For Immediate Release

BioProtect Project Supports Landmark eDNA Sampling During Ross Edgley's Historic Iceland Swim

Reykjavík – 29 September 2025

Today, the BioProtect project is proud to highlight the integration of its mission of eDNA sampling into one of the most extraordinary maritime endeavours of recent times: Ross Edgley's completed swim of the entire coastline of Iceland. Spanning 114 days, over 1,000 miles (≈1,610 km) of cold-water, storms and currents, Edgley has become the first person to swim completely around Iceland.

The swim began on 17 May and ended on 8 September, at the same beach (Nauthólsvík) in Reykjavík. The conditions throughout the journey were frigid North Atlantic waters, unpredictable currents, powerful storms, ice-cold temperatures, wildlife encounters (including orcas), and daily logistical challenges.

One of the most crucial scientific contributions of this expedition was the commitment to environmental DNA (eDNA) sampling, along the coast of Iceland, as part of BioProtect, in partnership with MATIS and the Marine and Freshwater Research Institute (MFRI)

eDNA sampling allows for the detection of species presence (including rare or elusive organisms) by tracing DNA shed into water, without necessarily observing the organisms directly. It is a powerful, non-invasive tool for biodiversity assessment. The purpose was to capture a high-resolution snapshot of marine biodiversity and to better understand environmental pressures in these waters.

It is the first time that eDNA has been collected continuously around the entire coastline of Iceland as part of an extreme endurance event. The data can fill critical gaps in understanding how marine life, and biodiversity are distributed in these remote coastal zones. The collected samples will help to improve the mapping of Iceland's coastal marine biodiversity and provide insights to the conservation efforts made through BioProtect's tools, such as the Marine Planner and the Biodiversity Toolbox.

"We wanted to help scientists understand how these waters are changing" said Edgley. *"To conduct the first ever e-DNA study around the entire coast for the EU project BioProtect. Swimming day in and day out gave us a completely unique perspective on the ocean, and it was a privilege to support real-time research that could aid in future conservation efforts."*

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This journey brought visibility to issues of marine conservation, ocean health, climate change, and the methodology of eDNA sampling. The project aims to restore and protect ecosystems and biodiversity across Europe's marine systems and this expedition directly supports those goals by offering empirical data, refining sampling techniques, and fostering collaborations between local scientists, conservationists, and adventure science.

"This mission is exactly the kind of intersection we are looking for: where adventure meets science. The Icelandic coastline poses challenges few researchers have faced in situ*, and thanks to Ross Edgley's commitment and BioProtect's eDNA frameworks and partners, we now have a rich dataset that will help us protect marine biodiversity more effectively',* mentioned Sophie Jensen, BioProtect Project Coordinator.

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About BioProtect

BioProtect is a European research project focused on restoring and protecting marine ecosystems and biodiversity. Through demonstration sites (including Iceland), participatory mapping, citizen science, tools such as marine planning, biodiversity toolboxes, CO_2 calculators, and eDNA sampling, BioProtect works to align science, policy, and community action to safeguard marine environments.

For more information, please visit https://bioprotect-project.eu.

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