

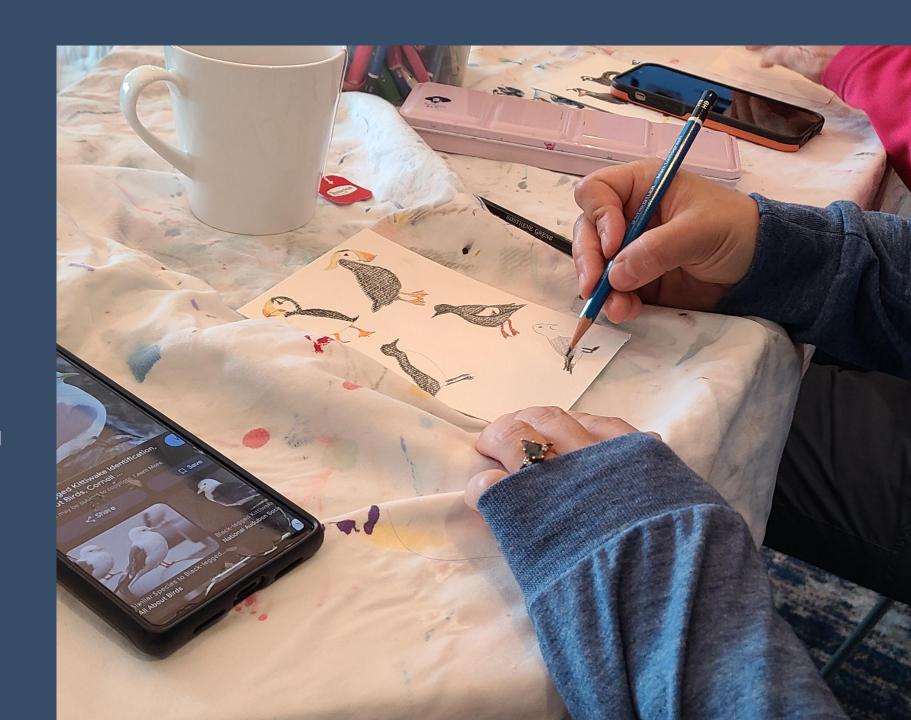
MS Roald Amundsen 22 June – 08 July, 2025

Alaska and British Columbia -Inside Passage, Bears and Aleutian Islands

When you arrived on the MS Roald you boarded a research-focused expedition ship, fully equipped as a floating laboratory, and designed to be a center of learning and discovery. In your time on board you contributed to scientific studies and expanded your knowledge of the world around you. Let's take a look back on our journey and what we accomplished while sailing along the wild and wonderful Alaskan coast.

Arts, crafts & creativity

We witnessed the wild beauty of Alaska's landscapes and let it inspire us to create art reflecting our surroundings and our feelings. Through drawing sessions, painting sessions, sculpting sessions, and much more, we created tangible keepsakes of our journey.





Science & Education Program

The MS Roald Amundsen is more than a ship— it is a platform of opportunity for us to explore the world around us, collect meaningful data, and learn more deeply about the places we visit.

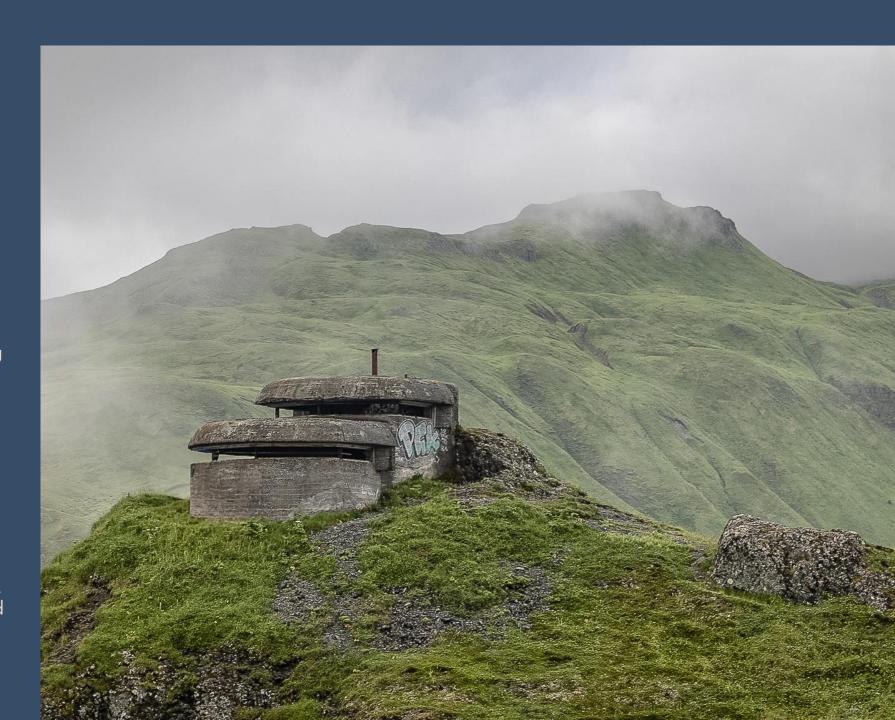
Our onboard naturalists guided our guests using scientific tools to investigate the world around us. We observed, documented, and discussed many interesting fauna, flora, and phenomena. From learning about how feathers work to panning for gold, guests participated in sessions that gave a deeper understanding and appreciation for the natural world around us. Our historians put all of what we saw in the context of humans' relationships with this place— from the earliest inhabitants to modern society.

On the next pages you can find highlights of our onboard Science and Education Program and our Citizen Science Program.

History

As we set sail from Vancouver, we travelled through the First Nation lands of the Haida. Our voyage through the Inside Passage and Icy Bay were among Tlingit land, where we witnessed the thriving Tlingit culture expressed through art, cultural artifacts, and the stories of our local guides. We traversed the ancestral lands of the Sugpiag as we headed west, and experienced the Unangax culture and history of the Aleutian Islands while visiting Dutch Harbor and St. Paul. We ended our journey in Nome, a place that for thousands of years was a seasonal hunting settlement of the Inupiat until gold was discovered by American prospectors in 1898.

In our onboard lectures, we learned about the Native history the region, as well as its settlement by Europeans and its purchase by and later statehood in the United States. We acknowledged that these histories hold pain, but also hope, and that they exist intertwined in a story that is still being written!





Living Culture

We felt how the native histories and cultures of this region permeate all aspects of life. We were lucky to witness this in the communities we visited, where we experienced a living culture expressed in art, song, dance, stories, and oral histories of our hosts in communities across Alaska.

We were also incredibly privileged to be joined on our journey by our Cultural Interpreter, Norma. Her stories, songs, dances, and art gave us invaluable glimpses into her Yup'ik culture and what it means to live as part of the land in Alaska. Her pride in her Yup'ik traditions shone through everything she did, and her smile and enthusiasm were infectious to all who joined her photo slide shows, "coffee talks," and "show and tell" sessions. Through Norma, we could understand better the real spirit of Alaska, and we are all so much the richer for it.

Guest Scientists

We were fortunate to be joined on this voyage by Kristina, a Guest Scientist from the National Center for Atmospheric Research (NCAR). Kristina used the MS Roald Amundsen as a platform of opportunity to collect plankton from the ocean and the air to help scientists understand how these tiny organisms may influence cloud formation in Alaska region. These samples will be brought back to NCAR's Colorado labs, where scientists will study the planktons' ability to function as ice-nucleating particles. Ultimately, their findings will help to improve weather forecasting models.

<u>Visit our Science & Education Hub</u> to find out more about our scientific collaborations.





Science Boat

Learning in a lecture or workshop is one thing, but getting your hands 'dirty' in the pursuit of science is another level. For the guests who chose to participate in the Science Boat, they joined a participative experience focused on collecting meaningful data by 'taking the lab outside' — and underwater!

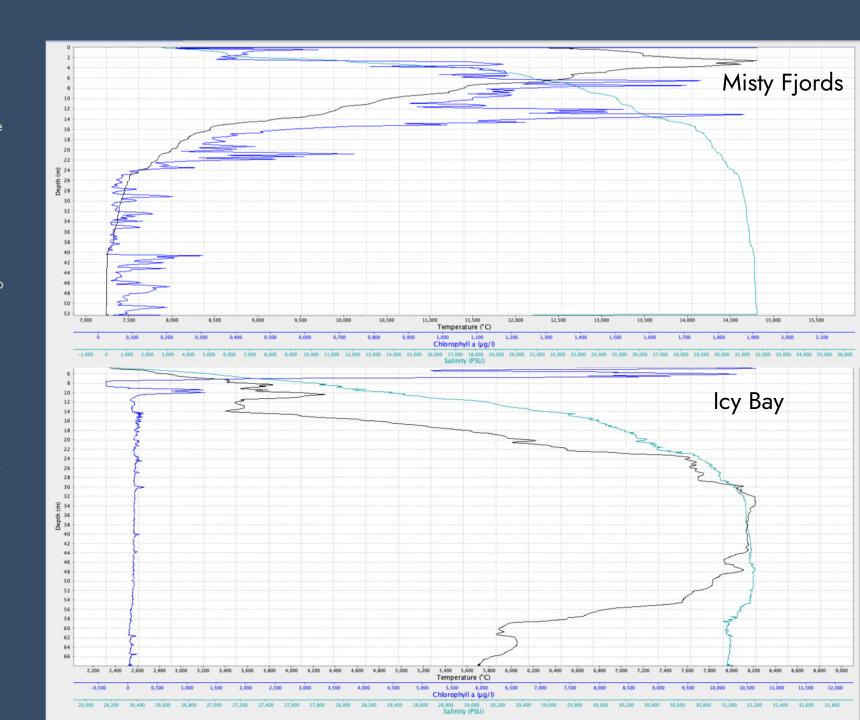
We investigated the underwater world in 6 Science Boat sessions in Misty Fjords, Icy Bay, and Uyak Bay. We observed and discussed the wildlife and geology in each location to better understand the area's ecology. We deployed a plankton net to collect phytoplankton and zooplankton, used a CTD to create a physical profile of the water column, and took measurements of turbidity to submit to the Citizen Science project the Secchi Disk Project.

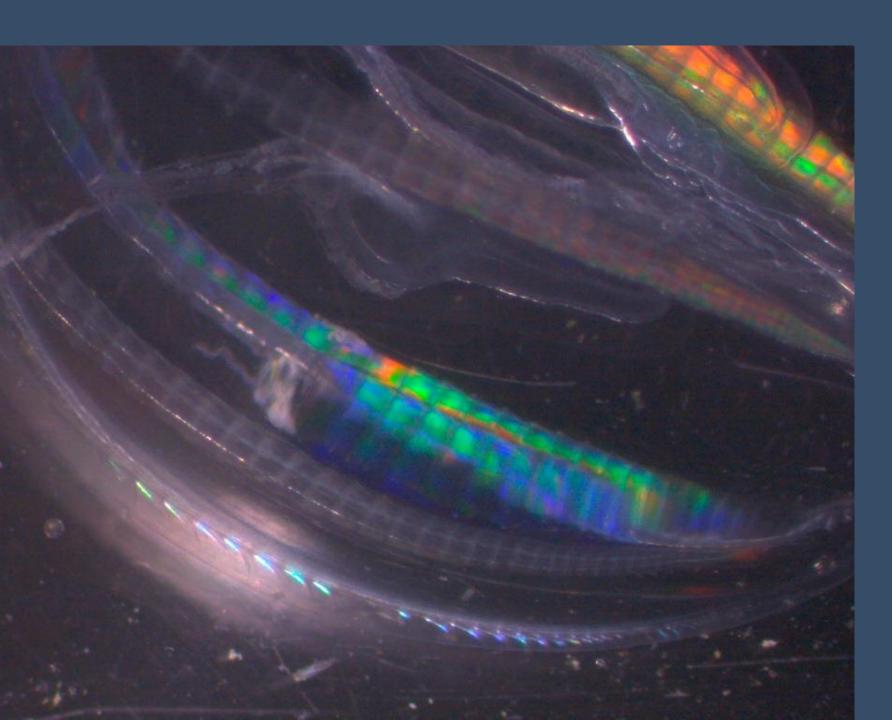
CTD Profiles

Our CTD casts gave us insight into the way salinity, temperature, and chlorophyll changed with depth. Each site had a unique profile!

Typically, salinity increases with depth while temperature decreases, since cold, salty water is more dense. This sinking of cold, salty water can cause stratification, or layering, to occur, giving different depths different characteristics. If there is no stratification, we call the water column "well mixed." Stratification can provide insights into the availability for nutrient replenishment at the surface, which is crucial for phytoplankton. Measuring chlorophyll—the photosynthetic pigments in phytoplankton—gives us information on phytoplankton abundance and primary productivity.

Two of our CTD casts illustrate these concepts. In Misty Fjords, we saw a well mixed water column below 15m in regards to temperature and salinity, with the top few meters likely influenced by freshwater input from rain and rivers and the rest of the water column being marine in nature: quite typical of fjords. Conversely, in Icy Bay, we saw the influence of the icebergs and glaciers clearly: temperature and salinity was lowest at the surface. Both then jumped up in magnitude as a different, marine water mass intruded around 25m, after which temperature began to drop with increasing depth as could be expected. In both situations, the highest chlorophyll concentrations were in the first 15m of the water column— which makes sense, as that's where phytoplankton can absorb the most sunlight!



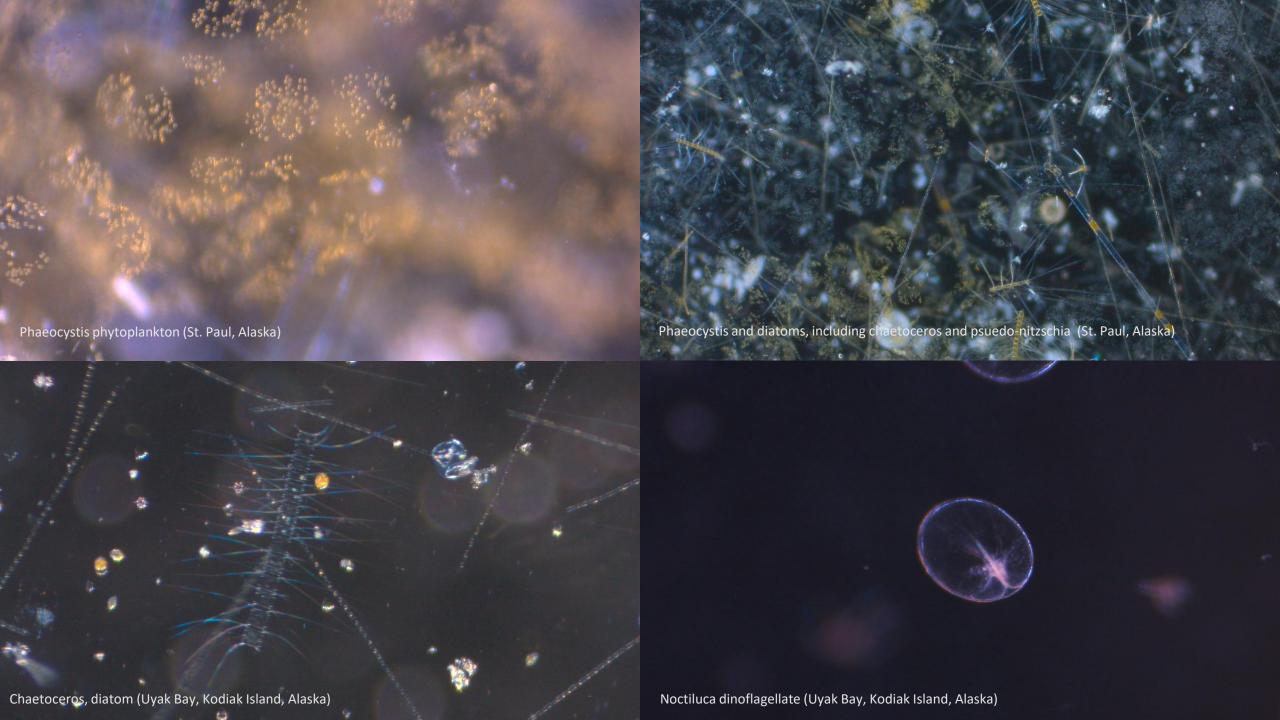


Plankton samples After we collected water samples on the

After we collected water samples on the Science Boat, we brought them back to the Science Center to look at them under the microscope. At times, it felt like we were looking into an alien universe. Luckily, our marine biologists know exactly what these strange creatures are! From phytoplankton, those tiny photosynthetic organisms at the base of the food web, to larvae of more familiar animals like crabs, we encountered many different creatures. Let's look at some of what we found!

We also analyzed all of our plankton samples for any species correlated to harmful algal blooms (HABs) and submitted this information to our partners at the Phytoplankton Monitoring Network (PMN). PMN is collecting observations of potentially dangerous species in order to help coastal communities better prepare for and manage these blooms. One sample from St. Paul had elevated levels of the HAB diatom psuedo-nitzschia and was sent to PMN for further analysis!





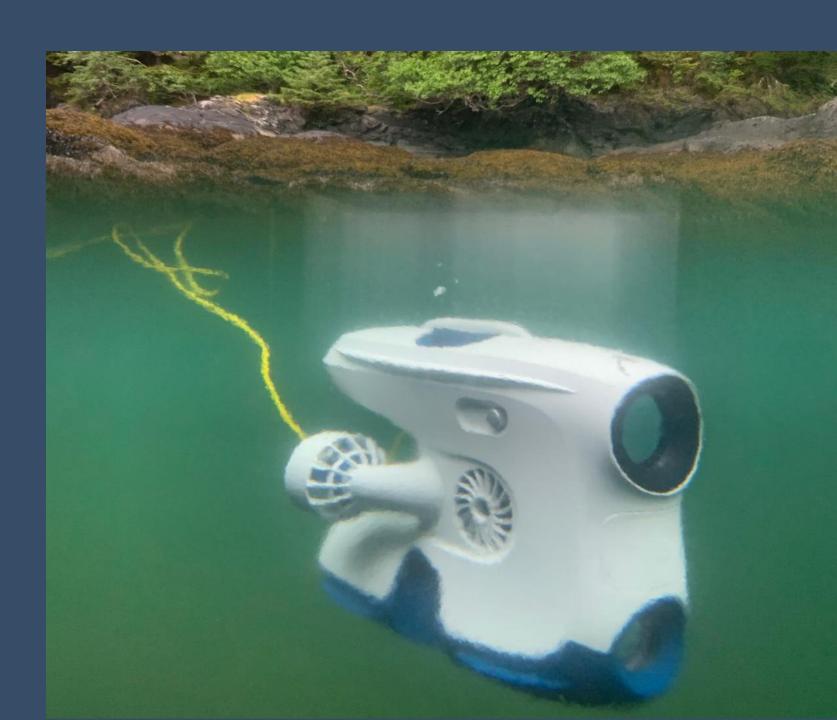
Underwater drone

We had the opportunity to deploy our underwater drone at the following sites:

- Sitka
- Uyak Bay (Kodiak Island)
- Kinak Bay (Katmai National Park)
- Geographic Harbor (Katmai National Park)
- St. Paul

We saw a variety of the strange and beautiful creatures that inhabit the coastlines of Alaska, including fish, invertebrate communities, seagrass meadows, and a curious kelp crab!

View the highlights from our underwater drone footage on HX Underwater Drone Footage YouTube Channel





Citizen Science NASA Cloud Observer

Clouds aren't just fluffy shapes in the sky; they are incredibly important components to Earth's heat budget and balance. Information about when, where, and what types of clouds are forming helps scientists understand more about Earth's climate and climate change. Through NASA's GLOBE Cloud Observer program, we help contribute this kind of data.

Our citizen scientists submitted **7** observations to the global database run by NASA. Our observations were matched to data from weather satellites orbiting above and will be used to better understand global weather phenomena.

If you would like to continue cloud observations at home, you can download the app 'GLOBE Observer.'

View our data on the global map

Citizen Science iNaturalist

In our voyage through Alaska we traversed many ecosystems and biomes. From the temperate rainforests of Southeast Alaska to the tundra of Nome, each place presented new and unique species. The impressive amount of species and observations we documented reflects how biologically diverse Alaska is!

We used the citizen science app iNaturalist to identify and record the flora and fauna seen on our journey. Our observations are available to be used in global scientific research.

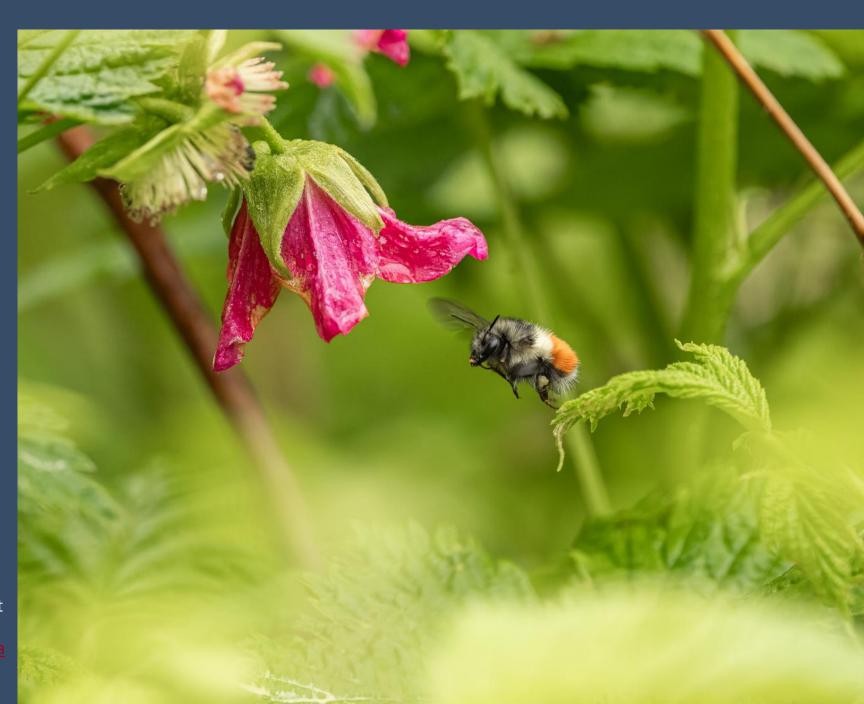
In total we recorded:

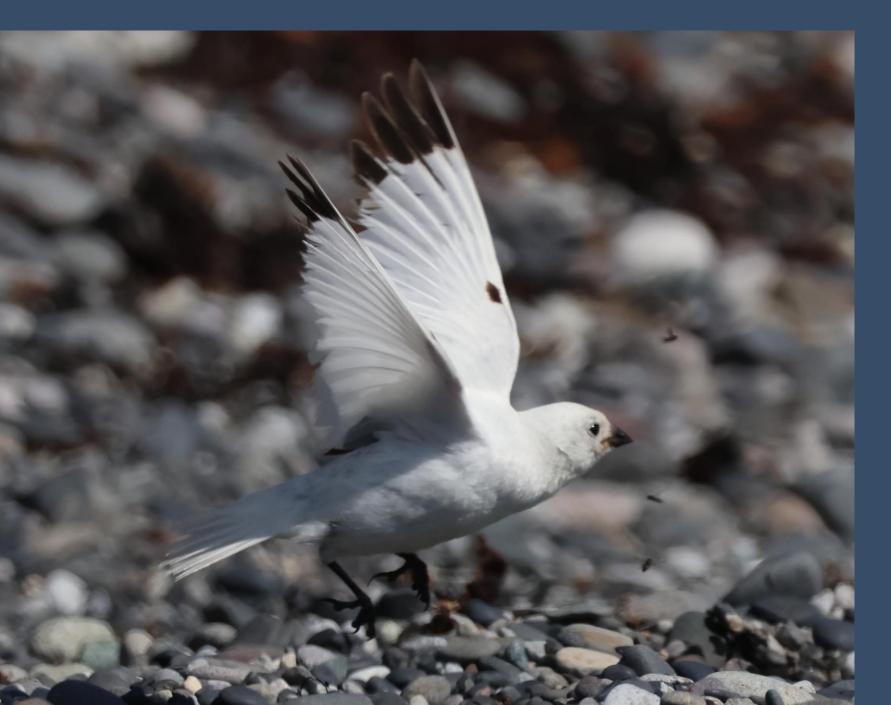
- **1169** Species
- **382** Observations

... and counting; as you upload more photos from home our dataset grows!

View our data submitted on our iNaturalist project here:

2025 June 22 - July 8: MS Roald Amundsen - Alaska & British Columbia (AMALA2505) · iNaturalist





Citizen Science eBird

From seabirds to passerines, coastal Alaska has both an abundance and diversity of birdlife. Our onboard naturalists were constantly surveying the avifauna we encountered along our route.

Including during 10 onboard Wildlife Watch and eBird sessions, we recorded 83 bird species across 27 eBird checklists. Through the eBird platform, the data we collected is available for scientists around the world to help understand patterns of bird distribution, migration, and habitat use.

View our data for this trip here: Maska and British Columbia - Inside Passage, ears and Aleutian Islands (Northbound) June 22 to July 08, 2025 - eBird Trip Report

Citizen Science

Happywhale

Cetaceans— whales, dolphins, and porpoises— capture our imaginations and our hearts whenever we witness them. And, doing something as simple as taking a photo of them can help scientists learn more about these animals. That's where Happywhale comes in: by using Al to match images of whales submitted by users over time, they can track individuals as they migrate across the world and through their lives! And when you submit a photo, you will be notified of any past and future matches of that individual!

We photographed **3 humpback whale** individuals and received matches back for all 3! We also submitted a photo of **1 grey whale** to add to their catalogue of identified whales across the world.

View the MS Roald Amundsen's submissions to Happywhale during our voyage:

<u>Happywhale: MS Roald Amundsen 22 June - 08 July 2025</u>



Trip Survey Totals orcaweb.rguk Humpback 33 Orca 5 Dall's porpoise 17 Harbor porpoise 2 Looking od polyhi Whales and Dolphi Pacific white-sided dolphin Fin Sperm Gray

Partnership ORCA

Our partners at the whale and dolphin conservation charity ORCA are committed to conducting research that helps to identify important whale and dolphin habitats by using "platforms of opportunity" including expedition ships like the Roald Amundsen! Our onboard ORCA Conservationist, with the help of our guests, recorded vital sightings data across the course of our cruise that will help inform conservation decisions and policy in the future.

View more information about our partnership with ORCA here

ORCA | HX Hurtigruten Expeditions US (travelhx.com)

A Once in a Lifetime Sighting

On July 04, between Dutch Harbor and St. Paul, our guests and naturalists spotted an unexpected beaked whale just before the underwater shelf dropoff. It turned out to be the most elusive of the beaked whale species, a Sato's beaked whale (Berardius minimus). This species was only formally described in 2019 based on genetic analysis of skeletons and stranded individuals. They are more common off the coast of Japan and this encounter was the first ever recording with a calf in the Bering Sea. This sighting will add invaluable insights into this new species of beaked whale— all thanks to you!





SCIENTIFIC NAME	ENGLISH	DEUTSCH	FRANÇAIS	NORSK
Anas platyrhynchos	Mallard	Stockente	Canard colvert	Stokkand
Anas acuta	Northern Pintail	Spießente	Canard pilet	Stjertand
Anas carolinensis	Green-winged Teal	Carolinakrickente	Sarcelle à ailes vertes	Amerikakrikkand
Somateria spectabilis	King Eider	Prachteiderente	Eider à tête grise	Praktærfugl
Histrionicus histrionicus	Harlequin Duck	Kragenente	Arlequin plongeur	Harlekinand
Melanitta perspicillata	Surf Scoter	Brillenente	Macreuse à front blanc	Brilleand
Bucephala islandica	Barrow's Goldeneye	Spatelente	Garrot d'Islande	Islandsand
Mergus merganser	Common Merganser	Gänsesäger	Grand Harle	Laksand
Mergus serrator	Red-breasted Merganser	Mittelsäger	Harle huppé	Siland
Columba livia	Rock Pigeon	Felsentaube	Pigeon biset	Klippedue (Bydue)
Selasphorus rufus	Rufous Hummingbird	Rotrücken-Zimtelfe	Colibri roux	Rødkolibri
Haematopus bachmani	Black Oystercatcher	Klippenausternfischer	Huîtrier de Bachman	Amerikasvarttjeld
Charadrius semipalmatus	Semipalmated Plover	Amerikanischer Sandregenpfeifer	Pluvier semipalmé	Amerikasandlo
Phalaropus lobatus	Red-necked Phalarope	Odinshühnchen	Phalarope à bec étroit	Svømmesnipe
Phalaropus fulicarius	Red Phalarope	Thorshühnchen	Phalarope à bec large	Polarsvømmesnipe

SCIENTIFIC NAME	ENGLISH	DEUTSCH	FRANÇAIS	NORSK
Calidris ptilocnemis	Rock Sandpiper	Beringstrandläufer	Bécasseau des Aléoutiennes	Klippesnipe
Calidris mauri	Western Sandpiper	Bergstrandläufer	Bécasseau d'Alaska	Beringsnipe
Gallinago delicata	Wilson's Snipe	Wilsonbekassine	Bécassine de Wilson	indianerbekkasin
Stercorarius longicaudus	Long-tailed Jaeger	Falkenraubmöwe	Labbe à longue queue	Fjelljo
Stercorarius parasiticus	Parasitic Jaeger	Schmarotzerraubmöwe	Labbe parasite	Туvjo
Cerorhinca monocerata	Rhinoceros Auklet	Nashornalk	Macareux rhinocéros	Neshornlunde
Fratercula cirrhata	Tufted Puffin	Gelbschopflund	Macareux huppé	Topplunde
Fratercula corniculata	Horned Puffin	Hornlund	Macareux cornu	Hornlunde
Ptychoramphus aleuticus	Cassin's Auklet	Aleutenalk	Starique de Cassin	Sotalke
Aethia pusilla	Least Auklet	Zwergalk	Starique minuscule	Flekkdvergalke
Aethia pygmaea	Whiskered Auklet	Bartalk	Starique pygmée	Praktdvergalke
Aethia cristatella	Crested Auklet	Schopfalk	Starique cristatelle	Toppdvergalke
Aethia psittacula	Parakeet Auklet	Rotschnabelalk	Starique perroquet	Papegøyealke
Brachyramphus brevirostris	Kittlitz's Murrelet	Kurzschnabelalk	Guillemot de Kittlitz	Kortnebbdvergteist
Brachyramphus marmoratus	Marbled Murrelet	Marmelalk	Guillemot marbré	Marmordvergteist

SCIENTIFIC NAME	ENGLISH	DEUTSCH	FRANÇAIS	NORSK
Cepphus columba	Pigeon Guillemot	Taubenteiste	Guillemot colombin	Beringteist
Uria lomvia	Thick-billed Murre	Dickschnabellumme	Guillemot de Brünnich	Polarlomvi
Uria aalge	Common Murre	Trottellumme	Guillemot marmette	Lomvi
Synthliboramphus antiquus	Ancient Murrelet	Silberalk	Guillemot à cou blanc	Nordstarik
Rissa tridactyla	Black-legged Kittiwake	Dreizehenmöwe	Mouette tridactyle	Krykkje
Rissa brevirostris	Red-legged Kittiwake	Klippenmöwe	Mouette des brumes	Rødfotkrykkje
Chroicocephalus philadelphia	Bonaparte's Gull	Bonapartemöwe	Mouette de Bonaparte	Kanadahettemåke
Larus brachyrhynchus	Short-billed Gull	Kurzschnabel-Sturmmöwe	Goéland à bec court	kortnebbmåke
Larus smithsonianus	Herring Gull	Kanadamöwe	Goéland hudsonien	Amerikagråmåke
Larus hyperboreus	Glaucous Gull	Eismöwe	Goéland bourgmestre	Polarmåke
Larus californicus	California Gull	Kaliforniermöwe	Goéland de Californie	Præriegråmåke
Larus glaucescens	Glaucous-winged Gull	Beringmöwe	Goéland à ailes grises	Gråvingemåke
Sterna paradisaea	Arctic Tern	Küstenseeschwalbe	Sterne arctique	Rødnebbterne
Gavia immer	Common Loon	Eistaucher	Plongeon huard	Islom
Phoebastria immutabilis	Laysan Albatross	Laysanalbatros	Albatros de Laysan	Laysanalbatross

SCIENTIFIC NAME	ENGLISH	DEUTSCH	FRANÇAIS	NORSK
Phoebastria nigripes	Black-footed Albatross	Schwarzfußalbatros	Albatros à pieds noirs	Svartfotalbatross
Phoebastria albatrus	Short-tailed Albatross	Kurzschwanzalbatros	Albatros à queue courte	Galapagosalbatross
Oceanodroma furcata	Fork-tailed Storm Petrel	Gabelschwanz-Wellenläufer	Océanite à queue fourchue	Gråstormsvale
Oceanodroma leucorhoa	Leach's Storm Petrel	Wellenläufer	Océanite cul-blanc	Stormsvale
Fulmarus glacialis	Northern Fulmar	Eissturmvogel	Fulmar boréal	Havhest
Ardenna grisea	Sooty Shearwater	Dunkler Sturmtaucher	Puffin fuligineux	Grålire
Ardenna tenuirostris	Short-tailed Shearwater	Kurzschwanz-Sturmtaucher	Puffin à bec grêle	Smalnebblire
Phalacrocorax urile	Red-faced Cormorant	Rotgesichtscharbe	Cormoran à face rouge	Rødmaskeskarv
Phalacrocorax pelagicus	Pelagic Cormorant	Meerscharbe	Cormoran pélagique	Beringskarv
Nannopterum auritus	Double-crested Cormorant	Ohrenscharbe	Cormoran à aigrettes	Totoppskarv
Ardea herodias	Great Blue Heron	Kanadareiher	Grand Héron	Herodiashegre
Haliaeetus leucocephalus	Bald Eagle	Weißkopf-Seeadler	Pygargue à tête blanche	Hvithodehavørn
Megaceryle alcyon	Belted Kingfisher	Gürtelfischer	Martin-pêcheur d'Amérique	Belteisfugl
Pica hudsonia	Black-billed Magpie	Hudsonelster	Pie d'Amérique	Svartnebbskjære
Corvus brachyrhynchos	American Crow	Amerikakrähe	Corneille d'Amérique	Amerikakråke

SCIENTIFIC NAME	ENGLISH	DEUTSCH	FRANÇAIS	NORSK
Corvus corax	Common Raven	Kolkrabe	Grand Corbeau	Ravn
Poecile rufescens	Chestnut-backed Chickadee	Rotrückenmeise	Mésange à dos marron	Kastanjemeis
Riparia riparia	Bank Swallow	Uferschwalbe	Hirondelle de rivage	Sandsvale
Tachycineta thalassina	Violet-green Swallow	Veilchenschwalbe	Hirondelle à face blanche	Talassinsvale
Hirundo rustica	Barn Swallow	Rauchschwalbe	Hirondelle rustique	Låvesvale
Petrochelidon pyrrhonota	Cliff Swallow	Fahlstirnschwalbe	Hirondelle à front blanc	Mursvale
Progne subis	Purple Martin	Purpurschwalbe	Hirondelle noire	purpursvale
Corthylio calendula	Ruby-crowned Kinglet	Rubingoldhähnchen	Roitelet à couronne rubis	Rubinfuglekonge
Regulus satrapa	Golden-crowned Kinglet	Indianergoldhähnchen	Roitelet à couronne dorée	Ildkronefuglekonge
Troglodytes pacificus	Pacific Wren	Pazifikzaunkönig	Troglodyte de Baird	Barsmett
Cinclus mexicanus	American Dipper	Grauwasseramsel	Cincle d'Amérique	Gråfossekall
Sturnus vulgaris	European Starling	Star	Étourneau sansonnet	Stær
lxoreus naevius	Varied Thrush	Halsbanddrossel	Grive à collier	Båndtrost
Catharus ustulatus	Swainson's Thrush	Zwergmusendrossel	Grive à dos roussâtre	Brunkinnskogtrost
Catharus guttatus	Hermit Thrush	Einsiedler-Musendrossel	Grive solitaire	Eremittskogtrost

SCIENTIFIC NAME	ENGLISH	DEUTSCH	FRANÇAIS	NORSK
Turdus migratorius	American Robin	Wanderdrossel	Merle d'Amérique	Vandretrost
Leucosticte tephrocotis	Grey-crowned Rosy Finch	Schwarzstirn-Schneegimpel	Roselin à tête grise	Grånakkefjellfink
Acanthis flammea	Common Redpoll	Birkenzeisig	Sizerin flammé	Gråsisik
Spinus pinus	Pine Siskin	Fichtenzeisig	Tarin des pins	Stripesisik
Calcarius lapponicus	Lapland Longspur	Spornammer	Plectrophane Iapon	Lappspurv
Plectrophenax nivalis	Snow Bunting	Schneeammer	Plectrophane des neiges	Snøspurv
Plectrophenax hyperboreus	McKay's Bunting	Beringschneeammer	Plectrophane blanc	Hvitspurv
Passerella iliaca	Fox Sparrow	Fuchsammer	Bruant fauve	Revespurv
Junco hyemalis	Dark-eyed Junco	Winterammer	Junco ardoisé	Vinterjunko
Zonotrichia atricapilla	Golden-crowned Sparrow	Kronenammer	Bruant à couronne dorée	Gulkronespurv
Passerculus sandwichensis	Savannah Sparrow	Grasammer	Bruant des prés	Musespurv
Melospiza melodia	Song Sparrow	Singammer	Bruant chanteur	Sangspurv
Leiothlypis celata	Orange-crowned Warbler	Orangefleck-Waldsänger	Paruline verdâtre	Oransjekroneparula
Setophaga petechia	Yellow Warbler	Goldwaldsänger	Paruline jaune	gulparula
Setophaga townsendi	Townsend's Warbler	Townsendwaldsänger	Paruline de Townsend	Granparula
Branta hutchinsii	Cackling Goose	Zwergkanadagans	Bernache de Hutchins	polargås



Wildlife List — Marine Mammals

SCIENTIFIC NAME	ENGLISH	DEUTSCH	FRANÇAIS	NORSK
Megaptera novaeangliae	Humpback whale	Buckelwal	Baleine à bosse	Knølhval
Eschrichtius robustus	Gray whale	Grauwal	Baleine grise	Gråhval
Balaenoptera physalus	Fin whale	Finnwal	Rorqual commun	Finhval
Phocoena phocoena	Harbor porpoise	Schweinswal	Marsouin commun	Nise
Phocoenoides dalli	Dall's porpoise, Dall porpoise	Weißflankenschweinswal	Marsouin de Dall	Dalls nise
Lagenorhynuchus obliquidens	Pacific white-sided dolphin	Pazifischer Weissseitendelfin	Lagenorhynque a flancs blancs du Pacifique	
Eumetopias jubatus	Steller Sea Lion	Stellerscher Seelöwe	Lion de mer de Steller	Hvalross
Phoca vitulina	Harbour Seal	Seehund	Phoque commún	Steinkobbe
Enhydra lutris	Sea Otter	Meerotter	Loutre de mer	Havoter
Orcinus orca	Orca	Schwertwal	Orque	Spekkhogger
Physeter macrocephalus	Sperm whale	Potwal	Grand cachalot	Spermhval
Berardius minimus	Sato's beaked whale	Kleiner Schnabelwal	-	-



Wildlife List — Terrestrial Mammals

SCIENTIFIC NAME	ENGLISH	DEUTSCH	FRANÇAIS	NORSK
Tamiasciurus hudsonicus	American Red Squirrel	Gemeines Rothörnchen	Écureuil roux américain	Amerikansk ekorn
Ursus arctos	Brown bear	Braunbär	Ours brun	Isbjørn
Alces alces gigas	Alaskan Moose	Elch	Élan	Elk
Oreamnos americanu	Mountain goat	Schneeziege	Chèvre des montagnes Rocheuses	Snøgeit
Vulpes vulpes	Red Fox	Rotfuchs	Renard roux	Rødrev
Alopex lagopus	Arctic Fox	Polarfox	Renard artique	Fjellrev

