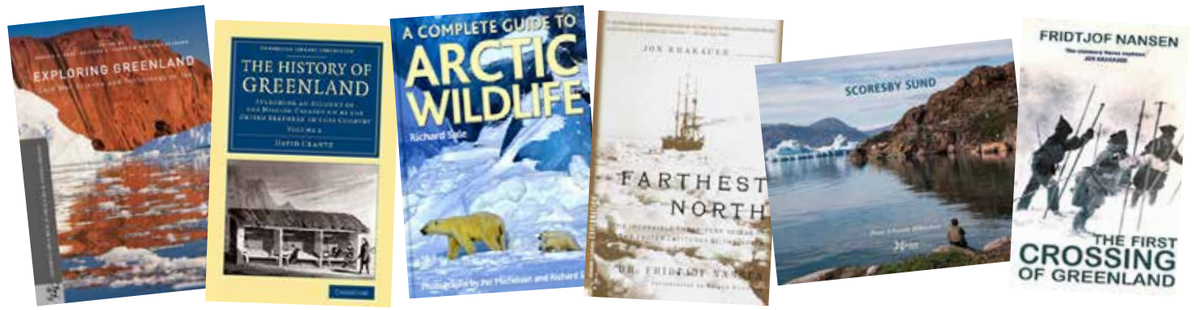
FLORA

Tropical Arctic
An illustrated visit to the tropical arctic of 205 million years ago when Greenland was green
Author: Jennifer McElwain

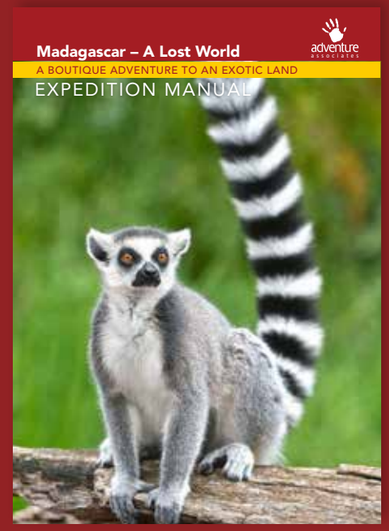
Flowers of Greenland
Authors: Jon Feilberg, Bent Fredskild, Sune Holt

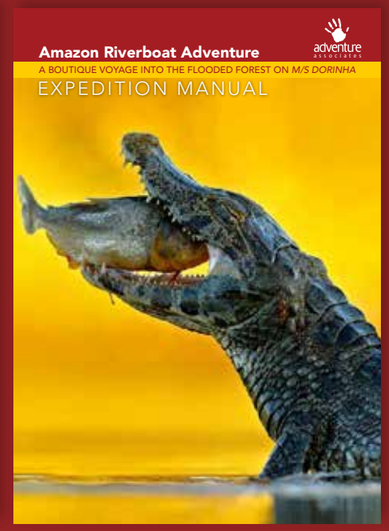
A selection of these books can be bought online from the following online bookstores:

nhhs books – wildlife, ecology & conservation
https://www.nhbs.com
Booktopia:
https://www.booktopia.com.au/



CONTACT US FOR OUR OTHER DESTINATION MANUALS





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adventure associates

PO Box 246
Blackheath NSW 2785 Australia
Phone (+61 2) 6355 2022
Email mail@adventureassociates.com
Web www.adventureassociates.com