



17th September 2025



























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Spectacular Seagrass

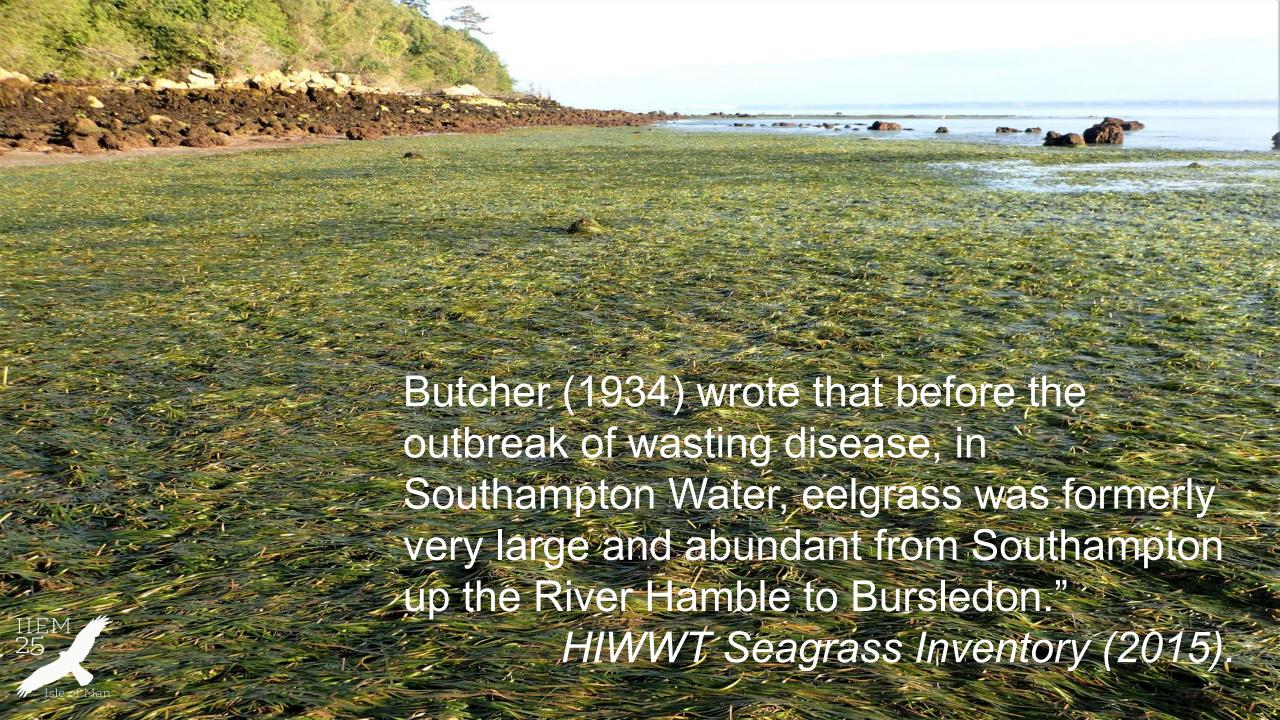
- Only marine flowering plants
- Found in shallow, sheltered coastal areas
- One of the most productive ecosystems in the world
- Biodiversity, coastal protection, fisheries support, blue carbon and wellbeing!
- Over 70 species of seagrass worldwide three of which can be found in the Solent: Zostera marina and Nanozostera noltei, Ruppia spp.

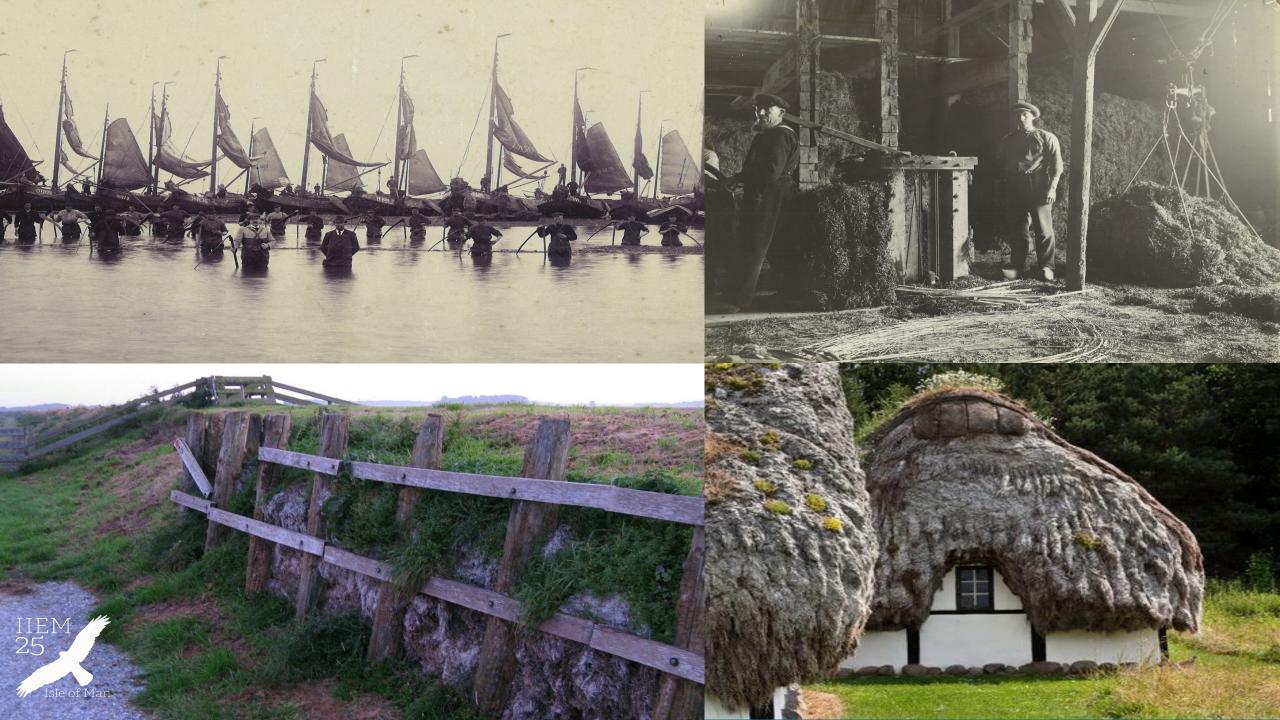




















Reducing and Mitigating Erosion and Disturbance Impacts affecting the Seabed

Osborne Bay

Voluntary No Anchor Zone (VNAZ)

- **Installed 2024**
- First year of monitoring completed







Solent Seagrass Restoration Project

Locations

- Farlington Seed Collection & Restoration (N. noltei / Z. marina)
- Langstone E. Restoration
- Chilling Seed Collection (N. noltei)
- Seaview Seed Collection & Restoration (Z. marina)







ELSP Solent Seascape Project

Locations

- Calshot Seed Collection & Restoration (Z. marina)
- Chilling Seed Collection & Restoration (N. noltei)
- Hamble Restoration (Intertidal Zostera, initially)







nris Fairhead





The
Planting Restoration Seed
Cycle Collection

Surveys and

Monitoring















We couldn't do this without our volunteers!

- Launched the Solent Seagrass Champion volunteer role in January 2022
- Fastest growing volunteer programme at the Trust
- We now have over 270 Solent Seagrass Champion volunteers signed up from the two counties and afar
- 600+ hours on seed collection this summer alone!





Deployments

Seaview, IoW:

Four plantings in in 2022, 2024 and 2025 78,000 *Z. marina* seed in total

Langstone Harbour (Farlington):

Five plantings in 2021, 2022, 2023, 2025 and 2025 39,200 Intertidal *Zostera* seed

Calshot:

Two plantings in 2024 & 2025 - 20,000 *Z. marina* 50,000 *Z. marina* seed in total

- Seed "Pod" and "Ravioli" bag
- Three seed densities 15, 30 and 45/pod
- Dispenser Injection Seeding
- Different seed densities and planting patterns











How are we doing?

- We have grown plenty of seedlings
- More monitoring for continued growth
- Work to do to increase germination success in the field
- Ongoing issues with water quality and algal growth
- Drive to continuously improve our seed handling and "husbandry"



















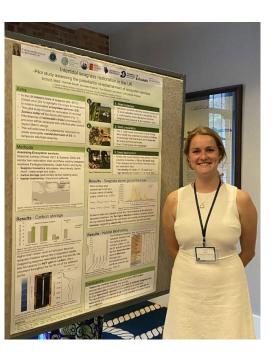




Ongoing scientific research

- Funded MRes Studentships
- Scientific support and aquarium facilities













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Intertidal seagrass restoration in the UK

-Pilot study assessing the potential for re-establishment of ecosystem services

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- In the UK historic loss of seagrass (44 92 %) (Green et al 2021) highlights the scope for restoration to restore associated ecosystem services (ES).
- This pilot study focused on restoration of intertidal Zostera noltei off the South of England (Fig. 1).
- Effectiveness of restoration trials to increase ES provision will be assessed with a Before-after-control impact (BACI) design.
- This will determine the potential for restoration to create synergistic reestablishment of ES, in temperate intertidal seagrass.



- Volunteers assisted collecting seagrass seeds over 12 seed collection sessions in September 2021.
- Z. noltei spathes were collected on foot from seagrass beds adjacent to the restoration sites

2. Seed preparation

- The Z. noltei seeds were stored in flow through tanks whilst they underwent a process of rotting to encourage seed maturation and to separate the seeds from the leaf matter.
- Over 21,000 seeds were extracted.



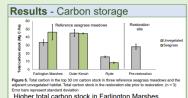
Methods

Assessing Ecosystem services

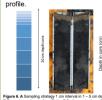
Seasonal surveys (Winter 2021 & Summer 2022) will monitor two restoration sites and three existing seagrass meadows Farlington Marshes, Outer Kench and Ryde;

- Seagrass biometrics (abundance, shoot density, blades shoot-1, blade length and width)
- Carbon storage (sedimentary carbon standing stock)
- Habitat biodiversity (infauna and epifauna).





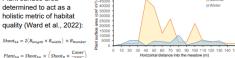
Higher total carbon stock in Farlington Marshes seagrass meadow versus the unvegetated habitat. Suggesting seagrass restoration near this specific site has the capacity for **NET gain in carbon**; this is consistent throughout the top 30 cm of the sediment





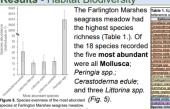
- Seeds with mixed sediment were placed in hessian pouches at densities of 15 and 30 seeds bag-1.
- Then deployed on foot at 60cm intervals across
- low density (43 seeds m⁻², 15 seeds bag⁻¹) - high density (82.5 seeds m-2, 30 seeds bag-1)

Results - Seagrass above ground biomass



Biometric data was collated across five 150 m transects at the reference seagrass meadows. The Farlington Marshes reference meadow exhibits strong seasonal fluxes in the complexity and quantity of aboveground plant biomass, suggesting seasonality in the ecosystem services provided

Results - Habitat Biodiversity



Conclusions

- Temperate intertidal seagrass has potential for NET carbon sequestration but will be highly site specific.
- Large seasonality in above ground biomass of intertidal seagrass likely to drive interannual variation in ES provided by its restoration
- The quantification of a broad range of ES will support the upscale of restoration and commercialisation through stacked ecosystem finance





Germination trials

- Uresha Rodrigo started trials to uncover crucial insights into the factors influencing successful seagrass establishment
- Investigated controlled aquarium conditions vs natural outdoor settings and seed colouration
- Controlled variables including sediment type and light regimes















Hamble Planting 2025



Hampshire and Isle of Wight **Wildlife Trust**

3 May · 🕙

On 10 April, 2,000 seagrass seeds were planted directly into the seabed by ... See more









Ali Scuba + 781

21 comments 40 shares













Hamble Planting 2025

First seagrass on the Hamble in nearly 100 years!

[Embargoed until 23rd September]





Plans for 2025/6 onwards...

- Continue training for Seagrass Survey Leaders
- Seagrass-Watch Surveys ongoing 2025
- Upscaling deployments in Spring 2026
- Further planting on the Hamble
- Seed collection in Summer 2026
- Explore opportunities to research historic seagrass extent in the Solent



