

# Running Tide Iceland Research Program Progress Report

## Q2 2023

This report outlines the progress and status of Running Tides' research program in Iceland, submitted to the Marine and Freshwater Research Institute and the Environment Agency of Iceland, and is part of the consultation and progress update requirements set out in the research permit issued by the government of Iceland on July 8, 2022.

During Q1 and Q2 of 2023, several research projects were launched, following a period of planning and preparation. The most notable milestones were the following:

1. The conclusion of sensor deployment experiments.
2. The deployment of the first coastal benthic experiment in Hvalfjörður.
3. The start of Phase 1 of open ocean removal system deployments.
4. The completion of environmental exposures and risk evaluation.

Below is an overview of appendixes provided with this update.

Appendixes to Research Program Progress Report	
<b>Appendix I</b>	Iceland Experiments Overview V1.1 (Up to date as of July 14, 2023)
<b>Appendix II</b>	Sensor deployment experiment review
<b>Appendix III</b>	IS-CD-1 Deployment Report ( <b>Confidential &amp; Commercially Sensitive</b> )
<b>Appendix IV</b>	Running Tide Quantification Methodology ( <b>Confidential &amp; Commercially Sensitive</b> )

### 1. Conclusion of sensor deployment experiments

Starting in December, the Running Tide team deployed three separate ocean sensor packages to mimic workflows required for the open ocean deployment experiments, to test the sensor systems, sea-truth models and run models based on the data collected.

Further details in **Appendix II - Sensor deployment experiment completion review**.

### 2. Deployment of the coastal benthic experiment in Hvalfjörður

Baseline sampling of the experiment area in Hvalfjörður as well as deployment of substrate material for the coastal benthic experiment was done on 14th of June. Sediment and seawater will be sampled regularly and data collected from loggers that were placed with the material, in both a control and an experimental plot. (See **Appendix I**)

This experiment is one of multiple benthic research projects Running Tide is engaging in related to the fate and impact of depositing carbon removing material in the benthic environment, but is the first one conducted within Icelandic waters.

### 3. Start of Phase 1 of open ocean carbon removal system deployments

In May 2023, we started Phase 1 of experiments relating to open ocean carbon removal system deployments. We deploy conservative amounts of 500-1500 bone dry tons of carbonate-coated biomass (woodchips) that have been thoroughly characterized in a lab setting to evaluate the carbon removal and potential environmental impact of the deployment.

As of July 6th, 2023, we have executed the following experimental deployments:

Open Ocean Carbon Removal System Deployments			
ID	Amount	Date	Location**
IS-CD-1	429.52 t	May 17, 2023.	61°22'0" N, 24°22'0" W
IS-CD-2	~1,000* t	June 2, 2023.	61°1'24" N, 23°30'12" W
IS-CD-3	~1,250* t	June 6, 2023.	60°59'43" N, 24°29'0" W
IS-CD-4	~1,250* t	June 12, 2023.	60°31'29" N, 22°0'29" W
IS-CD-5	~1,500* t	June 18, 2023.	61°30'40" N, 22°0'36" W
IS-CD-6	~1,500* t	July 2, 2023.	61°37'11" N, 21°1'47" W

\* Awaiting final quantification and confirmation \*\*Deployment start location, the deployment takes place over an area.

For each deployment, we collect data required to quantify the net transfer of carbon from the fast cycle to the slow cycle, as well as seawater samples and other environmental data to evaluate local environmental impacts.

As part of these deployments, Shopify, an early funder of Running Tide’s R&D work, has received an initial analysis quantifying our carbon impact from IS-CD-1. The materials shared with Shopify – including our quantification methodology and the quantified results and associated data from IS-CD-1 following the methodology – are provided in **Appendix III and IV**, and together represent the first delivery of quantified carbon impact from Running Tide’s operations following an ISO-compliant protocol.

### 4. Completion of environmental exposures analysis

As part of our research objectives to analyze potential environmental impacts, we compiled a comprehensive environmental exposures analysis. The analysis has been reviewed by Deloitte Iceland and DOSI, the Deep Ocean Stewardship Initiative working group. Both the final version of the Environmental Exposures Analysis and Deloitte’s review letter will be published publicly on the Running Tide website by the end of July, but can be provided upon request.