

ANNUAL REPORT 2024 - 2025

LATEST INFORMATION AND UPDATES



A WORD FROM THE CHAIR

This year marks a significant period of growth and pioneering achievement for The Kelp Conservation Initiative. As the coordinator and a key funder of the UK's first dedicated 'green gravel' restoration trials, we have successfully transitioned kelp restoration from a theoretical concept to an operational reality in British waters.

While kelp populations in the UK are currently relatively stable, the threats of climate change, marine heatwaves, and human activity are escalating. We have taken a proactive, precautionary approach, developing the tools and techniques needed to safeguard these vital ecosystems before a crisis occurs. Our work has not only advanced scientific understanding but has also begun to shape the policy and partnerships essential for large-scale future restoration.

This report outlines the substantial progress made in the past year, the challenges we have navigated, and our clear strategy for scaling our impact to restore the UK's vital marine forests.

A handwritten signature in black ink that reads "Alison Freeman".

ALISON FREEMAN

CHAIRMAN



GREEN GRAVEL RESTORATION

Our Role:

Project development and coordination, fundraising, and strategic lead.

Objective:

To develop innovative, low-cost, and scalable 'green gravel' kelp restoration techniques for the UK coastline.

Key Achievement:

- Secured and managed the core funding to build a native kelp hatchery at the MBA, enabling all subsequent research.
- Secured the first marine licence in the UK to outplant kelp in the North East of England, setting new standards for the marine conservation sector.
- Helped to secure funding for two PhD positions to support the development of kelp and seaweed restoration.



MARINE WASTE TO MARINE HABITAT

Our Role:

Project coordination and fundraising.

Objective:

To reduce shell waste from Scottish fisheries by using it to create engineered reef tiles for kelp and oyster restoration, enhancing seawall structures and marine biodiversity.

Key Achievement:

- Successfully secured a pro-bono collaboration between the Scottish Association of Marine Sciences (SAMS) and the Marine Biological Association (MBA) to standardise testing of ReefCircular's innovative shell-based reef tiles, maximising the scientific value of the project.
- Conducted kelp seed trials on the reefs at SAMS.
- Outplanted 16 reef tiles in Loch Craignish and have secured further partnerships with the Harbour Master to test the tiles on a seawall.

KEY ACHIEVEMENTS & IMPACT

1. SCIENTIFIC ADVANCEMENT & TECHNIQUE DEVELOPMENT

GREEN GRAVEL PROJECT

Successfully seeded Sugar Kelp (*Saccharina latissima*) onto four different UK gravel types and waste scallop shells in aquarium trials.

After initial field setbacks with small gravel in shallow water, we adapted by testing larger cobbles and deploying in deeper (>5m), calmer waters in June 2025.

Subsequent monitoring by scientific divers after one and three months showed excellent retention and encouraging kelp growth on both directly seeded and twine-wrapped cobbles.

MARINE WASTE TO MARINE HABITAT

Facilitated a joint methodology between SAMS and the MBA to test ReefCircular's shell-based reef tiles under different environmental regimes.

Produced 16 kelp reef tiles and 15 oyster reefs, with laboratory seeding activities underway.

Comprehensive baseline surveys have been completed in Loch Craignish to ensure the success of future deployments.





2. PIONEERING THE CIRCULAR ECONOMY

Demonstrated the potential of waste scallop shells as an effective restoration material in both England and Scotland, creating a powerful link between the seafood industry and marine conservation.

In Scotland, we are actively engaging with the Clyde Fishermen's Trust to source future shell waste, expanding the circular model and addressing a major waste stream for the industry.

KEY ACHIEVEMENTS & IMPACT

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3. QUANTIFIABLE ENVIRONMENTAL IMPACT

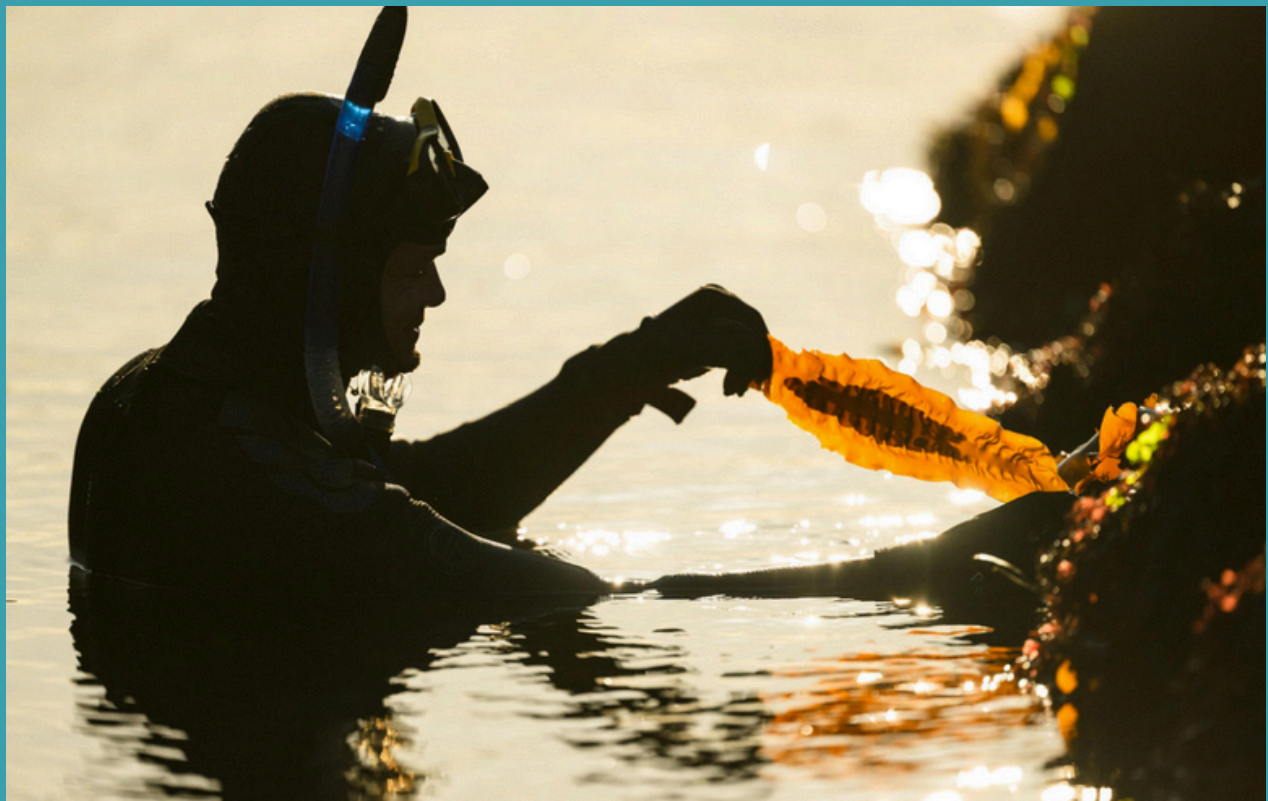
9

m² of kelp habitat restored in Devon

16

reef tiles produced and tested using kelp and oyster spores. In Scotland, conducted comprehensive baseline surveys in Loch Craignish to ensure the success of future reef deployments and accurately measure impact.

IMAGE CREDITS: MAIN IMAGE COPYRIGHT 2024 MARINE BIOLOGICAL



KEY ACHIEVEMENTS & IMPACT

4. BUILDING PARTNERSHIPS & SECURING THE FUTURE

- Secured two dedicated PhD studentships for the Plymouth project, ensuring long-term research continuity.
- Our pioneering work has been instrumental in securing > £500,000 in public funding for seaweed restoration.
- In Scotland, we have formed a strong, multi-disciplinary consortium combining science (SAMS, MBA), engineering (ReefCircular, Anemo Robotics), and community action (Seawilding).
- The Green Gravel project was showcased at two international conferences in 2025, highlighting its innovative approach.
- The MBA scientists presented a poster at the International Seaweed Symposium in Canada and delivered an oral presentation at the International Temperate Reef Symposium in France, fostering global collaborations.

CHALLENGES & STRATEGIC ADAPTATION

Regulatory Hurdles: Marine Licensing Restrictions in England hindered large-scale out-planting, underscoring the need for updated regulatory frameworks. Furthermore, current Waste Classification Policy blocks the deployment of shell-based substrates at sea.

Our Response: We adapted field operations to permitted zones while intensifying advocacy for policy modernisation.

Outplanting Hurdles: Green gravel was washed away in early studies, limiting our understanding of the success of the project and monitoring efforts.

Our response: Modifications were made to the depth of which the green gravel was outplanted enabling success.





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INNOVATION SPOTLIGHT

CROSS-BORDER COLLABORATION

A standout achievement this year was our role as a central connector. By brokering a pro-bono collaboration between the Scottish Association for Marine Science (SAMS) and the Marine Biological Association (MBA), we have ensured that the innovative reef tiles are tested under two different environmental regimes using a standardised methodology. This doubles the scientific value of the investment and accelerates the development of proven, scalable restoration technologies for the entire UK.



LOOKING FORWARD: OUR STRATEGY FOR 2025/26

1. From Trials to Scale: Advance both projects from successful pilot deployments to developing protocols for cost-effective, larger-scale restoration.
2. Overcome Policy Barriers: Intensify advocacy to update marine licensing and waste classification policies.
3. Integrate Monitoring Technology: Support the deployment of Anemo Robotics' remote monitoring systems in Scotland for advanced, long-term data collection.
4. Expand the Toolkit & Continue Monitoring: Continue winter 2025 monitoring in Plymouth to evaluate storm resilience. Test restoration techniques across a wave-exposure gradient and explore data for peer-reviewed publication.