Severn Vision

A Vision for the Bristol Channel and Severn









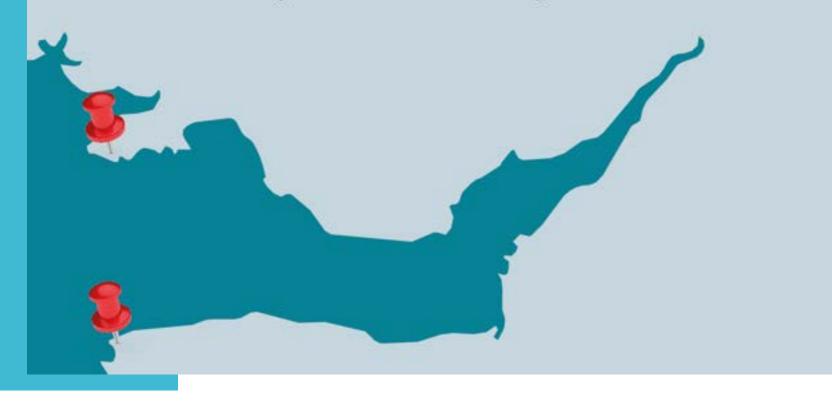






GEOGRAPHIC AREA

The geographic scope of this project stretches from Tewkesbury (Gloucestershire) to Morte Point (North Devon) and Port Eynon (Gower) and includes the major rivers, Severn Estuary and Bristol Channel.

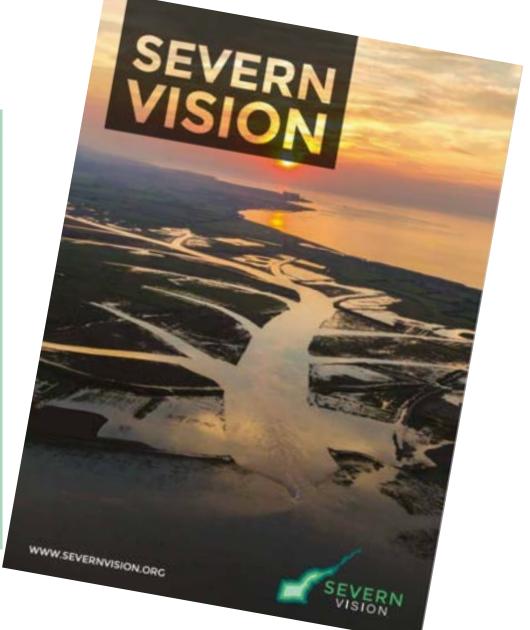




OUR VISION...

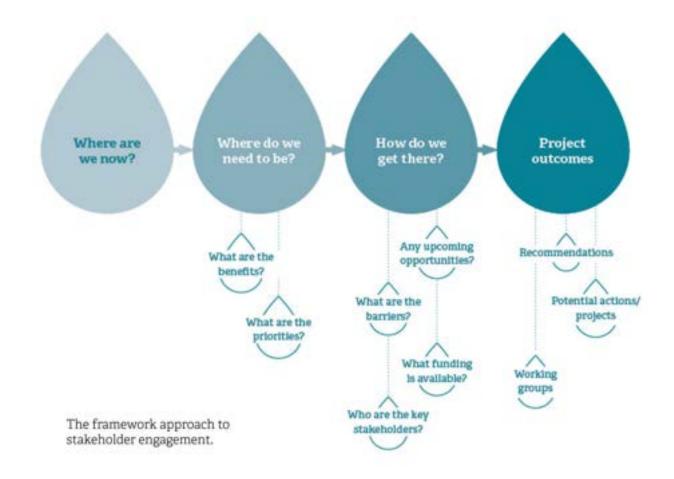
Is for a Severn Estuary that:

- is restored as a healthy functioning ecosystem, valued for its internationally important wildlife, habitats and landscapes;
- provides more benefits for people, local communities, places, and economies, including greater resilience to climate change; and
- becomes a natural powerhouse, where development is planned and managed in a way that sustains and enhances the estuary's resources.



Pilot Phase 2021-22

Funded by Environment Agency's Championing Coastal Coordination Fund



Phase 1 2022-23

Funded by Welsh
Government's Coasta
Capacity Challenge Fu
administered by the
Wales Council for
Voluntary Action (WC
& Environment Agenc
Championing Coastal
Coordination Fund



Produce a Natural Capital Plan for the whole area, building on the North Devon and Gloucestershire Natural Capital Plans and expanding to include a Natural Capital Investment Plan and Blue Carbon Credit strategy.

Engage Local Nature Recovery Strategy (LNRS) and Nature Recovery Action Plan (NRAP) Responsible Authorities through facilitated workshops to ensure a uniformed approach to integration of coast, estuary and marine within these strategies.

Develop the mechanism and structure to form a Management Forum and associated specialism focus groups. Understanding data and evidence needs and identification of gaps with annual reviews and sharing through a focused conference.

Expand the Shoresearch
volunteer community across the
area and develop a strategy that
supports monitoring by NE and
NRW has been successful
elsewhere and expand the remit
of Shoresearch to include survey
and monitoring of Nature-based
Solutions.

Form a "coastal enhancement factor" policy to be integrated within local authority planning strategies sing the London Plan Urban Greening Factor" as a template to evaluate and quantify the enhancements appropriate to the site for use down to mean low water.

Run governance workshops with competent/relevant authorities and Community groups & parish councils supported by the Coastal Champions. National Marine Park Scoping Workshop



Next steps for NMP

- The opportunity presented by a NMP also carries risks associated with potential divergence across stakeholders and communities.
- SEP are key to facilitating co-ordination
- Common understanding of purpose and opportunity would be key to preventing barriers towards its' potential.
- The question of whether and where National Marine Park status could be helpful, depends upon its scale and purpose.
- The question of 'who' to be involved and at what stage of NMP feasibility, could be guided (and led) by SEP
- The 'prize' of NMP status could be a huge opportunity
- A more cohesive approach to planning and management could lead to decision-making focused more towards sustainability.
- Perhaps nowhere in Britain is more challenging for crossborder and cross-sector collaboration than the large Bristol Channel and Severn ecosystem with over 3 million people living in major cities and rural countryside, from North Somerset and Exmoor to the Gower Peninsula and Brecon Beacons.

Motion for the Ocean

A model Motion for the Ocean to help local authorities play their part in realising a clean, healthy and productive ocean and all of the direct economic, health and wellbeing benefits it will bring.



172 projects



- 113 Ongoing projects marked green on the map,
- o 36 Finished projects marked blue on the map,
- 20 Project opportunities &/or Upcoming projects marked purple on the map,
- 3 Potential project area marked pink on the map.

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First word that comes to mind when you think of the Bristol Channel & Severn

Waiting for answers



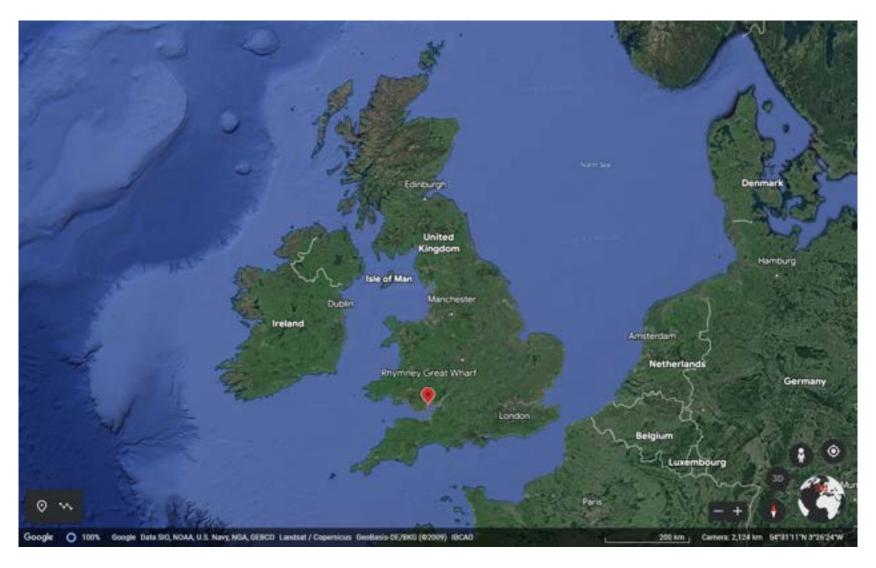
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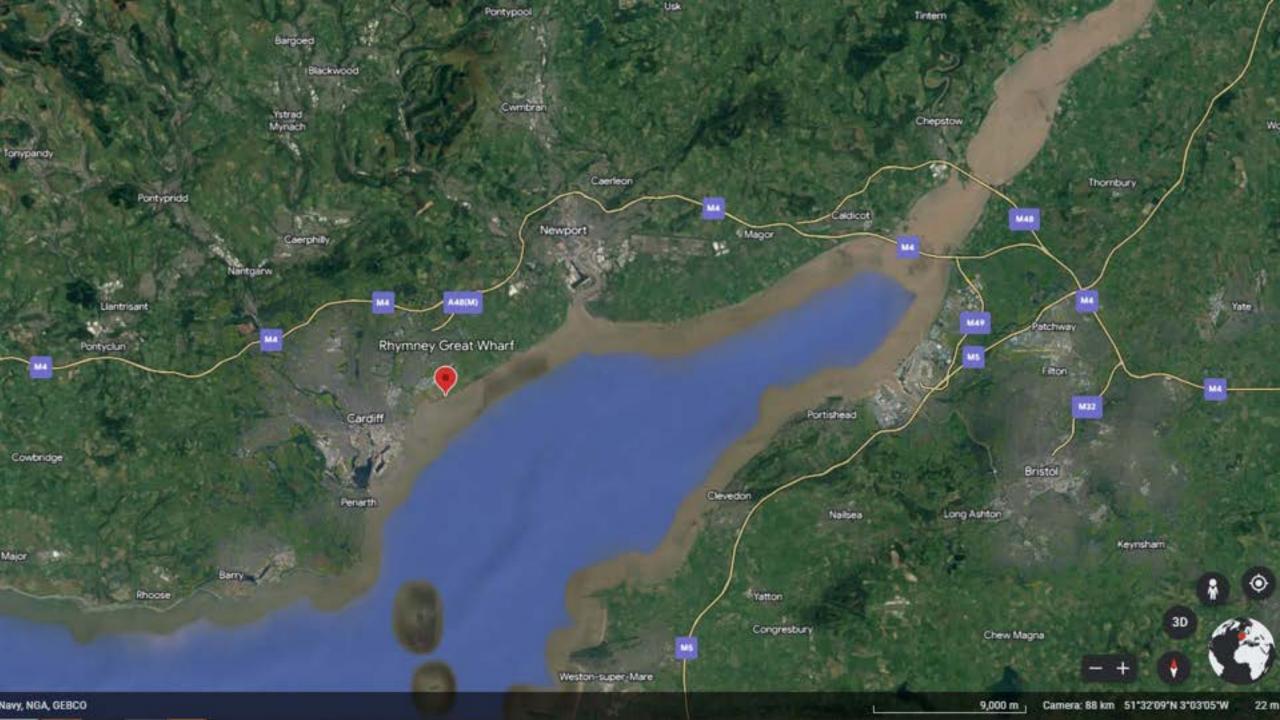


Rhymney Great Wharf Habitat Restoration Polders Enhancement Project

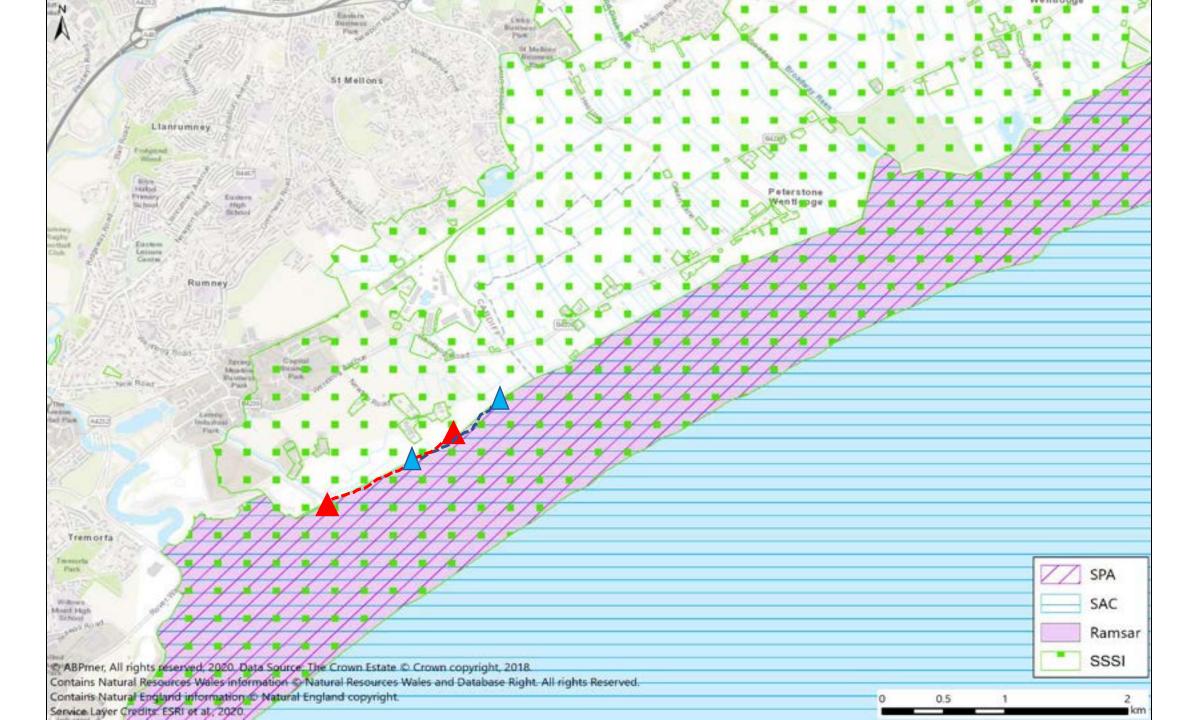


Rhymney Great Wharf









Drone footage from West to East Polder 1 to 5

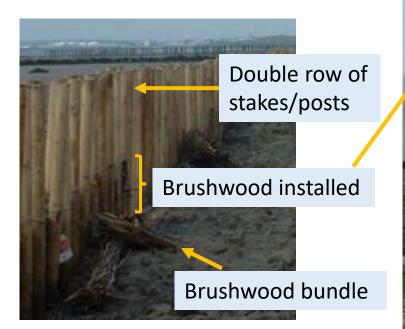


What's a polder?

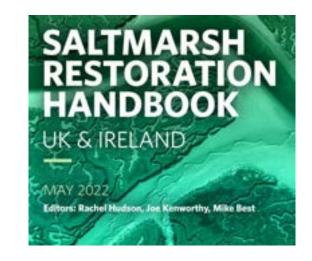
Sedimentation polder:

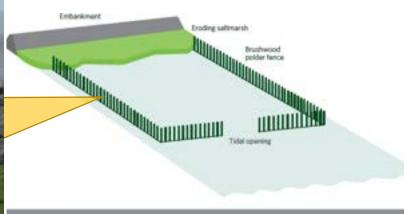
Intertidal area, enclosed by rectangularly arranged brushwood groynes to facilitate enhanced sediment

deposition.

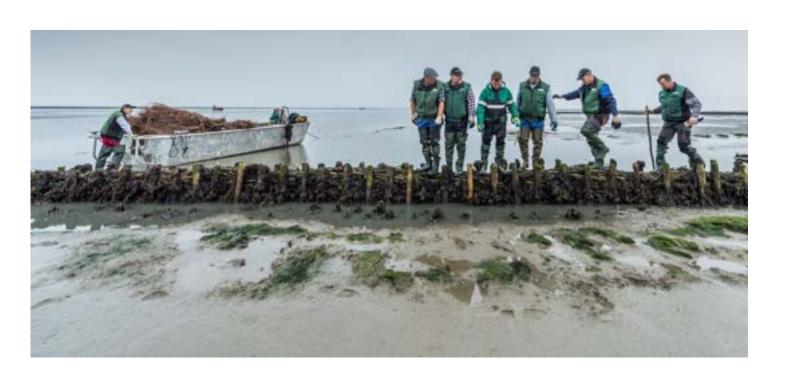






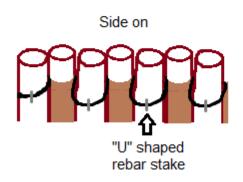


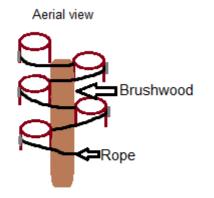
What's a polder/ Lahnung?





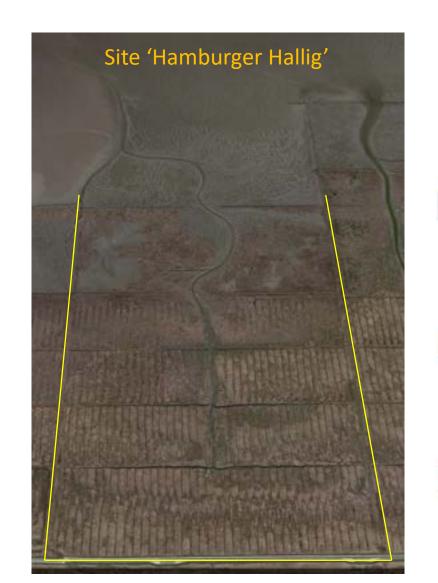
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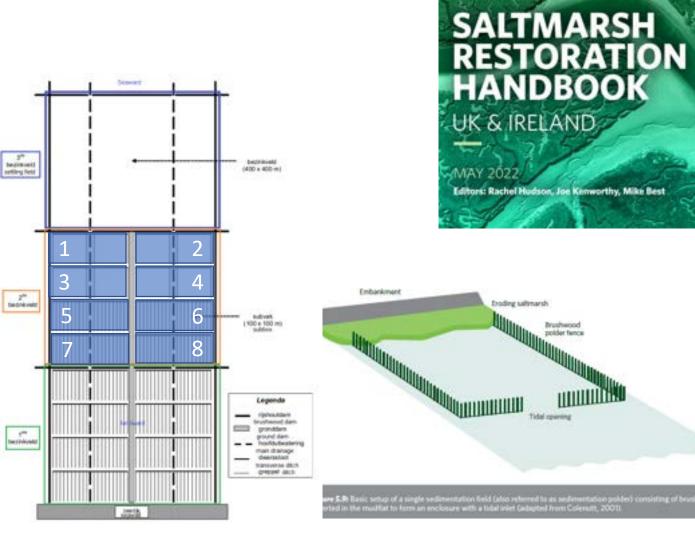






Polders in Germany











Rummey Great What!



Photo 1: Rhymney wharf flood embankment poet 3 January 2014 tidal event (6.63m above Ordnance Datum at Newport 2 gauge)

Project summary:

The Severn Estuary foreshore has international exportance, reflected by the following designations: Site of Special Scientific Interest (SSSI), Special Protection Area (SPA), possible Special Area of Conservation (pSAC) and Ramser. The site itself is located seasand of the Wentlooge Sea Defences, where the upper, vegetated saftmansh is referred to as the "whatf and the lower unvegetated foreshore as the "mudflots."

The Wentlooge Sea Defences (Map 1) protect an area of low-lying land, of which approximately 30km² lies below mean high water springs (MHWS). The wharf acts as part of the sea defence by reducing the incident wave energy on the embankments themselves.

Study of the foreshore highlighted that the wharf had been enoding locally at a fairly constant rate over a long period. In 2003, pockets of erosion were in close presently to the flood defence embankment and as such continued erosion was predicted to undernine the embankment by the year 2008. As an immediate mitigation against further erosion of the wharf, thus protecting the defences, it was decided to use harder, more floatbonal engineering in the form of blockstone and rip-rap. As a longer term strategy, polider were used in an effort to regenerate the muditats and increase protection to the wharf scarp.





Flood

Map 1: Location of Rhymney Great Wharf (source: MyMap, accessed 6 January 2017)

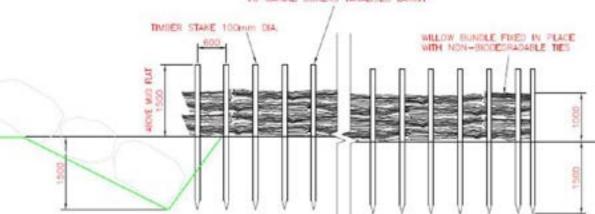
Above is an extract from the 57 report, showing the earth embankment which is the Flood and Coastal Protection Asset at RGW.

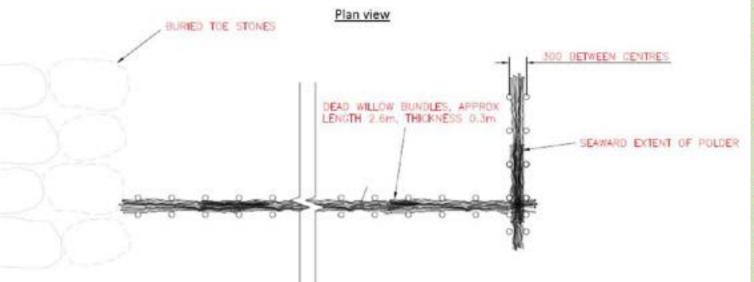


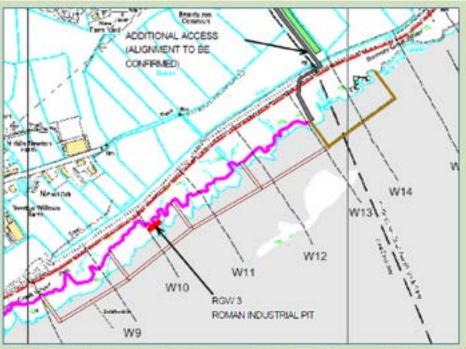
Above is a photo of the embankment Feb 2023, from the edge of the wharf cliff (near polder 1) where you can see the rock armouring and aggregate infilling from 2005.

Profile view









EXISTING MUD FLAT LEVEL

Map 2: Layout of the larch stakes/willow faggots on the site shown by brown parallel lines, with the alignment of the block stone protection to the wharf scarp shown as a pink line (source: Atkins 2006)

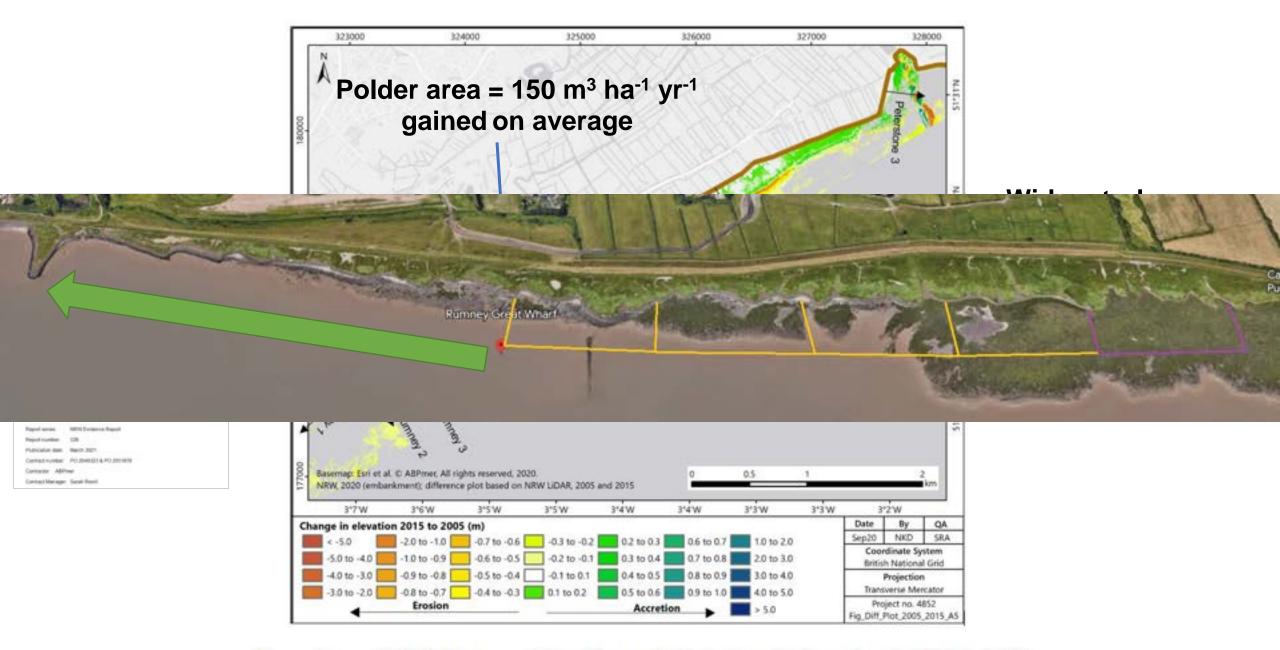
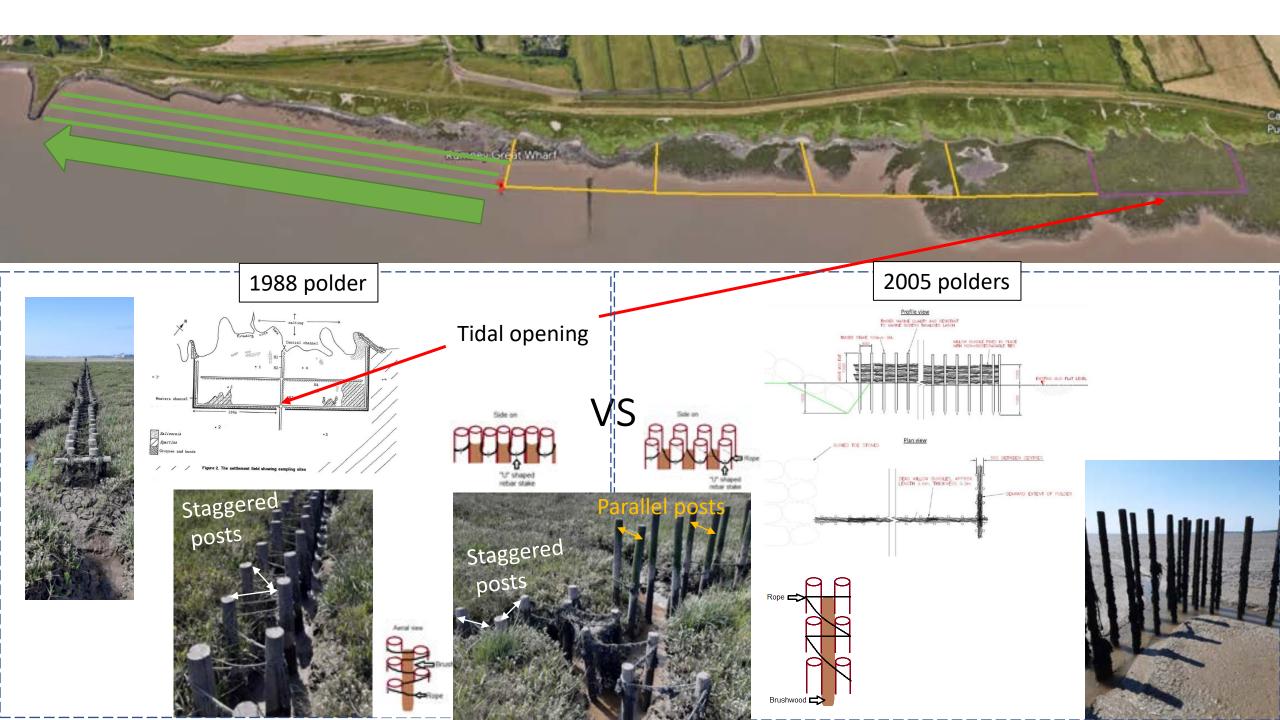
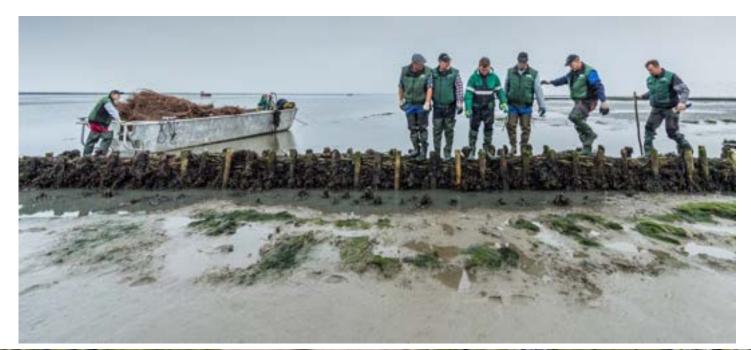


Figure 6 LiDAR difference plot for Rumney to Peterstone frontage, showing 2005 to 2015 elevation changes (arrows indicate cross section location and orientation)



Maintenance







Monitoring



Topographic survey using UAS



Sonde deployment informing depth and sediment availability



B4+ mini buoys measuring wave orbital movements – informing hydrodynamics



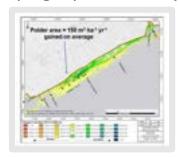
Left – Right: Dr Jonathan Dale, Dr Cai Ladd, Dr Michael Kennedy and Dr Michelle Farrell

Must haves:

Plant community surveys



Topographic surveys



<u>Please get in touch</u> if you or your contacts have research interests that could help to complete these and/ other survey.

Home > About us > Our projects > Marine projects

Nature Networks - information on marine

- Bait collection
- Welsh Acoustic Marine Mammal Survey
- Marine litter and derelict vessel prevention
- Investigations into the decline of species and habitats
- Maerl in the Milford Haven, Pembrokeshire Marine SAC.
- Sponges in the Menai Strait and Conwy Bay SAC.

- Horse Mussel beds, in the Pen Llyn a'r Sarnau (PLAS) SAC.
- Sandbank diversity across the MPA Network.
- Herring in Milford Haven, Pembrokeshire Marine SAC.
- Invasive Non-Native Species Biosecurity Planning
- Rumney Great Wharf Polders
- Coastal Squeeze
- Improving Marine Conservation Advice

Rhymney Great Wharf Habitat Restoration Polders Enhancement Project

Objectives

- 1. Protect the frontage of RGW from existing erosive pressures upon mudflat and saltmarsh habitats by promoting sediment deposition in the first instance.
- 2. Create conditions that will support both mudflat and saltmarsh features to varying extents over time.
- 3. Have a refined sedimentation polder design
- 4. Support the flood risk management of the area

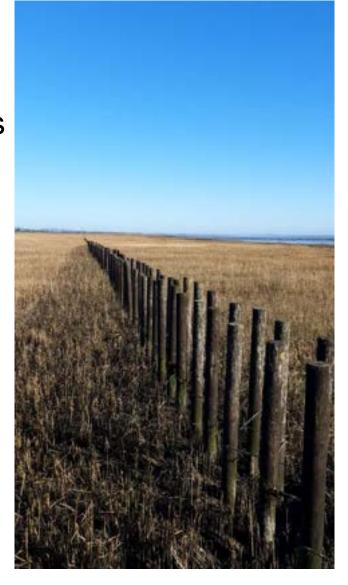
Timeline:

Baseline data (May – September 2023)

Construction summer (March – September 2024)

Structural repairs each year (2024-2030)

Continual monitoring (2023-2032)





Restoring White-tailed Eagles to South-east Wales & the Severn Estuary

By Dr Sophie-lee Williams









Follow us Dilyn wch ni www.eaglereintroductionwales.com f @ @ERWproject



Project History

Hanes y Prosiect



ERW founded & Feasibility study designed

•ERW established
•Launched Feasibility study
•KESS II Funding

202
Unite-tailed
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Conservation
programme in
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ALL STREET, SERVICES

The Eagle Reistroduction Wales (EKW) project



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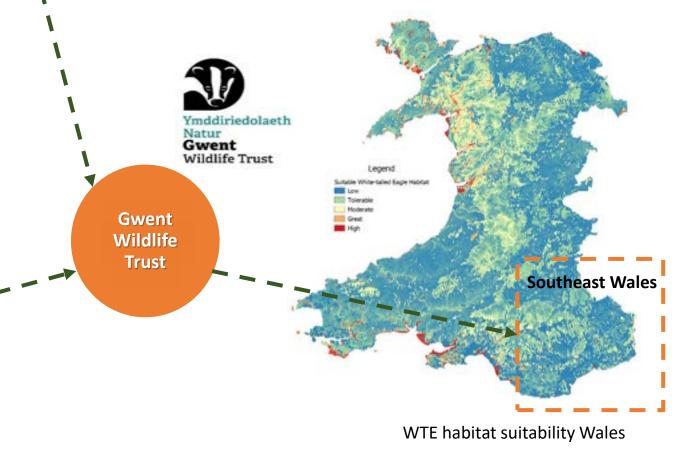


Project Aim

Nod Prosiect

Durrell Wildlife Aim: Restore a breeding population of White-tailed Eagles in SE Wales







Durrell Wildlife

Aim: Restore a breeding population of White-tailed Eagles in SE Wales



- **HOW** do we go about a re-introduction?



- WHY are we proposing a re-introduction for Wales?



- **WHAT** do we need to consider?



- <u>WHERE</u> will a re-introduction happen?





MEET THE SEA EAGLE

Cwrdd â'r Eryr Môr



White-tailed Sea Eagle, Eryr y
Môr
(Haliaeetus albicilla)

American Bald Eagle (H. leucocephalus)





African Fish Eagle (H. vocifer)

Steller's Sea Eagle (H. pelagicus)







MEET THE SEA EAGLE

Cwrdd â'r Eryr Môr



White-tailed Sea Eagle, Eryr y Môr

(Haliaeetus albicilla)



Family – Accipitridae

Genus – Haliaeetus (fish eagles)

Weight -9 15 lb (6 kg) and 3 10lb (4 kg) Wings -9 8 $\frac{1}{4}$ ft and 3 7 ft

e and freshwater Ha Ne ags

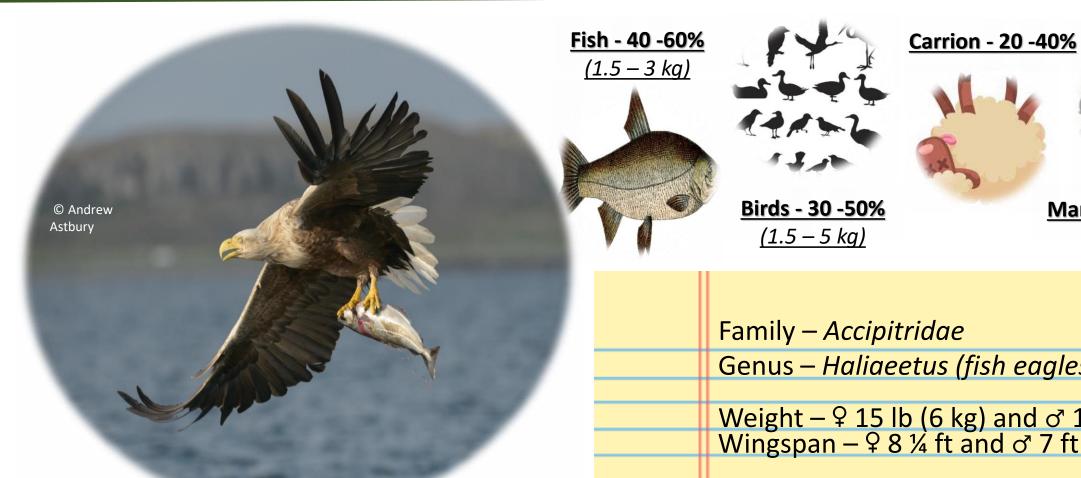


MEET THE SEA EAGLE

Cwrdd â'r Eryr Môr

Mammals - 15 - 30%

(1.5 - 3 kg)



White-tailed Sea Eagle, Eryr y Môr

(Haliaeetus albicilla)

Genus – Haliaeetus (fish eagles)

Weight -9 15 lb (6 kg) and σ 10lb (4 kg) Wingspan -9 8 ¼ ft and σ 7 ft

Habitat – Marine and freshwater es & crags Nest -

Pre erbirds, mammals, & Carrion



Durrell Wildlife

Aim: Restore a breeding population of White-tailed Eagles in SE Wales



- **HOW** do we go about a re-introduction?



- **WHY** are we proposing a re-introduction for Wales?



- **WHAT** do we need to consider?



- WHERE will a re-introduction happen?





in modern Wales?

HOW TO PLAN A REINTRODCUTION

Sut i Gynllunio Ailgyflwyno

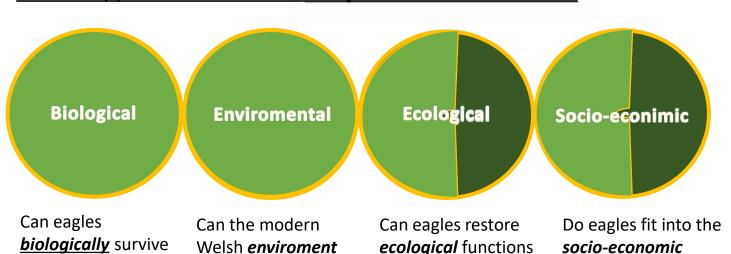
Restoring Whitetailed Eagles

How: Do we go about a reintroduction of White-tailed Eagles to Wales?

structures and ethics?

- Reintroduction programmes are strict, highly regulated licencing applications
- Licence applications include a **comprehensive assessment**:

hold eagles?



and at what risks?



Cyfoeth
Naturiol
Cymru
Natural
Resources
Wales

Guidelines for Reintroductions and Other Conservation Translocations







Durrell Wildlife

Aim: Restore a breeding population of White-tailed Eagles in SE Wales



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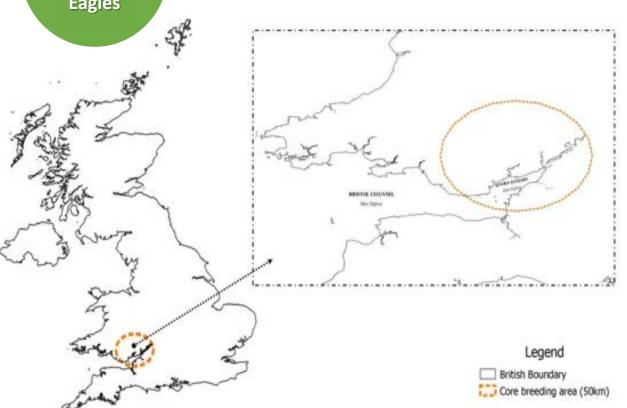


Project Justification

Cyfiawnhad Prosiect

Restoring Whitetailed Eagles

Why Southeast Wales & Severn Estuary? ...



Welsh importance

Restoring a native-lost species and it's ecosystem functions back to former freshwater and marine landscapes

UK importance

Strengthen the population numbers in S. Britain and increase metapopulation mixing of small UK populations.

EUR importance

Securing the long-term sustainability of EUR population numbers, gene pools and metapopulation dynamics.



ECOSYSTEM ROLES

Rolau ecosystemau

Restoring Whitetailed Eagles

An opportunity to restore health & resilience to aquatic habitats



Restoring healthy biodiversity, habitats & eco-resilience:

Trophic Cascades – keeping seasonal prey numbers is check

Meso-predator Release – balancing the food chain

Scavengers – natural clean up services

Trophic Process Linkers – transfer energy through the food chain

Resource Linkers – transport nutrients between aquatic and terrestrial habitats





ECOSYSTEM ROLES

Rolau ecosystemau

Restoring Whitetailed Eagles

An opportunity to bring wider conservation benefits ...



Bringing wider conservation benefits:

Bio-indicator species – useful management tools for habitat condition, disease, pollution and climate change.

Flagship species— Iconic species & icons to promote our special biodiversity & spaces

Umbrella species – SPA's to protect breeding & roosting areas provide secure spaces for other biodiversity





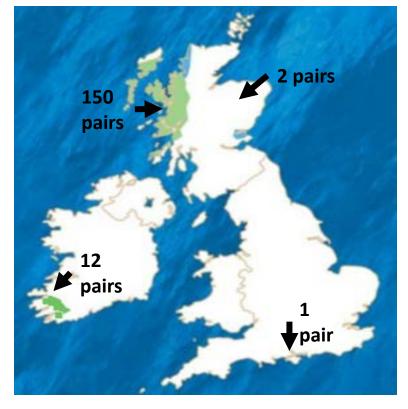
Dichonoldeb Biolegol

Restoring Whitetailed Eagles

Is the most acceptable option for the species

Species biology

Natal philopatry
Long maturation age
Slow population growth
Natural colonisation to
Wales 50-80 years



The breeding distribution of WTE's in Britain



Dichonoldeb Biolegol

Restoring Whitetailed Eagles

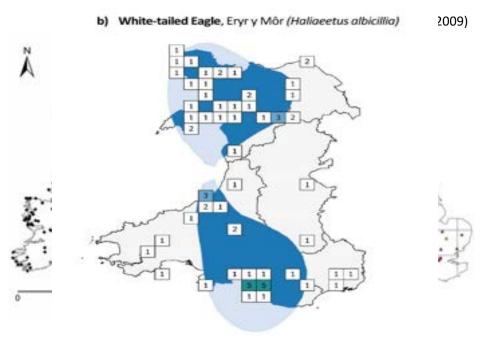
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Eagle History

Widespread UK species
Historic records in Britain/Wales
Extinction cause reduced



Historic records of WTE's across Withein

Historic UK population estimated to between 1,000 – 1,400 pairs



Dichonoldeb Biolegol

Restoring Whitetailed Eagles

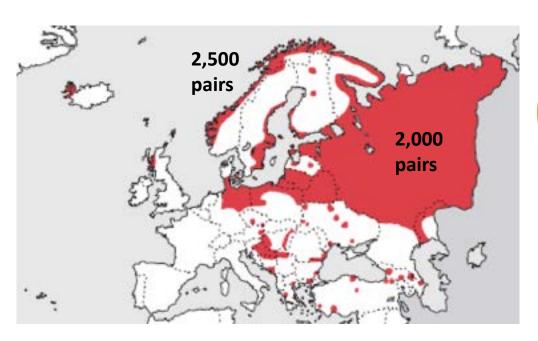
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Extinction cause reduced



White-tailed Eagle EUR breeding distribution

Source Population

Norway breeding stronghold

No risk



Dichonoldeb Biolegol

Restoring Whitetailed Eagles

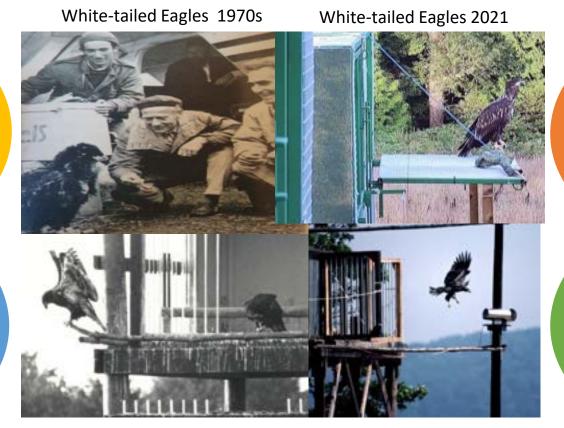
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Extinction cause reduced



Bald Eagles 1980s

Bald Eagles 2016

Source Population

Norway breeding stronghold

No risk

Not a novel concept

UK reintroduction schemes
EUR reintroduction schemes
Bald Eagle restoration



Durrell Wildlife

Aim: Restore a breeding population of White-tailed Eagles in SE Wales



- **HOW** do we go about a re-introduction?



- **WHY** are we proposing a re-introduction for Wales?



- **WHAT** do we need to consider?



- WHERE will a re-introduction happen?





Environmental Feasibility

Dichonoldeb Amgylcheddol

Restoring Whitetailed Eagles

Is suitable for modern day Southeast Wales

Suitable habitat -

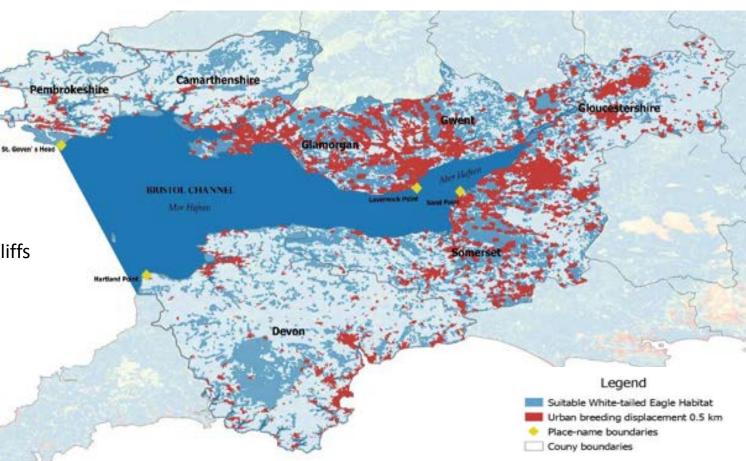
- Severn Estuary encloses 3,552 km² of habitat, supporting 9 – 38 pairs.
- Bristol Channel encloses 2,725 km² of habitat, supporting between 7 – 36 pairs.

Nesting habitat -

Large expanses of mature woodland cover and coastal cliffs

Available habitat -

- Severn Estuary 462 km² is predicted to displace nesting birds, supporting 9 – 27 pairs.
- Bristol Channel 392 km² is predicted to displace nesting birds, supporting 7 – 21 pairs.





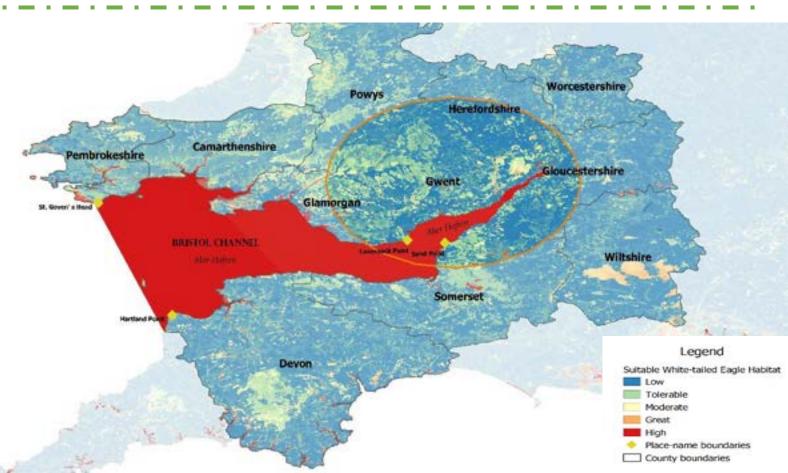
Environmental Feasibility

Dichonoldeb Amgylcheddol

Restoring Whitetailed Eagles

Is suitable for modern day Southeast Wales

Evidence suggests Southeast Wales is best placed to restore a small population of 6 – 10 breeding White-tailed Eagles over a 10-year timeframe.





Durrell Wildlife

Aim: Restore a breeding population of White-tailed Eagles in SE Wales



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Environmental Feasibility

Dichonoldeb Amgylcheddol

Restoring Whitetailed Eagles

On Search for a suitable release site to anchor further research

Release site selection Southeast Wales

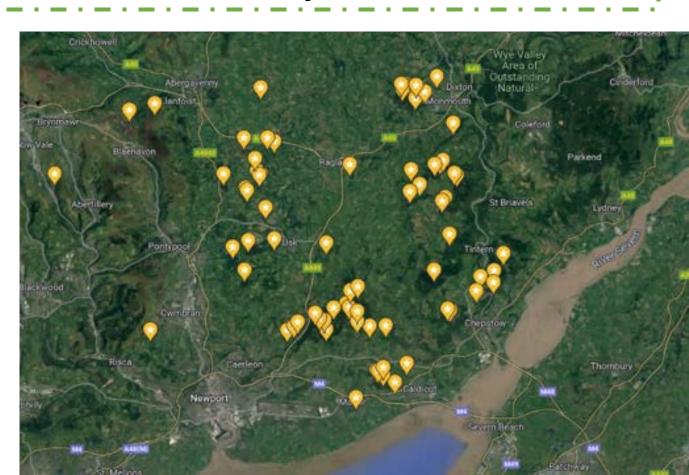
- Worked with >25 eNGO & private land owners
- Visited >62 potential release sites
- Provided 28 White-tailed Eagle workshops

We are now in the process of final release site selection





Welsh Government Rural Communities – Rural Development Programme 2014-2020





Dichonoldeb Ecolegol

Ongoing regional assessments

Restoring Whitetailed Eagles

Benefits and risks to protected species

Habitats Regulations Assessments (HRAs) – core dispersal within range 50km of release site:

- Map Special Designated Area's in core dispersal range
- Assess prey abundance (birds, mammals, fish & carrion)
- Identify species of conservation importance
- Evaluate the potential risk to species of conservation importance

EXAMPLE: Severn Estuary is designated for its winter bird assemblage



Berwick's Swan Cvanus columbianus bewickii



Shelduck
Tadorna tadorna

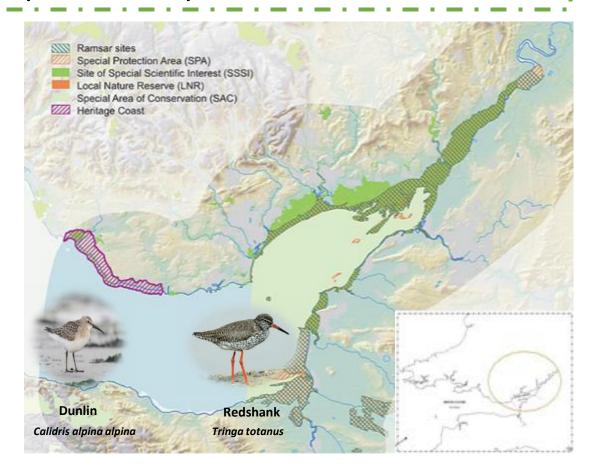


Greater white-fronted goose
Anser albifrons albifrons



Gadwall

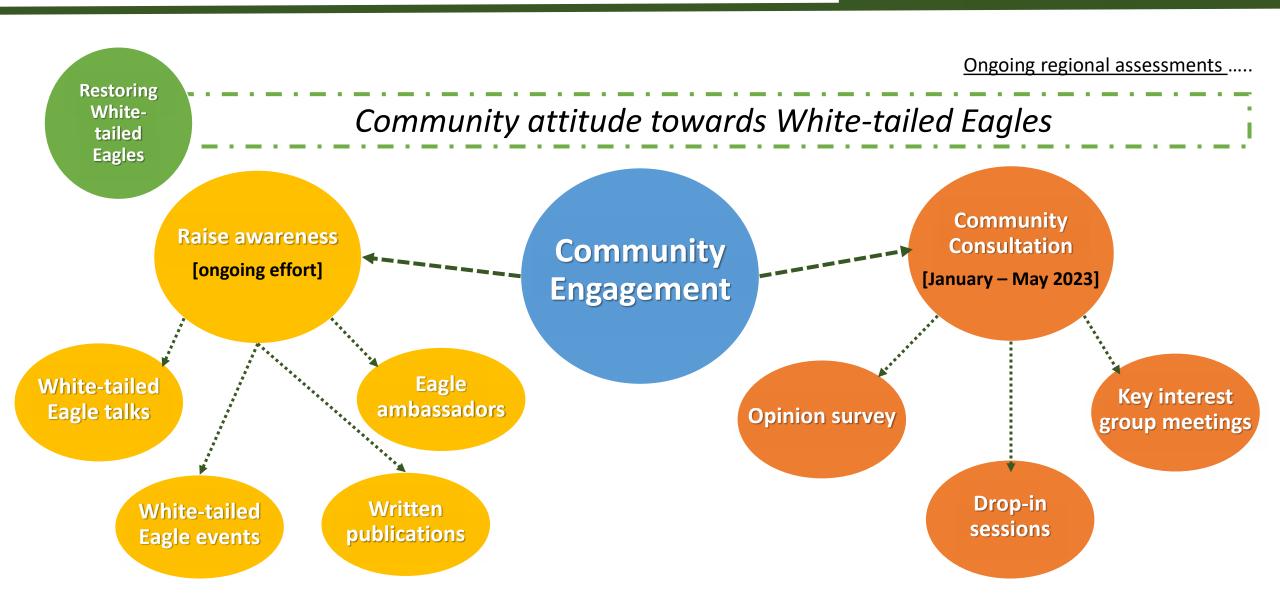
Anas strepera





Social Feasibility

Dichonoldeb Cymdeithasol





Conclusion

Casgliad

Restoring Whitetailed Eagles

Is the most acceptable option for the species and Wales

- Welsh, UK and International conservation importance to the species
- Abundance of suitable habitat & resources for the species.
- Bring wider benefits to Wales via species and ecosystem restoration
- An opportunity to create heathier and resilient ecosystems
- Boost regional economies through increasing tourism & revenue
 - £4.9 8 million tourist spend
 - 110 jobs supported
 - £2.1 million local income supported



Work left to complete ...

- Confirm final location for release site [2022]
- Complete HRA's and prey abundance assessments [2023]
- Launch & complete social assessments [2023]
- Plan, design & implement release strategy & methods [2024]
- Complete & submit feasibility study & license [2024]



Restoring White-tailed Eagles to South-east Wales & the Severn Estuary

By Dr Sophie-lee Williams









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• • @ERWproject





Coastal Communities

Sustainable growth & nature recovery in the Vale of Glamorgan

Coastal Community Capacity Building Fund 2023







Glamorgan Coastal Forum

Working in Partnership

To deliver the twin goals of Nature Recovery and Sustainable Growth, working in collaboration, identifying opportunities for partnership and developing place-based visions and solutions for the issues facing coastal communities across Wales will be crucial.

No one organisation can achieve these goals alone, and mobilising action that is adapted to the needs of communities in place requires careful collaboration with the people affected.





Sustainable Growth

Issues we heard in community sessions

- Nature a sense of the reduction in the diversity and abundance of nature was shared, as was the need to bring back nature by making more space for nature, protecting special places, and making farming more nature friendly. An idea of wild coastal strips was heard in multiple sessions.
- Access another common theme, with stakeholders identifying problems with access and maintenance along the coast path, and the need for new and restored sections of path, and improved styles.
- Pressure from visitors and development in the area was a common theme, with a need to both provide better facilities to discourage activities such as littering, but also to improve people's understanding of the area and police bad behaviour.

Sustainable Growth

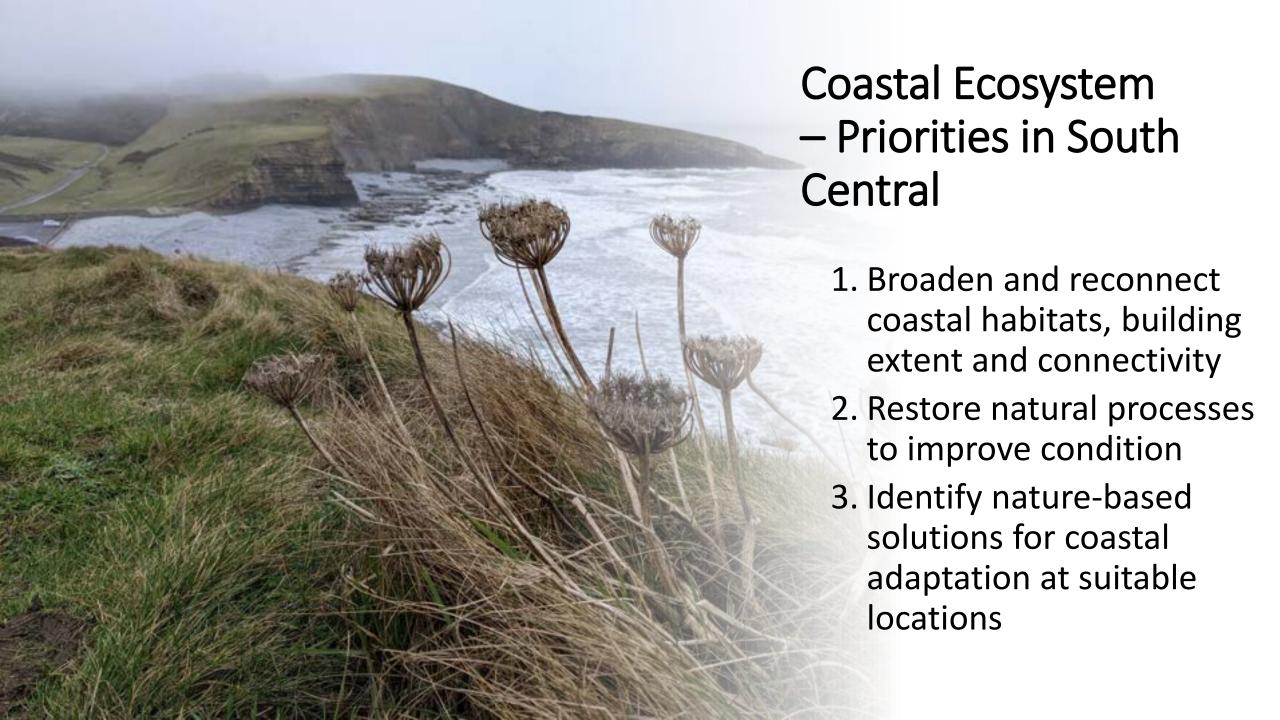
Issues we heard in economy sessions

- The cost of living crisis especially energy costs. Support to move to renewable energy was seen as something that would make a big difference. Local businesses want to buy more local food and become involved in more local schemes to support their area but are blocked from doing so by cost.
- Nature degradation, development and a lack of facilities was also an issue heard in economy sessions. For example, developments threatening existing campsites. Reductions in SW prevailing wind (being replaced by Easterlies) has been affecting sailing business.
- The need for economically sustainable work was mentioned across sessions, with ideas including increasing marine skills, increasing transport and promotion for tourism.

Coastal Capacity Building

Several barriers impacting on coastal communities' capacity have been identified, including, but not limited to,

- a lack of long-term funding for projects; poor communication and a feeling of not being listened to;
- a lack of legacy or follow up activity following project completion;
- people within coastal communities not feeling that they have a knowledge or capacity to have a role to play in marine and coastal issues.

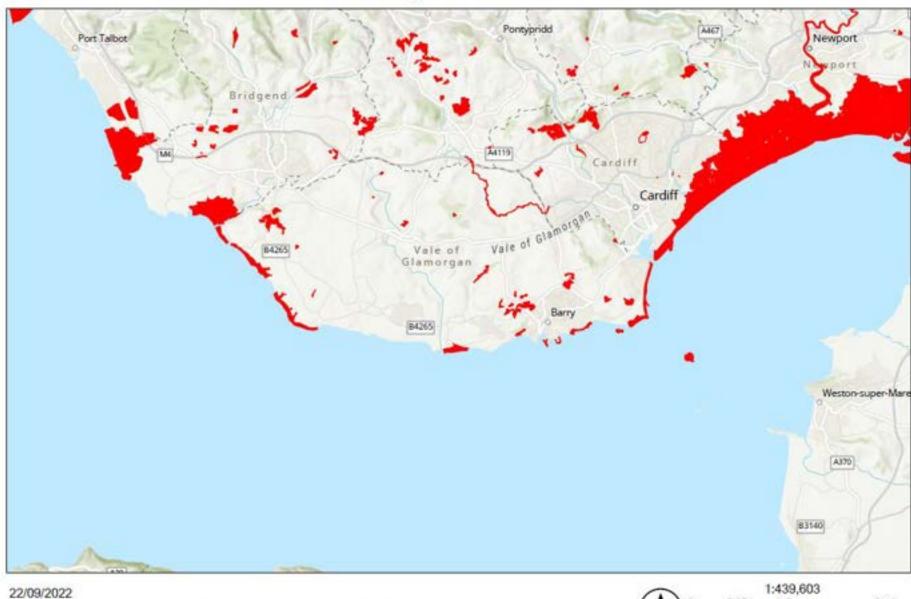




Species

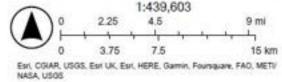
Extent

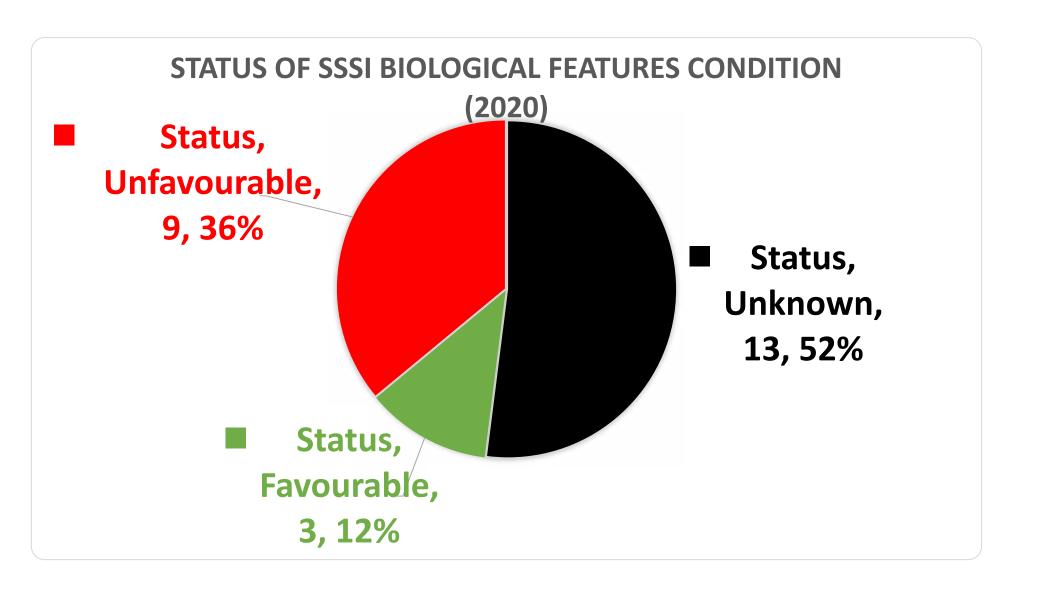
Glamorgan Coast SSSIs



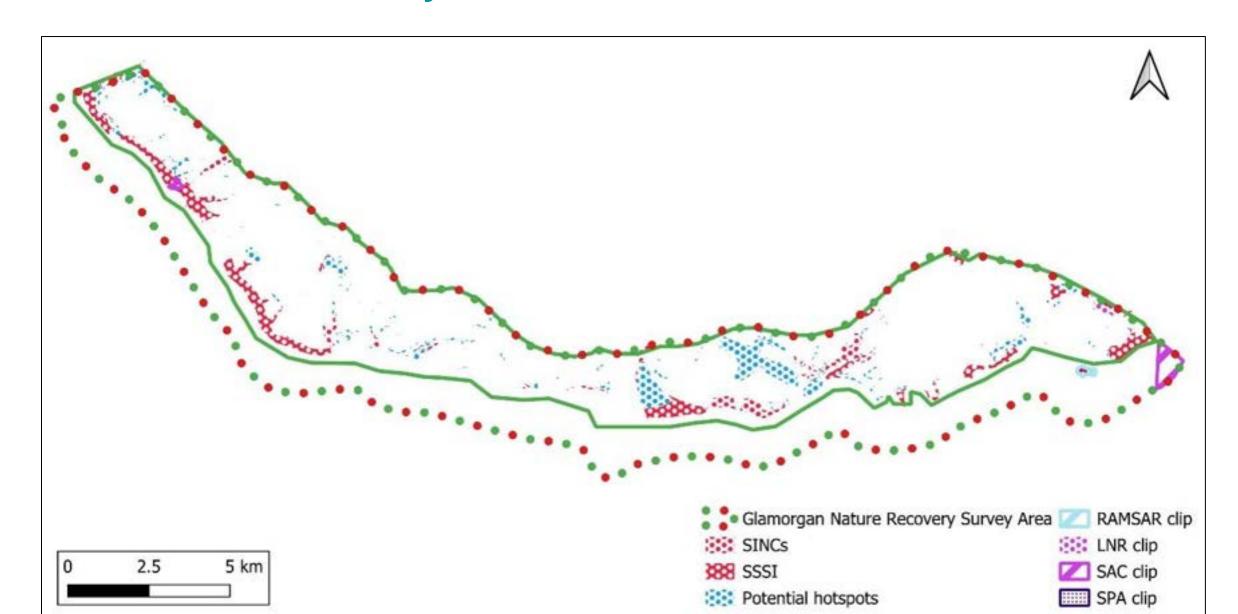
22/09/2022
Sites of Special Scientific Interest
Sites of Special Scientific Interest

World Hillshade





Potential Connectivity



Vale of Glamorgan coast Nature Network

Evidence Base

- Evidence gathered
- Mapping core zone and nature recovery zone

Partnership

- Form partnership
- Grow with SMNR principles
- Agree vision
- Partnership agreement

Delivery

- Nature Based solution action planning
- Costed action plan
- Project/programme development
- Funding secured
- Action Delivery



What does success look like in 2023/24?

- Vale of Glamorgan coastal forum formed
- Coastal community capacity building funding secured
- Partnership expands and creates vision

