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Project Seagrass

Facilitating Accelerated Nature Networks for Seagrass
Project Evaluation Report
March 2026





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1. Introduction

The Facilitating Accelerated Nature Networks for Seagrass (FANNS project) is a strategic, multi-site project designed to restore, protect and expand seagrass ecosystems across South and West Wales, focusing on three key Special Areas of Conservation (SACs):

- Carmarthen Bay and Estuaries
- Severn Estuary
- Pembrokeshire Marine

The project received funding for two years from the National Lottery Heritage Fund and was delivered by Project Seagrass, a charity *"created with the approach of turning cutting-edge research into effective conservation action and education schemes, by collaborating with local communities and other stakeholders."*¹

Project Seagrass has a stated mission to lead societal change to enable the recognition, recovery and resilience of seagrass ecosystems globally; that provide biodiversity, equitable and sustainable livelihoods, and planetary life support.

Seagrass ecosystems provide significant ecological, climate, and socio-economic benefits including carbon storage, protection from coastal erosion, enhancing water quality and supporting biodiversity. Despite their importance, seagrass habitats in Wales have experienced long-term decline.

*"Over the last 100 years, the UK has lost up to 92% of seagrass habitat due to coastal development, pollution, fishing and water-based activities, with extensive loss within Wales."*²

This is driven by a number of factors, including, *"...poor water quality, caused by urban, agricultural and industrial run-off, coastal development, direct physical damage and the worsening impacts of climate change."*³

Cwmpas were contracted as independent evaluators to support the summative evaluation of the project. We worked in collaboration with the project delivery team at Project Seagrass to capture evidence of the project's impact and to explore how the project contributed to the aims of the National Lottery Heritage Fund and the wider aims of Welsh Government.

We would like to thank the stakeholders, volunteers and community members for agreeing to be interviewed and to share their reflections with us for this evaluation.

¹ <https://www.projectseagrass.org/about/>

² <https://www.seagrassnetwork.cymru/what-is-seagrass/>

³ <https://www.projectseagrass.org/why-seagrass/>

2. Aims and Methodology

The project was designed in alignment with Project Seagrass's core mission and values of a science-led, collaborative, equitable, optimistic and passionate approach to saving the world's seagrass. The project's stated aims are to create a joined-up regional strategy for seagrass restoration, to enhance biodiversity and resilience across SACs, to increasing community and stakeholder involvement and to strengthen Wales's capacity for seagrass restoration.

Project Seagrass has three foundational pillars of **Research**, **Community** and **Action** and this project design mirrors that structure. The project objectives are to:

Research

- Test, trial and refine methods for planting, transplanting, and seeding seagrass.
- Improve meadow management using mapping, mooring improvements, and monitoring technologies.
- Share knowledge and learning widely to support evidence based decision-making and future action.
- Support the work of Seagrass Network Cymru to share resulting learning, knowledge and information across Wales.

Community

- Engage and empower local communities, schools, and fishers relationship-building, recognition and co-produced solutions that respect livelihoods and promote stewardship.
- Engage a wider range of people in heritage through regular sessions with local groups, schools, and youth programmes; co-design engagement with communities.
- Communicate updates and information to stakeholders and the wider public to broaden reach and inclusivity.

Action

- Develop a reliable supply chain for restoration via the Pendine/Laugharne nursery: seed collection, processing, storage, and provision of transplants.
- Deliver restoration at priority sites: continued planting and resilience-building at Dale; new trials in Carmarthen Bay and Estuaries and the Severn Estuary.
- Protect existing meadows by exploring and promoting seagrass-friendly practices.
- Operationalise learning through iterative methods, scale what works, and adapt to site conditions and community feedback.
- Enhance organisational capacity for long-term restoration.

The aim of this evaluation is to provide an independent, evidence-based assessment of the FANNS project as well as to capture learning and demonstrate any added value to inform future projects.

This evaluation report does not seek to provide an exhaustive account of every activity undertaken by the project, as these have already been communicated by the Project team to the Heritage Lottery through detailed updates provided at regular intervals throughout the project's duration. Rather this report aims to combine a desk-based evidence review with qualitative interviews enabling both objective assessment of delivery and deeper insights into the project's wider impacts and learning.

3. Activities

3.1 Research

3.1.1 Planting, Monitoring and Mapping

Mapping seagrass was a significant part of the project's activities. A combination of acoustic surveys, drone-based imagery and in-field 'ground-truthing' was used to improve confidence in the location, extent and condition of seagrass meadows within the project areas. Acoustic survey work enabled the project team to distinguish between bare sediment, kelp and seagrass habitats, particularly within Milford Haven and around restoration sites. Drone imagery was deployed across areas including Dale Bay, Frenchman's Bay, Angle Bay, Pembroke River and the Burry Inlet, allowing for high-resolution visual assessment of the presence of new seagrass meadows, and supporting validation of existing meadows. These remote sensing approaches were complemented by walkover surveys and targeted field verification during low-tide conditions, ensuring that mapping was verified through on-the-ground observations.

Community participation further strengthened mapping outcomes. Citizen science contributions, particularly through SeagrassSpotter walkovers, generated new seagrass presence records and confirmed meadow expansion beyond core restoration plots. In addition, local ecological knowledge shared by fishers and other stakeholders informed mapping and site selection, helping to identify areas of potential seagrass presence that may otherwise have been overlooked. Collectively, these mapping activities have improved the spatial evidence available to conservation practitioners, policymakers and managers, supporting more informed protection and restoration of seagrass habitats.

Alongside mapping, the FANNS project delivered a substantial programme of research activity focused on testing and refining seagrass restoration methods. Restoration trials were deliberately designed as comparative experiments, examining different approaches to planting and seeding across multiple environmental contexts. These trials tested a range of variables, including transplant versus seed-based approaches, different planting media, seasonal timing and nursery conditioning of plant material. By implementing these trials across three SAC's (Pembrokeshire Marine, Carmarthen Bay and Estuaries, and the Severn Estuary) the project was able to assess how environmental conditions influenced restoration outcomes.

The research outcomes from these activities have generated important learning. Results demonstrated clearly that restoration success is highly site-dependent, with strong establishment and expansion observed in more stable environments such as Dale, and limited success in more dynamic estuarine locations. Spring planting was shown to outperform autumn planting in terms of shoot density and early establishment, while Direct Injection Seeding did not result in successful establishment at the Severn Estuary site. Intertidal transplant trials showed encouraging growth where sediment conditions were suitable, with shoot increases of approximately 30% recorded in some plots. Importantly, the project treated unsuccessful outcomes as valuable evidence, enabling clearer identification of environmental thresholds such as sediment mobility and heat stress.

Overall, the mapping and research undertaken through FANNS has significantly strengthened the evidence base for seagrass restoration in Wales. The project has not only delivered site-specific learning but has also contributed to wider national and international understanding of seagrass restoration practice. By combining rigorous experimentation, environmental monitoring, community knowledge and knowledge exchange, FANNS has provided a strong foundation for future restoration, protection and scale-up of seagrass recovery efforts. These activities have provided a robust evidence base to inform both immediate restoration decisions and longer-term strategic planning.

3.1.2 Nursery

A central element of the FANNS project was collaboration with the seagrass nursery at Laugharne. Established in 2020, the Project Seagrass nursery is the first facility of its kind in the UK, producing and storing seagrass seeds and propagules to support restoration nationally.

The Nursery Manager and nursery team worked closely with the FANNS project team to pool expertise on seagrass biology, planting sites and current research. Together, they developed a systematic planting plan designed to test a range of variables across different locations. These included the use of different planting media (such as sediment-intact coir, hemp and bare-root pins made from different materials) as well as seasonal timing, plant hardening, root pre-treatment and anchoring methods.

Through interviews, the Nursery Manager described the partnership as “*very collaborative*”, emphasising that the nursery team felt listened to and meaningfully involved in decision-making around the use of seed and plant stocks. Nursery staff actively contributed to the project by visiting planting sites, supporting monitoring and measurement activities, and hosting FANNS project staff at the nursery. This reciprocal approach enabled both teams to deepen their understanding of seagrass planting in both nursery and field settings. The photos below show the FANNS project team during a site visit to the nursery.



The Nursery Manager highlighted the “*massively beneficial*” role of the project in generating evidence-based learning about seagrass restoration. They described restoration as “*a jigsaw puzzle*”, with success influenced by a complex interaction of factors and variables including seasonality, water quality, weather conditions, species characteristics and planting techniques. Importantly, they noted that unsuccessful planting outcomes were highly valuable, “*We learn so much from failure*”, as this contributes to the growing evidence base on what does and does not work in seagrass restoration. This approach significantly enhanced organisational capacity for long-term seagrass restoration and contributed valuable insights to the wider field.

Through the FANNS project, the nursery team was able to expand its knowledge and practical understanding of seagrass planting through real-world experimentation. The Nursery Manager stressed that learning from failure was a crucial part of this process, enabling continuous refinement of methods and strengthening the evidence base for future restoration work.

The structure and flexible funding of the FANNS project, supported by the National Lottery Heritage Fund, were viewed as critical enablers of this learning. The absence of rigid output targets allowed the project to test hypotheses, adapt approaches in response to emerging findings and discard ineffective methods. This flexibility was considered essential for laying the foundations for future, potentially larger-scale research and restoration efforts.

3.2 Community

3.2.1 Engagement with Local People and Organisations

The FANNS project team were able to engage over **180** stakeholder groups and organisations across the timeframe of the project. They also organised and ran **30** events, talks, training sessions, workshops and open days across the project areas. These events engaged at least **1,000** people.

In addition, the social media campaign that the project ran to raise awareness about the importance of seagrass to the fishing industry and to promote the fishing survey had **449,554** impressions reaching **174,297** accounts. These activities demonstrate the FANNS project teams consistent and dedicated commitment to community engagement and consultation.

The project held **5** workshops, and **11** community activity days, where local people could take part in spotting, monitoring or planting seagrass in their local area. They also held **16** events specifically for young people through local schools or youth organisations not only providing local people with new skills but raising wider awareness of the importance of seagrass.

The photos below show members of the local communities taking part in these activities across South and West Wales.



3.2.2 Fishers

An important part of the FANNS Project plan was to engage with the local fishing community, “building, recognition and co-produced solutions that respect livelihoods and promote stewardship”⁴. Building on experience and knowledge from colleagues within Project Seagrass, the FANNS team decided to develop a survey, enabling local fishers and others engaging in other related activities across the project areas to share their views and their local knowledge. The project team actively went into spaces to engage fishers, including local tackle and bait shops. They also used targeted social media engagement and connected with community groups linked to fishers to promote the survey. The survey received 41 responses and was able to provide the project team with useful insights into the appetite of the local fishers for seagrass restoration, as well as identifying through their specialist local knowledge, potential sites for seagrass mapping, conservation and restoration.

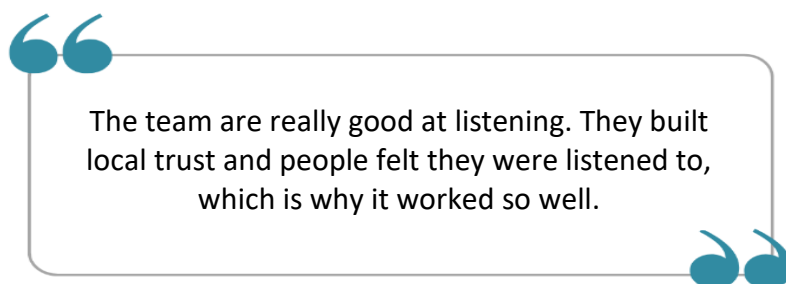
⁴ Original HLF application

Through this focused engagement, the FANNS Project were able to build a strong relationship with one fisher in particular. The use of lobster pots is widely acknowledged to cause damage to seagrass, "*...it is considered that pots consistently set and hauled in an eelgrass meadow can cause damage by leaf shearing, damaging meristems, uprooting plants and, if left long enough on the bottom, can cause damage by smothering and light attenuation.*"⁵ The fisher has been working with the project team to co-design and co-develop a lobster pot that is safe and protective of seagrass. This collaboration not only resulted in a tangible improvement to seagrass protection for fishers, it also showed the power of meaningful community and stakeholder engagement. The project team showed a genuine interest in and respect for the expertise held within local communities which has created tangible positive change.

3.2.3 Stakeholder Engagement

We interviewed the SAC Officer for Pembrokeshire Marine Special Area of Conservation who is also part of the Dale Seagrass Stakeholder Group. The SAC Officer explained that they have been involved with the FANNS project from the outset, supporting the project team to ensure that there was no duplication of existing activities in the Dale area and felt that the project aligned very well with their own organisational activities, aims and objectives.

The SAC Officer praised the project team's "*really good communication*" throughout, citing this as a key reason for the success of the project. The SAC Officer was particularly impressed by how the project team worked with local stakeholders to ensure that events were run at times that worked best for the local community. They listened to feedback, rearranging events to avoid clashes to maximise attendance from local people and representatives from local organisations. They felt that there was excellent collaboration between the project team and local organisation such as the Darwin Centre, and that the team had built strong relationships with embedded local organisations who were able to meaningfully engage.



The project team also ensured that spaces at events were reserved for local attendees, understanding the importance of local support to the success of the project. The SAC Officer felt that this thoughtful approach to community engagement was hugely positive and "*handled really well.*" The SAC Officer and the project team collaborated to install visitor mooring buoys at Longour Bay with Dale Sailing. This will prevent damage through anchoring within the Longour Bay seagrass meadow. The plan is to install three more marker buoys to outline the extended restoration area and continue to protect the seagrass that has been restored.

⁵ <https://www.marlin.ac.uk/assets/pdf/Review-of-sensitivity-Roberts-et-al-2010.pdf>

The SAC Officer felt very positively about the FANNS project being able to continue the work already done to restore seagrass in Dale. They also valued feeling part of a wider South and West Wales collective restoration effort through their involvement in the project. The SAC Officer appreciated the time and effort that the project team took in keeping them updated, not only about the activities locally but the wider achievements and learning of the project in other parts of Wales.

They reflected that seagrass restoration is a long-term endeavour, requiring years of investment and that it is challenging for organisations like Project Seagrass to continue with projects given that funding is often short-term. However, they were committed to continuing to collaborate with Project Seagrass in the future, believing that this partnership had “*added value*” to their own work, helping them to achieve their organisational objectives and to raise awareness of the importance of seagrass across Pembrokeshire.

3.3 Action

The FANNS project, in collaboration with a wide range of community members, stakeholders and local residents managed to plant **1,500** seagrass plants and **63,200** seagrass seeds across the project’s restoration areas. Whilst not all of the plants and seeds have become established plants, many are thriving and the learning from the planting activities has been extremely positive as explored in section 3.1 of this evaluation report. The project activities were concentrated in three geographic areas across South and West Wales, and the evaluation will focus on exploring the wider impact of the project’s work in these three distinct communities.

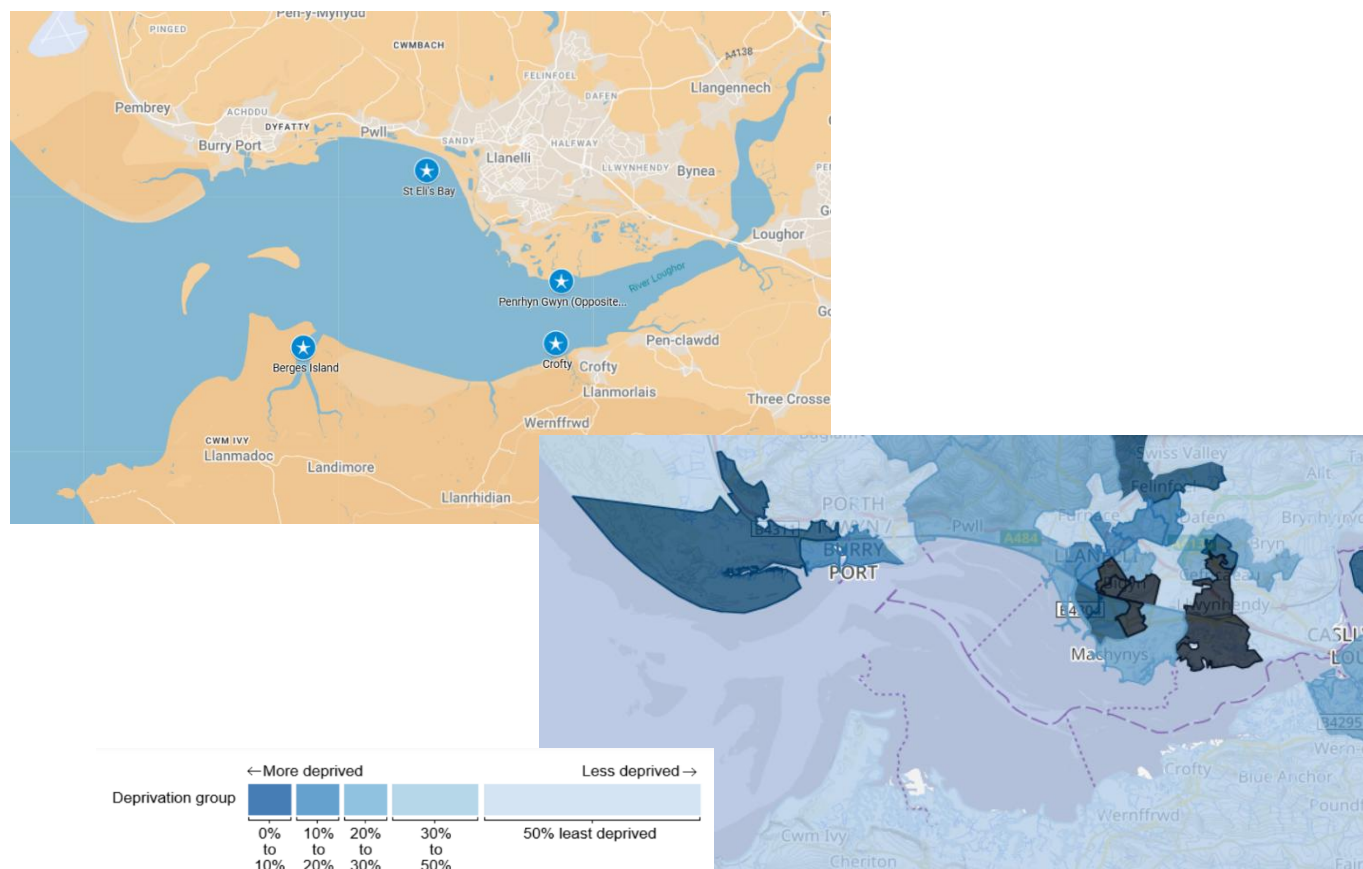
3.3.1 Carmarthen Bay and Estuaries SAC

The project focused activities around Carmarthen Bay, specifically the Burry Inlet, located in South Wales between the north coast of the Gower Peninsula and the south-eastern coast of Carmarthenshire. The area has huge scientific and historical significance and is described as, “*An estuarine complex with extensive areas of intertidal sand and mudflats. The site includes the largest continuous area of saltmarsh in Wales and major dune systems at the estuary mouth. Nationally and internationally important numbers of several species of wintering waterbirds are supported, with numbers reaching 42,563 individuals.*”⁶ The inlet has supported cockle fishing for centuries and was the first bivalve fishery and the fifth fishery globally to achieve MSC certification in 2001.⁷

⁶ https://rsis.ramsar.org/ris/562?_goaway_challenge=meta-refresh&_goaway_id=91c72198092dd803fb645d10b90cf2e0&_goaway_referer=https%3A%2F%2Fwww.google.com%2F

⁷ <https://www.msc.org/uk/what-we-are-doing/uk-irish-fisheries/burry-inlet-dee-estuary-cockle>

The maps below show the restoration sites round Llanelli and the same geographic area with the levels of deprivation according to the 2025 Wales Index of Multiple Deprivation.⁸



The darker blue areas show higher levels of deprivation and indicate that some of the most deprived areas in Wales (those designated as being amongst the 10% most deprived) are around the Llanelli restoration sites. This is relevant information as it presented the project team with different challenges in terms of engaging and consulting with these communities, compared with communities, such as those in Dale which were already more aware of and engaged with conservation activities.

We interviewed the Conservation and Nature Reserves Manager for Carmarthenshire County Council, who has been an important stakeholder in the project. They explained that the Local Authority has 6 nature reserves covering 12,000 hectares of land and 5,000 intertidal hectares. Their role is to site manage six Local Nature Reserves, advise on conservation & biodiversity issues across another seven countryside sites, advise senior team on current environmental legislation and manage the Volunteer in Parks programme. The focus for the Local Authority is in meeting their statutory duties under the Environment (Wales) Act 2016, and the Well-being of Future Generations (Wales) Act 2015.

⁸ <https://datamap.gov.wales/maps/welsh-index-of-multiple-deprivation-wimd-2025/view#/>

The Conservation and Nature Reserves Manager felt particularly impressed with the project team's success at engaging the local community in Llanelli. Llanelli is an area They reflected that:



[The project team were] going out of their way to engage the community. They were always so willing to talk to people, to engage them and explain that they were doing."



The Conservation and Nature Reserves Manager explained that the communities around the restoration sites are diverse and can, in their experience, be difficult to engage in conservation activities. Many do not ever take part in marine or coastal activities. However, they reflected that the FANNS Project team's approach was very positive and engaging. They explained that the project took considerable time and thought in planning community engagement activities and were highly successful in not only raising awareness within the local community about the importance of seagrass, but also in sharing their enthusiasm and passion for conservation. They reflected, *"I have never worked with such an enthusiastic team of people."*

The Conservation and Nature Reserves Manager was able to bring people on seagrass walks, hold events, and chat to local people curious about their activities on the beach. They were highly complementary about the open, engaging approach taken by the team and felt that their willingness to genuinely listen to the community was a significant part of their success in engaging the local community, *"It's a testament to their professionalism that they want to keep people informed and involved."*

The Conservation and Nature Reserves Manager had become involved in the project as they were keen and to *"partner with the experts"* such as Project Seagrass to support conservation work in the Local Authority area. Their role initially was to agree access to the restoration site in Llanelli (Carmarthen Bay and Estuaries SAC) and to ensure that any activities carried out by the project were properly planned, managed and risk assessed. As they began to work with the team, they were able to offer support with transporting the heavy equipment that the project team needed to bring to the restoration site and were happy to offer transport to enable this task to be managed more effectively.

The Conservation and Nature Reserves Manager reflected that the team were, *"The most committed conservation team I've ever worked with."* They had particularly praise for the project lead who they described as, *"incredibly driven...an incredible leader."*

The Conservation and Nature Reserves Manager reflected that they had been very impressed with the professionalism and rigorous attention to detail that they observed from the project team. They felt that the project team had always had carefully thought-out plans very robust health and safety, risk assessments for all their activities, which were, *"very organised"*. They also praised the project team's collaborative approach to working and felt that their views and input were always listened to and their expertise valued.

The Conservation and Nature Reserves Manager explained that working with the FANNS project team had significantly improved their own knowledge of seagrass.

“ I didn’t know anything about seagrass really, and working with the team helped me to understand its importance. ”

Not only has the project team enabled the Conservation and Nature Reserves Manager to gain a deeper insight into the importance of seagrass restoration, the work of Project Seagrass has also influenced the wider Local Authority. The Conservation and Nature Reserves Manager explained that collaborating with Project Seagrass has brought an increased understanding of seagrass and raised awareness of the importance and urgency of protecting and restoring seagrass for colleagues across the Local Authority.

The Conservation and Nature Reserves Manager explained that they understood the challenges for small charitable organisations like Project Seagrass who are dependent on short-term funding, and how difficult it can be to build on successful work and maintain momentum with projects coming to an end.

The Conservation and Nature Reserves Manager ended our interview with a clear recommendation that Project Seagrass should be funded to enable them to continue their vital work. They stated their commitment to continuing to collaborate with Project Seagrass in the future, stating how beneficial their involvement had been for the Local Authority in terms of supporting them to achieve their environmental and well-being goals.

“ It is so important that Project Seagrass’s funding continues. We as a Local Authority cannot fund this work, but we want to continue to collaborate with World leading organisations like Project Seagrass on conservation and restoration and we will do whatever we can to support them in the future. ”

3.3.2 Severn Estuary SAC

The Severn Estuary, stretching between South Wales and Southwest England. The estuary has the second highest tidal range in the world and has an extensive intertidal zone made up of intertidal mudflats, sand banks, saltmarsh, shingle, and rocky platforms⁹. The area supports a diverse range of invertebrates, birds and marine life as well as supporting industry, energy production, and many different forms of coastal recreation. The project team identified the more sheltered areas of the estuary as a potential seagrass restoration site.

Within the Severn Estuary SAC, the FANNS project aimed to test whether seagrass restoration could be initiated in a highly dynamic, industrialised estuarine environment, where historical records indicated the former presence of seagrass, but where current conditions may be challenging. The intention was not immediate large-scale restoration, but to trial different restoration approaches, assess site suitability, and understand the environmental thresholds that determine whether restoration is feasible. The work at Cardiff's foreshore was designed to generate evidence to inform future site selection and restoration design across the wider estuary.

In May 2024, the project transplanted 75 seagrass plants from the nursery and 60,000 seeds using the DIS (dispenser injection seeding¹⁰) method. Unfortunately, this did not result in the germination of any seeds, and many of the plants did not become established. These results indicated that the original approach, while effective elsewhere in Wales, was not performing under the specific environmental conditions of the Severn Estuary, including unstable sediments, siltation and exposure stress. Rather than abandoning the site, the project deliberately shifted to an adaptive, experimental learning phase, treating the failure as evidence to refine both methods and assumptions.

Firstly, they repeated planting a small number of seeds using the same DIS method, to confirm their assumptions about the reasons for the failure during their first planting. The revised plan focused on testing whether method refinement, timing and plant preparation could overcome environmental constraints, while also isolating which factors were most limiting success. In early 2025, the project moved away from reliance on large-scale seed-based methods and instead prioritised transplant-based trials using nursery-grown material. These included planting seagrass in sediment-intact containers such as hemp bags and coir pots, alongside comparisons between indoor-grown and outdoor-hardened plants, to assess whether retaining sediment and pre-conditioning plants improved survival. At the same time, a smaller, targeted repeat of DIS was carried out using a "Seagrass Hug"¹¹ where seeds were planted in close proximity to sediment-intact transplants. This was designed to test whether micro-scale shelter and biological facilitation could support germination under estuarine conditions, while also separating the effects of planting method from planting season. The adapted plan also deliberately reduced the scale of intervention, recognising that large planting efforts risk failure without stronger evidence of suitability. Planting took place earlier in the season (March–April 2025) to reduce thermal stress and align with findings from more successful sites elsewhere in Wales.

Despite these refinements, monitoring through mid to late 2025 showed that overall survival remained low. While testing revealed that small coir pots performed better than other methods, more than half of the initial transplants were lost across all approaches, and seed-based methods again failed to establish. These outcomes confirmed that environmental pressures, rather than other factors, were the dominant limiting factor at this location.

⁹ <https://rsis.ramsar.org/ris/67>

¹⁰ <https://www.projectseagrass.org/blogs/seagrass-watch-restoration-update-north-wales/>

¹¹ <https://www.projectseagrass.org/blogs/introducing-the-seagrass-hug/>

The project also showed that changing techniques alone cannot always overcome challenging environments where there are many different and challenging variables. While some planting methods performed slightly better than others, none led to strong or lasting recovery. This made it clear that restoration is unlikely to succeed in places where natural conditions are too unstable, no matter how carefully planting is carried out. Importantly, the project demonstrated the value of embracing and learning from failure. The results helped add valuable learning and knowledge to the field of seagrass restoration, and will help reduce risk, save resources, and guide more realistic and effective restoration planning across Wales in the future.

3.3.3 Pembrokeshire Marine SAC

The Pembrokeshire Marine SAC is part of the Milford Haven Waterway and is described as, "...one of the largest marine SACs in the UK, covering an area of 138,069 hectares."¹² The area, "...encompasses areas of sea, coast and estuary that support a wide range of different marine habitats and wildlife, some of which are unique in Wales."¹³ The Pembrokeshire Marine SAC was the focus of pioneering seagrass restoration through the Seagrass Ocean Rescue project, the UK's first full-scale seagrass restoration initiative. Delivered in partnership with organisations including Pembrokeshire Coastal Forum, WWF, Sky Ocean Rescue and Project Seagrass, the project worked closely with the local community in Dale to restore seagrass within the SAC. Monitoring to date shows the seagrass meadow is increasing in density and extent, demonstrating strong ecological recovery and the need for continued long-term management.¹⁴

In Pembrokeshire, the FANNS Project plan was to build on the successful seagrass restoration at Dale within the Pembrokeshire Marine SAC by strengthening and expanding the existing meadow through further planting and reseedling. The project aimed to improve long-term protection and management of seagrass through monitoring, mapping and the use of visitor moorings to prevent anchoring damage. Central to the approach was continued collaboration with local communities and sea users, ensuring they were actively involved in restoration, stewardship and education.

We interviewed the Director of [Celtic Deep](#), "...a social enterprise run by marine biologists and freedivers, offering in-water wildlife experiences in the offshore and island habitats off the coast of Pembrokeshire."¹⁵ Celtic Deep were involved Dale restoration project after the initial planting had been completed and were keen to be involved in the FANNS project. They worked with the project team to take interested local people to the seagrass sites in Dale, supporting them with the necessary equipment and training to view the seagrass and wildlife it supports first hand. The Director explained that it really helps people to see the seagrass growing for themselves, rather than learning about it online or from photos. They have found people are excited by the diversity of wildlife and biodiversity that seagrass supports and are often surprised by how long the grass can grow.

¹² <https://www.pembrokeshiremarinesac.org.uk/where-is-it/>

¹³ <https://cdn.cyfoethnaturiol.cymru/684242/indicative-condition-assessment-2018-pembrokeshire-marine-sacv2.pdf>

¹⁴ <https://www.pembrokeshiremarinesac.org.uk/seagrass-ocean-rescue/>

¹⁵ <https://www.celticdeep.org/whoweare>

Celtic Deep also have a freediving club and qualified freediving instructors. They were very keen to work with the project team to trial planting seagrass using freedivers. This was seen by the project team as a way to test a different method of planting and a way to upskill the freediving club members in seagrass planting which could enable them to support planting efforts in the future. The Director explained that they had collaborated closely with the FANNS project team to plan the activity, with each sharing their expertise to ensure the activity was safe and effective. The Director explained that the FANNS project had provided training on both planting and monitoring the seagrass and that they had collaborated together to plant about 150 new seagrass plants during the session. This was the first time that freedivers have been used in the UK to plant seagrass and is evidence of the innovative and groundbreaking approaches adopted by the project team.

The Director said that those involved had really enjoyed the experience and had learned a great deal through the training and taking part. They really valued being able to be part of active restoration activities and felt that the collaboration with Project Seagrass had aligned well with the ethos and interests of both Celtic Deep and of the freediving club members.

“It was really good fun, and it was so nice for us as a business to help with restoration.”

Below are some photos of the freediving club members and the Celtic Deep team engaged in planting activity.



Celtic Deep were also able to engage with the project through their 'sharkademy' programme which is described as "the UK's first shark specialist residency for early career biologists and conservationists."¹⁶ They were able to engage the sharkademy students in planting activities with the project, giving them valuable practical experience. The Director has a very positive view of future collaboration with Project Seagrass and hopes to take on further monitoring responsibilities, particularly around the newly designed seagrass-safe lobster pots, which they described as "*exciting*".

The Director spoke very positively about the ethos, values and approach of the FANNS project team. They felt that their collaborative approach and willingness to listen to local knowledge and the expertise of other stakeholders was a significant part of the success of the project. They felt the community engagement events that the project team had run were "*really good*" and that local people had been carefully considered and included. They warned of "*preaching to the choir*" with community engagement in the sense that the people engaged were likely already either interested in conservation or already active in one or more sea-based activities. The challenge is to engage a wider audience, but they were committed to working with Project Seagrass to explore how this could be achieved in future.

¹⁶ <https://www.celticdeep.org/projects-1>

4. Strategic Alignment

4.1 Heritage Lottery Fund

The Facilitating Accelerated Nature Networks for Seagrass (FANNS) project represents a strong and well-delivered programme that combines scientific rigour, adaptive practice and deep community engagement. Across South and West Wales, the project has demonstrated how complex nature restoration can be undertaken thoughtfully, transparently and collaboratively, while remaining firmly grounded in evidence and learning. The project has delivered a strong and coherent programme of activity that aligns closely with the National Lottery Heritage Fund's Heritage 2033 strategic framework, and the four investment principles– **Saving Heritage, Protecting the Environment, Inclusion, Access and Participation** and **Organisational Sustainability**¹⁷:

Saving Heritage

The FANNS project has made a significant contribution to the protection and recovery of natural heritage, specifically seagrass meadows within three Special Areas of Conservation across South and West Wales. Seagrass is a critically important but historically overlooked component of Wales's marine heritage, having experienced severe long-term decline. By restoring seagrass, improving understanding of meadow distribution and condition, and strengthening protection measures, the project has directly supported the safeguarding of a fragile and vitally important natural asset.

This work aligns strongly with the Heritage 2033 ambition to save and protect heritage at risk, ensuring that natural heritage is not only conserved but actively recovered. The project's evidence-led approach, combining mapping, monitoring and adaptive restoration trials, has strengthened the knowledge base required to secure the long-term future of seagrass in Wales and to inform future conservation and management decisions.

Protecting the Environment

Environmental protection is at the foundation of the FANNS project. The project has delivered restoration, management and protection activity that contributes directly to national priorities on biodiversity recovery, climate resilience and ecosystem health. Seagrass meadows support important ecological benefits, including carbon sequestration, coastal protection, improved water quality and support for biodiversity. By restoring and protecting these habitats, the project has contributed to wider environmental benefits beyond the immediate restoration sites.

Inclusion, Access and Participation

A key strength of the FANNS project has been its commitment to inclusive and meaningful engagement. The project has successfully involved local communities, volunteers, schools, fishers and stakeholders in seagrass restoration, monitoring and learning activities, including in areas of high socio-economic deprivation. By taking activity into communities and creating accessible entry points to participation, the project has broadened engagement with marine heritage and ensured that a wider range of people could connect with, understand and care for their local environment.

This approach strongly reflects the Heritage 2033 priority of inclusion, access and participation, ensuring that heritage is relevant, accessible and valued by diverse communities. The project's co-produced approach with fishers and local stakeholders also demonstrates good practice in balancing conservation objectives with livelihoods and local knowledge, helping to build trust, stewardship and long-term support for environmental protection.

¹⁷ <https://www.heritagefund.org.uk/about/heritage-2033-our-10-year-strategy>

Organisational Sustainability

The FANNS project has contributed significantly to the organisational sustainability and capacity of Project Seagrass and its partners. Investment in nursery capacity, skills development, partnership working and evidence generation has strengthened the foundations for long-term seagrass restoration in Wales. Importantly, the flexible funding model enabled experimentation, learning from failure and adaptive delivery, which stakeholders identified as critical for innovation and long-term impact.

The project's activities in this area aligns clearly with the Heritage 2033 aim of supporting resilient, adaptive and sustainable organisations, capable of responding to complex environmental challenges. The project has also strengthened networks across South and West Wales, embedding collaboration between conservation organisations, local authorities, community groups and researchers.

4.2 Welsh Government Policy and Strategy

The FANNS project clearly supports the achievement of the goals set out in the Well-being of Future Generations (Wales) Act 2015¹⁸, particularly the goals of A Resilient Wales, A Healthier Wales and A More Equal Wales. By restoring ecosystems, supporting community wellbeing through engagement with nature, and prioritising inclusive participation, the project demonstrates how environmental action can contribute to long-term social, environmental and cultural wellbeing.

The project aligns closely with the Welsh Government's 30 by 30 Framework¹⁹, supporting the ambition to protect and manage at least 30% of land and sea for nature by 2030. It also supports the Climate Adaptation Strategy for Wales²⁰, by enhancing the resilience of coastal ecosystems to climate impacts such as warming temperatures, storm events and sea-level rise. Through monitoring, learning and adaptive management, FANNS has demonstrated how nature-based solutions can play a practical role in responding to climate and biodiversity emergencies.

The project has also supported the delivery of duties under the Environment (Wales) Act 2016²¹, particularly the requirement for public bodies to maintain and enhance biodiversity and promote the resilience of ecosystems. Through its collaborative work with local authorities and SAC officers, the FANNS project has supported statutory partners to meet their environmental obligations.

¹⁸ <https://futuregenerations.wales/discover/about-future-generations-commissioner/future-generations-act-2015/>

¹⁹ <https://www.gov.wales/30by30-framework-wales-html>

²⁰ <https://www.gov.wales/sites/default/files/publications/2024-10/climate-adaptation-strategy-for-wales-2024.pdf>

²¹ <https://www.legislation.gov.uk/anaw/2016/3/contents>

5. Conclusions

The FANNS project has demonstrated a consistently high level of adaptability and responsiveness throughout its delivery. Funding was used effectively to test hypotheses, refine techniques and adjust activity in response to emerging evidence and local conditions. This adaptive approach ensured that resources were used responsibly and that learning was prioritised alongside outcomes, reflecting a realistic understanding that long-term ecological recovery is complex and rarely linear. Importantly, the absence of rigid restoration area targets and the Heritage Lottery Fund focus on impacts rather than outputs enabled the project team to allow evidence to lead decision-making and to take communities and stakeholders with them on the journey, rather than driving activity towards predetermined outputs.

A particularly strong and distinctive feature of the FANNS project was Project Seagrass's organisational culture, which views failure as a valuable learning opportunity. Where restoration trials did not succeed, the team responded with open and honest reflection, careful analysis and methodological adaptation, rather than blame or defensiveness. This approach created space for learning to be shared transparently with partners, funders and the wider sector, strengthening the evidence base for seagrass restoration in Wales and reducing the likelihood of repeating ineffective approaches. The confidence to embrace uncertainty and to learn publicly from what did not work is a clear marker of scientific integrity and organisational strength.

The project was also characterised by strong communication, collaboration and relationship-building. Stakeholders valued feeling listened to as well as feeling that they were part of a wider, connected restoration and conservation effort. Partners highlighted that working with the FANNS team added value to their own work by increasing their understanding of seagrass, strengthening confidence in restoration approaches, and stimulating appetite for further action. The project was able to have a direct and positive impact on the Local Authority in Carmarthenshire, raising awareness of seagrass as a priority habitat, increasing the appetite for conservation and restoration and supporting the Local Authority to achieve their own statutory environmental obligations. The partnership also provides a future model for the role that Local Authorities can play in protection, engagement and long-term stewardship.

Community collaboration was central to the project's approach. The project team did not position themselves as "the experts" but rather as one part of a broader solution that values local knowledge, experience and lived connection to place. This ethos was evident in the co-design of engagement activities and in practical outcomes such as the development of a new seagrass-friendly lobster pot through close collaboration with local fishers. This work demonstrates that when expertise is shared and there is meaningful partnership and collaboration, tangible solutions and lasting change can be achieved.

Community engagement was also a core component of restoration success. By investing in inclusive, accessible and well-designed engagement activities, the project enabled people to participate meaningfully in marine heritage, develop new skills and build a sense of shared stewardship. Stakeholders valued the way the project listened, adapted and remained responsive to each of the different communities needs. This approach helped ensure activities were locally appropriate, well-timed and widely supported.

In conclusion, the FANNS project delivered far more than site-based restoration trials. It strengthened organisational capacity, advanced national learning on seagrass restoration, added value to partner activity, influenced key stakeholders, and embedded communities within a wider, collective effort to protect and restore marine heritage. The project demonstrates that embracing uncertainty, learning from failure, valuing local knowledge and investing in relationships are essential foundations for long-term impact. The FANNS project provides a compelling example of how ambitious, science-led and community-centred nature restoration can be delivered in practice, and offers strong justification for continued investment in Project Seagrass.

6. Recommendations

Based on the findings of this evaluation, the following recommendations are proposed to support the continuation, strengthening and scaling of seagrass restoration and engagement activity in Wales, and to maximise the long-term legacy of the FANNS project.

1. Funders should commit to long-term, multi-year investment in seagrass restoration

Future funding should align with realistic ecological timescales by supporting multi-year restoration and monitoring, enabling assessment of long-term establishment, resilience and impact.

2. Maintain an Evidence-Led, Adaptive Approach

Seagrass restoration should continue to be guided by monitoring, learning and adaptation, with flexibility to refine or discontinue methods based on evidence. Both successes and failures should be recognised as valuable learning.

3. Prioritise Strategic Site Selection and Protection

Restoration should focus on environmentally suitable sites, informed by robust site-selection frameworks, and be supported by protective measures (e.g. mooring management) to safeguard existing and restored meadows.

4. Embed Inclusive, Community-Led Engagement

Future projects should continue to resource accessible, place-based community engagement, ensuring local people are active participants in marine heritage conservation and restoration.

5. Invest in Skills and Local Capacity

Structured opportunities for skills development (restoration, monitoring, stewardship) should be expanded to build local capacity, strengthen volunteer pathways and support long-term stewardship beyond individual projects.

6. Strengthen Partnership and Organisational Resilience

Funding programmes should continue to support collaborative delivery models, recognising and investing in the organisational capacity required to coordinate complex, multi-site restoration and engagement activity.

7. Integrate Seagrass Restoration into Policy and Planning

Learning from the FANNS project should be embedded within local and national biodiversity, climate adaptation and marine planning frameworks, supporting delivery of statutory duties and long-term nature recovery goals.

Support

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