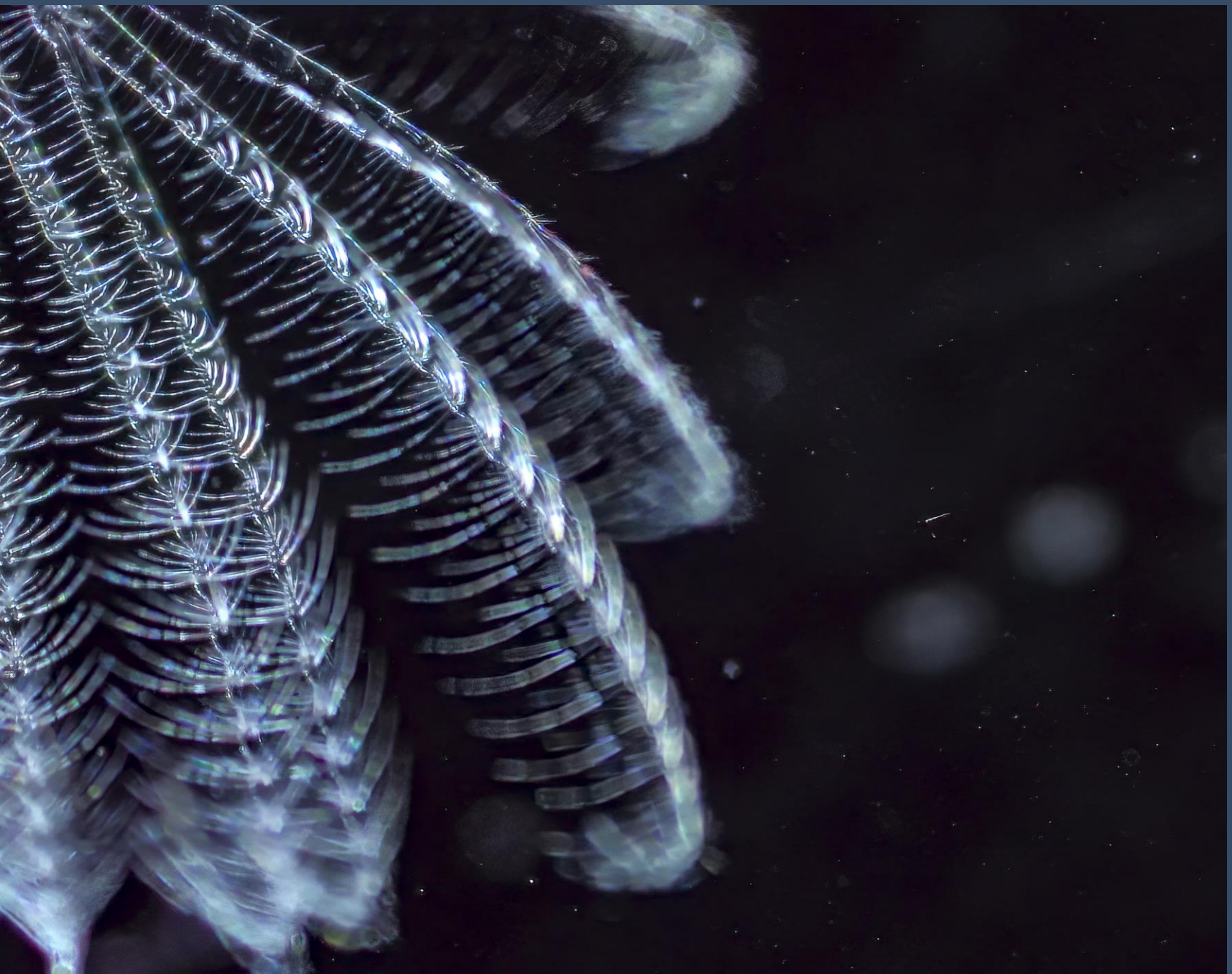
Science & Education Report

MS Spitsbergen

7 – 14 February 2026

Ultimate Norway – Arctic Expedition under the Northern Lights



Science & Education Programme

Our Science and Education Team accompanied you during your voyage along the European Atlantic coast.

Together, we had the opportunity to explore our destinations' rich history, culture, natural beauty, and exceptional wildlife. We organized lectures and interactive activities on board and explored our destinations on land and from the sea.

Årøya

Årøya is just one of the interesting places we visited. It is scattered with old foundation walls and traces of long-gone settlements, silent evidence of centuries of farming, trade, and defence. The island later became military property in the 1950s, and for decades – until 2006 – civilians were completely barred from entering.

Human activity here stretches far back. Iron Age travellers are believed to have landed at nearby Bunkholmen for ceremonial bear burials, suggesting Årøya was known and visited even then.

The first written records appear in the early 1600s, when the local sheriff collected taxes for the Swedish king – payments in eiderdown, cod-liver oil, furs, and dried fish. By the late 17th century, the island had several users, including the parish priest of Karlsøy.
In the 18th century, Årøya became a lively stop in the Russian Pomor trade. Grain arrived from the east, fish went the other way, and the harbour grew into a bustling little trading post.

Culture

Over this seven-day voyage, we have immersed ourselves in nature through what Norwegians call *friluftsliv*. More than simply spending time outdoors, friluftsliv is about actively engaging with nature and recognising our place within it. Throughout the journey, we embraced this philosophy firsthand.

In Lofoten, we explored both landscape and history, learning about the famous winter cod fishery that takes place from January to April. First practiced by the Vikings over a thousand years ago, this fishery continues today, drawing fishermen from across Norway and remaining a cornerstone of coastal life.

Geology

Norway has an ancient and complex geological history. Mountains in this part of the country are composed of Precambrian rocks. These rocks are exposed in basement windows, where erosion and tectonic processes have revealed the deeply buried crystalline basement. The basement mainly consists of granitic gneisses as well as mangerite and charnockite that are about 1.8 billion years old. Later, during the Caledonian Orogeny 400 million years ago, a continental collision between two paleo-continents caused significant mountain building and uplifted these geological terrains. Subsequent erosion erased much of the Caledonian cover.

During glacial/interglacial times over the past two million years, a combination of sea level, isostatic rebound, and erosion enhanced the relief, forming today's landscape: jagged mountains, fjords, and sounds.

iNaturalist

Throughout our expedition, we documented the flora and fauna of Northern Norway and uploaded all our findings to the biodiversity platform iNaturalist.

Though much of the plant life was covered in snow and frost, we collected 61 observations of 36 species!

This effort contributes to a more comprehensive understanding of biodiversity in the region and can aid researchers in their ongoing studies and conservation efforts to protect these species.

You can view the data submitted on our project by scanning the QR code.

Underwater Drone

We used a Blueye Pioneer underwater drone to explore the underwater world of Northern Norway, on the island of Tranøya.

Under the surface, we discovered forests of seaweed, numerous hermit crabs, and even some bottom-dwelling (benthic) fish and shrimp species.

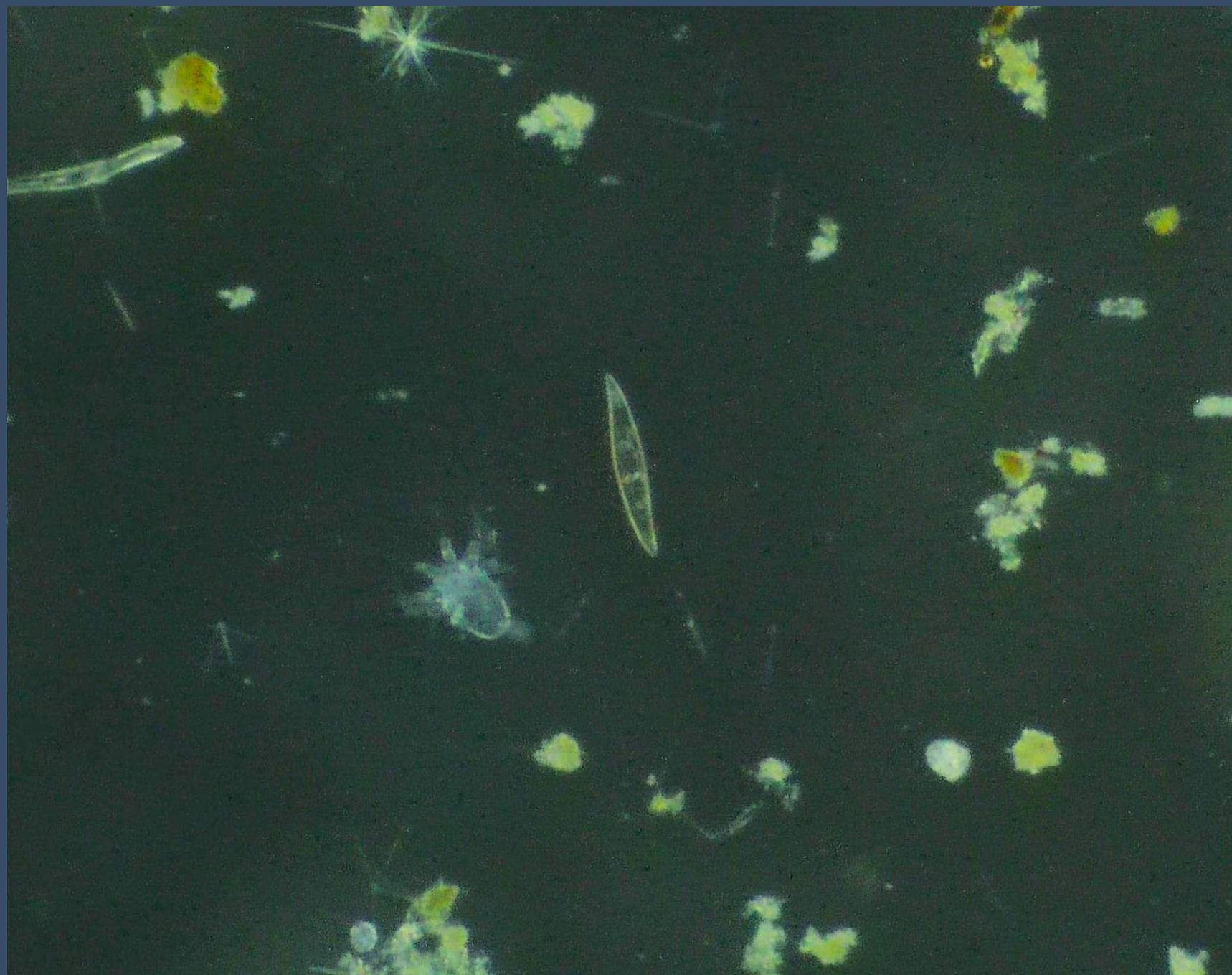
View the highlights from our underwater drone footage on YouTube

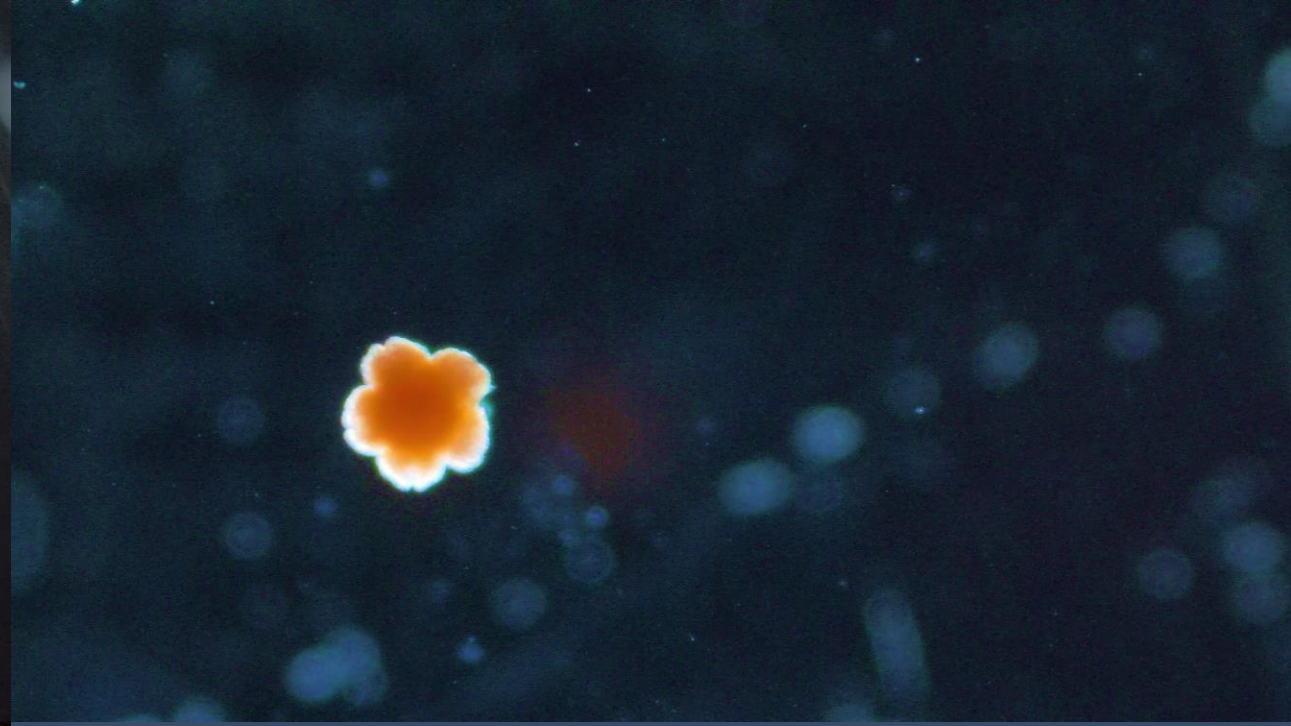
Plankton Sample

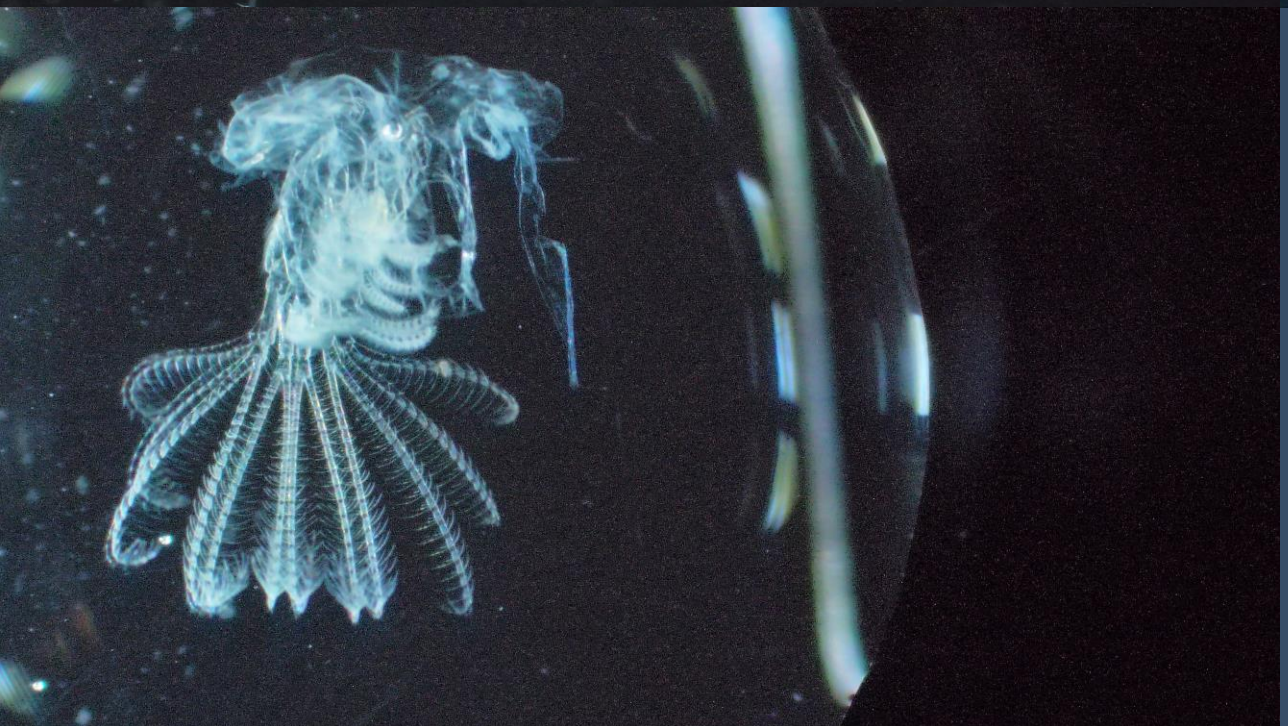
During the polar night season, the levels of plankton in the fjords are very low. But upon the return of the sun, we see life returning to the fjords.

On this voyage we took two plankton samples in Ulvøya, one for phytoplankton and one for zooplankton. The plankton nets were towed for an impressive 30 minutes! We then brought the samples back to the Science Centre and looked at them under the microscope to see what we could find.

We didn't collect a large number of creatures, but we did manage to find some pennate diatoms and nauplius larvae (pictured left), a large number of copepods, and some additional larvae of barnacles and echinoderms.







The top left image shows a copepod, a member of the crustacean family. Copepods are a keystone species in Arctic food webs, forming an important part of the diet for many other species living in the ocean. They store their energy largely as lipids (sometimes visible as orange blobs in the abdomen), and they are able to detect light and darkness using the photoreceptor on their head (the red, eye-like looking dot).

The top right image shows a larvae of an echinoderm species. This is the group of animals that include sea stars and sea urchins. In the bottom left, we have the moult of a barnacle larvae. As adults, barnacles are sessile (immobile) animals who attach themselves to hard substrates. Their larvae however, exists as planktonic organisms drifting in the water column.

The Magical World of Moss

During our microscope session we took a closer look at some moss. A basal, non-vascular plant, moss does not contain roots or a stem for the uptake and transport of water. Instead, mosses absorb water over their cell walls, directly from the environment. We were able to see the cellulose structure of the cell wall under the microscope, while marvelling at the beauty of these often-underappreciated plants.

Wildlife List – Birds

Willow Ptarmigan, Geraldine Prince/HX

Golden eagle, © Geraldine Prince/HX

Whooper swans, © Geraldine Prince/HX

Purple sandpiper, © Geraldine Prince/HX

White-tailed eagle, © Geraldine Prince/HX

Wildlife List – Seabirds

SCIENTIFIC NAME	ENGLISH	DEUTSCH	FRANÇAIS
Phalacrocorax carbo	**great cormorant**	Kormoran	grand cormoran
Larus marinus	**great black-backed gull**	Mantelmöwe	goéland marin
Larus argentatus	**European herring gull**	Silbermöwe	goéland argenté
Rissa tridactyla	**black-legged kittiwake**	Dreizehenmöwe	mouette tridactyle
Alca torda	**razorbill**	Tordalk	petit pingouin
Cepphus grylle	**black guillemot**	Gryllteiste	guillemot à miroir

Wildlife List – Water Birds

SCIENTIFIC NAME	ENGLISH	DEUTSCH	FRANÇAIS
Cygnus cygnus	**whooper swan**	Singschwan	cigne chanteur
Anas platyrhynchos	**mallard**	Stockente	canard colvert
Somateria mollissima	**common eider**	Eiderente	eider à duvet
Mergus serrator	**red-breasted merganser**	Mittelsäger	harle huppé
Calidris maritima	**purple sandpiper**	Meerstrandläufer	bécasseau violet

Wildlife List – Land Birds

SCIENTIFIC NAME	ENGLISH	DEUTSCH	FRANÇAIS
Corvus cornix	**hooded crow**	Nebelkrähe	corneille mantelée
Passer domesticus	**house sparrow**	Haussperling	moineau domestique
Parus major	**great tit**	Kohlmeise	mésange charbonnière
Haliaeetus albicilla	**white-tailed eagle**	Seeadler	pygargue à queue blanche
Aquila chrysaetos	**golden eagle**	Steinadler	aigle royal

Species in the Spotlight: the Sea Eagle

We were hoping to see one of Norway's most iconic birds, the white-tailed eagle!

Once classified as endangered throughout Norway and becoming locally extinct throughout parts of their range, conservation actions in Norway have aided in bringing this species back from the brink on an international scale.

Whether it was from surprise sightings during our time on land or in our expedition boats, or on the eagle safari in Svolvær, we hope you managed to catch a glimpse of this true master of the skies.

Wildlife List – Mammals

Orca, © Geraldine Prince/HX

Wildlife List – Mammals

Marine Mammals

SCIENTIFIC NAME	ENGLISH	DEUTSCH	FRANÇAIS
Phoca vitulina	**harbour seal**	Seehund	phoque beau-marin
Halichoerus grypus	**grey seal**	Kegelrobbe	phoque gris
Phocoena phocoena	**harbour porpoise**	Gewöhnlicher Schweinswal	marsouin commun
Orcinus orca	**orca (killer whale)**	Orca, Schwertwal	orque

Scat of a moose *(Alces alces)*, Tranøya

Tracing Tracks

We do not always have to see the wildlife to know it has been around. Taking note of the tracks and signs left behind by fauna can give us valuable insights into what species have been roaming around the wilderness.

Taking the opportunity to slow down and absorb nature reminds us that if we take the time, there is often more to see than meets the eye.

We hope you enjoyed exploring the more subtle signs of nature with us and continue to embrace this spirit wherever you may explore next on your travels.

These are the tracks of a willow ptarmigan, *Lagopus lagopus,* found on the island of Sandøya.

Willow ptarmigans, also known willow grouses, are ground nesting birds found throughout much of the Northern Hemisphere. The willow ptarmigan moults its feathers and changes colour between the seasons. During winter, it is white, while in summer, its feathers are a mottled brown – the perfect camouflage!

The willow ptarmigan can sometimes be confused in its white winter plumage with the similar-looking rock ptarmigan *(Lagopus muta*).

While both species are nearly pure white in winter, the willow ptarmigan lacks the bold black eye stripe present in both male and female rock ptarmigans.


HX
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