Seagrass planting

Choosing the best method for your site

Initially, Restoration Forth looked to trial different methods of common eelgrass restoration, including hessian bags and coir pots; these bags and pots could help keep the seeds in place and prevent them getting washed away or eaten.

Using these bags and pots requires a marine construction licence from the Marine Directorate. This process is time-consuming and the wait for a decision can be long. To avoid this, we chose to directly inject seed into the substrate. We also chose to trial injecting seeds into tidal pools to give them some protection.

The Restoration Forth project is advocating for government to improve the licencing system to enable a more flexible and effective approach to restoration.

Our planting approach

Restoration Forth set out to expand existing seagrass meadows found in the intertidal zone around the Firth of Forth, by planting common eelgrass seeds that had been collected in Orkney. Three accessible meadows which could be improved were chosen.

On planting days, up to 30 local volunteers joined in, directly injecting seagrass seeds into the restoration plots. This was done using a method known as Dispenser Injection Seeding which used modified caulking guns to inject seeds mixed with mud directly into the intertidal sediment.

Why conduct trials?

Once extensive mapping and monitoring of a site has taken place, small scale trials help us to identify the right restoration methods to use at the locations and provide the best chance of success.

The initial trials presented inconclusive results when comparing the germination rates of seeds planted at different depths and densities. Despite this challenge, we were able to establish a suitable injection depth.

Through our trials we learnt that germination rates were not consistent across our three sites and in some locations they fell below the 10% expected in a healthy meadow.

Restoration has many challenges and unknowns. We assume low germination and seedling survival rates are due to environmental pressures impacting the sites and we continue to conduct research in this area.

We also trialled transplantation of live plants. This involves taking a sample of live seagrass, its roots and sediment, and moving it beyond the meadow boundary to form new seagrass patches. These trials were very successful, with follow-up monitoring showing these plants surviving well.