

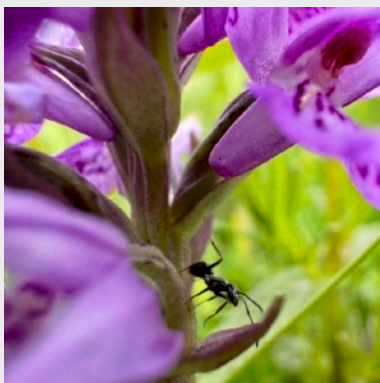
LIFE ON MACHAIR ~ NEWSLETTER 3

Machair is alive! | Return of the Great Yellow | Inishkea's getting hammered

Have you tried our machair quiz?

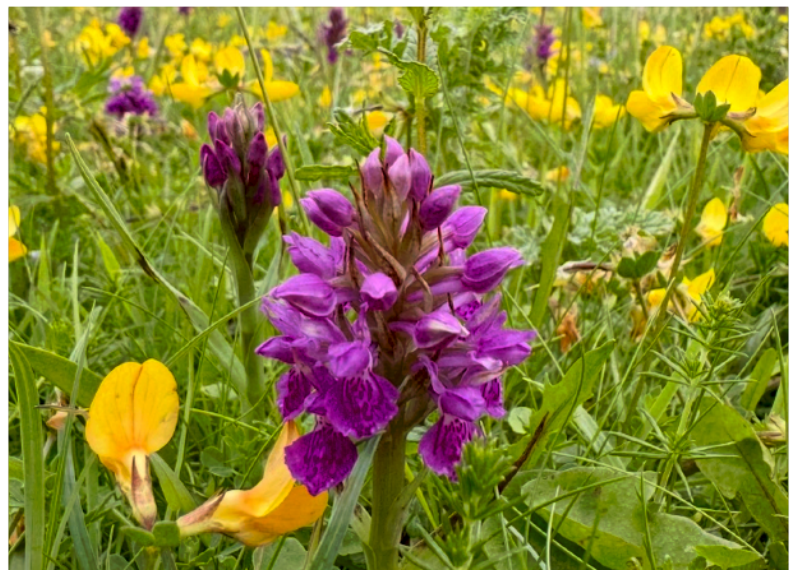
A fine way to test your knowledge on machair systems and to see what farmers have been doing to protect these unique areas, is to give our quiz a go. Broken into five sections including: what is machair, pollinators, flowers, birds and threats and management. It will take you on a colourful journey through machair, what it is, what life it supports and what farmers have been doing through the LOM program to maintain and sometimes restore these special places. Each section should take no more than about ten minutes.

Scan the QR code below or click on [this link](#) to give it a go!



Machair is alive!

Above, as you wander, lapwings, skylarks and pipits join many other species, calling out their presence and your's. Below, the most colourful carpet of wildflower diversity to be found on any habitat system in Ireland. Where to stand without trampling another incredible flower is the biggest issue. All around, adding to the chorus from the birds is the humming of bees. So many species, benefiting from the beautiful bonanza, seeking pollen for their young and sweet nectar for themselves. Zooming past, below and above are the lepidopteran's, the myriad of brightly coloured moths and butterflies. LIFE on Machair (LOM) has had a wonderful summer.



The months of managed grazing, use of electric collars on cattle, continuous checking of the sward height, species mix and site water levels, guided by our team, have all paid off. And the results are spectacular. Have a look at the map on the last page of this newsletter to find your nearest machair system participating in the project, remembering machair is unique to Ireland and Scotland alone. Machair systems deliver such rich biodiversity because of the way that they are farmed, they are possibly the ultimate case of demonstrating that without farmers, we would not have as much nature. Can you think of a better example?

Great Yellow



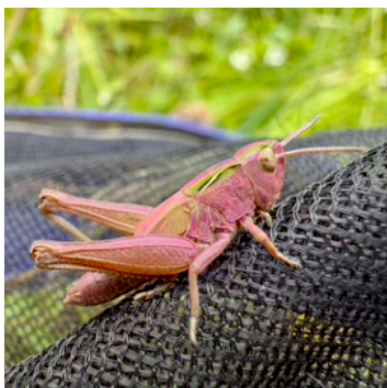
Great yellow bumblebee on sea holly.

© Gemma O'Connor

One of our largest bumblebees and well adapted to machair systems. They emerge later than most, in perfect time to benefit from the myriad of flower species that thrive on healthy machair. Suffering an 80% decrease in recent decades, these bright yellow bees rely very closely on the farmers that manage these habitats. Mostly yellow, with a black band across the thorax, they are quite distinctive. They could be mixed up with the large carder bee (pictured below) which is also endangered and also thrives on our machair systems.



Large Carder bumblebee



Great Yellow Bumblebee returns

A bee that once thrived at a number of sites across the country, the great yellow bumblebee, is now our rarest of them all. A population exists only on the Mullet peninsula, all others have gone extinct. You have to travel to machair in Scotland before you will find it again. However, thanks to farmers working with Belmullet Tidy Towns and a 1 year EIP project, awareness on the Mullet peninsula is up, flower species diversity is increasing and the bee population is being monitored. [Check out their excellent website here.](#)

The work started by the EIP (European Innovation Partnership) is continuing through our program, LOM. We are very lucky to have the expertise of both Karina Dingerkus and Gemma O'Connor joining our team at all of our machair sites. They have been conducting two pollinator surveys at each site, giving us insights and expertise that, alongside our project officers surveys, helps to build our overall picture.



The survey team in action, watched by freshly emerged 6-spot burnet moths

Transects are selected and walked across many sections of each site. Bumblebee species, butterflies and common dune moths amongst others are all recorded, as are the plants they forage on. While the great yellow bumblebee might be confined to the Mullet peninsula, many other species thrive at our sites, from south Connemara to north Donegal. Crucially, the essential forage plant, red clover is present at all the sites. If collectively, we can restore these sites through farmer management, we can provide stepping stones for our rarest bumblebee to spread its wings across them once more.



Lacewings



The delicate beauty of an adult lacewing hides their ferocity. As larvae, they are ferocious hunters. Enemy of the aphid, or green fly, these mighty insects play their part as pest control. Aphid's target plants, deriving sustenance from their sap. Lacewings act like a secret army for the plants, eating hundreds of small bugs before turning into the beautiful adult pictured here.

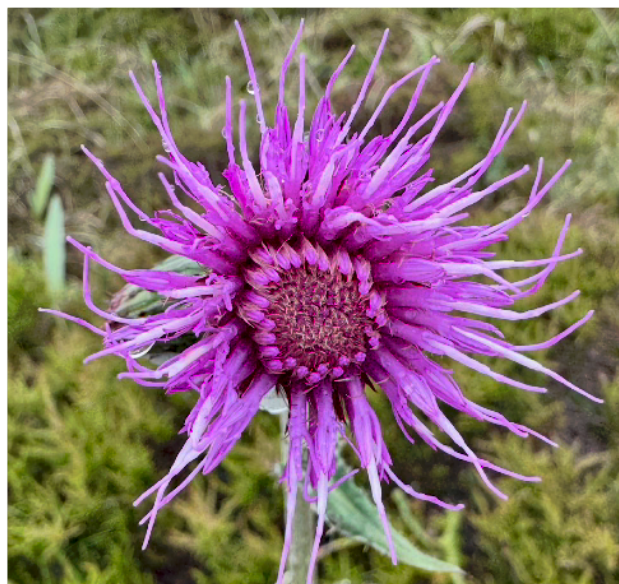


Ildáite ~ Multi-coloured

Once the grazing animals have done their work preparing the sward in winter, they are removed in time for bird breeding season, allowing for rich plant diversity. Where sensitive grazing management has prepared the land, flower diversity thrives, which is one of the most wonderful aspects of machair systems. Not all sites are equal of course, so our project officers and ecologists have been working with farmers, testing different grazing regimes, depending on the type and number of animals and the subtleties of a particular site. The results have been spectacular!



Starting with spectacular displays of yellow early in the summer, this quickly evolves into a myriad of colour, pulling the eye every direction. Like so much of Ireland's wonderful nature, small is beautiful. It can be hard to capture the beauty and variety of colour and form without being close up, so be prepared to crouch and explore, next time you wander machair.



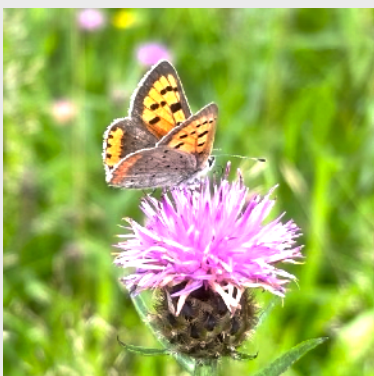


Grayling's and small coppers



Graylings are one of our not-so-common butterflies that specialise in coastal habitats. Facing the sun, so no shadow is cast, these large butterflies are masters of disguise. One they rest on rock, their preferred perch, they virtually disappear.

Small copper butterflies peak in August but can found throughout the summer on machair. They have a stunning, fast and vigorous courtship flight that's a memorable sight, if you wander the machair.



Where sensitive grazing management has prepared the land, flower diversity thrives and along comes the pollinator. One of the first that catch the eye on machair during summer is the stunning and abundant 6-spotted burnet moth. See what they're like at the link here. A wonderful species to introduce pollinators to newcomers, these dazzling, slow moving moths elicit gasps and wonder from the passer by. The caterpillar's, pictured below, rely on bird's-foot



trefoil which thrives on healthy machair. They pupate on grass stalks, often marram, before transforming into their metallic black and red. Many bee species rely on this abundance of flowers, not just our bumblebees. The stunning northern Colletes bee is still hanging on at some of the sites, despite big declines in recent decades. There is no reason to believe that it won't continue to do so if we choose to continue supporting landowners.



The sand-dune common blues

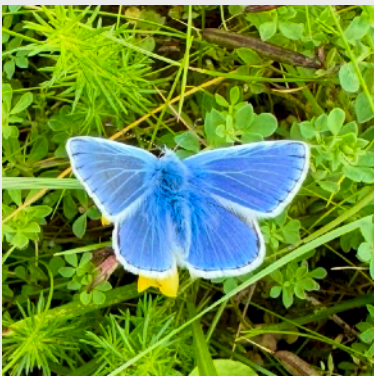
The gorgeous, tough, yet small common blue butterfly is a grassland specialist. Loving well drained soils, machair habitat suits their needs very well. Their main food plant is bird's-foot trefoil, of which the machair has plenty. Out of our three blue species of butterfly, the common blue is the only one with orange markings.



Surprisingly hard to spot when resting, despite their multi-coloured underwing, they jump out when they open their wings and flash a spark of blue.

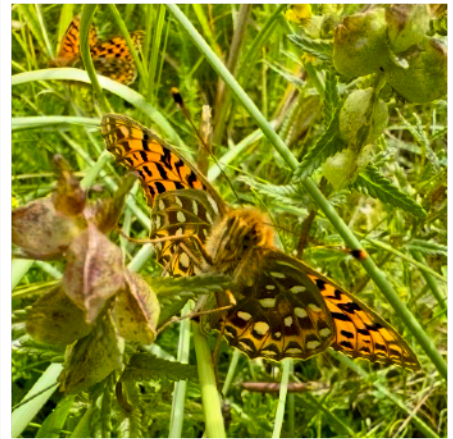


Female common blue



Male common blue

Butterflies are so often the stars of the machair pollinator show. This summer has seen many wonderful species appear at our sites. Marsh and dark green fritillaries, graylings, small heaths, small and common blues to name but a few, all thrive, thanks to the right plants in the right place. As summer rolls on,



second waves of peacocks, red admirals and small tortoiseshells all prepare for their over-wintering challenges by feasting on the machair colour. Meadow browns, ringlets, wall browns all appear at the same time each year, large and small whites along with their green veined impersonators can also be found. Every now and then, especially as the season turns, the incredible third generation of painted lady butterflies arrive, flying fast and confidently, looking for flashes of purple, of which there are many. Incredible to think of the link between the Atlas mountains in Morocco where their journey began last winter, with the last northbound generation ending up on machair in Ireland. Much like the Colletes bee mentioned earlier, there is no reason to think they cannot continue to seek refuge, as long as we choose to restore and protect these habitats.



Grass of parnassus



Not a grass but a beautiful flower, attention to detail reaps rewards when examining this gem. With five bright white petals it lures in the insect, offering guiding lines to the reward of pollen and nectar.

A flower that has inspired poets and artists alike, it also was used in the past as digestive remedy. Late summer strolls across machair systems that are well managed will deliver this treat for the wanderer.

Forget-me-not

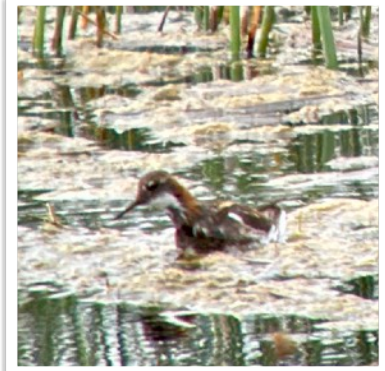
In the damp streams and dune slacks of machair, the tiny treat that is water forget-me-not shines out like small blue jewels. Fast spreading if the conditions are right and with seeds that are loved by passing finches, this tenacious survivor has a neat trick.

It communicates with pollinating insects. The bright yellow central ring indicates it is in need of pollination and has a reward of nectar to offer, this ring turns white once enough visits have happened and fertilisation has begun.

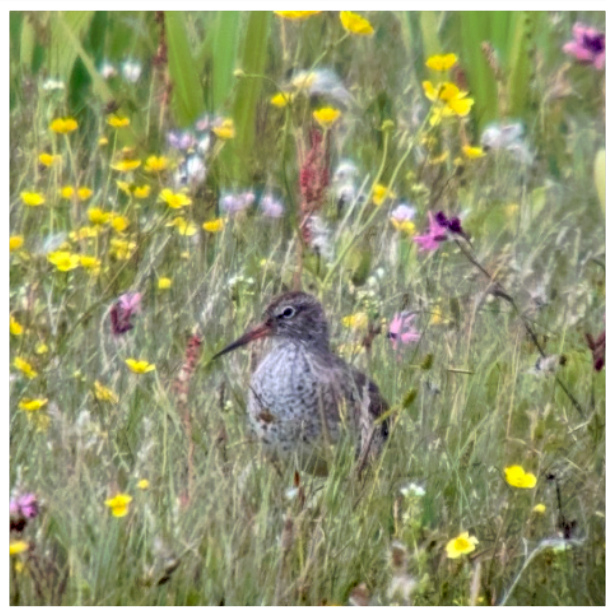


Ever watchful redshanks

One of the many spectacular results the program is seeing, is the return of ground breeding waders. LOM is a very broad church, learning how to manage so many habitats within the machair system, from sea to mountain



heath is a massive task. Luckily, we are not alone. Our friends in Birdwatch Ireland and the Breeding Waders EIP know a thing or two about collaboration and of course, ground nesting birds. With help from Breeding Waders, we have been able to put in place many temporary predator-proof fences. Check out the countries largest here. Each one is strategically placed by the LOM ecologists and farmers, leaning into the latter's knowledge of where birds still, or used to breed. Meanwhile, the stunning Annagh Marsh bird reserve, looked after by Birdwatch Ireland, is an example of what long terms projects can yield on machair. Currently supported by LOM, under the watchful eye of Birdwatch staff, landowners farm the area in a way that allows birds to thrive. They have managed to lure back the stunning Red-necked phalarope pictured above, 2 pairs breeding there this year. Lapwings, Dunlin, Snipe, Oystercatchers and the ever watchful Redshanks all breed across the machair sites, thanks to this collaboration between agencies and of course, farmers. No one group can restore these complex sites alone, as long as we pool resources and knowledge, the machair has a future.



Watch our redshanks keeping a close eye on proceedings on our Instagram page.

Bog cotton at the edge of machair

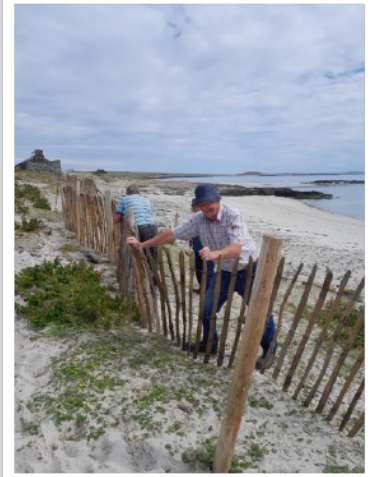


Machair habitats are prisoners of gilded walls, with fixed dunes by the sea on one side and hills of heath and bog habitat on the other. As the explorer strolls with their back to the sea, they will find wet Machair habitats where the sand is being replaced with a more peaty substrate. From here, upwards one walks, to habitat that is heath, or even blanket bog. It is in this part of the machair system, as it transitions to heath, that bog cotton is often found. A very beautiful grass species, its seed heads wave in the wind before being released, the fluff carrying tiny seeds huge distances on the Atlantic air. In times past, these seed heads were collected and used for packing comfort.

Farmers on our site on Achill island told the project officer with delight, that thanks to their positive actions, bog cotton has appeared in the Valley after an absence numbering many years. To see the emotions these restorations trigger gives us an ever-strengthened belief in this wonderful program.



Climate change has been a hot topic across the country this year with historic rainfall and historic droughts affecting much of Ireland. The increasing effects of climate change touches every habitat, every community and all of our nature, not just what makes the news reels. The Inishkea islands are no exception. A dangerous combination of over-grazing coupled with increasing power in storms has resulted in erosion on the Inishkea islands that now threatens the historic village.



Luckily, farmers and landowners participating in LOM were on hand, ready to work collectively to secure the ancient village. Rolls of chestnut fencing and bags of hammers were transported out on a fine day in July. With a swift efficiency, they set to the task. Fencing was placed in front of the houses, large stakes hammered in to secure it. The fence takes the power from the wind, causing blown sand to drop and build. Wonderful biodiversity does the rest. The fenced area, free from grazing animals, will regenerate with the amazing salt tolerant, sand binding plants that colonise very quickly. Beautiful yet tough, plants such as sandwort and orache species will stretch their long roots down in search of water, resulting in an organic net of roots that hold the sand together. Ultimately, as long as grazing animals are kept from the small beach front, these hardy, succulent-leaved plants will act as protection into the future from our Atlantic storms.

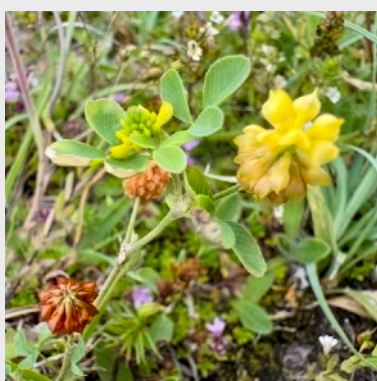


Rare and not so common plants

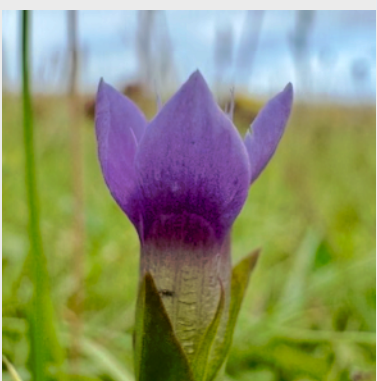
Up to 60 different species of wildflower can compete for resources if Machair is managed in a sympathetic way for nature. A huge range of orchids appear through the summer and some very habitat specific plants such as field gentian pop up as the summer rolls on. Hop trefoil is there to be spotted by the hungry eye, as is the very delicate looking knotted pearlwort. These are just some of the gems amongst so much beauty.



Knotted pearlwort



Hop trefoil



Field gentian

Teacher training takes to the machair

The key to understanding and ultimately stewardship is of course, education. If we don't know about a habitat, species or system such as machair, its very hard to care about its preservation and conservation. Our education program has been delivered from as far as south Mayo to north Donegal, allowing primary school students, often with members of families that are participating in LOM, to learn how machair systems function.



Teachers exploring the Machair system at Lurgabrack

However, we wanted to increase the reach. And what better way than educating the educators. A department of education approved teacher training course was taking place in a rural school in north Donegal. We invited them out to explore the machair. Starting with a specially crafted, class-based presentation, they got to explore what makes up sand, the layers of a machair system, what plants and animals it supports and how it is managed by farmers, both here and just north, in Scotland. This was followed by a field trip, where our project officers met with the teachers and guided them through the stunning Lurgabrack nature reserve. Sweeping with nets for bees, chasing butterflies, identifying plants and hiking to a view point to see the whole machair system was all on the agenda. These wonderful, enthusiastic teachers are looking forward to using our new education resources (more about these in the next newsletter) and spreading the word about our unique and favourite coastal habitats.

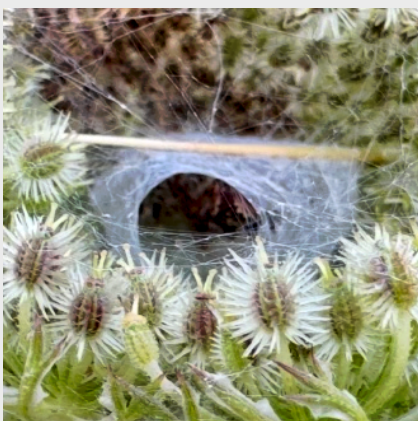
Hopping with frog orchids

An easy one to miss as its flowers blend with the grasses below, beautiful frog orchids reach skywards to attract passing pollinators.



Danger lurks in a flower

Inside this emerging wild carrot flower a funnel web spider has set up its trap. Any poor, unsuspecting insect looking for some carrot nourishment or maybe just trying to shelter from the rain will end up as a tasty meal for this hunter of the machair. Makes one appreciate our size in the mix of it all!



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Project action areas

Have a look and see if any of the project areas are near you. We are looking forward to autumn, the air filling with the sound of returning swans and geese, whimbrels and other waders passing through and the last splashes of purple as ling heather's, knapweed's and devil's bit scabious flowers compete.



Don't forget to keep up with what's happening on LIFE on Machair by following us on [Instagram](#) and [Facebook](#). Our [website linked here to previous newsletters](#) will also give you more in-depth information on machair systems and so much more.



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LIFE on Machair

