**Solent seagrass restoration project brief**

**Context**

The value of ecosystem services provided by the UK’s marine environment is estimated at over £11billion per year. Damages to coastal assets will cost the UK economy over £15billion each year by

2050 if no action is taken to protect them. Seagrasses are a key part of our coastal natural capital providing a range of ecosystem services from which humans benefit. Over the last century the UK has lost up to 90% of its seagrass meadows due to poor water quality, coastal development and boating impacts. Seagrass degradation has major biodiversity impacts. Seagrasses support the productivity of 20% of the world’s biggest fisheries and harbour 30 times more species than bare sediment. Seagrass meadows also account for more than 10% of total ocean carbon buried each year. Global analysis indicates that seagrass meadows can store carbon up to 35 times the rate of tropical rainforests. They therefore have real potential to contribute to the UK’s carbon emission targets if restored at sufficient scale. Seagrasses also help adaptation to climate change by reducing storm wave energy and helping the accretion of our beaches. Further, seagrasses help improve water quality by removing damaging Nitrogen (from farming activities) as well as pathogenic bacteria and reducing turbidity and so improving bathing water quality.

Restoring and protecting UK coastal ecosystems supports the livelihoods, health, and wellbeing of thousands of people and coastal communities across the UK. Until recently there had only been a handful of known small-scale efforts to restore seagrass in the UK, all of which failed. Over the last decade improved understanding of seagrass ecology has led to vast improvements in our capacity to restore seagrass meadows. This project builds on successful small-scale seagrass restoration trials undertaken by partner Swansea University that provided the platform for the UK's first large-scale seagrass restoration project. Since 2019 WWF & Swansea University, with core funding from Sky Ocean Rescue, have now planted 2 hectares (has) of seagrass in SW Wales.

The next steps of this project are to restore 16has of seagrass at 3 further sites in the UK by 2026 in collaboration with a variety of partners, to further demonstrate and refine the restoration model; as well as trial mechanisation of components of the seagrass restoration process to enable the scaling up to the restoration of hundreds of hectares per year, with the vision to have 2,500has restored by 2030, involving a range of organisations. This will require the government to show leadership, coordination and resourcing of these restoration efforts, as well as the removal of licensing barriers to the restoration of a range of critical coastal habitat types, including salt marshes, kelp forests and bivalve reefs – all of which provide nature based solutions (NBS) to the climate and biodiversity crisis. This project aims to build public support and advocate for the UK government to provide this leadership and invest in NBS to build ocean and coastal community productivity, health and resilience across the UK.

**The Solent Project**

In the Solent area there are a number of NGOs and government agencies planning/working on the restoration of different coastal habitats, including kelp forests, salt marshes and oyster reefs. WWF is already in communication with these organisations to explore the feasibility of integrating the restoration of multiple habitat types, as there are synergistic benefits of restoring multiple coastal habitat types together in terms of productivity of those habitats and ecosystem service benefits derived. Where possible WWF will work with these organisations to this end, in what would be the first attempt to integrate coastal habitat restoration in the UK.

In terms of seagrass restoration the following are the key Solent project activities. Firstly we need to identify ecologically viable seagrass restoration sites in the Solent by undertaking both habitat suitability modelling and ground truthing of water quality. At the same time we will undertake a stakeholder scoping study to identify who the ocean users are in the area and key audiences for the awareness programme. This will provide the basis for the development of a stakeholder engagement plan with the intention of involving local people in both the design and management of the project. We will establish a local stakeholder seagrass management group and work closely with national and local statutory authorities with responsibilities for coastal habitat restoration to ensure project sustainability.

Once suitable sites have been identified and local stakeholders have input into restoration plans we will then work with local communities and supporters to begin collecting seeds from healthy seagrass meadows and plant them at the sites, aiming to restore 1.5has per year over 2 years. Engaging coastal communities in restoration helps build a sense of connection to their natural environment, a feeling of wellbeing in active involvement, as well as supporting the sustainability of conservation efforts.

Throughout the duration of the 3-year project, we will record impacts by measuring environmental service baseline information pre-planting (carbon sequestered, water quality, marine fauna biomass) and evaluating changes through ongoing monitoring in collaboration with local partners. We will also record public engagement and measure changes in their understanding of the importance of seagrass and NBS.

Alongside this restoration work we will be conducting local awareness efforts as to the importance of seagrass restoration and coastal NBS to address the climate and biodiversity crisis. This will be undertaken in local schools and communities, including workshops, talks and beach events, in addition to awareness from active participation in restoration. The launch of our pilot seagrass restoration project in SW Wales generated huge public and political interest, with over 115 pieces of coverage and an audience reach of 320million. Scale-up of seagrass restoration in new sites presents opportunities to further raise awareness of the importance of NBS in tackling the climate and biodiversity crises with wider audiences. The Solent location offers significant political engagement being close to London, with several MPs already expressing interest in taking part in restoration events. Engaging with decision makers will contribute to our goal to advocate for the UK government to provide leadership in coordinating and facilitating coastal NBS to the biodiversity and climate crises.

By the project end, a restoration model will be developed and circulated to all relevant statutory agencies responsible for coastal restoration across the UK to provide the tools for further restoration efforts. We also expect that by the project end, Government will have removed existing licencing barriers to coastal habitat restoration efforts and developed a funded strategic plan for blue carbon coastal habitat protection and restoration.

**Key Milestone Dates:**

* **Jul 2022** – key stakeholders identified & stakeholder engagement plan finalised
* **Jul 2022** – education materials designed & produced, awareness & education programme begins
* **Aug 2022** – stakeholder engagement, UK public communications & advocacy plans initiated
* **July 2023** – baseline environmental data collected, modelling completed, final planting sites decided, local seagrass stakeholder group established & potential for integrated restoration with partners determined.
* **Aug 2023** – permits acquired & 750,000 seeds collected
* **Oct 2023** – 15,000 planting bags prepared
* **Dec 2023** – 1.5has (15,000m2) planted
* **Mar 2024** – monitoring initiated
* **Jun 2024** – total 3has (30,000m2) seeds planted; awareness programme reaches local schools, communities and visitors in the Solent area; public communication programme on value of coastal NBS reaches national audience; restoration model disseminated; government remove licencing barriers to restoration & have in place a funded blue carbon habitat restoration strategy.