

## Local Biodiversity Action Plan

# Strandhill

## County Sligo



Collated in consultation with Strandhill Biodiversity Group

Spring 2022

by Woodrow Sustainable Solutions Ltd.

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## Acknowledgements

Strandhill Biodiversity Group would like to thank all of their volunteers who gave up their time and took part in the different training sessions, workshops, fieldtrips, and meetings associated with the development of this plan. Under the guidance of ecologists from Woodrow Sustainable Solutions Ltd (Woodrow), and with input from other stakeholders, the suggestions of the community volunteers have been collated into this long-term plan.

Strandhill Biodiversity Group would also like to thank their supporters, including the local businesses and Sligo County Council.

The funding for this work was provided by Sligo LEADER Partnership. The development of this plan was part of a wider biodiversity programme that included delivery of workshops, training, and different biodiversity plans for communities across Co Sligo. This biodiversity programme was delivered by Woodrow who were appointed to deliver this work following their success in public tender process.

The workshops, and training materials and recordings of sessions are available to the public at <http://woodrow.ie/resources>

## **PHOTO CREDITS**

*All photographs within this report are by Woodrow Sustainable Solutions Ltd, Maria Long Strandhill or Open-Source imagery unless otherwise stated.*

*Front cover photographs taken by: Róisín NigFhloinn of Woodrow Sustainable Solutions Ltd.*







## Introduction and Local Context

The aim of this biodiversity plan is to raise awareness of biodiversity and to empower the local Strandhill community to undertake actions for the conservation and enhancement of biodiversity within their local area.

### What is Biodiversity and Ecology?

'**Biodiversity**' literally means the diversity of life in the world around us. It includes all sorts of life, from the tallest trees to the tiniest microorganisms, birds, fish, mosses, reptiles... the list is endless and there are still species that have not yet been discovered! Biodiversity also includes genetic diversity within species, such as the things that make each person unique, and the differences in the genetic makeup of animals and plants that come from different places.

**Ecology** is the study of the way that living things interact both with each other and the places in which they live (known as their habitats).

		
Male house sparrow: <i>Passer domesticus</i>	Large white butterfly: <i>Pieris brassicae</i> on Blackthorn: <i>Prunus spinosa</i>	Badger: <i>Meles brassica</i>
		
Dandelions: <i>Taraxacum</i> sp	A hoverfly: <i>Sericomyia lappona</i> on Marsh- marigold: <i>Caltha palustris</i>	Corvid nests

### **Why are Biodiversity and Ecology Important?**

All of the species in the world, no matter how small, have a specific part to play in the network of life that exists on Earth. Biodiversity has a key role in the formation of soils, availability of clean water, flood prevention, pollination of crops, natural pest control and many other vital functions. Biodiversity provides us directly with food, oxygen and medicines, and its economic value is infinite. Genetic diversity means that life on Earth is able to adapt to changes in climate, natural disasters and outbreaks of disease. Without the resources that biodiversity provides and maintains, we would not exist.

Biodiversity is not just about animals and plants - humans are an important part of biodiversity and our actions can influence other aspects of biodiversity, for better or for worse. Ecology deals with the inter-relations between organisms and the places in which they live. This includes how people interact with the species and habitats around them.

### **What is a Local Biodiversity Action Plan (LBAP)?**

A Local Biodiversity Action Plan (LBAP for short) is a document which acts as a guide in the management of your local area in the conservation, enhancement and enjoyment of local biodiversity. Conservation and enhancement of biodiversity in your local area has a wide-ranging number of benefits for local communities:

- Increased quality of life – pleasant places to walk or sit down and take a break and/or listen to beautiful birdsong.
- There is increasing evidence of the value for children of spending time in nature, and of the health benefits for all of us of spending more time enjoying the natural world.
- Pollination of flowers and crops by insects such as bees.
- Pest control e.g.: Bats eating biting midges; Ladybirds eating greenflies.
- An increased number of plants especially trees in an area will lead to cleaner air in the local environment.
- Insects, invertebrates, (e.g., worms, slugs and snails) and fungi help breakdown dead and decaying material e.g., make compost and improve soil condition and fertility.
- A healthy local environment increases the health and well-being of the local community.
- It is impossible to quantify the aesthetic value of a beautiful view across an area of natural beauty.



### **What does this Local BAP contain?**

- The Local Biodiversity Action Plan contains a written report with maps, which documents the biodiversity highlights of the local area.
- The plan describes a number of actions that can reasonably be achieved by the community within a set timeframe (i.e., 5 years). This LBAP focuses on sustainable actions within Strandhill village prioritising the built-up and urban areas.

### **Location and Setting**

Strandhill, or ‘An Leathros’<sup>1</sup> as it’s known in Irish, forms a distinctively shaped peninsula to the south-west of Sligo Town, known as part of the Coolera district (Cúil Irra which refers to ‘Western Corner’ in Irish). Killaspugbrone is situated in the north of the peninsula, South of Maguins Island and Coney Island. While, Carrowbunnaun forms the centre, with Carrowdough and Culleenamore Strand to the south. The striking hill, Knocknarea (or Cnoc na Riabh, ‘Hill of the Stripes’) can be seen in the south-east of Strandhill, and is distinctively topped by the Megalithic monument, Queen Medb’s Cairn (Meascán Méabha or ‘Maeve’s Lump’). The nature of the surrounding landscape is clearly visible in aerial imagery of the village, and offers us the opportunity to highlight main areas and features of biodiversity interest (Figure 1).

Strandhill is a lively coastal village, with the sea-side being at the heart of most activities in the area. Over the years it has become an extremely popular destination for tourists, and is particularly well known as an excellent location for water sports including surfing, kite-surfing and stand-up paddle boarding, amongst others. It is listed as a ‘Discovery Point’ along ‘The Surf Coast’ of the Wild Atlantic Way route<sup>2</sup>.

Even with its expansion of residential housing and enterprise, the town has maintained its interconnections with nature, and the semi-natural habitats that surround the village continue to maintain a rich biodiversity, including some rarities within the Irish landscape.

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<sup>1</sup> An Leathros: ‘The half-promontory’ (also occasionally referred to as Larass)

<sup>2</sup> The Wild Atlantic Way ‘The Surf Coast’. Available at: <https://www.wildatlanticway.com/explore-the-route/surf-coast>

Figure 1 – Aerial map of Strandhill



## **Strandhill Community Biodiversity Action Plan 2022-2027**

### **Actions for Biodiversity:**

This LBAP proposes a list of actions achievable through community effort in Strandhill within a timeframe of five years (2022-2027) as outlined in table 1.

The actions laid out in this plan aim to :

1. Enhance the overall biodiversity of Strandhill
2. Be achievable, sustainable and low maintenance
3. Compliment the vision for an attractive, safe and sustainable village

Table 1: Actions for Biodiversity

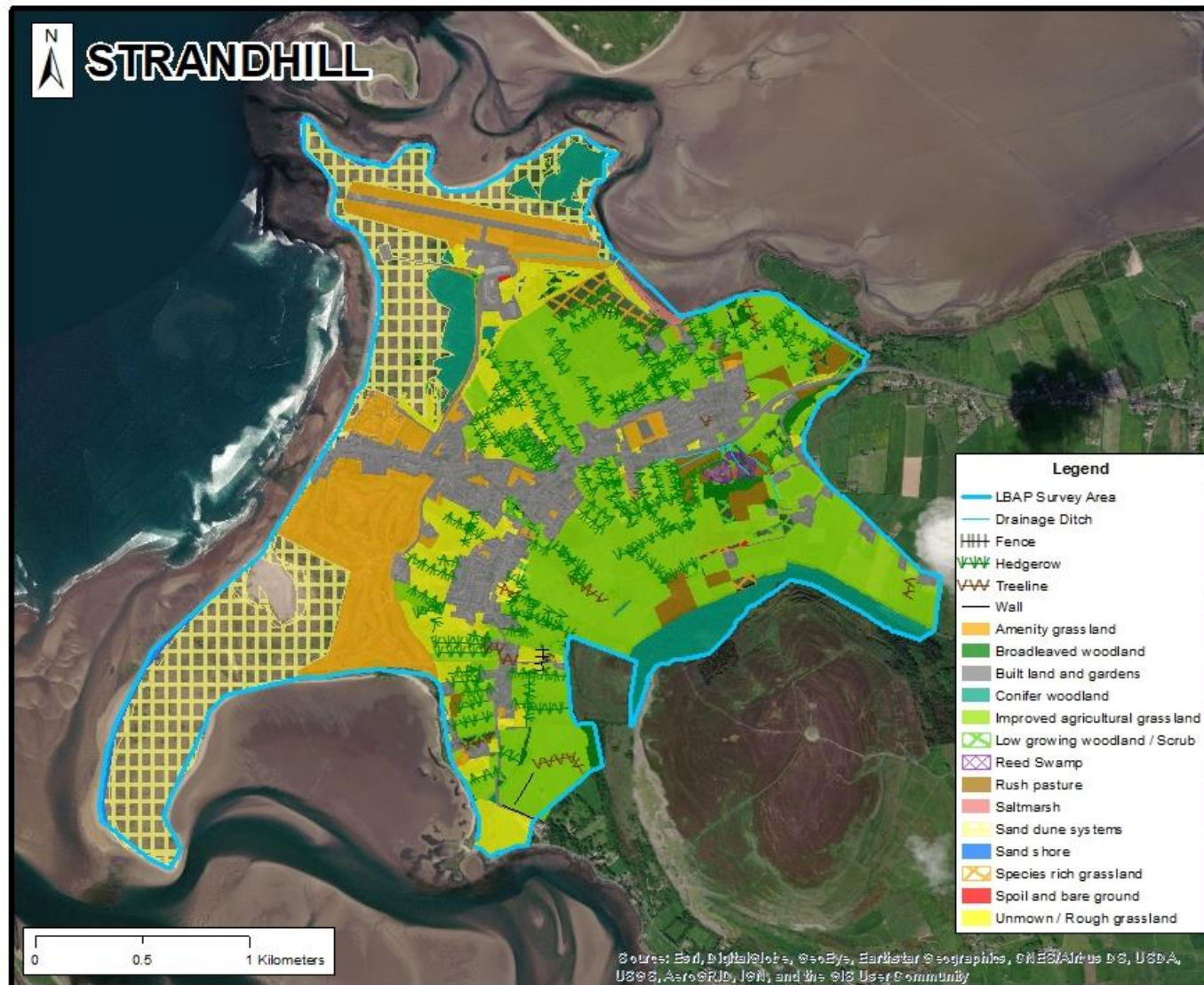
Strandhill Community Biodiversity Action Plan 2022-2027			
Action No.	Proposed Action	Proposed Location for Action	Suitable time of year
1	Plant biodiversity enhancing flowerbeds & pots	<ul style="list-style-type: none"> <li>Roundabout coming into Strandhill: <i>Create a colourful, welcoming and biodiverse focal point for the entry into Strandhill village</i></li> <li>Strandhill carpark: <i>Improving the appearance and biodiversity of the existing planters as well as considering planting new areas – a seaside herb garden, a tiered planter, hanging baskets etc</i></li> </ul>	Feb - May
2	Change the grass-mowing regime, benefit wildflowers	<ul style="list-style-type: none"> <li>Roadside Grassland/Verges: <i>Coming into the town and in areas where biodiversity friendly grassland management could be implemented. Stepped verges or a thin wildflower strip left along boundary edges –vision/road safety is a first priority.</i></li> <li>Housing estates- Amenity Grassland: <i>throughout the village as well as larger patches of improved grass with owners/management agreement</i></li> <li>Sports clubs - Amenity Grassland: <i>GAA and football clubs can improve biodiversity following the Sports Club guidance laid out in the All-Ireland Pollinator Plan; <a href="https://pollinators.ie/sports-clubs/">https://pollinators.ie/sports-clubs/</a></i></li> </ul>	Jan-March – to delay cutting of these areas until April
3	Plant native trees and shrubs- low mess, seaside species	<i>Various flowerbeds throughout the village where the trees would not impair drivers' sight lines. Species selected should be low mess and suitable for the seaside climate</i>	Planting is optimal in Winter/early Spring
4	Erect biodiversity signage	<i>Biodiversity signage showcasing particular features of interest as well as highlighting areas that are being “managed for wildlife” to encourage awareness and public engagement e.g., St. Annes Church. A biodiversity trail could be included with these.</i>	All year round - depending on resources and permissions



5	Erect bat and bird boxes	<p><i>On trees in public areas, on buildings with owner's agreement.</i></p> <ul style="list-style-type: none"> <li>- <a href="https://www.batconservationireland.org/wp-content/uploads/2015/05/BCIrelandGuidelines_BatBoxes.pdf">https://www.batconservationireland.org/wp-content/uploads/2015/05/BCIrelandGuidelines_BatBoxes.pdf</a></li> <li>- <a href="https://birdwatchireland.ie/irelands-birds-birdwatch-ireland/nestbox-designs-for-birds-and-wildlife/">https://birdwatchireland.ie/irelands-birds-birdwatch-ireland/nestbox-designs-for-birds-and-wildlife/</a></li> </ul>	Year round, but Spring is best
6	Bird feeders	<i>With owner's agreement, on trees near benches and perhaps at schools and churches are good spots where birds can be watched from a distance.</i>	All year round – Autumn/Winter is best
7	Construct a bug/bee hotel or find a suitable south-facing earthen bank	<p><i>Bug hotels - A spot easily visible to the public e.g., a corner of a flowerbed.</i></p> <p><a href="https://pollinators.ie/the-secret-life-of-solitary-bees/">https://pollinators.ie/the-secret-life-of-solitary-bees/</a></p>	All year round – summer is best
8	Use natural methods of pest & weed control	<i>Everywhere if at all possible.</i>	All year round
9	Piles of leaves left in quiet corners	<i>At the back of a flowerbed or at the base of a hedge where there won't be any disturbance over the winter.</i>	Autumn/Winter: especially important for hibernating species
10	Biodiversity friendly hedgerow maintenance	<i>Everywhere if at all possible.</i>	Sept – Feb *outside breeding season
11	Monitor local area for invasive species & control where necessary	<i>All over Strandhill</i>	Year-round

12	Enhance existing features of interest that benefit biodiversity	<ul style="list-style-type: none"> <li>• Dry stone walls throughout the village: <i>A maintenance day(s) where a local action group restore / learn about the historical, cultural and biodiversity significance of dry-stone walls</i></li> <li>• Woodland at the airport: <i>Biodiversity friendly management plan for the area surrounding the existing coniferous plantation at Strandhill airport. This area could be used to promote school biodiversity projects.</i></li> </ul>	TBC – with permission from land owners and appropriate authorities
13	Green developments	Example- Green bus stops: <i>Select a number of bus stops coming into and within the village where biodiversity and colour could be enhanced – low maintenance. Perhaps one bus stop could be trialled to start with.</i>	TBC
14	A community biodiversity day	Example- BioBlitz day: <i>Download the NBDC app and have a 24hour recording day – Woodrow can input ID help for a workshop prior to the day e.g.: basics of biodiversity – birds, bugs, and botany!</i>	TBC – ideally during the summer holidays and possibly on weekend day. Biodiversity week in May?
15	A community garden/herb garden/sensory garden	<i>Is this a possibility? – An area with a raised bed, herbs, flowerbed etc where community events and training could take place; wildlife gardening / workshops.</i>	TBC
16	Raising biodiversity awareness	<i>Hold various events / social media to raise awareness of Strandhill biodiversity including wildlife news on Facebook, a photography competition with a wildlife theme. A Strandhill wildlife calendar could also be created. Linking with local poets, writers and artists.</i>	Commence ASAP
17	A sculpture or mural focal point for the village	<i>A Strandhill biodiversity mural, sculpture or small mural trail – in collaboration with a local artist(s).</i>	TBC

Figure 2 – Habitat Map of Strandhill – This LBAP prioritises actions within the built up and urban land use areas.



## Species and Habitats of Strandhill

This Local Biodiversity Action Plan focuses on the built up, amenity and urban land use areas in and around Strandhill village shown in Figure 2. The corresponding habitats in the Strandhill area are listed in Table 2. A number of special areas designated for wildlife exist in an around Strandhill, these are outlined in Appendix 2 of this document.

**Table 2 – Habitats recorded in the Strandhill area.**

Code and Habitat Description (Fossitt, 2000)	Corresponding Habitat in Figure 2	Biodiversity Value <sup>3</sup>
BL1 Stone walls & other stonework	Stone wall	High
BL3 Buildings & artificial surfaces	Built land and gardens	Medium
CD Sand dune systems	Sand dune systems	High
CM Saltmarshes	Saltmarsh	High
GA1 Improved agricultural grassland	Improved agricultural grassland	Low
GA2 Amenity grassland	Amenity grassland	Low to Medium
GS1 Dry calcareous and neutral grassland	Species rich grassland	High
GS2 Dry meadows and grassy verges	Unmown / Rough grassland	High
GS4 Wet grassland	Rush pasture	High
ED2 Spoil and bare ground	Spoil and bare ground	Medium
FS1 Tall-herb swamp	Reed swamp	High
FW4 Drainage Ditches	Drainage Ditch	Medium
LS2 Sand shores	Sand shore	High
WD1 (Mixed) broadleaved woodland	Broadleaved woodland	High
WD4 Conifer plantation	Conifer woodland	Medium
WL1 Hedgerows	Hedgerows	High
WL2 Treelines	Treeline	High
WS1 Scrub	Low growing woodland / Scrub	High

<sup>3</sup> It should be noted that different habitats may have varying biodiversity value which is dependent upon fluctuating environmental factors such as seasonality, growth stages, the substrates that they exist upon, the species that they support and the features present e.g., a hole in a tree can support fauna such as squirrel, bats and birds at different times of year. As such, this value is subjective and can change over time.



### Local Wildlife: Notable biodiversity features in the wider area

The peninsula is dominated by fixed dunes and shoreline in the north-west, west, south and south-west. The coastal dune habitats include various forms of dune which are described in more detail below. In addition, a small area of saltmarsh runs along the north-eastern boundary of the peninsula at Cumeen/Dorrins Strand, near the point known as Rinn. Fossil-rich limestone dominates the geological landscape in this area, with Blue/Grey Dartry Limestone forming the prominent hill of Knocknarea<sup>4</sup>. At the foot of the hill, much of the fields here have been improved for agriculture, some areas still maintain a diverse sward – supporting species rich, dry calcareous grassland. Many of these fields are lined by managed hedgerows and dry-stone walls, with scrub encroaching along the western extents of the hill. There is a wetland area of reed-bed and low-growing, willow scrub located to the north of Knocknarea, in Upper Strandhill.

Significant coniferous woodlands have been planted to the north and east of the hill. In the south, a fascinating limestone rift, known as Knocknarea Glen<sup>5</sup>, runs parallel to the hill, which supports deciduous woodland, scrub, mature planted beech trees and good examples of European protected Annex I tufa springs (calcareous or ‘petrifying’ springs) seeping from the rocks within this privately owned gorge. The geological feature supports an interesting bryophyte assemblage.

Remnants of deciduous woodlands can be found within the sitka spruce plantations in Rathcarrick to the east of Knocknarea e.g., Leacarrow Woods, Rathbeg Woods and Big Wood<sup>6</sup>. Broadleaved woodlands are also present in the vicinity of Rinn and Tully, and adjacent to St. Anne’s Church of Ireland (C.o.I), some areas of which have been more recently planted. There is a single National School on the peninsula (School Asicus, or Strandhill N.S.) which is located adjacent to Strandhill Golf course in Carrowbunnaun. This school is well linked with another local school, the nearby Ransboro National School in Knocknahur. This area surrounding Strandhill N.S. is mainly comprised of fixed dune, rough grassland habitats, and amenity grassland. Sligo Airport maintains a significant portion of land in the north of the peninsula, also dominated by fixed dunes, where scots pine woodlands have been planted over the years (pre-1950’s). These now form dense, mature stands of coniferous woodland close to the airport and business park.

Species rich grassland is encountered in the north and south of the peninsula e.g., along the access road to the airport. The fixed dune habitat out to Portcurry point in the south, and surrounding the airport and Strandhill WWTP are particularly rich in biodiversity, including vascular plants, bryophytes and invertebrates while supporting a variety of mammals, birds and other fauna. The wildflowers here include orchids such as bee orchid *Ophrys apifera*, and the rare and protected *Vertigo* snail is supported in parts of this habitat where suitable environmental conditions arise.

<sup>4</sup> [https://jetstream.gsi.ie/iwdds/delivery/GSI\\_Transfer/Geoheritage/SO012\\_Knocknarea.pdf](https://jetstream.gsi.ie/iwdds/delivery/GSI_Transfer/Geoheritage/SO012_Knocknarea.pdf) (McAteer et al. 2004)

<sup>5</sup> [https://jetstream.gsi.ie/iwdds/delivery/GSI\\_Transfer/Geoheritage/Sligo\\_Audit.pdf](https://jetstream.gsi.ie/iwdds/delivery/GSI_Transfer/Geoheritage/Sligo_Audit.pdf) (McAteer et al. 2004)

<sup>6</sup> <http://map.geohive.ie/> (Ordnance Survey Ireland 2017 - Historic 25” mapping (1888-1913))



Examples of Woodland / Hedgerow plants (Lords-and-ladies *Arum maculatum*, Lesser Celandine *Ficaria verna* and Common Dog-violet *Viola riviniana*) - and a coastal plant (Common scurvy grass *Cochlearia officinalis*) noted in Strandhill

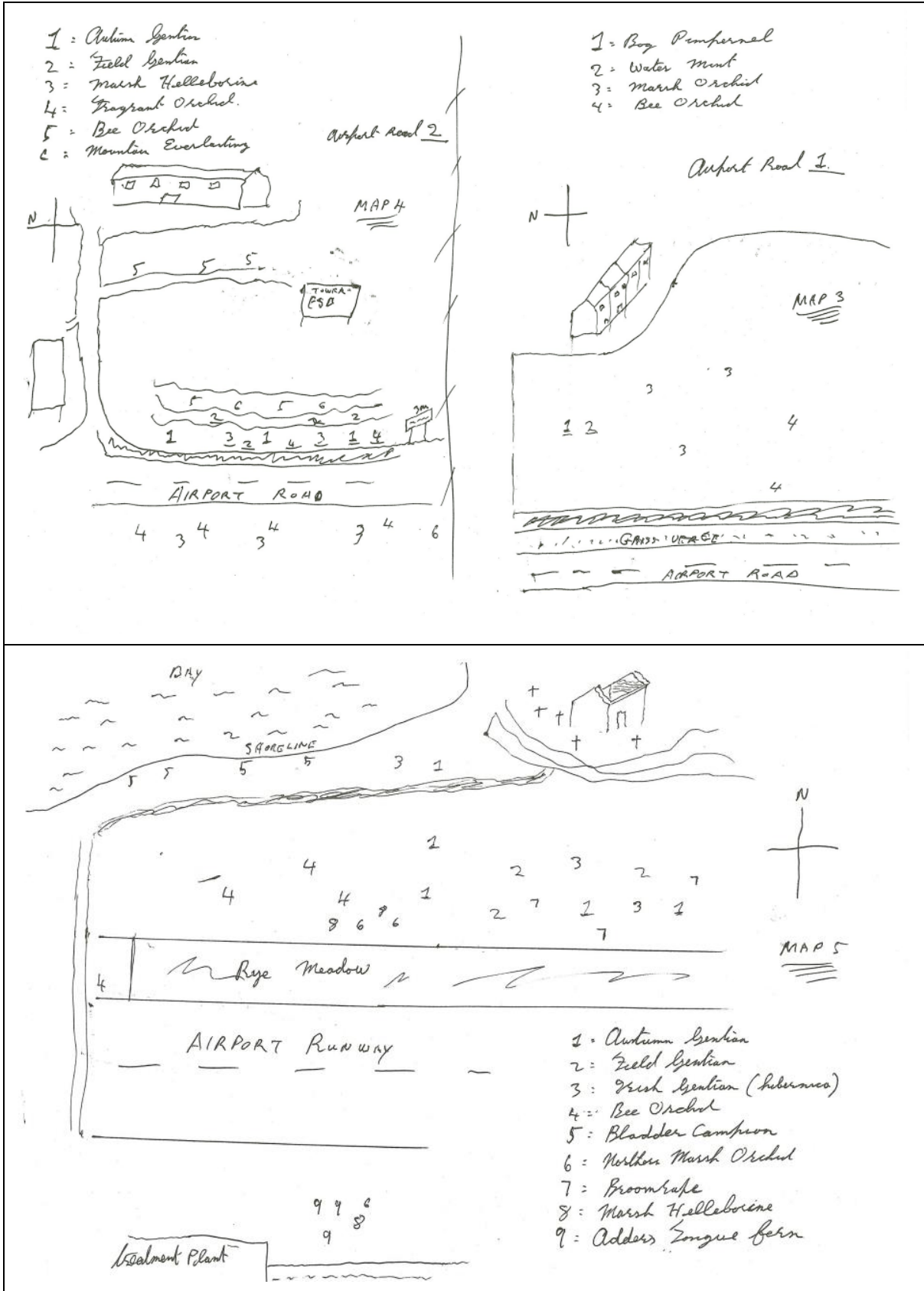
The southern dune spit at Culleenamore supports a vast dune grassland system which includes rare and uncommon flora such as autumn gentian *Gentianella amarella hibernica*<sup>7</sup> and the stunning, delicate orchid Autumn Lady's-tresses *Spiranthes spiralis*<sup>8</sup>. A substantial list of species records for this area was provided by D. Cotton (Don Cotton, Strandhill LBAP, 2018) for this project, with recorded plants such as the orchid Marsh Helleborine *Epipactis palustris* (2006 – 2012), and a subspecies of the Early Marsh Orchid *Dactylorhiza incarnata var. haematodes* (2005), both plants which are considered rare in the north-west of Ireland.

<sup>7</sup> Recorded here in 1986 by D. Cotton. – Recently recorded on these dunes by B. Keehan in autumn 2018.

<sup>8</sup> Recorded by D. Cotton & J. Dunleavy in 2007 – Recently recorded on these dunes by B. Keehan in autumn 2018.

Below are some beautiful hand-drawn maps of Strandhill by a local resident which highlight some of the rare plant species found throughout Strandhill. These maps could perhaps be used to inform a biodiversity trail around Strandhill.







## APPENDIX 1: Details of the proposed actions for biodiversity

This contains further details for each of the proposed actions, where available or of benefit.

### Action 1: Plant biodiversity enhancing flowerbeds & pots

- **Roundabout in Strandhill** : *Create a colourful, welcoming and biodiverse focal point for the entry into Strandhill village*



**Strandhill carpark:** Improving the appearance and biodiversity of the existing planters as well as considering planting new areas – a seaside herb garden, a tiered planter etc

Strandhill Carpark: Enhancement of existing planting with biodiverse, native, seaside-friendly species – consultation with landscape architect and others in charge of management/maintenance.



DETAILS: Contact relevant persons regarding permission required to start these projects, including community members who have been involved with previous maintenance and planting, local residents, local landscape architects that have been involved and others.

Gather community members who have already had/would like to have involvement in this project to form a core action group.

Collate ideas and resources available to achieve the desired outcome at these locations

- Adding structural diversity – a trellis or a tiered planter – contacting a men’s shed or local carpenter to build.
- Sourcing desired plants/bulbs/cuttings (use the resources provided separately to help decide on what would be best suited e.g., heathers, lavender, nasturtium, allium- low maintenance, native, biodiversity friendly and colourful species) – donations, funding, perhaps a local business/garage/garden centre would like to be involved.

Plan of action – a day(s) where the action group can meet up to begin replanting/removal of plants

- removal of any plants that are not wanted and maintenance of existing area
- putting up the trellis or planters
- adding in new plants, trees, bulbs
- flower rich borders are a nice option
- a welcome to Strandhill sign – perhaps a location where a small biodiversity mural or a stop on a biodiversity trail could be added.



**Action 2: Change the grass-mowing regime, benefit wildflowers**

- **Roadside Grassland/Verges:** *Coming into the town and in areas where biodiversity friendly grassland management could be implemented. Stepped verges or a thin wildflower strip left along boundary edges –vision/road safety is a first priority.*

Road verges either side of the main road leading into Strandhill village – incorporating low maintenance management such as stepped verges and pollinator friendly cutting regimes



Reducing the frequency of mowing allows common pollen-rich wildflowers such as Dandelions, Clovers, Knapweed, and Bird's-foot-trefoil to naturally grow among long grass. This is the most cost-effective way to provide food for pollinators and other insects.



Tightly mown grass is like a barren desert for bees, devoid of food and nesting sites.



A new approach to grass-cutting encouraged by the local Tidy Towns group as an action to help pollinators, at Kilcullen, Co. Kildare.



If roads are used as walking routes, a 'layered' mowing approach can be of use. A one-metre strip along the roadside can be maintained as short turf for walkers, while the rest of the verge could be cut every 6 weeks or annually to allow wildflowers to grow.

- **Housing estates- Amenity Grassland:** *throughout the village as well as larger patches of improved grass with owners/management permission*

Areas of potential biodiversity development within the town itself, in particular in different housing estates where already local champions have called for participation and support for actions from the All-Ireland Pollinator Plan<sup>9</sup>

An area that possibly could be enhanced for biodiversity subject to consultation/agreement with locals



- **Sports clubs - Amenity Grassland:** *GAA and football clubs can improve biodiversity following the Sports Club guidance laid out in the All-Ireland Pollinator Plan;* <https://pollinators.ie/sports-clubs/>

**DETAILS:** To reduce frequency of mowing at these locations and let vital pollinator species like clover and dandelion flower before the first cut (leave them until April). If you need to cut grass before April, consider leaving a margin of unmown grass to allow corridors of biodiversity. Stepped verges or a thin wildflower strip left along boundary edges –vision/road safety is a first priority. Cutting and removing clippings can increase biodiversity in these areas.

Identify areas where changes in cutting regimes could increase biodiversity and where owners and management are open to changes in management regimes– e.g., verges, housing estates and small pockets of amenity grassland as well as local GAA clubs, faith buildings and schools. Designate an area to be managed for wildlife (signage is available through the all-Ireland pollinator plan:

<https://pollinators.ie/resources/signs/>)

<sup>9</sup> <https://pollinators.ie/aipp-2021-2025/>).



**GENERAL ADVICE:** Identify some green areas or lawns that have clover growing in them. Clover is easily identified at any time of year by the characteristic three leaflet structure of the leaves. If there are other species of wildflower such as dandelions, bird's foot trefoil or even self-heal growing in the lawns then that is even better.

Raise the blades on your lawn mower to the highest setting and cut the lawn less often. How often you cut will depend on the time of year and how fast the lawn is growing. The aim is to allow the dandelions, clovers and other wildflowers to grow and bloom but you can maintain a neat appearance by topping the grass when it grows taller than the flowers.

If you only have clover in your lawn and would like to try introducing more wildflowers then you could try scarifying the lawn and adding seeds of dandelion, selfheal or bird's foot trefoil to increase the diversity of wildflowers in your lawn. Only buy native Irish wildflower seeds or better still collect some from your local area (detailed tips on how to collect local seeds responsibly and sustainably are supplied separately in the resource documents provided) .

### Action 3: Plant native trees and pollinator friendly shrubs- low mess, seaside species

#### Street trees

Roadside margins can be difficult locations in which to establish trees. Those suggested are pollinator friendly, resistant to pruning and should not cause any structural damage or create health and safety issues.

Species	Flowering
Juneberry Tree <i>Amelanchier x grandiflora</i> 'Robin Hill'	Small white flower April. Good autumn colour
Upright Hawthorn <i>Crataegus monogyna</i> 'Stricta'	White flowers May
Pillar crab <i>Malus tschonoskii</i>	Scented white flowers May. Can set fruit
Callery pear <i>Pyrus calleryana</i> 'Chanticleer'	White flowers April-May. Can set fruit.
Rowan <i>Sorbus aucuparia</i> varieties	White flowers May-June
Lime <i>Tilia cordata</i> 'Greenspire'; <i>Tilia x europaea</i> 'Euchlora'	Pale yellow flowers June-July

Lime (*Tilia*) species have fragrant flowers and produce a lot of nectar; however, care is needed in the selection of cultivars as many can grow to large tree size proportions that will exceed allotted roadside space. Some are also very attractive to aphids and can lead to honeydew drip onto cars below (e.g., *Tilia x europaea*, *T. platyphyllos*). Those suggested above are smaller and don't attract aphids, therefore producing no dripping.

Excellent info found at <https://pollinators.ie/planting-native-trees-for-pollinators/>

### Action 5: Erect bat and bird boxes

Strandhill residents can support local populations of small birds by putting up bird boxes (and bird feeders – Action 6). Aim to have them up before the breeding season (maybe by March). They can also be left out all year, providing shelter and a place to roost in the winter.

They should be positioned out of direct sunlight – best facing north or south-east; and away from areas where cats can easily access them. We often see these placed too high, or poorly made with entrance holes too large for the target species. If bird feeders are placed near a nest box, the nesting bird will spend a lot of energy defending its territory – so please don't.

There is a great information page with lots of FAQs about bird boxes:

<https://birdwatchireland.ie/irelands-birds-birdwatch-ireland/garden-birds/nestboxes/>

There is also an easy template on how to make your own bird box:

<https://birdwatchireland.ie/irelands-birds-birdwatch-ireland/nestbox-designs-for-birds-and-wildlife/>

Bat boxes can be installed in trees or on the outside of buildings providing habitat for bats to roost. In the Summer pregnant bats gather together to have their babies. The offspring and female bats stay together in 'maternity roosts' until late Summer. Insulated boxes are better for winter hibernation roosts.

Bat conservation Ireland has a great leaflet available to show how to make basic wooden bat boxes. The leaflet also shows where and how to put them up.

[https://www.batconservationireland.org/wp-content/uploads/2013/09/Leaflet\\_3\\_batboxes.pdf](https://www.batconservationireland.org/wp-content/uploads/2013/09/Leaflet_3_batboxes.pdf)

### Action 6: Erect Bird Feeders

Bird conservation charities recommend feeding birds throughout the year, not just in the winter. Feeders are a great way to get close-up views of birds. There are many different types of feeders– including ones that fit onto windows, that are perfect for excellent views. You can also make your own bird tables, or indeed grow your own bird food in the form of sunflowers! Just place them quite high, away from cats, and not too exposed.

Expert guidance on feeding birds can be found at the following website:

<https://birdwatchireland.ie/irelands-birds-birdwatch-ireland/garden-birds/feeding-your-garden-birds/>

<https://www.rspb.org.uk/birds-and-wildlife/advice/how-you-can-help-birds/feeding-birds/when-to-feed-garden-birds/>

Many ask **what** to feed birds: They should receive good quality food, for example, high-fat foods are beneficial in the winter.

<https://www.rspb.org.uk/get-involved/activities/nature-on-your-doorstep/garden-activities/open-a-bird-cafe/>

It is important to keep feeders clean and to prevent transfer of diseases. Move them if birds are not attracted to them. Sweep up any debris under feeders also. A lot of money is spent on buying bird food so try and ensure you know it comes from a good, environmentally responsible source.

## Action 8: Weed Control

To reduce the use of chemicals there are different ways to reduce weed growth such as mulching, hand-pulling, hoeing, digging or pulling weeds by hand before they set seed.

### Pollinator-friendly Pesticide Code



#### Best Practice in the Use of Pesticides

In addition to the Honeybee who lives in hives, we also have 21 different types of Bumblebee and 77 different types of Solitary Bees in Ireland. Bumblebees and Solitary Bees live entirely in the wild. We need healthy populations of all these bees to carry out pollination if we want to have wildflowers in the landscape; be able to grow our own fruits and vegetables; or buy affordable, locally grown apples or strawberries in our shops. Bees and other pollinators can only survive in a landscape that provides them with food, shelter and safety throughout the year. Already, one-third of our 98 wild bee species are threatened with extinction from Ireland.

Insecticides pose the greatest direct hazard to insect pollinators. However, herbicides are having a much greater negative impact on pollinators because they are so widely used.

Even if Herbicides, Fungicides and Plant Growth Regulators have little or no toxicity to pollinators, many of the plants we spray as 'weeds' are actually vital sources of food for pollinators, especially in early spring. Pollinators need a range of flowers to feed on from spring through to autumn. The overuse of these chemicals is making it very difficult for them to find enough food to survive in our landscape.



#### DO

- ✓ Check the label and select pesticides that are less harmful to pollinators
- ✓ Always read, understand, and follow the product label instructions fully
- ✓ Treat only the target area
- ✓ Spot-treat rather than use blanket sprays
- ✓ Follow the buffer zone instructions on the product label
- ✓ Leave areas of pollinator-friendly habitat free from all pesticides. These include areas of clover or wildflowers, the base of hedgerows, and any natural areas.
- ✓ Minimize spray drift to non-target areas by:
  - Using equipment that reduces drift
  - Checking the weather forecast before application and being mindful of changing conditions.
  - Ensuring you spray when the wind is blowing away from pollinator-friendly habitat.



#### Don't

- ✗ Do not apply pesticides to bees or other pollinating insects
- ✗ Do not spray flower-rich areas (including weeds) when flowers are in bloom and providing food for bees. Plants we might consider weeds (e.g. Dandelions, Vetches, Clovers, Dead-Nettles, Knapweed) are important food sources, as they provide high quality pollen and nectar for bees.
- ✗ Do not apply pesticides to areas that have been identified as important nesting areas for pollinators.
- ✗ Do not apply pesticides to standing water.

\* Pesticides should always be used sparingly and only when absolutely necessary, such as in treatment of invasive species, e.g. Japanese Knotweed.

## Action 10: Biodiversity Friendly Hedgerow Management

Teagasc and The All-Ireland Pollinator Guidance for Biodiverse Hedgerows

- <https://www.teagasc.ie/environment/biodiversity--countryside/farmland-habitats/value-of-hedgerows/>
- <https://www.biodiversityireland.ie/wordpress/wp-content/uploads/Pollinator-How-to-Guide-3-FINAL-1.pdf>

### Sensitive hedge cutting

Cut hedgerows on a 3-year rotation to encourage flowering. Cut the hedges in an 'A' shape with a wide base and a narrower taller top, rather than in a low box shape. Avoid cutting all hedges in an area in the same year, so that there is always some that will bloom and fruit in the area every year or cut one third of the hedge annually.

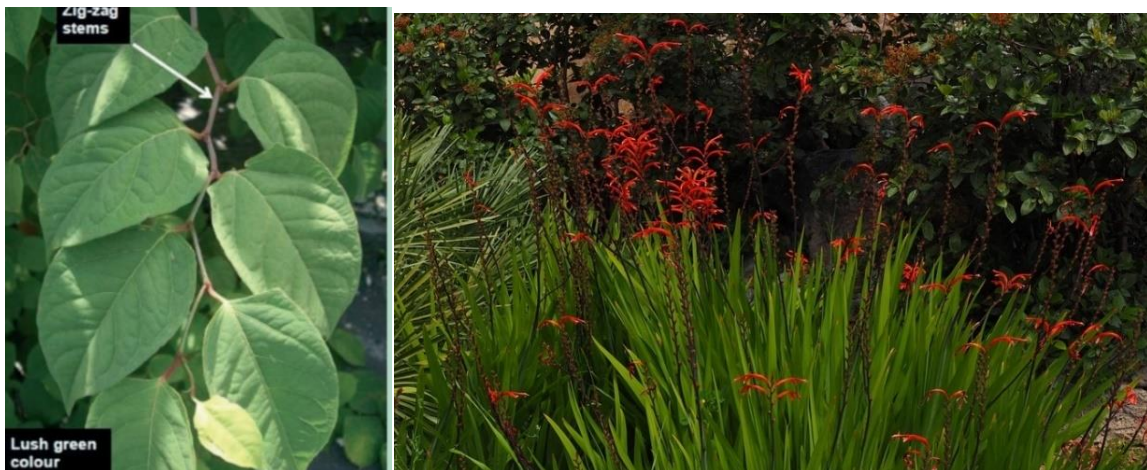
Where hedgerows are managed by a third-party, starting a conversation with that individual/ organisation on the benefits of biodiversity-friendly alternatives to conventional management is a great first step.

### Action 11: Monitor local area for invasive species & control where necessary

Invasive species are generally defined as those that do not naturally occur in Ireland and which, as a result of their vigour, persistence, and competitive advantage, have become established in Ireland to the detriment of our native species. Well known examples of invasive species in Ireland include the grey squirrel, which was introduced from North America and outcompetes our native red squirrel for food and territory. The New Zealand flatworm, which was accidentally brought into the country on imported plants, predated the common earthworm to the detriment of our gardens.

Irish legislation<sup>10</sup> makes it illegal to 'introduce, breed, release, or disperse' the most invasive species. Other, less noxious, species are not directly covered by this legislation, but it is still recommended that they are controlled where possible and are not allowed to spread.

Of most concern is **Japanese Knotweed** *Fallopia japonica*, the propagation and/or dispersal of which is illegal under Irish law. This species is extremely persistent, propagates vegetatively from minute fragments, and spreads very rapidly. It is notoriously difficult to eradicate, and fragments of rhizome may remain viable for over twenty years. Control is only achieved using systemic herbicide and should be undertaken only by trained operators with the permission of the landowner where relevant. Control must be repeated in successive years and care must be taken near watercourses, where herbicide should be injected into the stems rather than sprayed. Care should be taken not to cut or trim this plant because it propagates so readily from fragments.



<sup>1</sup> Statutory Instrument No. 477/2011 - European Communities (Birds and Natural Habitats) Regulations 2011, Articles 49 and 50.





**Common invasive species occurring in Sligo. Top: Japanese knotweed (photo credit: Invasive Species Ireland), Montbretia. Bottom: Snowberry, Rhododendron**

**Snowberry** (*Symphoricarpos albus*) has often been planted in hedgerows in the past, and is relatively easy to eradicate. It was originally introduced into Ireland to provide food and cover for pheasants on large estates. Snowberry is not listed under Irish invasive species legislation but was Amber-listed following an invasive Species Risk Assessment undertaken by Invasive Species Ireland<sup>11</sup>. It is advisable that it is not propagated or encouraged to spread, as it forms dense thickets that exclude our more desirable native species.

**Montbretia**, like snowberry, is listed on Invasive Species Ireland's Amber List of invasive species. It is an attractive hybrid plant bred in France from South African species, and is commonly grown in gardens, also appearing on waste ground and roadsides. It readily reproduces by means of corms and rhizomes (and occasionally by seed), spreading rapidly to form dense clumps that can completely dominate an area, eventually excluding existing native plants.

Another invasive plant species that is common amongst garden plants and is likely to occur, is the scheduled invasive alien species **Rhododendron** *Rhododendron ponticum*. This species often occurs within woodlands and old estates.

Rhododendron, like Japanese Knotweed, is listed under Irish invasive species legislation and thus it is illegal to plant it or cause it to spread. This species grows rapidly in the Irish climate, can tolerate shading and waterlogging, produces vast quantities of wind-dispersed seed, and effectively and rapidly regenerates from cut stems. Its foliage is toxic to mammals and unpalatable to most invertebrates. Its dense evergreen growth excludes light from the ground layer and excludes native species; dense rhododendron forms a monoculture where nothing else is able to thrive.

**Cherry laurel** *Prunus laurocerasus* is an invasive species which is commonly planted in gardens. It grows in a similar fashion to rhododendron, forming dense evergreen thickets that are also toxic to livestock (its leaves contain cyanolipids that

<sup>11</sup> <https://invasivespeciesireland.com/wp-content/upload-post-to-pdf-enhanced-cache/1/amber-list-recorded-species.pdf>

are capable of releasing cyanide). It is widely planted as a hedging species and is readily available in garden centres but is detrimental to biodiversity as it excludes native plant species and provides poor habitat for birds and invertebrates. It is listed as a High Impact Invasive Species, scoring highly in the Invasive Species Risk Assessment undertaken by Invasive Species Ireland.

Further information and links to advice on control of these invasive plant species is available online.

### Action 13: Green Developments

- **Green bus stops:** *Select a number of bus stops coming into and within the village where biodiversity and colour could be enhanced – low maintenance. Perhaps one bus stop could be trialled to start with.*

These are examples of both homemade and more commercial green-roof bus stops. An even simpler structure made out of wood with space for a hanging basket or a climbing flower species such as nasturtium or clematis would also be lovely.



### Action 14: A community biodiversity day

- **BioBlitz:** *Bioblitz day: Download the NBDC app and have a 24hour recording day – Woodrow can input ID help for a workshop prior to the day e.g.: basics of biodiversity – birds, bugs and botany!*

A BioBlitz is a dedicated period of biological surveying in an attempt to record all the living native or naturalised species within a particular area. Groups of scientists, naturalists and volunteers come together to conduct a field study over a set period of time, usually 24 hours, but can be shorter. Apart from its value in data collection, a BioBlitz has many benefits particularly in the promotion of the wealth of biodiversity in the local environment. A BioBlitz provides an opportunity for the public to meet scientists and ask them questions. These events are very enjoyable as the short time frame creates a festival atmosphere and makes the searching more exciting.

Established by the National Biodiversity Data Centre in Waterford, a number of BioBlitz events have been run in Ireland including annual BioBlitz competitions held at a number of sites around the country, with each site competing for the greatest number of species recorded! – They can be as big or small of an event as suits and are a great way to get community groups and schools involved – might be a good idea for biodiversity week in May (15th – 23rd May).

### Action 15: A community garden/herb garden/sensory garden

You are recommended to view the [www.pollinators.ie](http://www.pollinators.ie) website for ideas. For example, there is a great free flyer available listing suitable herbs.

<https://www.pollinators.ie/wordpress/wp-content/uploads/2019/03/AIPP-Herbs-A5-Flyer-PRINT.pdf>



### Action 16: Raising biodiversity awareness

**Social media and linking local history to biodiversity-** *Hold various events / social media to raise awareness of Strandhill biodiversity including wildlife news on Facebook, a photography competition with a wildlife theme. A Strandhill wildlife calendar could also be created. Linking with local poets, writers, and artists.*

*Come, heart, where hill is heaped upon hill:  
For there the mystical brotherhood  
Of sun and moon and hollow and wood  
And river and stream work out their will.*

*-William Butler Yeats*

Liaise with the Residents' Associations and other community groups in order to identify possible actions that would benefit biodiversity; tree/shrub and hedge planting with native species, changing grass mowing regimes, creating new habitats (wildflower meadows / community orchards), reducing pesticide and herbicide use etc.

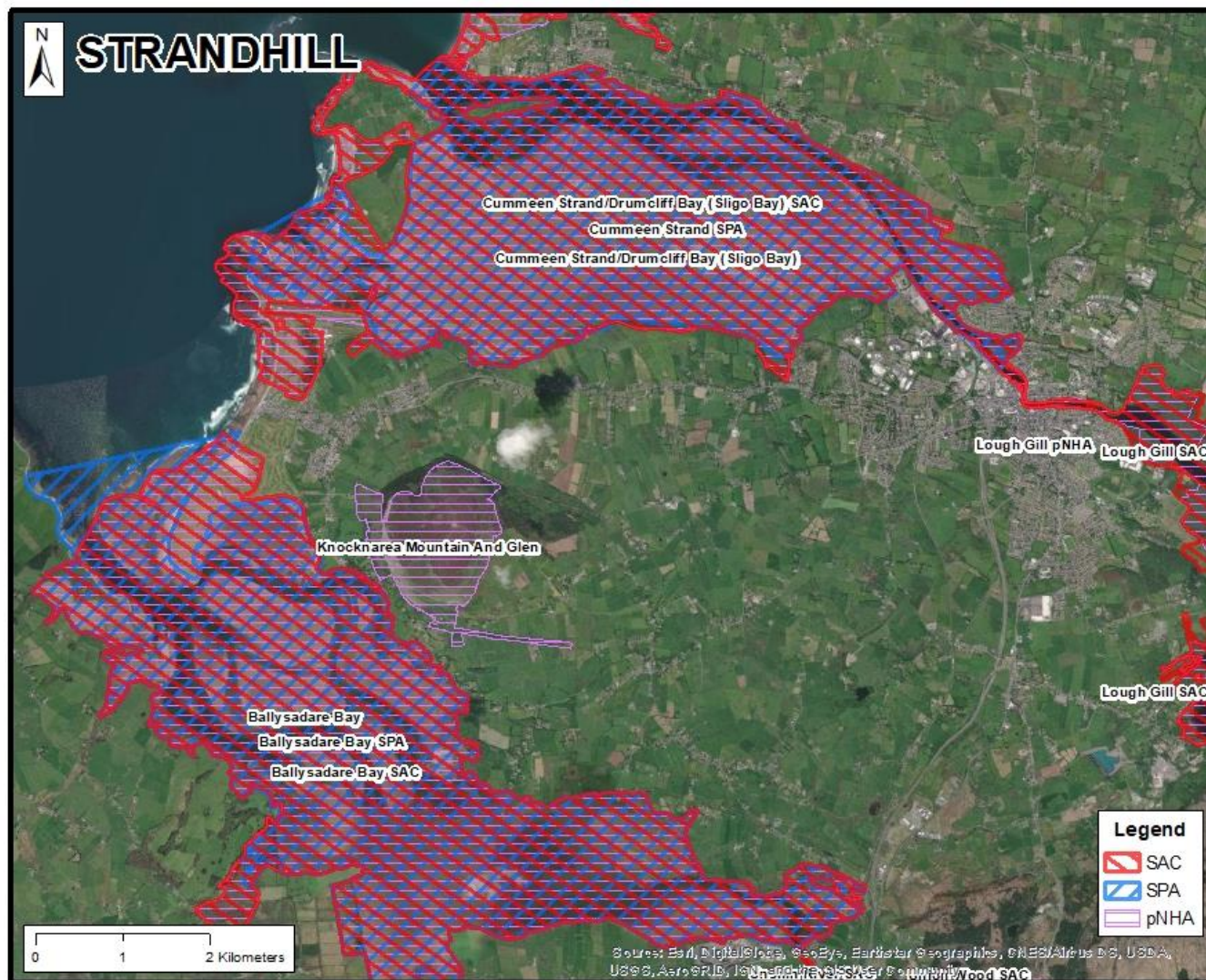
- Introduce "Adopt a Planter" or "Adopt a Bird Feeder" Scheme.
- Get sports clubs and local schools involved with the LBAP.



## APPENDIX 2: Designated Sites at Strandhill

There are a number of areas of special wildlife significance within a short distance of Strandhill Village centre, which greatly add to the biodiversity of the general area. The locations of protected areas in relation to Strandhill are illustrated in Figure 3.

Figure 3 – Protected conservation areas around Strandhill



These areas of special wildlife significance include;

### Cummeen Strand/Drumcliff Bay Special Area of Conservation / Natural Heritage Area:

Cummeen Strand/Drumcliff Bay SAC [Site Code: 000627], is a European designated site as well as a Natural Heritage Area (the latter affords protection under Irish legislation). It lies immediately north and north-west of Strandhill village and airport. This site encompasses a variety of protected habitats including estuaries, mudflats and sandflats, coastal dunes, calcareous grasslands, important orchid-rich

grasslands and petrifying springs (calcareous/tufa springs). Protected species associated with some of these habitats include *Vertigo* snails (which are particularly endangered in Europe and are listed under Annex II of the EU Habitats and Species Directive [92/43/EEC]), fish species (such as sea lamprey and river lamprey) and marine mammals i.e., the harbour seal (NPWS, 2011)



The narrow-mouthed whorl snail *Vertigo angustior*<sup>12</sup>- found within Cummeen Strand/Drumcliff Bay SAC



harbour seal *Phoca vitulina*<sup>13</sup> -found within Cummeen Strand/Drumcliff Bay SAC

### Cummeen Strand Special Protection Area:

Cummeen Strand SPA [Site Code: 004035] is a large shallow bay stretching from Sligo Town, westwards to Coney Island. It is one of the three estuarine bays within Sligo Bay. A relatively short river, the Garavogue flows through Sligo town and into the bay, forming a permanent channel here (NPWS, 2013<sup>14</sup>).

During low tide, the SPA provides extensive intertidal flats which support an important assemblage of macro-invertebrates on which birds using the SPA feed, such as lugworm, ragworm, sand mason, cockles and mussels amongst other species. This is particularly important during the winter months for birds such as oystercatcher and redshank.

Notably, eelgrass beds (*Zostera noltii* and *Z. angustifolia*) exist within this site which are important feeding areas for herbivorous species of birds such as brent geese which visit this site during the winter months. The site also supports other birds including shelduck, wigeon, teal, mallard, Bar-tailed Godwit and Golden plover, the latter regularly occur here which is of particular note as they are listed on Annex I of the E.U. Birds Directive (NPWS, 2010 ).

<sup>12</sup> Photo Credit: *Vertigo angustior* under a microscope – Photo courtesy of Maria Long.

<sup>13</sup> Photo Credit: © Copyright Mike Pennington and licensed for reuse under A Creative Commons Licence.

<sup>14</sup>[https://www.npws.ie/sites/default/files/publications/pdf/004035\\_Cummeen%20Strand%20SPA%20Supporting%20Doc\\_V1.pdf](https://www.npws.ie/sites/default/files/publications/pdf/004035_Cummeen%20Strand%20SPA%20Supporting%20Doc_V1.pdf) (NPWS, 2013 - Conservation Objectives Supporting Document for Cummeen Strand SPA.)





Cumeen Strand SPA bird species include golden plover *Pluvialis apricaria*, light-bellied brent goose *Branta bernicla hrota*, common gull *Larus canus*, redshank *Tringa totanus*

### **Ballysadare Bay Special Area of Conservation / Natural Heritage Area:**

Ballysadare Bay SAC and NHA [Site Code: 000622] is the most southerly of the three inlets of the larger Sligo Bay. The Ballysadare River forms an estuarine channel which runs through the bay. The extensive intertidal mudflats and sandflats here are fringed by well-developed saltmarshes. These areas of saltmarsh have formed in different environmental conditions, and on different substrates – which adds to their diversity (McCorry & Ryle, 2009<sup>15</sup>). The tip of the large sand-dune spit here is fringed by an example of embryonic shifting dune habitat. This area undergoes storm erosion, particularly during the winter months. Some patches of humid dune slacks occur amongst the undulating hills that make up this coastal dune spit. The SAC supports the protected snail *Vertigo angustior*, which is a qualifying interest for this designated site. In addition, the presence of the marine mammal harbour seal, is another reason for the site's designation.

### **Ballysadare Bay Special Protection Area:**

This SPA [Site Code: 004129] is the most southerly of the bays within the Sligo Bay complex, and extends c. 10km to the west and north of Ballysadare. The estuarine river channel within the bay finally reaches the sea near the southern dune sand-spit at Strandhill. The SPA is designated for the following qualifying interest birds; brent goose, grey plover, dunlin, bar-tailed godwit and redshank. In addition, the designation includes the wetland habitats on which these species rely (NPWS, 2013a<sup>16</sup>). There are two discrete intertidal seagrass meadows within the bay, located in an inlet at

<sup>15</sup> McCorry & Ryle (2009) Saltmarsh Monitoring Project 2007-2008. Volume 4. Final Report 2009. Report for Research Branch, National Parks & Wildlife Service.

<sup>16</sup> NPWS (2013a) Ballysadare Bay Special Protection Area (site code 004129) Conservation Objectives Supporting Document. Version 1.

Rinnatalleen on the western shore and between Cartronabree and Bruchmore on its eastern shore (NPWS, 2013b<sup>17</sup>).

### **Knocknarea proposed Natural Heritage Area:**

Knocknarea pNHA [Site Code 001670] is a recognisable flat-topped hill situated in the east of Strandhill, Co. Sligo, topped by Queen Medbs Cairn. As well as having great archaeological and geological significance, the site is of interest for the plants and plant assemblages present here. The exposed limestone cliffs and adjacent grasslands support a rich and interesting flora. The cliff vegetation supports some species which form part of a reduced alpine flora which is unusual in Ireland. Grasses which are typically found on limestone are found here including Quaking-grass and Blue Moor-grass. The site is particularly interesting in that it supports both alpine and coastal flora, with a botanically rich bryophyte assemblage, particularly within Knocknarea Glen (NPWS, 2009 ).



It is also worth noting that Rinn Point in Strandhill is of geomorphological interest, and was listed within the old Area of Scientific Interest (ASI) reports (Pers. comm. S. Ryan) as an oyster bed and raised beach similar to those found at Culleenamore and extends over an area of 2 ha. Further information regarding the fossil populations here can be found in Hubbard, 1966 )

<sup>17</sup> NPWS (2013b) Ballysadare Bay SAC (site code 000622) – conservation objectives supporting document – marine habitats and species. Version 1.