

Issue 56 Spring / Summer 2022

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newsletter of the Solway Firth Partnership



**Wildflowers
of Shingle and
Sand Shoreline**

Page 6-7



**Floating Forests
in the Solway**

Page 14-15



**Fishing Faces
Focus on Maryport**

Page 22-23

Convenor's Column

Rupert Shaw MBE MA, SFP Convenor

Here on the Solway, we have much to celebrate. But we are not immune to outside events. The catastrophe of war in Ukraine and attendant suffering has given me time to reflect on words such as emergency and crisis; perhaps overused in recent times without sufficient context. So, during this period of existential threat, I hope we are mindful of the language we use, contextualize our work as a Partnership and enjoy our efforts for the benefit of the Solway in shaping the attitudes of policy makers and you our supporters at a time when open conflict has returned to Europe.

The Partnership mission includes that we 'work to support a vibrant and sustainable local economy'. The announcement from The Scottish Government on 17th March creating a short-life Food Security and Supply taskforce, is a reminder that correctly managed the Solway's fish and shellfish have a role to play in one of our most basic needs: food. We will examine the group's conclusions, aiming to support actions suggested for the Solway's fisheries stakeholders.

It has been important to me to have a balanced Board of Trustees both geographically and by experience. With the welcome appointment of Judith Brown as trustee this month I feel I have met this objective and wish to report our

governance in good shape. A particular highlight from the excellent staff presentation at our last board meeting is this gem: 'The saltmarshes of Dumfries and Galloway hold the largest quantity of carbon of any of Scotland's local authorities (41% of total Scottish surficial saltmarsh soil organic carbon stock).' Attending Regional Land Use Partnership meetings with South of Scotland Enterprise (SOSE) amongst others, I understand for policy makers it's tempting to trade 'away' carbon credits 'offsetting' harmful activity elsewhere. We must all push for 'insetting' - to make sure the Solway itself is first to benefit from its Natural Capital.

Thank you all for continuing to tune in to SFPs online activity: our webinars have remained popular not least I'm sure for Clair and Naomi's relaxed banter before each start. Underwater Life on the Solway celebrated species resident and visiting. Hearing of the significant Lamprey population in the Dee made me curious about our changed relationships with so many marine species. Lamprey are now a protected species; yet, Henry 1st famously died of a surfeit of lampreys (in France, not on the Solway). So there's no better time to get out to, onto, in, or under than the Solway than right now... .. I wish you the very best of escaping and or exploring.

Solway Sunset



Contents



The Solway Coast AONB Update	4-5
Farming in Protected Landscapes Programme	4
Come and take a walk with us through nature and improve your mental wellbeing	5
Volunteering on the Cumbrian Solway Coast	5
Rhins of Galloway Coast Path Update & Specially Adapted for the Beach	6-7
Pulling Together for Cleaner Beaches	8-9
Marine Natural Capital – What, where, why?	10-11
Spotlight on Seagrass	12-13
Floating Forests in the Solway	14-15
Solway Cumbrian Marine Natural Capital Project	16-17
Spotlight on Saltmarsh	18-19
Robin Rigg Community Fund	20-21
Fishing Faces Focus on Maryport	22-23
Why Not Try Some Local Seafood?	24
Fishing for Litter Expands in the Solway	25
Events on the Solway Coast this Summer	26-27

Photo Credits: Front Cover: Mike Bolam, Machars Beach Clean, Solway Marine Litter Project
 Page 2: Solway Coast, Rupert Shaw; Page 3: Kelp, Becky Hitchin; Machars Beach Clean, Mike Bolam; Cumbrian Saltmarsh, SFP; Pauline Gorley, Penny Watson; Pages 4-5: All Photos, Solway Coast AONB, apart from Silloth Beach, Michael Leybourne; Page 6-7: All plant photos, SFP; Rhins Path Update Photos, Dumfries and Galloway Council; Pages 8-9: All photos, Mike Bolam, Solway Marine Litter Project; Pages 10-11: All photos Georgina Reid SFP; Pages 12-13: All Photos of seagrass, SFP; Pages 14-15: Blue Rayed Limpets, Paul Naylor; Anemone on kelp, Jayhem on Flickr; Seal on kelp, Julien Carnot CC on Flickr; Kelp and urchin, James Lynott CC on Flickr; Kelp, Becky Hitchin; Hydroids and red seaweed on kelp stipe, James Lynott CC on Flickr; Kelp Forest with urchins soft corals and fish, Paul Naylor; Breadcrumb sponge on kelp stipe, James Lynott CC on Flickr; Page 16-17: Mudflats, Peter Cairns - 2020VISION; Sabellaria reef at Allonby, NWIFCA; Sand dunes at Silloth, Beth Churn; Pages 18-19: All photos of saltmarsh at Bowness on Solway, SFP; Pages 20-21: All photos of Planetarium, Kirkcudbright Dark Space Planetarium; Photos of Portacabin Base, Seaton Bowling Club; Pages 22-23: All photos, Penny Watson; Page 24: Langoustine, David Moses; Page 25: Silloth Harbour, Penny Watson; Fishermen and SFP, Michael Leybourne; Pages 26-27: Plug planting / Small blue butterfly / Citizen Science, Solway Coast AONB; Starfish and sponge at Dubmill / Writing on the saltmarsh, Ann Lingard.



Graeme Westmorland, the Solway Coast AONB Farming in Protected Landscapes Officer, with the Belted Galloways at Mawbray Banks Nature Reserve.

Farming in Protected Landscapes Programme

Farming in Protected Landscapes (FiPL) is a Department for Environment, Food and Rural Affairs (DEFRA) funded programme which will run until March 2024 when the new Environmental Land Management Schemes or ELMS will be introduced fully.

Through the programme, farmers and land managers are supported to carry out projects that support nature recovery, mitigate the impacts of climate change and provide opportunities for people to enjoy, discover and understand the landscape and cultural heritage and nature-friendly sustainable farm businesses.

Applications are accepted from farmers and land managers within the AONB. The programme may also support activity on other land where that activity can demonstrate benefit to the AONB, or the AONB's objectives.

Examples of projects which would be eligible for funding under FiPL include:

- Creating scrapes, ponds or other wetland to support a variety of wildlife
- Providing new or easier access opportunities, links to the Public

Rights of Way network, or providing interpretation of farming, nature and heritage

- Parking improvements at a key site to provide safe access to popular walking routes and reduce congestion for visitors and for local residents
- Restoring drystone walls or hedges



Stone seating funded through FiPL Scheme

In our Solway Coast AONB, approved projects so far include the fencing of watercourses; planting of hedgerows, trees and specific plants for butterflies; installation of boardwalk for increased public access and siting of wildlife boxes to improve nesting opportunities for birds and bats.

Nationally there is a broad spectrum of projects that have been supported.

The application process is relatively straightforward which is good news. In the first instance contact our Farming Officer to arrange a chat or a visit about your idea to see if it would be eligible for funding. A form is then completed with details about the project and the various costs involved. Applications are considered for approval by our Local Assessment Panel which consists of members of the farming community, NFU, council officer and conservation representatives. The process is competitive so not all eligible projects will be funded unfortunately.

If you are a farmer or landowner and want more information about the FiPL programme please visit www.solwaycoastaonb.org.uk/2019/farming-in-protected-landscapes

Please note the FiPL programme is only available in England. We look forward to hearing from you and your exciting projects!



Silloth Beach

Come and take a walk with us through nature and improve your mental wellbeing

The natural world is the foundation of our health, wellbeing and prosperity.

Evidence shows that a thriving, wildlife-rich environment benefits both physical and mental health. People with nature on their doorstep are more active, mentally resilient and have better all-round health. Every day, we're working to bring wildlife to more people, and more people to wildlife.

Get involved and make socialising, volunteering and exercise in natural places central to your daily life.

5 ways to wellbeing

Be Active – go outside for a walk or explore your nearest nature reserve. **Connect** – with the people around you, share your wildlife experiences. **Give** – do something to help your local place and the people that live there.

Take Notice – of the everyday wildness on your doorstep.

Learn – Try something new outside.

Volunteering on the Solway Coast

We couldn't care for the Solway Coast Area of Outstanding Natural Beauty without the help of our amazing volunteers. From litter-picks on the dunes and beaches or boardwalk and path repairs, to archaeological digs or wildlife surveys, there is always something going on.

Other initiatives have included oral history projects and the mapping of hidden architectural gems, or practical things like repairing the boardwalks, painting signage or renovating benches.

The members of the Solway Coast Volunteer Group are aged from 11 to well in to their seventies. The one thing



Volunteering at Beckfoot



Birdbox

they all have in common is a love and understanding of this special place, and a desire to help others enjoy it too.

If you would like to become a volunteer for the Solway Coast AONB, please sign up for our newsletter by visiting our website

www.solwaycoastaonb.org.uk and head to the 'Get Involved' page or drop us an email info@solwaycoastaonb.org.uk

Some Solway Coast AONB summer events are highlighted on Pages 26-27.

We hope to see you on the Solway coast soon.



Sea rocket on Port Logan Beach

Specially Adapted for the Beach

Wildflowers of Shingle and Sand Shoreline

As the Rhins of Galloway Coast Path begins to take shape and the varied shoreline becomes more accessible we are looking forward to discovering the special flowers that thrive on our beaches.

To help you find out more about flowers that grow on the coast, a Wildflowers of Sand and Shingle Beach Exhibition will be hosted by Logan Botanic Garden during August and September 2022. To accompany the exhibition a second guide to common flowers of the seaside will also be published helping visitors to know their sea radish from their sea rocket.

Beaches are inhospitable places for flowers to flourish. They must endure a combination of high winds and salt spray as well as a lack of soil and fresh water. Shifting shingle and sand, where plants risk being uprooted or buried beneath the surface, is particularly difficult to colonise. Some flowering plants have adapted to tolerate these harsh conditions and often have fleshy or hairy leaves and roots that penetrate deep below the surface in search of moisture. A small number of these specially adapted plants are only found on the coast while others are equally at home inland but are more common on the coast.

Not all these flowers are things of beauty and strandline plants are often straggly and untidy, but they have to be admired for their ability to weather winter storms and summer sunshine. Part of their charm lies in the unusual looking leaves, flowers and seedheads adapted to life on the beach.



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Sea Sandwort

Honckenya peploides

A mat of bright green leathery pointed leaves that carpets shingle and sandy beaches. The small, greenish-white flowers, with their other-worldly appearance, can have male or female characteristics and sometimes a mixture of the two. The deep root system has an abundance of buds that quickly send out new shoots if the plant is covered by sands shifted by storms.



Sea Beet

Beta vulgaris subsp. maritima

Also known as "wild spinach" it is a large plant growing as a straggly clump of glossy deep green leaves on long stems that mostly lie along the ground. Young shoots turn upwards at the ends with spikes of small fleshy flowers along the stems. Sea beet is very tolerant of sea spray and can be found growing on most shoreline habitats from cliffs to sandy and shingle beaches.



Sea Kale

Crambe maritima

Growing in domes of purple-grey cabbage-like leaves this is an unmistakable plant on shingle beaches. The thick leaves have a waxy coating to reduce water loss. Clusters of yellow centred white flowers are followed by spherical seeds that are buoyant and very tolerant of immersion in sea water and can be spread by the action of tides and currents.

Old Graves, New Gates & Bridges

Rhins of Galloway Coast Path Update

An enthusiastic group of volunteers recently took part in a survey at the Old Churchyard in Kirkcolm as part of the Rhins Revealed Community Archaeology Project. AOC Archaeology Group delivered training in graveyard recording and

Headstone surveys



armed with their new knowledge and survey sheets, the volunteers created detailed records of the headstones. Carvings and symbols were recorded but due to the age and condition of some headstones it was quite a challenge to decipher the inscriptions!

The old churchyard is a fascinating site, now part of the Corsewall Estate, with a church first recorded in the late 13th Century and was in use up to the 19th Century. For a time, it was home to the early medieval Kilmorie Stone which now stands in the current Parish Churchyard on Church Street. For more information see the article and interactive model of the Kilmorie Stone on the Rhins website at www.dgtrails.org

The Rhins of Galloway Coast Path is now taking shape with gates, fencing and bridges installed on many land holdings to increase accessibility. There is currently a focus of activity on the North Rhins section of the route which is scheduled for completion in late spring / early summer. Additional funding has



Path improvements

been secured from the Coastal Communities Fund and the Agri Environment Climate Scheme for improvements at sections that had further deteriorated since the initial surveys were undertaken 6 years ago. The interpretation and signage for the route is also being developed and a sculptural feature is being considered to mark the start/end of the Rhins Coast Path in Stranraer.



Beach Clean Volunteers, Monreith

Pulling Together for Cleaner Beaches

Beach clean volunteers, farmers and fishers have been working together to remove more than 8 tonnes of litter from some of the more difficult to reach bays.



Named buoy

The Dumfries and Galloway coastline is long and varied and its many beaches are popular places to visit for bracing walks to family fun paddling and making sandcastles. Sadly though, like much of the UK coast, there is a problem of litter washed in by the sea and it is a particular issue where it has accumulated in the more remote locations.

Local Creel Fisher, Paul Maguire



As part of the Solway Marine Litter Project, supported by the Scottish Government's Marine Fund Scotland, Solway Firth Partnership are delighted to have been able to assist established and newly formed beach clean groups who strive to clean up beaches for the benefit of wildlife and ensure our coast is a great place for people to visit and enjoy. Groups like D&G Eco-warriors and ONUS (Oceans Need Us) SW Scotland are making a significant contribution to the health of our seas and coast. Volunteers often work with farmers to join forces to take positive action and help provide solutions when the beach is difficult to access. On several occasions farmers have provided tractors and trailers on the shore to help transport debris gathered by volunteers to rubbish pickup points or skips.

There is often a mistaken assumption that debris has originated from commercial fisheries when evidence suggests that most of the material consists of litter that has washed into the sea from the land via burns and rivers. It is true that some of the larger items on the shore have been lost by fishermen and because they are durable and brightly coloured, at first sight it appears that debris strewn on the beach is dominated

by fish boxes rather than plastic bottles and food wrappers.

Fishing gear is designed to withstand the action of the sea and even creels that have been twisted and bent by the force of the sea can be repaired and reused. Fishers cannot afford to be reckless with their equipment and take steps to avoid unnecessary losses by removing the creels from the sea during winter storms. By collaborating with the Galloway Static Gear Fishermen's Association volunteers from ONUS are making make sure that where possible local fishing gear such as creels and buoys are reunited with the people who have lost them. The Association consists of members who fish for lobsters and whelks in the waters of Dumfries and Galloway and were prime movers in establishing a voluntary code of conduct to collaborate with other fishermen who fish the same waters.

Other items including creel door hooks, swivels, escape vents and entry buckets are all returned for reuse as well as rope that can be used in the repair of equipment. To make repatriation easier fishermen mark their equipment with their boat registration numbers.

Often the material washed up on beaches can be traced to places from further afield. Most fishboxes are branded



with the owners names and appear to have originated from Ireland rather than from local fishermen. Occasionally a fishbox will be from a different country including Spain, France and Belgium although they have probably been lost from boats fishing the Irish Sea.

Port William fisherman, Paul Maguire says, "Local fishermen are passionate about the marine environment and the need to keep it clean and healthy." He points out how improvements continue to be made, "The harbour has recently erected fenced compounds to stop fishing equipment going astray and fishermen have a contract with a waste management company to take away and recycle used polystyrene bait boxes".

Although the Solway Marine Litter Project is now completed, Solway Firth Partnership will continue to work with volunteers, farmers and fishers to achieve the ambition to have over 200 miles of cleaner coastline in Dumfries and Galloway.



Beach Clean Monreith, organised by MAC-CAN



Lobster creel



Lobster pot door hooks



Knockbrev



Quartz



Maryport Marina



Port Logan



Blue Mussels, Carrick Shore



Bank of River Nith looking towards Criffel

Marine Natural Capital What, where, why?

Solway Firth Partnership is currently working with Dumfries and Galloway Council on the development stages of a marine natural capital project funded by South of Scotland Enterprise and Crown Estate Scotland. We are hoping that this will lead onto a bigger pilot project, so watch this space!

You may have been hearing a lot about 'natural capital' in recent years. Despite the somewhat ambiguous title the concept of natural capital is reasonably straightforward, it's a way to connect the value of nature to people and the economy and the integration of the value of nature into decision making. We rely on our natural capital assets, which includes all living and non-living parts of our natural world. They provide humans with the ecosystems services these habitats offer. Healthy and functioning natural capital assets deliver valuable goods and services that we all take advantage of. We know that natural capital assets are worth literally billions.

The point of considering marine natural capital (our marine natural assets) is to prove the returns (ecosystem services) we can achieve by investing in nature.



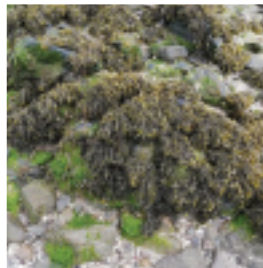
Honeycomb Worm Reef (Powillimount)



Bays on the Rhins of Galloway



River Nith at Glencaple



Rocks and Seaweed



Saltmarsh at Annan



Ecosystem services are generally classed as;

- Regulating
 - services provided by nature that regulate our environment
 - climate regulation, flood regulation, water purification
- Cultural
 - intangible benefits
 - spiritual, inspiration, mental health benefits
- Provisioning
 - extractable benefit
 - water, food, raw materials
- Supporting
 - the underlying natural processes which maintain ecosystems and are necessary for the production of all other ecosystem services
 - nutrient cycling, primary productivity

Let's look at native oysters (*Ostrea edulis*) as an example of marine natural capital. If an area was able to reintroduce native oysters the habitat may provide ecosystem services including;

- Improved water quality (oysters are filter feeders, removing pollutants)

- Biodiversity enhancement (biogenic / natural reefs)
- Increased fish production (feeding grounds for larger species)
- Oyster stocks (oysters can be sustainably fished if they reach a certain level)
- Heritage value (oysters once formed a large part of the identity of many places in Scotland, for example the Firth of Forth, before being overfished)
- Denitrification (removal of excess nutrients)
- Stabilisation of seabed sediments (helps reduce erosion, reducing wave energy, and improves the water clarity and quality capturing suspended sediments)

The quantity of these services depends on the size, density and age of the oyster bed.

The services provided through natural capital asset enrich our local economies and communities with fisheries, recreational fisheries, local communities, nature lovers, visitors and others benefitting from a healthy and functioning ecosystem.



Seagrass at Auchencairn Bay

Spotlight on Seagrass

You may never have noticed seagrass while walking along the Dumfries and Galloway coast, but this is a unique and interesting underwater flowering plant. Did you know it is one of most valuable ecosystems on Earth? Let us tell you some reasons why!

Seagrass is the only marine underwater flowering plant and pollinates while submerged. Like all plants seagrass requires sunlight for photosynthesis, using sunlight as energy to convert carbon dioxide and water into food for growth. Light is blocked in sediment-laden water, reducing the ability of seagrass to photosynthesise which means that seagrass is most common in shallow, clear/clean water. It is very sensitive to environmental changes with high water quality being vital to ensure seagrass can thrive.

So, why is seagrass important? The value of this habitat is huge. Not only is healthy seagrass important for the overall health of the marine environment, assisting in ensuring the health of other habitats and species, it also provides ecosystem services which are important for humans.

We know that climate change is an increasingly urgent issue globally. Warmer temperatures, increasing sea level and storminess are all factors risking assets and infrastructure, and we know these problems will increase. Seagrass can be a valuable tool in helping to combat climate change and reduce its impacts!



Seagrass at The Wig, Stranraer

Seagrass is excellent at sequestering and storing blue carbon. Although seagrass covers 0.1% - 0.2% of the seafloor globally, it accounts for between 10% - 18% of the ocean's carbon storage! This service is delivered alongside other provisioning services such as the biodiversity benefits; nursery grounds for commercially exploited fish, and seagrass beds can host up to 40 times more marine life compared to bare seabed sediments. There are also cultural services, and regulating services (such as climate control through carbon storage) like improved water quality, coastal protection through preventing coastal erosion and improved water clarity through the stabilisation of seabed sediments. Seeing all of these services, some of which can be quantified into financial value, provides us with an extremely valuable natural capital asset in need of protection, enhancement, and reinforcement

Seagrass

to continue to provide us with these, and more, services.

Seagrass, however, has been damaged, degraded and reduced. Activities such as anchoring, run-off and water quality, bait digging, some forms of fishing, trampling, and disease can all harm the health of seagrasses. It is widely reported that in the UK we have lost somewhere in the region of 92% of our seagrass meadows! Imagine the services we have lost, the carbon that could have been stored, the loss of fish stocks, the biodiversity we could have.

This has driven the need to map the remaining seagrass we have in order to look after, reintroduce, and expand the beds. Have you spotted seagrass along the Dumfries and Galloway or Cumbrian coast? Take a picture and record the information in Seagrass Spotter from Project Seagrass.



We have 2 species of seagrass in Dumfries and Galloway; *Zostera marina* (Common eelgrass) and *Zostera noltii* (Dwarf eelgrass). Here are some tips on how to tell them apart;

The leaf tips

- *Zostera noltii* has blunt and emarginate leaf tips
- *Zostera marina* leaf tips are rounded sometimes with a sharp point

The zone

- *Zostera noltii* is intertidal
- *Zostera marina* is subtidal for longer periods of time so will be lower shore or fully subtidal

The leaves

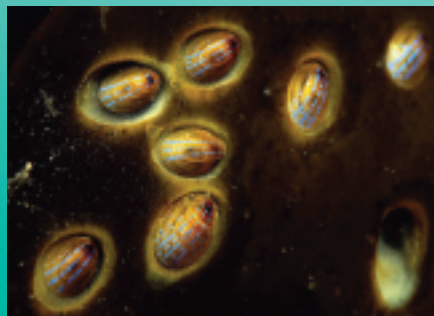
- *Zoster noltii* is smaller, leaves 6 -22 cm long, 0.5-1.5 mm wide with 3 irregularly spaced veins
- *Zostera marina* leaves usually 20-50 cm, but up to 2m, 4-10 mm wide, with 5-11 veins

Floating forests in the Solway

Dr Emily Baxter, Senior Marine Conservation Officer, North West Wildlife Trusts

Walk down to the water's edge across a rocky shore at low tide and you will see bent stalks (or 'stipes') of kelp, collapsing over the rocks under their own weight without support from the water. Slightly further out, kelp fronds stretch up to tickle the surface of the water. But this is only the fringe of the vast kelp forest that extends beneath the waves of our secret shallow seas.

Blue rayed limpets



Anemone on kelp



Grey seal on kelp

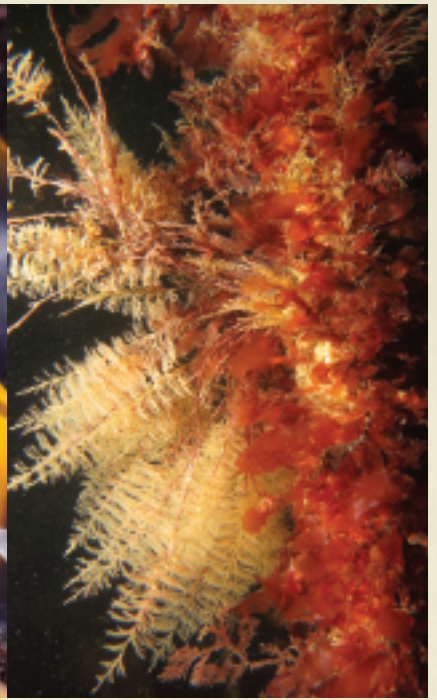


**Cumbria
Wildlife Trust**

Kelp and urchin



Kelp



Hydroids and red seaweed on kelp stipe

Kelp are large brown seaweeds that live on the lower shore down to about 20m. Growing close together in large numbers, they form undersea forests that are vital to us and our seas; a habitat that plays an important role in our ecosystem.

Kelp grow by fixing carbon dioxide from the atmosphere and turning it into organic matter, and as a by-product they release oxygen. In fact 70-80% of the oxygen we breathe comes from marine plants (kelp, other seaweeds and microscopic phytoplankton). Eventually, as kelp plants die they flake into small pieces, which fall to the sea floor and breakdown releasing dissolved chemicals and minerals. In a similar way to leaf-litter on a forest floor, decomposing kelp material enriches the seafloor and is taken back up through the food-web by bacteria to invertebrates and fish.

Kelp forests are also extremely important for biodiversity,

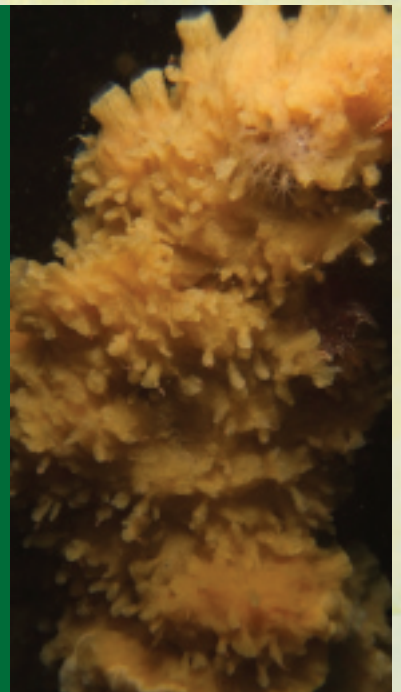
providing a three-dimensional habitat for a vast array of creatures. Their branched holdfasts, which they use to attach themselves to the rocks, provide more than just stability, they offer a complex home (microniches) for tiny crustaceans, sponges, bristle worms and sea squirts to name but a few. Encrusting algae, crabs, starfish, urchins, butterflyfish and brittlestars can be found in amongst the holdfasts and on the rocks that they are attached to.

The stipes of kelp become encrusted with foliose algae, hydroids and soft corals, and the fronds are colonised by sea mats, blue-rayed limpets, sea slugs and anemones. A variety of fish seek refuge amongst the dense canopy of fronds and playful seals use the forests to rest between bouts of activity. Who would have thought these little-known floating forests were so vibrant and full of life!

Kelp Forest with urchins, soft corals and fish



Breadcrumb sponge on kelp stipe



Did you know?

Four species of kelp are native to the waters off Cumbria: sugar kelp, oar weed, curvie and furbellows. Keep an eye out for the invasive, non-native Japanese kelp, wakame.

Great places to see... kelp

1. Parton
2. Workington (north shore)
3. St Bees Head
4. Walney Channel
5. Earnse Bay

Cumbrian Solway Marine Natural Capital Development Project

On the Cumbrian side of the Solway Firth, there has also been a recent project looking at the opportunities for marine and coastal natural capital development.



Cumbria
Wildlife Trust



Environment
Agency



Solway Mudflats

The project ran from November 2021 to March 2022, was managed by Solway Firth Partnership and delivered by Cumbria Wildlife Trust with funding from the Environment Agency's Championing Coastal Coordination (3Cs) Fund and The Crown Estate. The project aimed to better understand what natural capital assets exist on the Cumbrian Solway, where they are, their extent, and what condition they are in. Through understanding the state of our natural capital assets and how they benefit us, we can begin to value them, which is the first step required if we are to protect, enhance, expand or restore them. This scoping project has highlighted some of the existing knowledge on marine natural capital assets on the Cumbrian Solway, as well as data gaps and recommendations for future natural capital projects.

The project brought together people with an interest in the Solway's marine and coastal environment to identify some of the important work already underway, such as the enhancement of saltmarsh and sand dune habitats, as well as highlighting how and why these habitats should be prioritised for future restoration.

Saltmarshes and sand dunes provide many beneficial ecosystem services that are valued by everyone. They play important roles in climate change mitigation and flood and erosion risk mitigation. Saltmarshes and sand dunes also provide habitat for a range of important species from birds to insects, enhance biodiversity, and hold great cultural value.

The Solway coast has narrow, yet important, strips of sand dune behind the beaches of Silloth to Mawbray Banks. These dunes are important habitat for the rare natterjack toad. However, years of stabilisation and extensive growth of invasive Japanese Rose has reduced the quality of this habitat. Dynamic Dunescapes, a project led by Cumbria Wildlife Trust and Natural England, has been taking action to create a more dynamic dune system by introducing grazing and removing invasive species and scrub at two sites on the Solway coast. This work has so far been a success.

As well as significant areas of saltmarsh, the Solway is home to one of the largest areas of honeycomb worm (*Sabellaria alveolata*) reef in the UK. Honeycomb worms live in tubes that they have built from tiny particles of sand and shell, all held together with a sticky mucus. Growing together side-by-side in vast colonies, these worms form complex honeycomb-like reef formations that provide home for a huge diversity of species such as seaweeds, shore crabs and anemones.

It is also important not to undervalue other natural capital assets such as the Solway's sandflats, mudflats and underwater sediments. Muddy sediments might not look like much but they store huge amounts of carbon and need to be protected from damage. These natural capital assets also provide an important habitat for shellfish, worms and other invertebrates that form the base of the food web for many of the marine and coastal species that we love to see, like seabirds, seals and porpoises.



Sabellaria reef at Allonby

This initial scoping project has highlighted some of the opportunities for future marine natural capital projects on the Solway but a key focus should be valuing all of the natural capital assets, from mud and mussels, to smelt (sparing) and *Sabellaria*. Building up more evidence on the location and condition of these assets, as well as gaining a better understanding of who benefits from them, will be a crucial first step. There is the potential to complement the important work already taking place in the area; for example, expanding sand dune restoration beyond the Dynamic Dunescapes Project, or applying the successful saltmarsh enhancement at Campfield and Rockcliffe Marshes to other areas along the coast.

Any plans will need to consider the changing climate, as well as other social and economic drivers of change in the area. To be successful, any future projects will also need to engage with local landowners, organisations and communities to ensure their support from the start.

Sand dunes at Silloth





Saltmarsh at Bowness on Solway, & below, Saltmarsh edge

Spotlight on Saltmarsh

Coastal saltmarshes exist on sheltered coastlines and estuaries. They fringe large areas of the inner Solway. Like a rocky shore, saltmarshes have distinctive zones defined by different types of vegetation, which are formed by the difference in the amount of time spent covered in water.

Closer to the sea, highly salt tolerant plants, such as cord grasses grow on the mudflats. Towards the landward edge of the mudflats, succulent plants like marsh samphire can be found. Further onshore, where the mud becomes drier, species such as sea purslane, sea aster and sea lavender can be found. Amongst the vegetation, channels and creeks fan out through the saltmarsh bringing water up into the marsh with the tide.

Saltmarshes are a particularly important natural capital asset for the Solway. There are almost 3,000 hectares of saltmarsh, extending some 60km along the coast from Silloth to the Scottish border, representing one of the largest areas of saltmarsh in the country. The extent of the habitat is covered entirely by multiple designated (protected) sites.

Saltmarshes are really valuable and biodiverse habitats. The mosaic of different vegetation types, sediment types, pools, channels and creeks, creates the perfect mix of conditions,



suitable for a variety of creatures. In the mud around the plants, lives a great diversity of worms, snails and other invertebrates. The pools and channels provide the perfect refuge for young fish (e.g., smelt and sea bass) to hide and forage, out of danger from the large numbers of feeding waders that make the saltmarsh their home. Ducks, geese and other wildfowl graze the vegetation, and even cows and sheep feast on the salty plants. The Solway Firth supports thousands of wildfowl, including the entire population of Svalbard barnacle geese that graze the Solway's saltmarshes over winter.

Like seagrass, saltmarshes are one of the most important coastal habitats for mitigating against the impacts of climate change. They are able to draw down large amounts of carbon and lock it into the sediment below at rates ten times greater than terrestrial forests.

Saltmarshes also defend our coasts from the threat of erosion and sea level rise. Sediment becomes trapped around

the roots of the plants and builds up in a process called accretion. If saltmarshes are supplied with enough sediment to accrete at a rate that is able to keep up with sea level rise, then they will be able to stay above the water, helping to prevent flooding or loss of the coastal buffer through erosion.

Saltmarshes also absorb and filter run off from adjacent farmland, reducing excess sediments, nutrients, heavy metals and other pollutants before they reach the sea. This improves the area's water quality to the benefit of other habitats such as seagrass, and species such as oysters.

Saltmarshes have a long tradition of grazing by sheep and cattle. Low levels of grazing are important for maintaining plant diversity but too much grazing can prevent rare and sensitive species from growing. Most of the Solway's saltmarshes are heavily grazed, which keeps vegetation cover low. This is good news for wildfowl that prefer to graze the low vegetation but less so for other birds such as, lapwing and redshank that shelter and nest in taller grasses. Getting the perfect balance of grazing is difficult, but grazing regimes that create varied vegetation height is very important. The way in which cows graze, creates a mosaic of short and tussocky grasses providing varied swards. Sheep on the other hand, are more selective, biting off vegetation low to the ground and creating a uniform, low vegetation cover.

Despite benefiting from saltmarshes, human activities have caused habitat loss and degradation to them at an alarming rate. Saltmarshes have historically been drained and reclaimed for use in agriculture. Despite playing an important

role in filtering water, high levels of pollutants and excess nutrient from agricultural run-off will negatively impact the marsh. They are also impacted by changes in sediment supply caused by nearby development or dredging, and unsuitable grazing levels. The effects of climate change are also changing saltmarsh habitats. Sea level rise and the

construction of hard sea defences reduces the space saltmarsh can occupy. Although saltmarshes may be able to grow in height to be able to cope with changes presented by sea levels rise, saltmarshes are unable to migrate landward where barriers such as sea walls are in place. As we lose and degrade these crucial habitats we also lose the valuable services they support. It is therefore vital that we protect, enhance and restore saltmarshes so that we can continue to receive the valuable benefits they provide.

Around the Solway coast, restoration projects are taking place. For example, on Rockcliffe Marsh and Campfield Marsh, saltmarshes are being enhanced and turned into a more natural and varied habitat.

At both sites, artificial drains have been blocked, re-wetting areas of marsh that provided habitat for wading birds.

Elsewhere in the UK, sea defences and hard infrastructure have been re-aligned and moved back, creating space for new habitats to form. There may be similar opportunities to re-align areas of the Solway coast, creating space for new saltmarsh habitat that will have the potential to capture and lock in carbon for generations to come.



Looking across to Scotland, & above, Saltmarsh with mudflats





Robin Rigg Community Fund

Communities around the Solway have been busy working on great projects funded by the Robin Rigg Community Fund (RRCF) 2022.

The Robin Rigg Community Fund is provided by RWE Renewables

The Robin Rigg Community Fund will be open for another round of applications in late summer / early autumn 2022 for projects taking place in 2023. Sign up for the SFP newsletter from the homepage of the website to hear about the opening of the fund -

<https://www.solwayfirthpartnership.co.uk/>

Kirkcudbright Dark Space Planetarium Shines Brightly

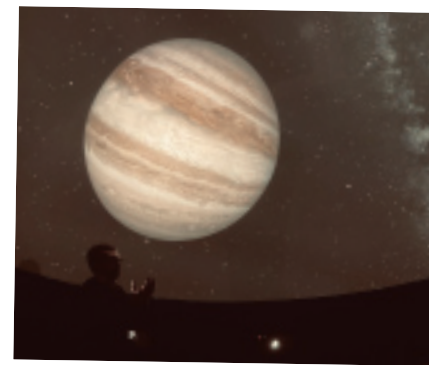
The Dark Space Planetarium is a key feature in the £2.6 million redevelopment of the Johnston School in Kirkcudbright.

The Johnston School was a much loved and iconic building situated on the main road as you enter Kirkcudbright. B-listed and closed over ten years ago, it was starting to fall into a state of disrepair and was fast becoming an eyesore. In 2015 the community expressed an interest in restoring the building and bringing it back to use. The newly formed Kirkcudbright Development Trust undertook community consultation where the overwhelming majority were in favour of a regeneration project that would meet the needs of the community.

Funding from the Robin Rigg Community Fund allowed Kirkcudbright Development Trust to purchase SpaceTime2 software for the

Planetarium. This is a 3D space simulator that contains the entire solar system, as well as thousands of other celestial objects. The software allows visitors to leave Earth, fly around other planets and even travel out of our galaxy. It's exciting, fun, and educational – perfect for the aim of attracting young people to have a new and inspired interest in STEM subjects. This is a fantastic feature for the Dark Space Planetarium which has welcomed over 7000 visitors since opening in July 2021.

The Planetarium hosts a variety of special events, lectures, workshops, and guest talks. They also programme regular cinema screenings to be enjoyed in the Planetarium. The events are designed to be enjoyed by all ages and interests. For more information visit the website at <https://www.darkspaceplanetarium.org/>



Exploring Jupiter in the Planetarium



Enjoying a visit to the Dark Space Planetarium

Seaton Bowling Club Moves Base

Seaton Bowling Club has repurposed portacabins to use as a base for the club's activities.

Seaton Bowling Club was set up as a charity to promote community participation in healthy recreation for the inhabitants of Seaton and the surrounding areas by the provision of facilities for playing bowls. This is particularly important for youth and elderly in the community in line with both local and national initiatives. Membership comes from all walks of life and ages and the club also provides a rink for members of the public that are not bowling club members.

The bowling club has used Seaton Village Hall as a base for the past few years but needed to provide disabled

parking and disabled toilet facilities to the members. Luckily two portacabins were donated to the club but they needed major work to bring them up to building control standards and cosmetic treatment to make them more suitable as a base.

The 'Before' and 'After' photos certainly show the hard work has paid off.

Lawn bowls is a low impact therapeutic exercise that can improve fitness, coordination and confidence. Because of its relaxed pace and comparatively light physical demands, lawn bowls is a popular participant sport, particularly for older people. The game of bowling is a leisurely activity



Before



After

that helps to keep people fit, it involves bending and swinging arms as well as walking from end to end of the rink. People think twice about going for a walk but never think about the distance they walk when playing bowls, thus it helps people to stay healthy and active and also helps to combat the obesity problem amongst younger people. It improves muscle strength, flexibility and endurance. It is a non-contact sport, which can be enjoyed by all, including the young and people with disabilities.



Maryport Harbour

Fishing Faces

Focus on Maryport

The winter edition of Tidelines featured the fishermen and producers in Silloth behind the Brown Shrimp fishery on the Solway. Now the spotlight is on another port - Maryport, a thriving harbour town, with fishermen and other people and organisations who fish and support the fishing industry.

Selling fish, Maryport Fishing Cooperative



Moving ice at Maryport Fishing Cooperative



John(s) McAvoy, Fishers, Maryport

John doesn't come from a fishing family. His father, also John, was a coal miner but enjoyed fishing in his spare time and introduced his son to fishing. He left school to become a time served joiner, but his love of fishing led him to buy his first boat in his 20s. Since then, he's had 9 or 10 boats, it's easy to lose count! Silver Fern is the current McAvoy family boat. John works in partnership with his son, another John, who is the skipper of the boat. Granddaughters, Amy and Katie, also help by selling the fish. The girls only go on the boat during the annual Maryport Trawler Race, preferring to stick to dry land!

They mainly catch langoustine but also some other fish species including brill, turbot, sole and plaice. They will also catch shellfish including king and queen (queenies) scallops. Most of the langoustine catch is processed in Prestwick and then sent to France and Spain. The fish would normally go to the market at Fleetwood although due to Covid-19 restrictions the boat has been selling catch at the quayside and has become very popular with local residents.

John runs the Maryport Fishing Cooperative which was started in 1984 by a group of fishermen. The cooperative has been in the building by the harbour since 1997.



Harbourmaster Pauline Gorley with Waldo



Mark Vollers at Maryport Aquarium

Pauline Gorley, Harbour Master Maryport Marina and Harbour

Pauline left school at 16 planning to join the police. While she was waiting to reach joining age, she met her future husband who was in the RAF. They got married and he whisked her away to live in Norfolk where Pauline had her two children.

While the children were young, Pauline worked as a school secretary putting her financial and typing skills to good use.

Being an RAF family meant several moves around the country including to Northumberland, Doncaster and back to Norfolk. But when the next move was to Scotland, it was time for Pauline to move back home and allow two teenage children to finish school in Maryport.

Pauline started work in finance with Maryport Development Ltd. That was 21 years ago! Although most of the role was finance related, Pauline loved the marina and so when the marina manager left, she decided to go for the job and got it. She had to go on a course and then qualified as the 199th certified Marina Manager in the country.

No two days are the same, but paperwork is always present as Pauline has to oversee Port Marine Safety codes, oil spill plans and various health and safety documents.

Communication with harbour users is key in the job and the marina team are on shifts over much of the day and on call overnight. Navigation aids have to be monitored to ensure the lights are working and all boats, both recreational and fishing, will get in touch by VHF radio to say they're coming into berth, in the marina or Queen Elizabeth Dock. Although they do sometimes forget!

Waldo, Pauline's dog and assistant at the marina, is a pedigree poodle. Pauline has got paperwork to show 5 generations of his ancestry!

More information on the marina and harbour can be found at <https://www.maryportmarina.co.uk/>

Mark Vollers, Lake District Coast Aquarium

When Mark left university in London, he wasn't sure what to do next so went to Bangor, Wales, to do a post graduate qualification in agriculture.

While at Bangor Mark set up an oyster farm with some others. They initially just sold oysters but soon diversified to include lobsters which were kept in holding tanks on the Menai Straits. However, they quickly realized that people were often just interested in looking at the lobsters and learning more about them rather than eating them! This revelation led to the setting up of what became known as The Anglesey Zoo. Ten years on and Mark was encouraged to investigate Maryport as a possible venue for an all-new aquarium which would be his sole responsibility. He saw great potential there, sold his house and left for Maryport and has been there ever since, over 24 years!

The site of the aquarium had room for expansion and where Mark had initially planned to build a large freshwater section, he decided instead it would be good to get involved in marine conservation so built a Sea Lab with a lobster hatchery as a main exhibit. Lobster breeding here starts in mid-Summer when licensed fishermen provide a few berried female lobsters (with eggs). The eggs hatch into larvae which are grown on in special food laden tanks of swirling water before being placed in what is called an 'aquahive'. Within this structure the small lobsters are kept in individual cells to prevent them attacking each other and when they are big enough, after a few weeks, they are released back into the sea.

The aquarium also houses a popular Café, Gift Shop and now the Tackle Shed, a fishing tackle shop supplying fresh frozen bait, with a selection of tackle for sea and freshwater fishing.

More information on the Aquarium can be found at <https://maryportaquarium.co.uk/>

The Fishing Faces Growth Project was managed by Solway Firth Partnership (SFP) and aims to bring a new perspective to the Solway fishery by revealing the people behind the scenes in the fishing industry along the Allerdale coast. The project was funded by Allerdale Borough Council and mostly produced within the Solway Coast AONB.



Visit
Allerdale
visitallerdale.co.uk



Steamed Langoustine

A Dish from a Local Catch

Steamed Langoustine or Dublin Bay Prawns

Buy the langoustine direct from the boat at Maryport Harbour.

Method

1. Fill a steamer bottom with 500ml of water and add 2 tablespoons of sea salt, lemon grass stick bruised, ginger roughly chopped.
2. Bring the water to the boil and add the prawns to the top steamer. You may leave them shelled and veined if you wish.
3. Reduce the heat, cover the pan and simmer the prawns, 3 - 6 minutes, depending on the size. Start counting once the water has begun to boil again.
4. Remove the prawns or shrimp from the heat immediately and run them under cold water for a few seconds to stop the cooking process.

Ingredients

- 450g Langoustine or Dublin bay prawns
- 1 small bulb of ginger
- 1 stick lemon grass
- Lime leaves
- 500 ml of water
- 2 tbsp sea salt

5. Once the prawns or shrimp have cooled they will be ready to peel and eat.
6. Serve with crusty bread and wild garlic mayonnaise.

This recipe has been reproduced from the SFP Fishy Dishes publication - <https://www.solwayfirthpartnership.co.uk/fisheries/solway-seafood/>



The Baxter brothers joining Fishing for Litter

Fishing for Litter Expands in the Solway

Working with Fishermen to Clean our Seas

In 2004 KIMO International started a simple yet imaginative project to tackle the problem of marine litter. Fishing for Litter aims to reduce marine litter by involving one of the key stakeholders, the fishing industry.

Result? Cleaner seas, cleaner beaches and a healthier marine environment.

Fishing boats are given big bags to collect the plastics, ghost gear and other debris that gathers in their nets during normal fishing activities. When the fishing boats come into port, they can unload the bags of litter. These bags are collected regularly and the rubbish is recycled or disposed of on land.

All the fishers who participate in the project are volunteers. They are out at sea removing rubbish from the ocean on a daily basis. The initiative not only removes rubbish from the sea but it also raises awareness among fishers of the impact of marine litter and changes fishers' waste-related behaviours while out at sea.

The Scottish Fishing for Litter Project launched in 2005. The scheme has been well supported by Solway fishermen with Kirkcudbright and the Isle of Whithorn harbours both being participating harbours for many years. Solway Firth Partnership (SFP) has recently taken on the role of liaison for Fishing for Litter, as we have in the past, to help bring in harbours not already signed up in Dumfries and Galloway. Stranraer harbour has been quick to sign up to the project so

it shouldn't be long before registered fishers coming into port can deposit any marine litter in a wheelie bin in the harbour.

SFP has also been visiting the Cumbrian ports, Maryport and Silloth to talk to the harbour masters and fishers. Both ports are keen to take part and, in fact, Shaun Humphreys, owner of the fishing boat, Chelaris, had already requested that Maryport take part and has been instrumental in bringing in the harbour. Brown shrimp fishers, the Baxter brothers on their boat New Venture, have recently signed up to be part of the project at Silloth harbour.

To find out more about the Fishing for Litter Project visit <https://fishingforlitter.org/>

If you fish commercially on the Solway and would like to get involved in the project please email info@solwayfirthpartnership.co.uk

Fishing for Litter, Kirkcudbright



Summer Events on the Solway Coast



Low Tide Solway Shore Walks with Ann Lingard

They're back! Free low-tide guided walks on the Cumbrian shore at Dubmill Point, Allonby Bay, to look at the animals and algae that live in and on the shore and rocks – including the very special honeycomb-worm reefs, for which Allonby Bay is a Marine Conservation Zone.

As David Attenborough says, “No one will protect what they don't care about; and no one will care about what they have never experienced.” So do join Dr Ann Lackie (writer Ann Lingard) to experience the wonders of our shores.

Weather, and other unpredictable circumstances permitting, there will be walks in June, July, August and September.

Full details – dates, times, where to meet, what to wear etc – are on the website. For Ann's book about the Solway, *The Fresh and the Salt. The Story of the Solway*: see <https://thefreshandthesalt.co.uk/shore-walks-events/>

Dogs and children are most welcome.

Booking is essential as places are limited: please use the contact form <https://thefreshandthesalt.co.uk/contact/> to book your place.

A short blog-post about 'Strange animals of the Solway shore' is on Ann's Solway Shore-walker blog <https://solwayshorewalker.co.uk/2022/01/24/strange-animals-of-the-solway-shore/> if you want to find out more about honeycomb worms.

And if you join one of the walks, you may be lucky enough to receive one of the Solway Firth Partnership's lovely publications about the Solway's coasts!

Starfish and sponge at Dubmill



Volunteers Plug planting

The Big Plant

Come and join Cumbria Wildlife Trusts 'The Big Plant' at several locations along the Solway Coast.

Project: Get Cumbria Buzzing

The rate of extinction of wild pollinators is eight times faster than that of mammals, birds and reptiles. The reason for this rapid decline isn't totally understood, but over the last 75 years we've lost 97% of flower rich meadows. Our countryside is intensively farmed, leaving little room for natural habitats. Urban spread, village infilling and new transport links have had a huge impact. To halt and reverse the alarming declines, we urgently need to restore wild spaces and wildflowers for pollinators.

Get Cumbria Buzzing! is working with local communities, National Highways and other partners to take action for pollinators across North West Cumbria. We are creating 115 hectares of wildflower rich habitat along 'B-lines' – pollinator pathways that run through our towns and countryside to link fragmented habitats. These vital stepping stones of flower rich habitat will enable our wild pollinators to move freely along the B-lines network across North West Cumbria.

Activity: The Big Plant

Get Cumbria Buzzing's! The Big Plant event is enabling community groups across the project area to plant a total of 15,000+ pollinator friendly plants in one week. Over 100 groups will be seeding and planting wildflower plugs.

Dates: Sunday 1st to Sunday 8th May 2022

Locations and times: Many - check out Solway Coast AONB events page at

<https://www.solwaycoastaonb.org.uk/2019/events/> to find out more details.

If you can't make these dates or you are interested in finding out more please contact Carolyn Postlethwaite, Get Cumbria Buzzing Engagement Officer, Cumbria Wildlife Trust on carolynP@cumbriawildlifetrust.org.uk You can find out more about the project at nature and wellbeing by visiting

<https://www.cumbriawildlifetrust.org.uk/getcumbriabuzzing>

Activity: Pollinator Wellbeing Walk in conjunction with Get Cumbria Buzzing

Date: Saturday 11 June. **Time:** Session one 9.30pm – 12pm, session two (a repeat of the morning walk) 1.30pm – 4pm

Meeting point: Crossscanonby Carr Nature Reserve, Crossscanonby, Maryport CA15 6SL

Book: call 01539816300 or email events@cumbriawildlifetrust.org.uk

If you can't make that date or you are interested in finding out more please contact Carolyn Postlethwaite, Get Cumbria Buzzing Engagement Officer, Cumbria Wildlife Trust on carolynP@cumbriawildlifetrust.org.uk

You can find out more about nature and wellbeing by visiting <https://www.cumbriawildlifetrust.org.uk/get-nvolved/nature-wellbeing>



Small blue butterfly

Kirkcudbright Bay Bioblitz on Saturday 4 June

Solway Firth Partnership (SFP) and South West Scotland Environmental Information Centre (SWSEIC) are joining up to run a public Bioblitz Event at The Doon, Kirkcudbright on Saturday 4 June. The Bioblitz, celebrating World Oceans Day has been postponed from 2020 and so, two years later, it will be an extra special day!

This free Bioblitz event will be family-friendly and no previous knowledge is needed to take part. Anyone can come along to see a wide range of local wildlife that they may never have had the chance to view before. There will be a base set up at Nun Mill Bay car park to gather records and collate data. There will also be certain species in specimen pots for the public to view more closely.

A range of experts will be on hand with displays for visitors to see and learn from and there will be some recording activities for children to take part in.



Citizen Science

Project: Dynamic Dunescapes

Take part in a national citizen science scheme and help to conserve Mawbray Banks sand dunes.

From the tip of Grune Point, full of historic remnants, to the colourful pockets of dune waxcap grassland and heathland tucked away at North Walney, this project has chosen 11 different sites on the Cumbrian coast that will benefit from practical habitat management and conservation works. Many of which face very similar challenges. We now know that sand dunes need to be dynamic to support healthy wildlife populations, but, in most of these systems, bare sand can only be found at the frontal dunes, where the winds of winter storms keep some of it mobile amongst the marram grass.

Activity: Dynamic Dunescapes project is looking for volunteers to train as citizen scientists to help monitor the health of our dunes. This is part of a long term project and will involve various techniques including fixed point photography, habitat and dune profile surveying along transects and flora surveying. Training will be provided. **Location:** Mawbray Banks South Car Park, Mawbray Banks, Mawbray, Silloth, CA15 6QS

Date: Friday 10 June 2022. **Time:** 10am to 2pm.

Meeting point: Reserve South Car Park

Book: call 01539816300 or email events@cumbriawildlifetrust.org.uk

If you can't make that date or you are interested in finding out more please contact Eve Mulholland, Dynamic Dunescapes Officer, Cumbria Wildlife Trust on EveM@cumbriawildlifetrust.org.uk You can find out more about the project by visiting www.dynamicdunescapes.co.uk/citizenscience/

Creative Writing Workshop with Ann Lingard - The Saltmarsh Experience on Wednesday 14 September



Writing on the Saltmarsh

Saltmarshes occupy the boundary between land and sea, a special margin with shape-shifting structures, and unusual sights, sounds and smells. How would you write about them? On Wednesday 14 September, join Ann Lingard for a day's writing workshop at the RSPB Campfield Reserve near Bowness on Solway, to immerse yourself in 'the saltmarsh experience', with a wander on the saltmarsh and indoor sessions in the Solway Wetlands Centre.

Cost £5, hot drinks and snacks provided, but bring your own lunch.

Contact Ann through The Fresh and the Salt website

<https://thefreshandthesalt.co.uk/contact/> for more details and to book.

Solway Firth Partnership

For further information, to submit an article or to join the SFP mailing list please contact:
Solway Firth Partnership, Campbell House, The Crichton, Bankend Road, Dumfries, DG1 4UQ
t: 01387 702161 e: info@solwayfirthpartnership.co.uk www.solwayfirthpartnership.co.uk
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