



Restoring the Thames

How centimetre accuracy, delivered by a low-cost Trimble Catalyst GNSS system, proved the perfect fit for monitoring seagrass recovery on the multi-million-pound Transforming the Thames Project.

In May 2026, hundreds of seagrass shoots were carefully planted into the mudflats of the Thames as part of the multi-million-pound Transforming the Thames Project. Bringing together 20 partner organisations spanning academia, industry, government bodies and conservation NGOs, this ambitious initiative, coordinated by the Zoological Society of London (ZSL), aims to restore 320 hectares of interconnected coastal habitats, including saltmarshes, native oyster reefs and vital seagrass meadows.

As part of one of the UK's largest seagrass restoration efforts using this method, conservationists from ZSL collected nearly 1,000 cylindrical 'seagrass cores' which are tubes of mud containing multiple dwarf eelgrass shoots and roots. Taken from a healthy donor meadow in Essex, they were then transported and planted into the carefully selected site in Kent.

However, the project's success depends on more than just planting. The team must monitor both the impact of harvesting on the donor meadow and the establishment of the new plants and needed to do so with far greater precision than their traditional measurement methods were delivering.

The challenge: Monitoring without harming

As the restoration work progressed, the ZSL team, including Sasha Shute, Project Officer within the Seascapes Programme, identified several challenges with the previous approach. The team had been marking harvest locations with bamboo canes and navigating back to them using a standard basic GPS. However, some of the canes



Customer

Zoological Society of London

Project

Transforming the Thames Project

Solution

Trimble Catalyst with a subscription for centimetre accuracy in a 10-hour package



attracted algae which smothered the surrounding seagrass and blocked light. Sasha explains:

"The cores we harvest are 10 centimetres in diameter and we need to take a point right in the middle. Centimetre accuracy means we can navigate back to the exact same core position and count the shoots that have regrown within that 10cm circle. That gives us a very specific record of the impact our harvesting is having. Very quickly we were able to establish that it was the bamboo canes affecting regrowth rather than our harvesting."

Transforming the Thames Project:

A multi-million-pound, 4-year initiative launched in 2025 targeting 250,000 hectares across the Greater Thames Estuary to restore 320 hectares of interconnected coastal habitats like saltmarshes, seagrass meadows, and native oyster reefs.

Transforming the Thames is funded by the Endangered Landscapes & Seascapes Programme, managed by the Cambridge Conservation Initiative in partnership with Arcadia.



Navigating to extraction locations with project partners (Essex Wildlife Trust)

Stand out Trimble Catalyst benefits for ZSL:

- Reliable, centimetre accuracy positioning and being able to check positions on the mudflats where there are no reference points
- Lightweight system for easy transportation across the mudflats
- Subscription business model keeping costs down and assisting budget planning
- Straightforward and easy to use with minimal training required
- Easy to renew the subscription via KOREC's online Catalyst shop

The team's priority was clear: avoid any risk of damaging the healthy donor meadow. Harvests took place over three days in May and were followed up by a visit in August, at the end of the growing season, to check recovery. With the sites covering huge muddy areas, it was evident that the old methodology using canes and approximate positioning was no longer accurate enough.

The Solution: Centimetre GNSS with Trimble Catalyst

Recommended by project partner Project Seagrass, ZSL introduced a KOREC-supplied Trimble Catalyst system. The lightweight, centimetre-accurate GNSS solution is used with a standard mobile phone running TerraFlex, Trimble's easy to use intuitive field data capture software. Data was transferred between site and office via Trimble Connect, a cloud-based common data environment (CDE). ZSL opted for a Catalyst subscription, bought from the KOREC online Catalyst shop. This subscription was for centimetre accuracy in a 10-hour package because their work is not continuous but in a carefully planned slots over two or three day periods during the year.

In the office, the team uses QGIS to manage maps and select monitoring points. After harvesting 882 cores, they chose a representative 10% subset made up of 88 points evenly spread across the site and these were uploaded from QGIS to the field device.

Out on the mudflats the system proved straightforward. The hardware is light enough to carry on the long walks across the intertidal zone, setup is quick and the pole mounted system easy to handle even with muddy hands. Sasha notes:

"We never had any issues in the field. Trimble Catalyst is easy to learn, reliable, and particularly good for intertidal work because there are no buildings or other obstructions. One call with the KOREC team to run through the setup was all we needed and the subscription approach works very well - just a quick visit to the online Catalyst shop - we've even done it out on the mud!"

Clear Results

When the team returned at the end of the growing season to re-survey the 88 monitored cores over two days, the findings were encouraging. There was no sign of the blackening previously associated with the bamboo canes and the data provided all the supporting information Sasha needed:

"The number one thing we're trying to make sure is that we're not having any adverse impacts on the existing seagrass meadows. That's our biggest priority. With the centimetre accuracy we can locate the exact point we took from and understand how that specific area is recovering."

We've a far better understanding of our actual impact rather than the monitoring itself being a hindrance. An added bonus is that I no longer need to pull up the bamboo canes, a job that definitely won't be missed"



A quadrat is used to assess seagrass cover and count shoots after core removal

The team has also been able to double monitoring capacity (from 40 points the previous year to 88 in 2026) which has strengthened the scientific findings of the project.

Expanding Catalyst use across the programme

The Trimble Catalyst system is already being adopted more widely across ZSL's seascape work with the team finding new uses for the system:

- Baseline carbon coring and documentation across all restoration sites
- High-accuracy baseline surveys and establishment of ground control points for drone surveys in saltmarsh restoration
- Precise layout of experimental planting designs allowing larger, more complex trials (up to a hectare) with volunteers able to work confidently from pre-marked accurate positions

Sasha concludes:

"The low-cost, flexible subscription model suits project funding cycles perfectly. We don't have to commit long-term if budgets change. Most importantly, it removes the need to leave anything in the ground that could harm the seagrass. That alone makes a huge difference to what we're trying to achieve."

[Follow the progress of Transforming the Thames here](#)

Discover the advantage of Trimble Catalyst

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