

GRATTAN BEACH SALTHILL BIODIVERSITY SURVEY

May & June 2026



ABOUT

This project inspired by Wetlands For Life

What began as a small wetland bird survey for the Wetlands for Life campaign has evolved into a much broader effort to document every corner of Grattan Beach, with the aim of gaining a deeper understanding of its biodiversity and the threats it faces. Through this study we are seeing how each species relies on unique relationships, a very fragile ecosystem, and hopefully this large biodiversity survey will help inform how we can protect this very sensitive area for generations.

All species have been recorded to the National Biodiversity Data Centre.

Please keep our beaches litter free

#WetlandsForLife
#ExploreYourShore



Read the blog
www.nationalaquarium.ie

Grattan Beach Salthill Biodiversity Survey
Inspired by #WetlandsForLife Campaign



Explore & Discover The Wonderful Biodiversity of Grattan Beach, SALTHILL

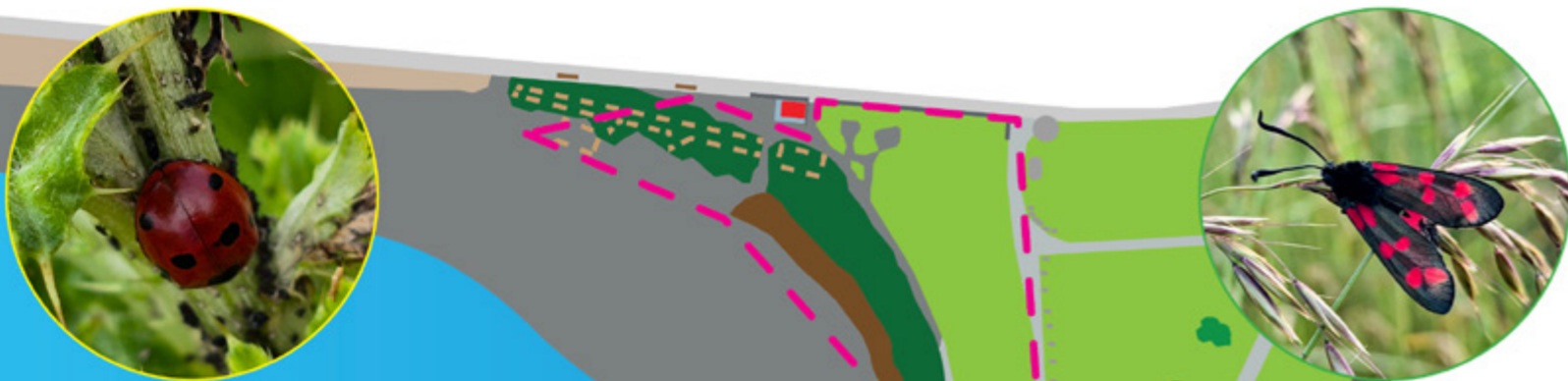
Survey Highlights

Over 50 species recorded

Survey area: 5,960 m²

Survey distance: 400 metres

The Burnet Moth Story



With so much biodiversity to record, what would be a focus?

One of the most fascinating stories unfolding on Grattan Beach is that of the Six-spot Burnet Moth (*Zygaena filipendulae*), known in Irish as Buirnéad.

Over May & June, Galway Atlantaquaria has documented its entire life cycle on the beach, recording the caterpillar, cocoon, and adult moth stages.

Why are they so special?

Seeing a Six-spot Burnet moth is primarily an indicator of high-quality, species-rich, and unimproved grassland habitats. Because of their specific ecological needs and daytime flying habits, their presence points to several positive environmental factors.

What is the Six-spot Burnet Moth?

The Six-spot Burnet is a medium-sized, day-flying moth that is commonly found in grasslands, woodland clearings, and coastal sand dunes. Unlike most moths, it is active during the day and is instantly recognisable by its metallic blue-black wings marked with six vivid red spots.

Adult moths feed on the nectar of flowers such as knapweed, thistles, scabious, clovers, and bird's-foot trefoil. Females lay their eggs on the plants that will later provide food for their caterpillars.

After hatching, the caterpillars feed throughout the summer and typically overwinter at least once before emerging the following spring. They then pupate inside a papery cocoon attached to grass stems, eventually emerging as adult moths.

Truly the story of the Six-spot Burnet is interesting, engaging and inspiring.

It tells the story of life, preparation, and ultimately why healthy ecosystems free from litter are needed for biodiversity to thrive.





xuviae (cast-off pupal exoskeletons)

The abandoned exuviae (shed exoskeleton) of a six-spot burnet moth is composed primarily of chitin bound with proteins. Chitin is a tough, nitrogen-containing polysaccharide (sugar polymer) that provides flexible, protective structural support to the insect's body

Pupal (Cocoon) Stage
In late spring or early summer, the caterpillar climbs a grass stem and spins a papery, spindle-shaped cocoon. Inside, it transforms into a moth, emerging in about 3 to 4 weeks.

Six-spot Burnet Moth
(*Zygaena filipendulae*)
Buirméad



What is Pollinia?

When a pollinator (like a bee or moth) visits the flower, the sticky anchor pad glues itself securely to the insect's head, legs, or mouthparts.

Because the pollen is packaged together, the insect carries the entire payload to the next flower, ensuring a massive number of ovules are fertilized at once.

Burnet moths are well-known to act as primary pollinators for several specific types of native orchids, most notably: Pyramidal Orchid (*Anacamptis pyramidalis*)

Unlike standard, powdery pollen that brushes off onto a pollinator's entire body, many orchids produce pollinia (singular: pollinium).



These are cohesive, waxy packets of pollen.

When a burnet moth inserts its proboscis into the flower, a sticky base on the pollinium adheres firmly to the moth's "tongue".

As the moth flies to a different orchid to feed, it physically transports these packets and transfers them to the stigma of the next plant, enabling cross-pollination.

Pollinia can stick to a burnet moth's proboscis (tongue) for the entire duration of the moth's adult lifespan, which typically lasts 2 to 4 weeks.

Once the sticky base of the pollinium attaches to the moth's coiled tongue, the glue solidifies and remains permanently fixed until it is rubbed off onto another flower's stigma.

Six-spot Burnet Moth - Lifecycle

Latin Name: *Zygaena filipendulae*

Irish: Buirnéad

The six-spot burnet moth undergoes complete metamorphosis, transforming from an egg into a plump caterpillar, then into a papery cocoon, and finally emerging as a day-flying adult moth with black-and-red wings

Life Cycle Stages

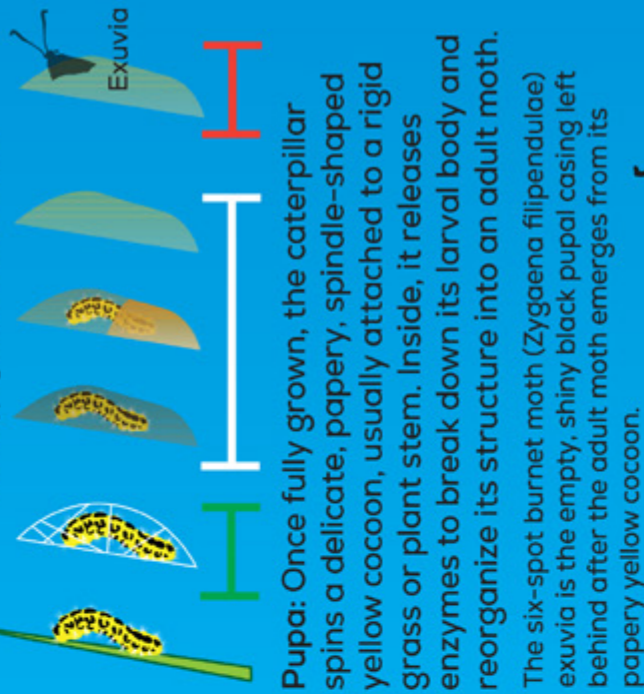
Egg: The female lays eggs on the host plant, usually on or near the leaves the caterpillar will eat.

Larva: The egg hatches into a caterpillar, which feeds and grows through several molts; in burnet moths, this is the main feeding stage.

Pupa: When fully grown, the caterpillar spins a cocoon and transforms inside it.

Adult: The adult moth emerges from the cocoon, dries its wings, and then flies to feed, mate, and lay eggs

After wrapping in silk the cocoon hardens.



Pupa: Once fully grown, the caterpillar spins a delicate, papery, spindle-shaped yellow cocoon, usually attached to a rigid grass or plant stem. Inside, it releases enzymes to break down its larval body and reorganize its structure into an adult moth.

The six-spot burnet moth (*Zygaena filipendulae*) exuvia is the empty, shiny black pupal casing left behind after the adult moth emerges from its papery yellow cocoon.



Egg → Caterpillar (larva) → Cocoon/Pupa → Adult moth



Birdsfoot Trefoil

Lotus corniculatus

Crobh éin

The preferred foodplant of this species.



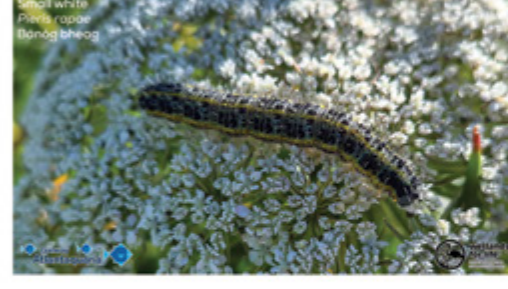
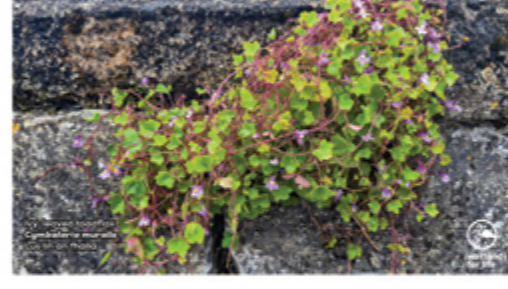
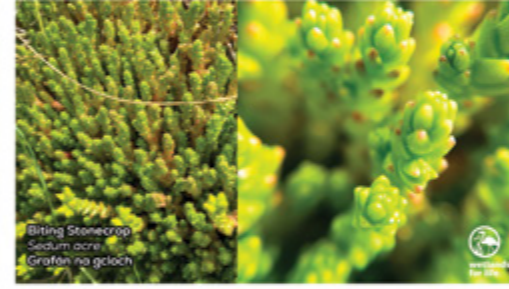
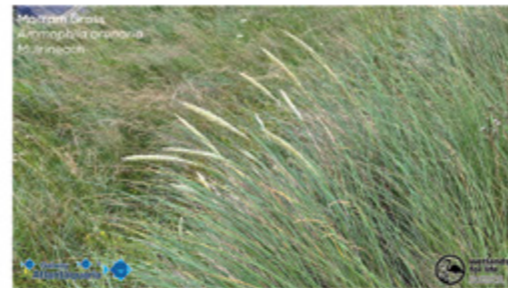
wetlands
for life



Galway
Atlantiquaria



After following the life of the Burnet Moth we also tried to capture the rest of the biodiversity that can be discovered on Grattan Beach, Salthill. Here is what we found.

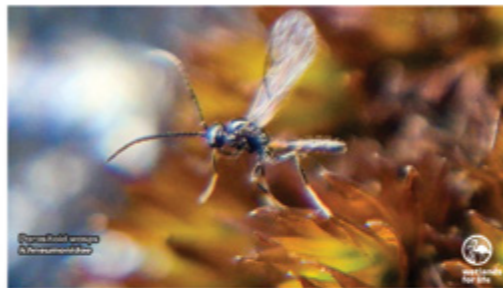




Garden Snail
Cornu aspersum
Seitide gearraí



Common red soldier beetle
Blattellina fulva
Moltán Rua



Common flycatcher
Empidonax hammondi



Worm
Lumbricus terrestris



European Goldfinch
Carduelis carduelis
Iosa-chaille



House Sparrow
Passer domesticus
Gealbhán trinn



Common Frog Hopper
Philaenus spumarius
Mial seite cúbicne



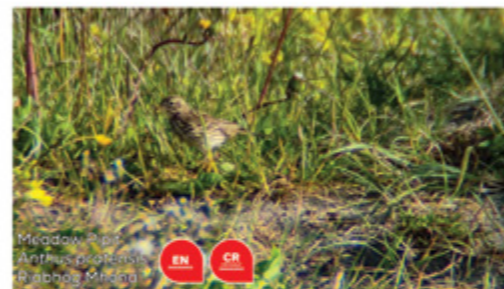
Maidenhair Fern
Adiantum trichomanes



White-lipped Snail
Cypaea hibernica
Fóochá Sheibid



Wild Carrot
Daucus serotinus
Mheathúchán



Meadow Pipit
Anthus pratensis
Rábhóg Mheán



European Nuthatch
Sitta europaea
Druid



Common stiletto fly
Thaeseus nobilitata
Cúineag shíleá



Mottled Thistle Fly
Xyphosa marmorata
An Chuiléag Fheochadán Bhreac



Wild Carrot
Daucus serotinus
Mheathúchán



Yellow meadow ant
Lasius flavus
Seangán buí féir

Oystercatcher | Roilleach
Haematopus ostralegus

wetlands for life Galway Atlantaquaria EAZA

RED LIST CONSERVATION STATUS
HIGH LISTED

CAN YOU HELP?

As we are supporting the wetlands for life campaign, we are trying to understand your awareness of what a wetland is?

Can you take this short survey?

Just scan the code.



wetlands for life

EAZA CONSERVATION CAMPAIGN 2026 - 2027

wetlands survey

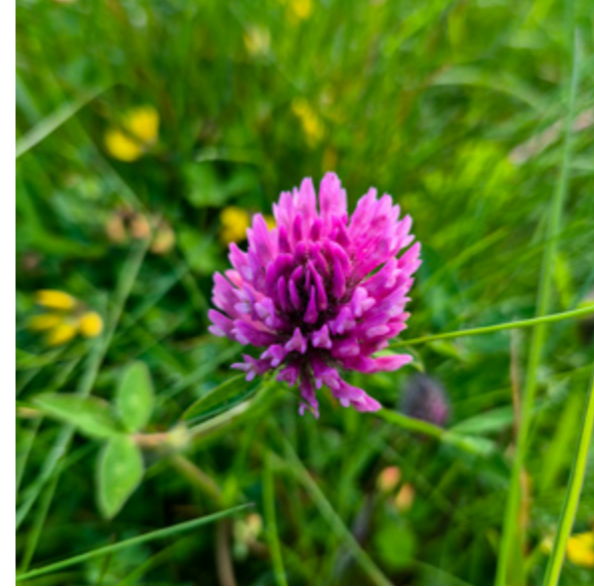
Galway Atlantaquaria is seeking your help in planning our wetlands for life program. Can you take or survey?

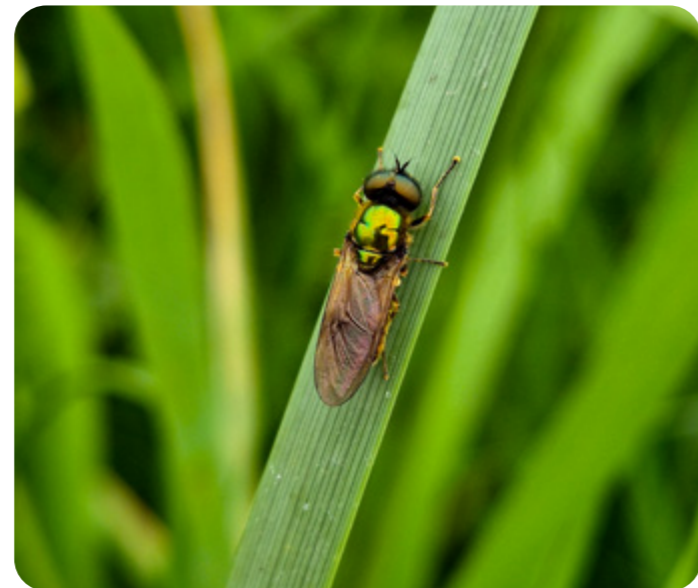
Scan the QR Code



Thank you for completing our survey.

**A Montage of life, all discovered on Grattan Beach,
SALTHILL**





Grattan Beach SALTHILL- Biodiveristy Key Flora

Sand Dune Species			
Species	What it is	Preferred Soil	Ecological Role
Marram Grass (<i>Ammophila arenaria</i>)	Tall dune-building grass	Dry, nutrient-poor sand	Traps windblown sand and stabilises dunes; key dune-forming species.
Couch Grass (<i>Elytrigia juncea</i>)	Coastal grass	Mobile foredune sands	Pioneer species that helps bind loose sand before marram establishes.
Sea Rocket (<i>Cakile maritima</i>)	Annual coastal plant	Freshly deposited sandy shores	Colonises upper beaches and embryo dunes, helping start dune succession.
Sea Radish (<i>Raphanus raphanistrum</i> subsp. <i>maritimus</i>)	Coastal flowering plant	Sandy, salty soils	Provides nectar and food for insects; tolerates salt spray.
Sea Beet (<i>Beta vulgaris</i> subsp. <i>maritima</i>)	Wild ancestor of beetroot	Sandy or shingle coasts	Stabilises soils and provides food for wildlife.
Sea Mayweed (<i>Matricaria maritima</i>)	Coastal daisy-like flower	Sandy, saline soils	Pollinator resource and salt-tolerant dune species.
Spear-leaved Orache (<i>Atriplex prostrata</i>)	Salt-tolerant coastal plant	Coastal sands and mud	Pioneer species; accumulates nutrients in poor soils.
Orache (<i>Atriplex</i> spp.)	Salt-tolerant coastal plant	Sandy and saline soils	Early coloniser of disturbed coastal ground.
Pyramidal Orchid (<i>Anacamptis pyramidalis</i>)	Native orchid	Well-drained calcareous dune grassland	Indicator of species-rich, healthy dune systems.
Birdsfoot Trefoil (<i>Lotus corniculatus</i>)	Low-growing legume - Nitrogen Fixation: Like all legumes, they have a symbiotic relationship with soil bacteria called Rhizobium. These bacteria extract nitrogen from the air and convert it into a usable form for plants, acting as a natural fertilizer.	Dry, sandy grassland	Fixes nitrogen and supports pollinators.
Wild Carrot (<i>Daucus carota</i>)	Native biennial wildflower/a flowering plant indigenous to your local ecosystem that completes its entire life cycle in two years.	Dry sandy soils	Excellent nectar source for insects.
Ribwort Plantain (<i>Plantago lanceolata</i>)	Common grassland herb	Free-draining sandy soils	Food plant for butterflies and improves biodiversity.
Rough Hawkbit (<i>Leontodon hispidus</i>)	Dandelion-like flower	Dry grasslands and dunes	Important nectar source for pollinators.
Yarrow (<i>Achillea millefolium</i>)	Perennial wildflower/ a plant that lives for more than two years and returns year after year from the same root system.	Well-drained sandy soils	Attracts pollinators and improves soil biodiversity.
Lesser Clover (<i>Trifolium dubium</i>)	Small clover	Sandy grassland	Nitrogen-fixing species.
White Clover (<i>Trifolium repens</i>)	Creeping clover	Sandy to loamy soils	Nitrogen fixer and pollinator plant.
Red Clover (<i>Trifolium pratense</i>)	Tall clover	Well-drained grassland	Improves soil fertility through nitrogen fixation.
Flowers & Native Wildflowers			
Species	What it is	Preferred Soil	Ecological Role
Bird Vetch (<i>Vicia cracca</i>)	Climbing legume	Grassland, light soils	Nitrogen fixer and valuable pollinator plant.
Common Dandelion (<i>Taraxacum officinale</i>)	Perennial wildflower	Most soils	Early nectar source for bees and other insects.
Meadow Buttercup (<i>Ranunculus acris</i>)	Native meadow flower	Moist grassland soils	Supports pollinators.
Herb Robert (<i>Geranium robertianum</i>)	Woodland and hedgerow flower	Light, often calcareous soils	Food source for insects and ground cover.
Common Hogweed (<i>Heracleum sphondylium</i>)	Large umbellifer/ a plant in the Apiaceae (formerly Umbelliferae) family that grows significantly tall and produces flat or umbrella-shaped clusters of tiny flowers, called umbels.	Fertile soils	Excellent nectar source attracting many insect species.
Weeds / Ruderal & Disturbance Species			
Species	What it is	Preferred Soil	Ecological Role
Bittersweet (<i>Solanum dulcamara</i>)	Scrambling perennial	Damp, nutrient-rich soils	Provides berries for birds but can spread aggressively.
Common Ragwort (<i>Jacobaea vulgaris</i>)	Native but often considered a weed	Disturbed, poor soils	Important pollinator plant; toxic to livestock.
Creeping Bent Grass (<i>Agrostis stolonifera</i>)	Spreading grass	Damp soils	Stabilises soil but can dominate habitats.
Creeping Buttercup (<i>Ranunculus repens</i>)	Spreading buttercup	Moist soils	Colonises disturbed ground rapidly.
Creeping Thistle (<i>Cirsium arvense</i>)	Perennial thistle	Most soils	Valuable for insects but invasive in grassland.
Curled Dock (<i>Rumex crispus</i>)	Robust perennial	Deep roots break compacted ground; often unwanted.	Deep roots break compacted ground; often unwanted.
Sorrel Dock (<i>Rumex</i> spp.)	Dock species	Fertile soils	Pioneer of disturbed ground.
Horse-radish (<i>Armoracia rusticana</i>)	Escaped cultivated herb	Moist fertile soils	Persistent and difficult to remove.
Ivy-leaved Toadflax (<i>Cymbalaria muralis</i>)	Wall plant	Crevices and disturbed ground	Colonises masonry and bare ground.
False Oat-Grass (<i>Arrhenatherum elatius</i>)	Tall coarse grass	Nutrient-rich soils	Can outcompete finer dune grassland species.
Ground Elder (<i>Aegopodium podagraria</i>)	Aggressive perennial	Moist fertile soils	Spreads rapidly through rhizomes.
Yorkshire Fog (<i>Holcus lanatus</i>)	Soft grass	Moist, fertile soils	Common coloniser; can dominate neglected grassland.

Grattan Beach SALTHILL- Biodiveristy Key Insects

Common Name	Scientific Name	Irish Name	Interesting Story
7-spot Ladybird	<i>Coccinella septempunctata</i>	Bóin Dé sheachtbhallach	One of Ireland's most familiar ladybirds, this beetle can consume thousands of aphids during its lifetime, making it a gardener's ally.
Aphid sp.	<i>Uroleucon sonchi</i>	—	In the wild, populations are kept in check by natural predators including ladybird larvae, hoverfly larvae, and parasitic wasps such as <i>Aphidius sonchi</i> , which lays its eggs inside these aphids.
Black bean aphid	<i>Aphis fabae</i>	Míol pónaire	Commonly called "blackfly," these sap-sucking insects are notorious garden pests with explosive colony growth and a fascinating partnership with ants.
Black garden ant	<i>Lasius niger</i>	Seangán dubh	One of the most common and widespread ant species in Europe and much of the world. Harmless to humans and highly beneficial to the environment, they live in large underground colonies of up to 15,000 workers led by a single egg-laying queen.
Broad Centurion	<i>Chloromyia formosa</i>	—	One of Britain's and Ireland's most striking flies, with a brilliant metallic green body. Completely harmless to humans.
Brown-lipped Snail	<i>Cepaea nemoralis</i>	Séilide donniopach	Famous for its incredible shell colour variation, making it a classic species for studying evolution and natural selection.
Buff-tailed Bumblebee	<i>Bombus terrestris</i>	Bumbóg Earr-Dhonnbhui	Among the first bumblebees to emerge in spring. Queens search for nesting sites while flowers are still scarce.
Chamomile Shark Moth	<i>Cucullia chamomillae</i>	Bóib na gCamómaile	The caterpillar feeds on chamomile. Despite its name, it's a moth—the "shark" refers to the shape of the adult moth.
Common Banded Hoverfly	<i>Syrphus ribesii</i>	Beach ghabhair bhándach choiteann	Its yellow-and-black stripes mimic stinging insects, but it is completely harmless to people.
Common Blue butterfly	<i>Polyommatus icarus</i>	Gormán coiteann	The brilliant blue male is a familiar summer sight. Caterpillars are often tended by ants in exchange for sweet secretions.
Common Frog Hopper	<i>Philaenus spumarius</i>	Míol seile cuaiche	Creates the familiar "cuckoo spit" foam. Adults can leap up to 70 cm into the air.
Common red soldier beetle	<i>Rhagonycha fulva</i>	Moltán Rua	Despite its nickname "bloodsucker," it is harmless and helps control aphids and other garden pests.
Common stiletto fly	<i>Thereva nobilitata</i>	Culleog shileo	Slender, predatory insects named for their sharp, tapering abdomens. Adults act as beneficial pollinators and are highly skilled, active hunters that dart through foliage.
Garden Snail	<i>Cornu aspersum</i>	Séilide garraí	Travels using thousands of tiny muscular contractions on its foot and can cover surprisingly long distances.
Honey Bee	<i>Apis mellifera</i>	Beach mheala	The world's most important managed pollinator. A worker may visit thousands of flowers in a single day.
Large White butterfly	<i>Pieris brassicae</i>	Bánóg mhór	Stores bitter mustard oils from its food plants, making it distasteful to predators.
Marmalade hoverfly	<i>Episyrphus balteatus</i>	Beach ghabhair mharmaláide	A major pollinator whose larvae consume hundreds of aphids. Many migrate across Europe and sometimes reach Ireland in huge numbers.
Milky Slug	<i>Deroceras reticulatum</i>	Drúchtin liath	Named for the milky mucus it produces when disturbed. Also helps recycle decaying plant matter.
Mottled Thistle Fly	<i>Xyphosia miliaria</i>	An Chulleóg Fheochadáin Bhreac	Relies entirely on various thistle species for food, shelter, and reproduction.
Parasitoid Wasps	Family Ichneumonidae	—	Their larvae develop by feeding on insect hosts, making these wasps important natural controllers of pest populations.
Pointed Snail	<i>Cochlicella acuta</i>	Séilide biorach	In hot weather, groups climb vegetation to avoid the heat of the ground.
Potato Capsid	<i>Closterotomus norvegicus</i>	Míol an phráta	Found in meadows and hedgerows, feeding on nettles, clovers, composites, and many other plants.
Red Velvet Mite	<i>Trombidium holosericeum</i>	—	Covered in brilliant scarlet hairs, it emerges after rain and preys on tiny invertebrates and their eggs.
Red Velvet Mite / Sidewalk Mite	<i>Balaustium murorum</i>	—	A smaller relative of the true velvet mites, often seen scurrying across sunny walls and stones.
Sawfly Larvae	—	—	Often called "false caterpillars," they feed voraciously on plants such as roses, pines, and fruit bushes.
Six-spot Burnet Moth	<i>Zygaena filipendulae</i>	Buirnéad	Stores hydrogen cyanide obtained from Bird's-foot Trefoil, making all life stages highly toxic to predators.
Small White butterfly	<i>Pieris rapae</i>	Bánóg bheag	Females "taste" leaves with their feet before laying eggs. Caterpillars store plant toxins, making them unpalatable to birds.
Spittlebug	Superfamily Cercopoidea	Míol seile cuaiche	The larger group containing froghoppers. Their nymphs produce protective foam, giving rise to the name "spittlebug."
White-legged Snake Millipede	<i>Tachypodoiulus niger</i>	—	One of Ireland's commonest millipedes, feeding on decaying vegetation in leaf litter.
White-lipped Snail	<i>Cepaea hortensis</i>	Faocha sheilide	Distinguished by its pale shell lip and highly variable shell patterns.
Yellow Dung Fly	<i>Scathophaga stercoraria</i>	Culleog an aoiligh	A bright golden predator commonly found on livestock dung, where it hunts other insects.
Yellow Meadow Ant	<i>Lasius flavus</i>	Seangán buí féir	Lives mostly underground, where it "farms" root-feeding aphids for their sugary honeydew.

Summary

This biodiversity survey was inspired by the Wetlands for Life campaign. While the project evolved along its own path, its central aim has remained the same: to engage, inspire, and educate people about the often-overlooked biodiversity that thrives where water meets land.

The knowledge and insights gained through this project are already being integrated into Galway Atlantaquaria's Clean Coasts activities, extending its impact beyond the survey itself.

As a result, we believe this iteration of Wetlands for Life remains true to its core mission of fostering a deeper appreciation and understanding of wetland biodiversity and connecting people to nature.

WETLANDS FOR LIFE CAMPAIGN MISSION

To employ the expertise, experience, reach and passion of the EAZA community and beyond to fundraise, educate, empower, and inspire action for protection, restoration and creation of wetlands with all their biodiversity

Working in collaboration with Galway City Museum we were able to deliver a fun, and engaging workshop on Grattan Beach, Salthill.



Watch the videos of life discovered on Grattan Beach, SALTHILL

This QR Code will bring you to the Aquarium YouTube Playlist.



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May & June 2026



#WetlandsForLife
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