Skerries Town Parks Biodiversity Action Plan

2024 – 2026

Comhairle Contae Fhine Gall
Fingal County Council

sustainable skerries

COISCÉIM CONSULTING
Ecology and Hydromorphology services

CONTENTS

Project Title	Skerries Town Parks Biodiversity Action Plan		**Project Ref:**	SKTP23
Document Title	BAP		**Status**	Draft
Revision	**Issue Date**	**Author**	**Reviewed By**	**Approved By**
V1	24/11/23	NB	PH	NB
Citation: Burke, N. (2023) Biodiversity Action Plan for Skerries Town Parks				

INTRODUCTION

This report was commissioned by Fingal County Council and undertaken with Sustainable Skerries and Skerries Tidy Towns groups.

A number of key actions to improve the biodiversity of the area have been proposed.

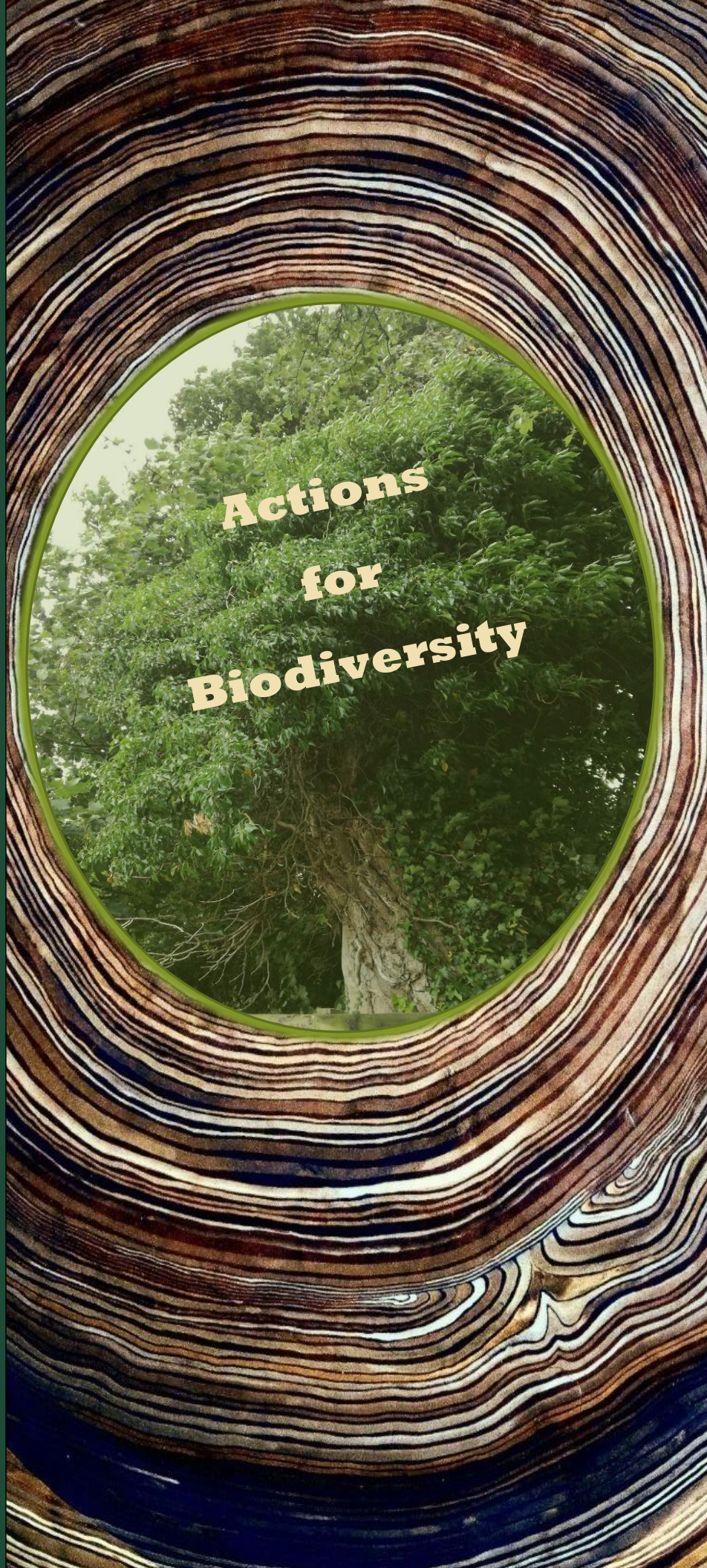
The actions have been defined in terms of three overarching 'themes':

1. Biodiversity Actions

2. Outreach & Awareness raising

3. Pilot 'Flagship' Project

The intention is that these actions will be rolled out over a three-year period, during which the Community group will be supported by Fingal County Council, and by a project ecologist.



2. PROJECT BACKGROUND AND AIMS

An ecological Study of the Town Park in Skerries was commissioned Fingal County Council to collect data on flora and fauna species within the park, and to propose actions for biodiversity enhancement in the area.

The town park located in the centre of Skerries is large and covers 40 acres of parkland, hedgerows, and trees, and includes a small watercourse to its southern end.

The BAP project kicked off in early 2023 with a meeting event on 9th May 2023. All interested parties associated with the Tidy Towns and affiliated groups were invited to attend.

The initial meeting and desktop study aimed to assess biodiversity in Skerries and to understand the scope of biodiversity actions already underway. This helped in pinpointing potential actions for future development of the biodiversity action plan.

A suite of surveys was then undertaken to further inform the study and from this, selected actions were chosen based on the species and habitats of note identified.

With the agreement of the community groups, key actions were proposed along with suggestions for potential changes to current management regimes for the park, that would benefit key species and habitats and for biodiversity awareness raising, and park users.

This Biodiversity Action Plan aims to guide Fingal County Council in their efforts to protect and restore some of the natural heritage in the area and maximise the benefits that nature can provide for the wildlife and people of Skerries.

The Biodiversity Plan consists of a list of actions to roll out over the next 3 years. The report includes an overview of the key ecological sites within the area, and some detailed actions with an outlined scope for each and a timeline for delivery; whether short, medium or long-term.

The key responsibility for implementation of each of the actions (e.g., what the Council can do, what the Tidy Towns groups can do etc.) is outlined within.

The Plans also include the potential involvement of other parties; for example, NGO's including (but not limited to) the Irish Wildlife Trust, Birdwatch Ireland, Bat Conservation Ireland and the Dublin Naturalists Field Club and Local residents' groups, Community Employment groups, local schools and sports clubs.

"It is that range of Biodiversity we must care for - the whole thing, rather than just one or two stars"

David Attenborough

3. STATEMENT OF COMPETENCY

This study and report were completed by Dr Niamh Burke with assistance from Phil Howard BSc environmental scientist, and Aoife Hillman, trainee ecologist.

Niamh Burke is Principal Ecologist with Coiscéim Consulting and has 15 years' experience of environmental and ecological assessment and biodiversity initiatives within both consultancy and academia. With a specialism in aquatic habitats, she also has experience of terrestrial species' surveys and mitigation, and has authored numerous EIAR, EcIA and AA / NIS reports. Niamh delivers training in Biodiversity and Hydromorphology for a range of clients in private and public sectors.

For the Town Parks project, Niamh visited the Skerries Town Parks area several times between May and October 2023, to carry out the range of surveys outlined in the project scope, and to liaise with members of the Sustainable Skerries committee and associated groups and interested parties, in order to devise the actions set out in this report.

Niamh assimilated all feedback from the group(s) on preferred actions for biodiversity, to arrive at those presented within this report.

4. THEMES FOR PROPOSED ACTIONS

Three Key Themes addressed in this report are as follows:

1.	**Biodiversity Actions**
2.	**Outreach and Awareness raising**
3.	**'Flagship' Project / Research Project**

Table 1

The Actions proposed have been categorized into three 'Themes' - as highlighted in table 1 above and described in detail in section 6 – 'Proposed Actions'. Where possible, the actions have also been entered into a timetable, to outline the ideal delivery timeframe for each action.

5. SKERRIES BIODIVERSITY

5.1 SKERRIES TOWNPARKS HISTORY

Skerries Town Parks is home to one of the oldest mills in Ireland. The Mills complex holds two original windmills and a watermill with an associated mill pond, mill races, and wetlands The oldest windmill is believed to have been built in 1525. The larger mill is thought to date from the 1750. These mills had been in disrepair for many years until Fingal County Council bought the lands and restored them.

The surrounding Town Parks area is used by the public for amenity and sports uses. The area hosts a range of habitats, to include the Mill stream river, two ponds, a reed bed, hedgerows, and treelines.

5.2 KEY AREAS OF BIODIVERSITY

Skerries Mills Stream and Ponds

The Skerries Mills stream is a relatively short stream rising in the hinterland a few kilometres from the Skerries town. It flows through rural farmland and passing under the Dublin-Belfast rail line and flowing through the Town Parks area before reaching the coast at Skerries waterfront. It receives two tributary streams within in the farmland area, before reaching the park, and it is clear that its course has been significantly altered throughout its course over the years.

The river is confined throughout most of its course having been realigned along field boundaries. Its waters are likely affected by the surrounding land-use, and it has been rated under the WFD (Water Framework Directive) assessment system as being of 'Poor' water quality, based on modelling approach. This is likely largely due to the input of nutrients (nitrate and phosphate) from the land. It is recommended that a discrete study on the key biological indicators be undertaken to confirm this, and to understand how water quality may be improved.

Action can be taken to improve the water quality status of the river and improve wildlife - aquatic and riparian, for all but even in its present state, the river is a biodiversity feature, providing refuge, shade, riparian habitats for many species of flora and fauna.

The Mill stream holds populations of fish – and its riparian areas hold diverse herbs, grasses, some shrub and wooded areas. Mammal life includes otters, and possibly stoat and badger in the surrounding hinterland. A variety of birds and some bat species exploit the river area. Kingfisher have been spotted on the river in recent years (2022). The river course from it source to sea represents a 'wildlife corridor' which merits protection and enhancement into the future.

In addition, the pond features within the parks area are also a valuable resource for wildlife. They are artificial features but if water quality is kept to a reasonable standard, then they will act as biodiversity hotspots. There is also scope to enhance these areas so that they are optimised for multiple species.

Hedgerows and Connectivity with Hinterland

Hedgerows throughout the parks area contribute strongly to its unique character and charm and link the town with the adjoining agricultural landscape.

Existing trees and hedgerows, from wildlife corridors and link habitats, providing the 'stepping stones' necessary for wildlife to flourish, while also protecting and enhancing surface water and groundwater resources in the area.

Greens and Amenity Grassland areas

Several large amenity grassland areas are present within the parks area. These represent green spaces which hold both amenity value and potential for biodiversity value for wildlife and floral species diversity and pollination.

Greater enhancement can be achieved in the areas through planting initiatives and management of these species for wildlife. The Tidy Towns group are considering actions for several of these green spaces which will go toward improving the biodiversity value of the areas and in doing so improve the overall biodiversity value of the Parks area.

5.3 BIODIVERSITY SURVEYS 2023

HABITAT MAPPING

A walkover survey was carried out during June 2023 whereby the grounds of the plans were walked, and each identified discrete habitat type mapped according to *A Guide to Habitats in Ireland* (Fossitt, 2000) classification system. Broadly, the habitats present were amenity grassland with hedgerows, treelines, reedbeds and several water features including a river and two ponds. A detailed habitat map is shown in section 5.4 below and in Appendix A.

FLORAL STUDY

Flora surveys were undertaken during May, June and July 2023. Surveys were conducted with the aid of habitat maps previously prepared during walkover survey. Surveyors made note of the locations of any species listed on the *Flora (Protection) Order 2015*, included within the threatened categories[1] of the *Ireland Red Data List No. 10: Vascular Plants* (Wyse Jackson *et al.,* 2016), or listed on the third schedule of the *Birds and Habitats Regulations 2011*. Plant nomenclature follows the *BSBI's List of Accepted Plant Names*[2]*.*

Habitats were mapped in the field and field data was uploaded to a geographical information systems (GIS) database.

Figure 1 below shows the key areas surveyed for botanical species.

[1] *The threatened categories are: Critically Endangered; Endangered; and, Vulnerable (Wyse Jackson et al., 2016).*

[2] *BSBI (2007). BSBI's List of Accepted Plant Names. Available online at www.bsbi.org*

Figure 1 Locations for floral assemblage study

BREEDING BIRDS SURVEYS

Three separate breeding bird surveys were undertaken within the parks on the 10th and 29th May 2023, and 26th June 2023. Each survey included four walked transects at a range of locations in the Park. The breeding bird surveys took place in the morning, shortly after sunrise in order to coincide with the period of highest bird activity.

All birds detected were recorded on field sheets. Bird species that were heard or seen were recorded, and their locations noted.

Data from the three visits were collected including the approximate positions for the birds as seen or heard. These data were recorded on aerial photographs.

Conservation Status: A list of "Birds of Conservation Concern in Ireland 4: 2020 to 2026" (Gilbert et all 2021) indicates three categories of concern as follows.

- Red list species (high conservation concern).
- Amber list species (medium conservation concern).

• Green list species (least conservation concern).

These statuses have been assigned to all regularly occurring species in Ireland. The criteria on which they have been assessed is based on their international conservation status, historical breeding declines, recent population declines, European conservation status, breeding rarity, localised distribution and the international importance of populations.

BAT SURVEY

Habitats within the Town parks area were assessed for their suitability for roosting and foraging bats, based on professional judgement and with reference to guidelines on habitat suitability for bats contained within *Bat Surveys for Professional Ecologists: Good Practice Guidance* (Collins ed., 2016). Assessment of features was undertaken by Niamh Burke based on an initial site walkover in May 2023.

A Bat activity survey was carried out within the lands in order to identify the areas of greatest importance for foraging and/or commuting bats, and to identify any active roosts. Bat activity transect surveys were undertaken on 26th June 2023, by Niamh Burke and Philip Howard BSc. The survey included four walked transects, which were each walked using Echo Meter Touch 2 bat detector and recorder and a handheld ultrasound detector (Magenta 4) to record bat activity. The bat activity survey took place between sunset and approximately two hours after sunset.

MAMMAL SURVEY

Surveys for mammals (excluding bats) were undertaken on the 11th May 2023 and 27th June 2023. The presence of terrestrial fauna species was surveyed through the detection of field signs such as tracks, markings, feeding signs, and droppings, as well as by direct observation. The habitats on site were assessed for signs of usage by protected/red-listed fauna species, and their potential to support these species.

A mammal trail camera was deployed along the river corridor on June 27th due to the presence of mammal tracks and a well-defined mammal trail within the vegetation, and thus the potential for footage. The trail cam had both daytime and nighttime infrared functionality and was triggered by movement within the field of view. The mammal cam was left in-situ for approximately four weeks, until Early August 2023.

HABITATS

The habitats identified within the park's boundaries are listed and described below. The ecological value of each is highlighted along with the key plant species of note within each habitat type. Habitats recorded are shown Figure 2 habitat map below and in Appendix A of this report.

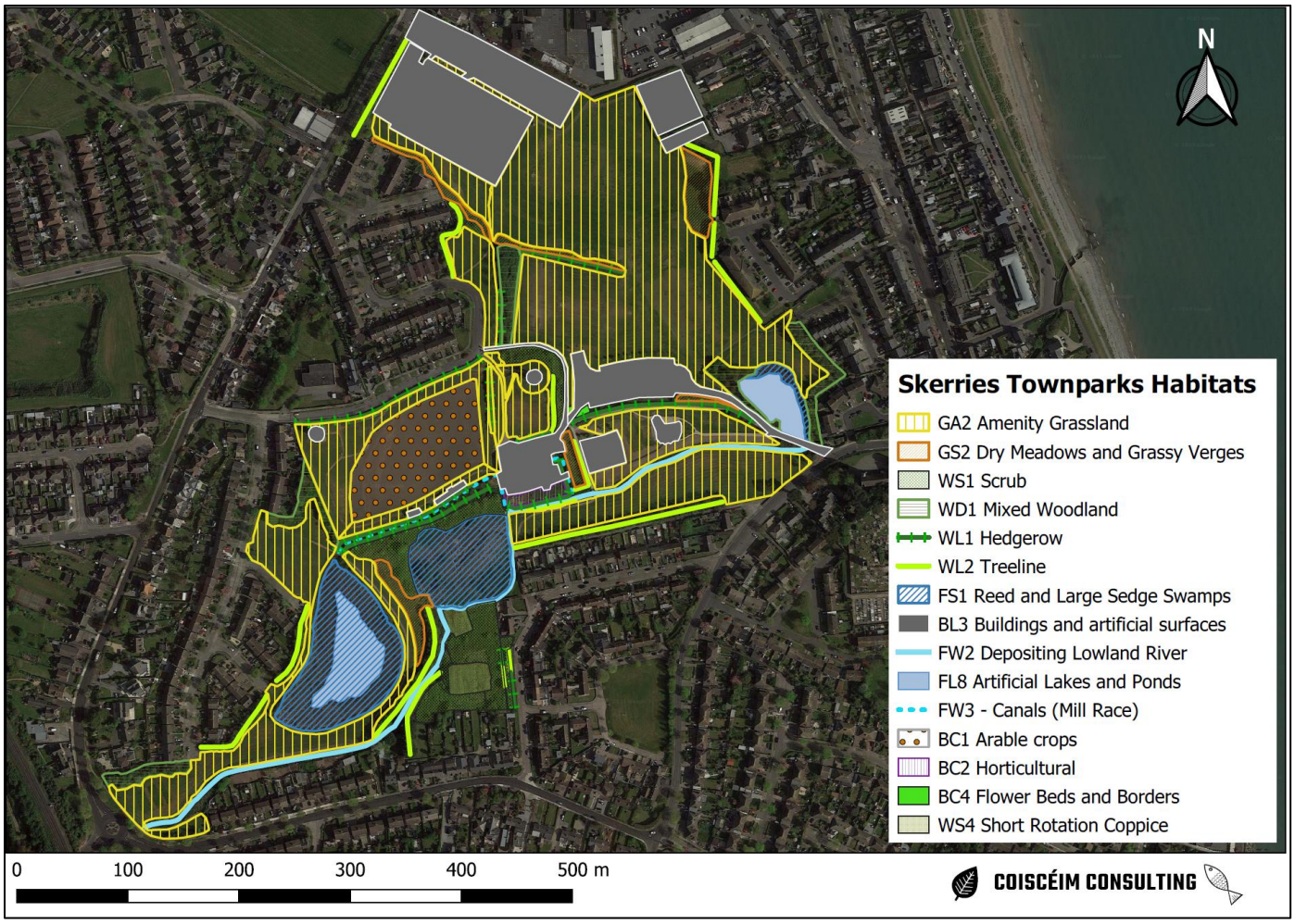


Figure 2 Habitat Map

Amenity Grassland (GA2)

This is the habitat which occupies the highest area within the parks and includes the playing pitches and the parkland areas to the south of the mills complex, and by the Greenlawns estate. Species were typically lawn grasses including Festuca rubra, Poa annua and some white clover, dandelion, broad dock, broadleaf plantain and common daisy. This grassland is considered to be of low biodiversity value, due to its low species diversity.

Dry Meadows and Grassy Verges (GS2)

Some areas of grassland which are not subject to regular mowing can be classed in this context. Grass and flower species are more diverse than in the areas under amenity use. Species recorded in these verges and grassy areas left to grow to flower, included creeping buttercup, mugwort, nettle, thistle, curly dock, dandelion, perennial ryegrass, Yorkshire fog, ribwort plantain, ragwort, bent, hairy willowherb, white hairy willowherb, red clover, great bindweed and hogweed. This habitat is of relatively high value, based on its diversity and habitat opportunities for mammals and birds.

Flower Beds and Borders (BC4)

The raised bed area (Community Garden) within the Mills complex contains a variety of plants, to include garden flower beds with a variety of blooms, culinary herbs and vegetables. This habitat is relatively limited but would be of some value for pollinators.

Ornamental non-native shrubs (WS3)

Small areas in the vicinity of the Mills complex are occupied by garden flower beds and ornamental species. Species included Cotoneaster (Frachet's Cotoneaster). and Creeping raspberry (Rubus tricolor). Care should be taken to ensure that these species are well contained and not liable to spread into more native hedgerows and verges. This habitat is of relatively low value.

Mixed Broadleaved Woodland (WD1) / Treelines (WL2)

A small wedge-shaped area of mixed woodland borders the park to the north of the Mills complex. Other areas with treeline which are intermediate between treelines and thin strip of woodland can also be found along the park boundaries to the east, by the Kybe pond, and to the west, by the Mill Stream and the Greenlawns estate. Common species found in these stands are Sycamore, Ash, Silver birch, Pine, White & Grey willow with some alder near the Kybe pond area. This habitat is of high local value, with multiple habitat and feeding opportunities for a range of species – birds, mammals, and bats alike.

Hedgerows (WL1)

Several hedgerows are found in the mid parks area, some acting as boundaries delineating areas of different usage of the park (sports/ playground/ mills complex). Typical plant species include hawthorn, blackthorn, elder and some privet in areas. Most of the hedgerows in the parks are highly maintained and while they represent habitat of birds and small mammals, an adaptation of maintenance and a new programme of hedgerow enhancement would benefit these features. Fostering linear feature enhancement by increasing hedgerow connectivity in the landscape would benefit bats and small mammals.

Scrub (WS1)

Stands of scrubby vegetation with hawthorn, gorse, willow, and blackthorn to the north of the Reedbed area, likely represent an old hedgerow that has been allowed to grow without regular maintenance. It has a high habitat quality for birds and small mammals.

Buildings and Artificial Surfaces (BL3)

The Mills complex is located at the intersection between the sports field area and the amenity parkland to the south. There are several areas of hard standing and the building in the centre of the complex. Two windmills are situatied just north of the complex with the older windmill to the extreme west of the mills complex.

Other Artificial Lakes and Ponds (FL8)

Both Kybe Pond and Mills pond are classed in this category. The ponds provide good habitat opportunities for water birds and invertebrates, which in turn will benefit bats and birds as food source. It is important that water quality is monitored and managed appropriately to optimise its habitat value.

Reed and large Sedge Swamps (FS1)

The reedbed area to the south of the mills complex is a seasonally wet, area dominated by reed-canary grass, with some common reed, and flowering species interspersed, to include hairy willowherb, meadowsweet, and some field bindweed. This habitat is of value for birds, specifically reed bunting and sedge warbler. Small mammals will also use this habitat and commute between this and the marginal scrub and wooded areas to forage.

Depositing Rivers (FW2)

The Mill stream runs through the Town Parks area, which adds biodiversity value to the area. The stream, however, has been straightened, over-deepened and realigned, and so is limited in its habitat quality . It still provides some habitat opportunities for aquatic fauna, riparian plant species and a source of water for wildlife.

Arable Crops (BC1)

Cereal crops are grown in the field to the west of the Mills buildings complex. This is done to highlight the historical usage of the area for crop production for milling and breadmaking. This area has limited habitat value although some small passerine bird species and small mammals may benefit from the crop growth and grain seasonally.

Horticultural Land (BC2)

The raised bed area within the Mills complex has a small area dedicated to this use. This area is of limited biodiversity value.

Short rotation coppice (WS4)

An area to the south of the reedbed area is dedicated to a willow plantation, presumably for biofuel production. This area holds some value for birds and small mammals.

FLORA

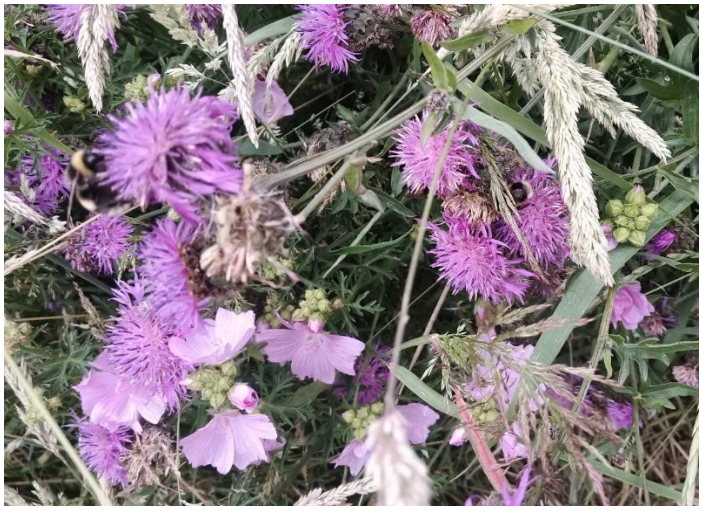
A floral study was conducted during the summer 2023 on three occasions between May and July. The key areas of note were those hedgerows, banks and grassy areas which were allowed to grow to flower, and which demonstrated the most diversity of species. The key areas which were surveyed during the flowering season are shown below in the figure 3.

Figure 3 Key areas surveyed for flowering plants

Some species of note on grassy verges and banks within the park are shown in plates A to I below, most of which are of great benefit for pollinators such as bees, hoverflies and moths. A list of species for each of the areas survey is provided in Appendix D.



Plates 1-3 From left to right: A. Meadow vetchling, B. White clover, C. Bladder campion (seedpods)


Plates 4-6 Left to right: D. Ladies bedstraw, E. Greater knapweed, F. Pink mallow, G. Kidney vetch


Plates 7-8 Left to right: H. Hop trefoil, I. Rosebay willowherb

The recent Carder bee project in Skerries has given rise to positive actions for pollinators in the park and the wider Skerries area. **The Skerries Action Plan for Carder Bee (2021)** outlines a number of actions including reseeding of areas with food plants suitable for the Carder bee such as vetches. There is evidence that this has been successful, in the number of vetch species observed.

Further expansion of tall herb / grassy verges and native shrub and wooded areas within the parks will increase the resources available to pollinators and enhance the area generally for other species also.

INVASIVE PLANT SPECIES

During the surveys, the invasive alien plant Himalayan Balsam was identified, chiefly along the banks of the Mill Stream in the area just south of the Mills complex. It can be identified by its pink, trumpet shaped flowers on display between June and October. Its leaves have a pointed tip, and a jagged (serrated) edge and stems are hollow, often with a reddish-brown colouring.



(Plates 9-11) Himalayan balsam is an invasive species listed on the Third Schedule of the EU Birds and Habitats Regulations S. I 477/2011 as amended and it is therefore an offence to plant or cause this plant to spread.

The spread of this plant, like other invasive plants, compromises the growth of native species through competition. Furthermore, a particular risk once it is established on a riverbank, is that with

seasonal dieback of the species over the winter period, banks are left bare and more susceptible to erosion.

This species thrives along riverbanks, drainage ditches, wet meadows, roadsides, and waste ground. Ripe seed pods “explode” when mature and when touched, and on land can spread up to 7 metres from the parent plant. However, its situation commonly by water courses means that spread of seed downstream via flowing water, is common.

Fortunately, the root systems are very shallow and thus removal is relatively easy. Manual removal is the preferred method for Himalayan Balsam but requires a licensed professional to manage the eradication and disposal of plant material. Treatment will involve monitoring and treatment over several seasons (typically 3 years), due to the prevalence of the seed bank in the general area of infestation.

Several occurrences of the non-native Butterfly Bush were also noted in the park, chiefly along the upstream banks of the mills stream, to the western end of Town Parks.

While this species is not listed on the Third Schedule list of the European Communities (Birds and Natural Habitats) Regulations 2011 [S.I.477/2011] which are subject to restrictions under regulations 49 and 50 (view the 76 listed species), it is listed as of Medium Risk on Ireland’s Biodiversity List, with a relatively high risk score of 17.

Plates 12 and 13: Butterfly Bush (Budhleia davidii) left, and Montobretia (Crocosmia x crocosmiflora) right

Crocosmia (Montbretia) is an orange-flowered perennial plant which has escaped from gardens into the wild over the past century. While not on the Third schedule, it poses a risk to biodiversity and its control is recommended. One stand of the Crocosmia was identified to the east of the Mill pond areas during July 2023.

Figure 4 below shows the location of the non-native invasive plant species identified within the Town Parks area.

Figure 4 Invasive species locations in the Town parks area

BREEDING BIRDS

All bird species, their nests and eggs are protected under the that occur naturally in Ireland are fully protected at all times by the Wildlife Act 1976 and relevant amending legislation.

Several key habitats are associated with good breeding bird habitat within the Town Parks, to include the hedgerows and trees, the wooded riparian area and the willow plantation to the southern end of the park. The reedbeds in the central area by the river support warbler and reed bunting as does the marginal reed vegetation of both ponds. The open water of the ponds supports mute swans, moorhens and mallard, and although not observed during the surveys, kingfisher (*Alcedo atthis*), an Amber listed species, were recorded on the Mill stream during 2022.

Breeding bird surveys were undertaken during the period May - June 2023. Four transects close to hedgerows or treelines / watercourse were followed and any species observed/ heard were recorded.

In total, 33 bird species were recorded on or near the lands. Of these, 2 were Red-listed species, 7 were amber listed and 24 were green listed.

Two Red-listed species observed within the parks area were Swift and Kestrel.

Bird species observed along the transects walked included 7 amber listed species, 6 of which were identified as possible breeders; Greenfinch, Linnet, House Martin, House Sparrow, Mute swan, and Starling.

24 green listed species were observed during the surveys - most of which are likely breeding with in the park boundaries.

Based on the desk study and survey findings, breeding birds are thus valued as being of local importance (higher value) at the Town Parks at present, with the area representing a good resource for passerines and water birds alike. Figure 5 below show the variety of species observed during survey. A species list, highlighting the conservation status of each is provided in Appendix C.

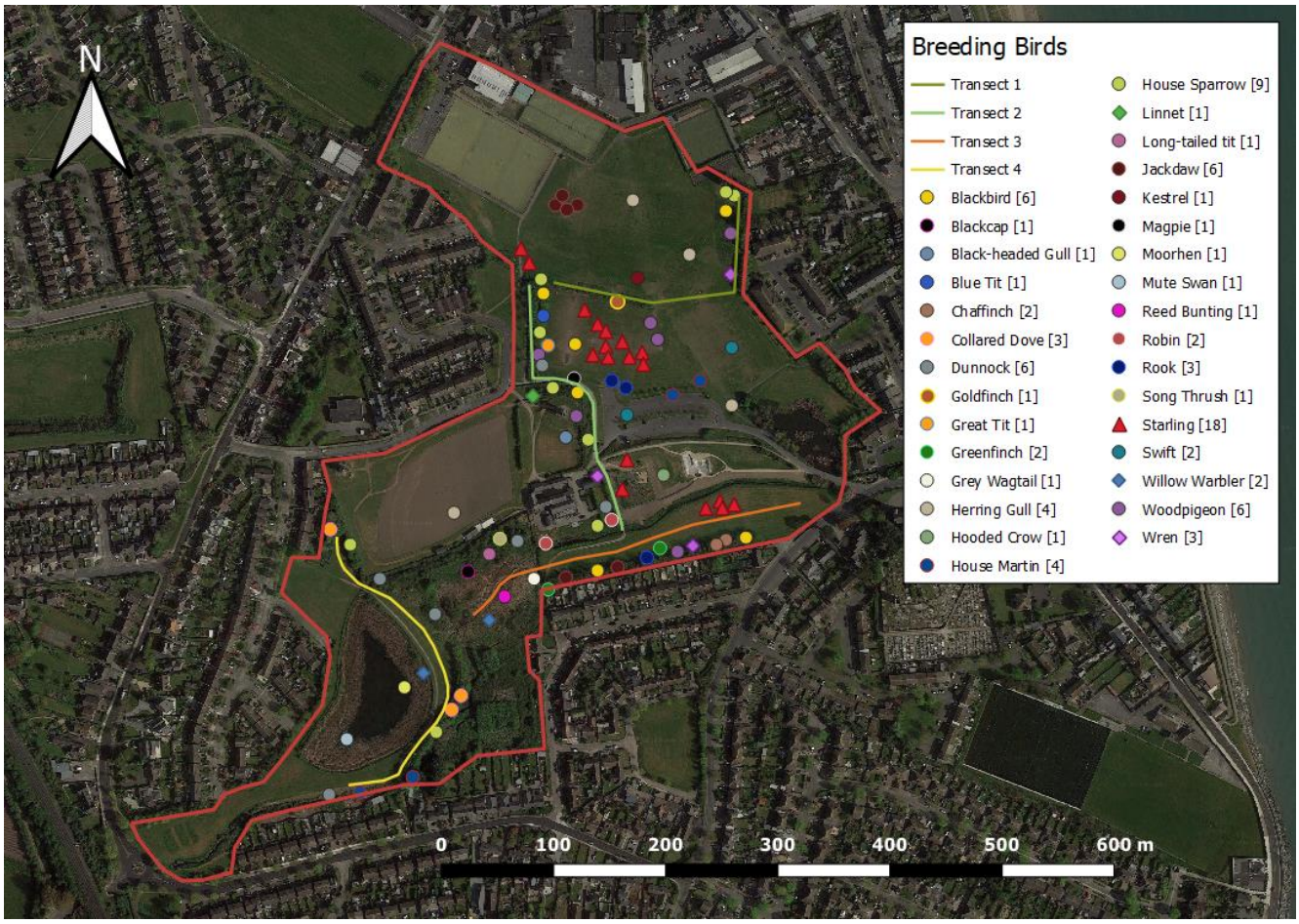


Figure 5 ***Breeding Birds observed during breeding bird surveys spring-summer 2023***

BATS

The Bat activity survey was undertaken on the evening 26th June 2023, by Niamh Burke and Philip Howard. The survey included four walked transects, using an Echo Meter Touch 2 bat detector / recorder and a handheld ultrasound detector (Magenta 4) to observe bat activity. Conditions were good, with dry weather conditions, low wind speed of 7kph and a temperature of 15°C.

Three species were recorded; The pipistrelle bat (*Pipistrellus pipistrellus*) , the soprano pipistrelle (*Pipistrellus pygmaeus*) and the Leisler's bat (*Nyctalus leisleri*).

Soprano pipistrelles were more concentrated around the Kybe pond area and above the treelines by the Mill stream, and Mill pond area. Pipistrelles were recorded along the central stretch of hedgerow between the sport fields and the playground. One Leisler's bat we observed traversing the park at a height, and likely commuting. Figure 6 below presented the data recorded during the survey. Each point represents a bat call at that location.

Figure 6 Bat activity survey at the Town Parks

MAMMALS

Several mammal trails were found within the park and some fox scat was noted toward the western margin of the sports pitches by the western treeline.

A trail camera was set at a well-used mammal trail by the river for a period of 6 weeks to record activity at that location. A number of recordings resulted, to include mice, a brown rat and several domestic cats.

None of the above-mentioned species are afforded protection under national or international legislation, however, several recordings of otters were also captured during the summer period. Otter are a protected species under both National and European legislation, and thus it is encouraging that they are present in the park. With this in mind, all efforts to protect, enhance and restore the watercourse should be prioritized.

Plates 14 and 15 below show a daytime and a night-time recording of an otter commuting to and from the river. The river was walked in the sections accessible, but no otter holts or slides were located.

Regarding other protected mammal species, it is also likely that hedgehog are present in the park base on their prevalence in the area. Their numbers are in decline and thus developing further measures to increase the habitat available for this species, is included in this plan.

Plates 14 and 15 Recordings of Otter commuting to and from the Mill stream.

The provision of increased vegetation; hedgerow and treelines or wooded areas to the park will also benefit other protected small mammals such as pygmy shrew and stoat.

Figure 7 below shows the mammal field signs and sightings observed within the park and highlights the key habitat for small mammals.

Figure 7 **Mammal habitat and field signs observed within the park**

SUMMARY – SKERRIES TOWN PARKS BIODIVERSITY

The habitats within the park are dominated by amenity grassland, which is necessary given its function in an urban environment. However, this does not preclude enhancement of areas which are currently acting as habitats for mammals, birds, invertebrates and aquatic fauna.

The park is situated in the Skerries urban centre but hold key links with the rural hinterland and to the coast. As such it acts as a key stepping stone habitat for a variety of species. Landscape connectivity between the countryside and the park should be fostered and enhanced.

Key species using the park include a variety of bird species – to include four species listed as rare or endangered. Three species of Bats have been observed foraging and commuting within the park area. Mammals use the verges and hedgerows, and it is likely that hedgehog, otter and other small mammals (Pygmy shrew, field mouse etc) inhabit the more vegetated areas. Several vegetated areas provide food sources for pollinators and the ponds and river represent habitat and a food / drink source for a wide variety of species. This includes invertebrates dependant on an aquatic phase to complete their life cycles, which in turn provides a food source for birds, bats and other fauna.

The presence of bodies of water within the park is a relatively rare and valuable resource for biodiversity, which can be further enhanced to increase the species using these habitats and which may, in time, be occupied by new species. Key habitats identified in the Parks are shown as below in Figure 8.

Figure 8 Key Habitats identified in the park (Summer 2023)

The parks represent an important resource for wildlife conservation and biodiversity in addition to its amenity and educational value to the community. The muti-faceted use of the park requires consideration, but mutual benefits for each of these park uses are possible, and much more can be done to enhance biodiversity while also enhance the public amenity value and educational resources. Section 6 presents some proposed actions which will benefit biodiversity, with suggestions for target species. Potential changes for park management regimes to benefit biodiversity are also presented.

6. PROPOSED ACTIONS – PARK BIODIVERSITY ENHANCEMENT

The Skerries Town Parks area is managed by Fingal County Council with input from a number of local associations, such as Sustainable Skerries and the Skerries Tidy Towns groups. These active groups have already undertaken number of key environmental initiatives in the area in recent years which cover the broader Skerries area in Biodiversity Action Plans of the area some which have focused on

key concerns such as the Large Carder bee. This targeted report for the Town Parks area aims to take forward the works already achieved in the park area and suggest ways to increase the biodiversity potential while maintaining the amenity use of the area.

This section will propose a number of key measures developed and proposed for the Town Parks area and present a comprehensive list of all measures proposed for each habitat. The measures will build on those already achieved by the groups and provide a framework from which to prioritize actions. This will add value and insight to the project and provide Fingal County Council with a clearer vision of the current and future conservation goals for these species and their habitats.

Section 7 will highlight the proposed actions for the theme encompassing actions for 'Awareness and Outreach'.

Section 8 describes the key flagship project which has a larger overarching ambition for biodiversity and goes beyond the scope of this study. This report outlines the possibilities for the project and its scope and required next steps to progress it.

Table 2 Proposed Biodiversity Actions with suggested timeframes

			2024				2025				2026			
Action	Biodiversity Actions	Who?	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
1	Agree new mowing regime for greens and verges with Fing	TT/SS/CoCo												
2	Pollinator Planting - increase the area for verges and mead	TT/SS												
3	Skerries Mills Complex - Planting and Others (Heritage orchard, hedgehog, bat and bird nesting habitat, bee banks)	Skerries Mills & CoCo with TT/SS												
4	Tree planting/ Enhancement of hedgrows in Park - Connect and Expand	CoCo												
5	Solitary Bee banks at Skerries (Great) Mill	TT with Ecologist												
6	Creation of scrapes for birds- in Reedbed/marsh area	CoCo												
7	Reed Management in both the small and large pond	CoCo												
8	Install bat boxes within park	CoCo/ SS with Ecologist												
9	Removal of invasives - Himalayan Balsam / Butterfly bush	CoCo -with SS/TT												
10	Introduce hedgehog-friendly measures - shelter/boxes to areas in park	CoCo & TT/SS												
11	Regrading of Kybe pond margins	CoCo												
12	Water Quality focus at ponds - WQ testing - invertebrate monitoring	CoCo/ Ecologist												

6.1 BIODIVERSITY ACTIONS – PROPOSED MEASURES

Descriptions of the key biodiversity actions as listed above in Table 2 are outlined and examples of the kind of ecology input and detail proposed, are provided in Table 3 below.

Action	Detail	Photo
1	**New mowing regime for greens and verges in Park.** Several areas within the town park which are not currently under use for sports activities may be left to grow in height and allowed to bloom before mowing. This will allow pollinators to benefit from the food source and increase knock-on ecosystem benefits such as increased invertebrate food source for other species – such as birds and bats. If areas of flowering plant are allowed to remain until seeding, then the cycle of wildflower proliferation can benefit future generations of flora and fauna in the area. Key areas proposed are the southern bank of the river near the Skate park complex, the sloping bank from hedgerow to the skatepark area, the verges and triangular area within the Greenlawns estate, to the west of the park.	 
2	**Pollinator Planting - Increase the area** for verges and meadows to include planting targeted for Bats and include Carder Bee Actions as per the AIPP plan/ BEC report. In addition to mowing regime management and timings, targeted planting of species native species will accelerate the resources available to these species and benefit biodiversity in a reduced timescale.	

	Night-scented flowers such as Honeysuckle, Evening primrose and Bladder campion/ white campion may act to attract moths and in turn, more bats to the park area. Increasing the variety of pollinator species – as described in the Carder Bee Action Plan will also be of benefit for multiple insect species.	
3	**Mills Inner fields – Planting and Habitat enhancements** Orchard, Herb Garden, enhanced hedgerows, pollinator meadow(s). Pollinator meadow(s) may be established in here - potentially down slope of the great Windmill, and along field verges where the mown lawn area may be reduced with a planned mowing regime agreed with Fingal County Council. The enhancement of the hedgerows in this area with increased native species as described in section 4 below, is proposed. A 'Food for Free' trail establishment (fruit bushes along fence line) may also increase awareness and add to the attraction for guided tours in this area. A Heritage Orchard, featuring ancient varieties of apple/ pear/ plum trees would also add biodiversity value and be in lie with the heritage of the mails and former Abbey history. Heritage apple varieties are available from Seed Savers in Clare: **https://irishseedsavers.ie/apple-tree-conservation/**	 

	Given that there is minimal disturbance by dogs in this area, it is also a good candidate for hedgehog refuge and nesting areas. In conjunction with the new build at the Mills complex, swallow cups and/or swift boxes could be incorporated in addition to Bat bricks within the new structure, to house bats. Also, if room may be accommodated within the roof space (of the old *or* new building), a separate larger maternity roosting chamber could be established here also to support breeding bats during the summer months.	  
4	**Tree planting/ Enhancement of hedgerows in Park - Connect and Expand.** A new, updated hedge management regime will benefit the natural cycle of the hedgerow species within the park, allowing them to grow more fully and to produce flowers and fruit, which will in turn provide resources for wildlife. An alternating 3-year cycle of management for the hedgerow will help increase the habitat and food resource potential of the hedgerows. The existing hedges and treelines may also be enhanced with interplanting with native species, and the hedge margins can be allowed to encroach a little further into mown grassland, with a margin of low-growing herbs and rough grass at the hedgerow base. A widened margin will increase the potential for invertebrates, birds and mammals alike. Tree Planting can also be explored where they may be accommodated. Key candidate areas such the area north of the Kybe pond and the area south of the river where the willow plantation is currently. Existing tree growth can be continued but altered as necessary to increase habitat quality. These actions can be	 

	established with respect to the amenity use of the areas, so can be planned for this use. Riparian tree planting would provide multiple benefits also to include habitat potential for multiple species – improve linear landscape connectivity of the riparian corridor. Other benefits of a wooded / vegetated river corridor include shading which also provided habitat abut also temperature regulation, and flood mitigation due to its ability to slow flood flows during wet weather events. However, an overarching proposal as described in section 8 encompasses the restoration of the shape of the river corridor (Action 17) to increase the habitat quality within the river as well as its banks and riparian zone. It may thus be best to wait until a future design of the river planform is decided so that the riparian vegetation / tree planting may be planted within the new river corridor.	  
5	Solitary Bee banks at Skerries (Great) Mill. Ireland has 79 species of solitary bee, 64 of which are mining species. The bees nest by making tiny burrows in bare earth clay, peat, sand, and soil. They generally prefer south/ west facing sheltered banks. A cleared area of earth on the south facing mound of the Great Windmill would be an ideal nesting site. Increased flower planting and / or meadow creation would also be a great addition here,	 

	especially given its context as a site for guided tours and could become a feature of interest. Another possible site with ideal aspect is the area at the base of hedgerows, by the Carder bee verges near skatepark as an awareness-raising feature (see Map).	 
6	**Creation of scrapes for birds by Reedbed/marsh area**. The creation of shallow depressions (or Scrapes) which may become wetted seasonally will be of huge benefit for bird life in the park. These shallow (<1m depth) seasonal pools of water support high densities of insects and earthworms which are important food for birds and amphibians, and a diverse range of aquatic and semi-aquatic plants which benefit wading birds and waterfowl. A simple way that riverside and low-lying grassland can be improved (particularly for winter wading birds) is by creating wader scrapes. Once created, wader scrapes mimic natural hollows where water would have naturally accumulated in the past. These actions may also be done in tandem with a wider river restoration project which would incorporate these small wetland features in its naturalized course.	 *Reedbed area in the park*  *Image of a wader scrape in grassland setting*

7	**Reed Management in both the small and large pond** The encroachment of the reeds in both the small and large pond is reducing the expanse of water which is vital for resident swans and other water birds. It is proposed that some reed management be carried out annually to ensure that adequate areas of open water are maintained within the ponds.	
8	**Actions for Bats - bat boxes within parks** Bat foraging and commuting activity by three species was recorded within the park during the summer survey within the parks site. While no evidence of roosting was observed on the site, it may be an idea to provide roosting habitat where possible to encourage further use of the parks area by bats. This could be achieved in a number of ways -by mounting bat boxes on trees within the park, or by integrating bat bricks (See picture top right) into one or more of the buildings in the Mills complex. A range of sizes of bat box would be best so as to ensure that bats at different life stages may exploit the shelters. The provision of larger, maternity roosting boxes in possible given that extent of the structures available in the Town Parks area in which to mount / integrate these devices. *As per Action 2, additional bat-targeted night-scented flowers* such as Honeysuckle, Evening primrose and Bladder campion/ white campion to attract moths and in turn, more bats to the park area would be beneficial also.	 *Bat bricks – being integrated into a new building*  *Tree-mounted 'Woodcrete' bat boxes*

9	**Removal of invasives** - Himalayan Balsam / Butterfly bush Manual removal for Himalayan Balsam is recommended, via the hand-pulling technique, prior to seed pod formation. This will require a licensed professional to manage the eradication and disposal of plant material. Treatment will involve hand pulling early in the season (March-May) followed by monitoring and treatment over several seasons (typically 3 years), due to the prevalence of the seed bank in the general area of infestation. Professional removal of Butterfly bush where it proliferates in the upstream section of the mill stream to the East of the Park, is also recommended.	 

10	**Introduce Hedgehog-friendly measures - shelter/boxes to areas in park.** The previous BAP for Skerries specified measures for nesting hedgehog (which would also benefit birds) in the Town Park. Hedgehog nesting areas in the Mill Park are thus proposed and as were described in the Biodiversity Action Plan (2021) for Skerries; by planting triangles of dense thorny scrub (whitethorn/blackthorn/holly/guilder rose) at least 16 meters deep, fenced from dogs, but allowing small gaps for hedgehog access. The dense hedge will need to be thick at the base, so will require initial pruning, but will be allowed to grow into an "A" shape. Signage may be placed nearby to highlight the purpose and could include passage on the hedgerow will include 'counting/ recording pollinator species also.	 
11	**Regrading of Kybe pond margins** Defining more graduated shallow margins at the Kybe pond may help to can support a wider range of flora and fauna. The construction should provide for a mixture of open water 70% and surrounding vegetation 30%, with an undulating profile (to maximise edge effects). The open water, reedbed, wet grassland and marshy habitats will add to the patchwork of habitats at the pond making it more dynamic and helping to maximize diversity.	

12	**Water Quality focus at ponds** **WQ testing and biological monitoring at the Mill and Kybe ponds is recommended** A focus on the aquatic health of the ponds is an important way to ensure that the biodiversity potential in these areas can be fully reached. The key is water quality, and the following parameters are frequently used in discerning the water quality in a lake or pond: DO (Dissolved Oxygen), pH, Alkalinity, Turbidity, TDS (Total Dissolved Solids, BOD (Biological Oxygen Demand). Testing the water for invertebrates and Diatoms can also yield good information on the health of the ecosystem.	 

Table 3. Biodiversity Actions Proposed

Figure 1. below highlights the key locations and proposed biodiversity actions as described in section 6. This is also available live by accessing the Google Maps page, where content can be viewed close up and edits made as the plan and actions are progressed.

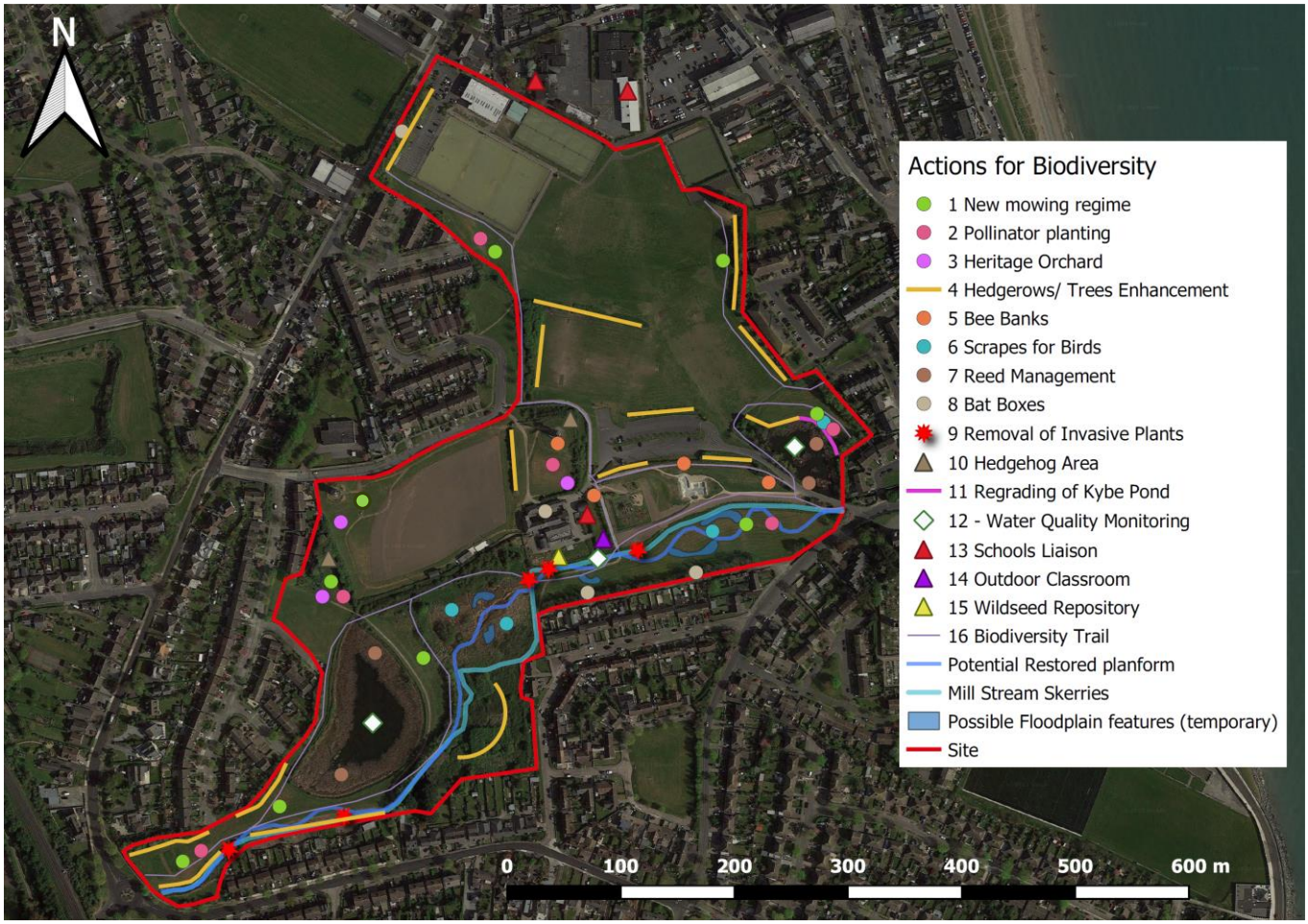


Figure 9. ***Aerial view map of locations for Biodiversity Actions***

7. AWARENESS AND OUTREACH

It is hoped that going forward, further collaboration with the local schools can be forged. Engagement in biodiversity activities is key for our future biodiversity health and sustainability as a whole. School collaboration can be a key element of the initiative and discrete actions could also be developed for pupils such as **nature trail / interactive biodiversity walks, outdoor classroom activities at the Mills**, **pond dipping events, and nest boxes with cameras connected to school computers**. These actions would renew relationships with schools – particularly primary schools, with a new suite of initiatives in this new post-Covid environment.

Plate 16 Potential Outdoor Classroom Area within the Mill Complex *Plate 17 A Live Willow Hut*

Skerries Mills Outdoor Classroom could be coupled with a 'Natural playground' using natural materials to include wooden play frames, live willow huts etc.

In tandem with this resource, it is proposed that a **Demonstration Hedgerow** within the Mill campus be would also be a great educational resource to raise awareness, nurture appreciation and inspire action. Hedgerow management is key to optimizing them for wildlife, - encouraging bird nesting, shelter for mammals, and providing pollen for pollinators and berries as winter food sources for birds and mammals.

Further resources for Biodiversity in schools and how links with environmental organizations can be forged and training resources for teachers, are listed in **Appendix G – Biodiversity Resources** below.

Other measures proposed within the 'Outreach and Awareness' theme, could be summertime guided walk undertaken with an Ecologist to demonstrate on wildflower identification and wildflower/plant choice for biodiversity action for key species.

A guided walk/ presentation on wildflower seed harvesting could also be done to encourage involvement and interest in the group for seed collection and storage for future biodiversity activities. Seed swap events could also successfully arise hand in hand with the Wildflower ID and Seed collection actions.

The Mills complex is also an ideal location to house a **Seed Repository** for the wildflower seeds collected during the late summer/ autumn season so that these may be sown in future years to increase and develop the biodiversity actions in the Town Parks area.

Table 4 below summarizes the proposed Awareness and Outreach actions for the Skerries Town parks area.

Figure 10. Community seed swap event (© Lovely greens)

Table 4. Proposed Outreach and Awareness actions

			2024				2025				2026			
Action	Outreach & Awareness raising	Who?	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
13	Liaison with schools for Biodiversity teaching / help with planting -(eg: TY year to help with park actions)	Schools/CoCo												
14	Outdoor classroom at Skerries Mills	CoCo /Mills												
15	Seed collection for pollinators - a seed repository for harvested local seeds	Mills/ SS												
16	Biodiversity trail within the parks - info boards /QR	CoCo												

8.0 FLAGSHIP PROJECT

8.1 RIVER RESTORATION

The restoration of the Mill Stream river channel and its wider riparian corridor is a means to significantly enhance the biodiversity of the area at a larger scale.

Rivers act as key wildlife corridors for commuting wildlife and serve as biodiversity 'hotspots' due to the range of habitats they provide. Indeed, despite covering less than only 1% of the Earth's surface, freshwater ecosystems are remarkably rich, providing habitats for about 10% of all known living species and one-third of vertebrates (Strayer and Dudgeon, 2010, Winemiller, 2018).

Creation of a long wildlife corridor along the Mill stream through the town park area and down to the coast is part of the proposed Skerries Biodiversity Action plan (2021). This has in part been encouraged through the alteration of mowing regime by the uppermost part of the river, leaving slightly longer grasses and wildflowers during the growing season. More can be done to increase the habitat quality of this corridor.

Figure 11. The straightened Mill stream by the reedbed area

A straightened river that is over-deep is disconnected from its natural floodplain. This severs the connection between the river and the land and erases the zone of transition between the two. This zone is often the richest habitat, in biodiversity terms.

The instream effect of straightened channels is that flows become more 'uniform' throughout, and so minimizing the variety of river 'forms or features that may be created (e.g.: side bars, in-channel islands, pools, riffles, and meanders). These features are the vary basis of the habitats used by aquatic animals and plant life. Without these features, the habitats no longer exist.

Figure 12 Aerial view of the modified Course of the Mill Stream

By improving a river and restoring it back to a more natural 'shape', we can provide huge benefits for biodiversity where natural ecosystem functions may be achieved once again.

A more natural river will have a more winding route, which create variations in water flow as it moves past the bends at different speeds, depending on its shape. A more winding route will also be longer, so making the watercourse less likely to react suddenly after wet weather events, such as storms and heavy rainfall.

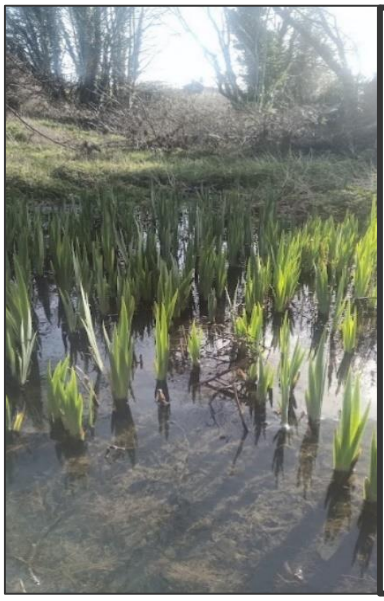
A natural river may also have in-stream features such as sidebars (deposits of rock and cobble/gravel usually on a bend of the river). Deposits of gravel and cobble may also build up as a 'mid-channel bar' and even develop into miniature mid-channel islands, creating further habitat 4 plants and animals these in channel features also affect the water flowing within the channel and we'll slow down where they meet them and speed up if channel gradient changes increases. This variability in flows is it key have a creator in time creating pools of slow flowing water, rifles which are shallow but fast and highly oxygenated. These key areas within the river act as habitats for different species – each with their own adaptations and feeding requirements. It is this '*irregularity*' in a natural stream, that is of such importance for wildlife and biodiversity as a whole.

Figure 13 A naturalized river reach, with good instream flow variation and riparian vegetation

In summary, River Restoration immediately benefits the quality of the ecosystem through returning channels to a more natural course, which in turn improves the ecology and reduces floods. The restoration also enhances biodiversity in the area by restoring the gradient between

the channel and it banks and riparian zone. This gradient or 'ecotone' with a more gradual transition between wet and dry areas, creates a much richer habitat for multiple species. In addition, we are provided with enhanced amenity value, water quality, and decreased flood risk.

Figure 14 In-channel features (rocks, sidebars) in a suburban stream, creating variable flows



Wetland features are also an important component of a functioning river catchment. They provide that critical transition between aquatic and terrestrial systems, vital to many species, as well as other ecosystem services such as flood water retention, nutrient cycling, and act as buffer zones.

Further resources and information on river restoration, are available on the RRC website:

WEB LINK: https://www.therrc.co.uk/why-restore

By creating some further features in or adjacent to the river, (either in-channel or including the floodplain/ riparian zone), a host of wildlife benefits can be created in addition to restoring the natural aquatic habitat.

Actions such as stream re-meandering back to a more typical course, and creation of connected online 'ponds or occasionally saturated shallow 'scrapes' areas to benefit invertebrate and bird life, would increase the ecosystem value of the Town Parks area immeasurably.

The riverbank / riparian areas may also be expanded **with tree cover where possible** and appropriate. There is a general lack of riparian woodland in Fingal and this action would help to address that issue, again reaping multiple benefits for numerous species, as well as regulating water temperatures for instream habitats and species.

This type of project is a longer-term goal, but it appears there is an appetite in the community and local authority for such efforts and such progressive goals which are in alignment with the

National Biodiversity Plan (Actions 2C and 2E), itself in line with the **EU Biodiversity Strategy 2030**, are thus encouraged.

Figure 15 Conceptual diagram of a re-naturalized river section through the Town Parks

Hydrological modelling will be a natural next step to understand the river's flow dynamics and flood return periods relative to local topography. Once this is done, a re-naturalized river planform along with temporary or seasonal water features can be designed.

An NFM (Natural Flood Management) approach which would go hand in hand with stream re-naturalization can be designed with some collaborative effort between the Local Authority and government bodies such as OPW. Hydrological modeling will ensure that the correct flood return periods (1 in 50 year, 1 in 100 year floods) are considered and mitigated.

The **RRC (River Restoration Centre)** can help with initial insights and project scoping for optimal habitat creation in the river and its riparian corridor, in addition to design and Implementation advice, if /when needed. A link to their website is provided in Appendix F below.

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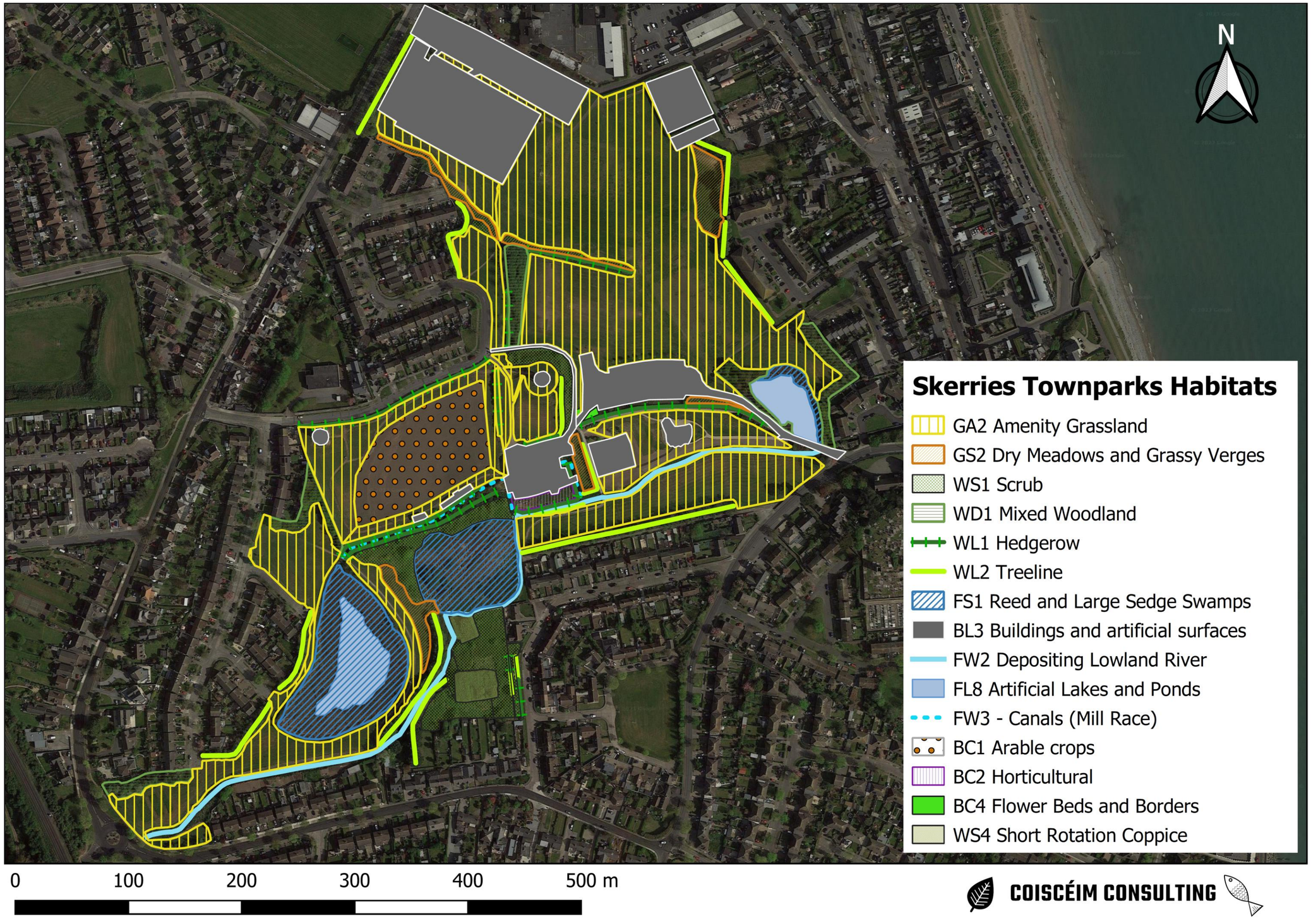
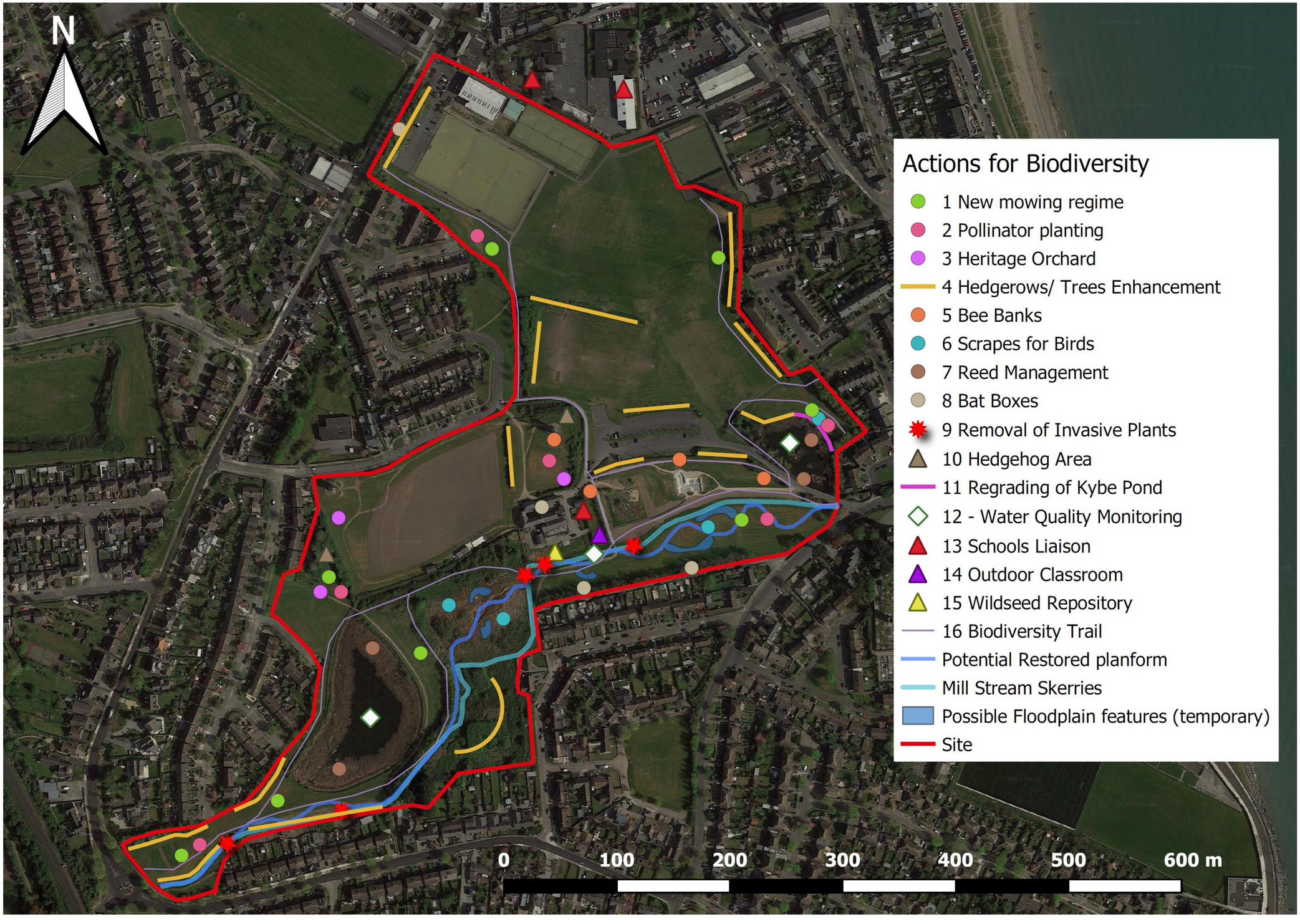

N
Skerries Townparks Habitats
GA2 Amenity Grassland
GS2 Dry Meadows and Grassy Verges
WS1 Scrub
WD1 Mixed Woodland
WL1 Hedgerow
WL2 Treeline
FS1 Reed and Large Sedge Swamps
BL3 Buildings and artificial surfaces
FW2 Depositing Lowland River
FL8 Artificial Lakes and Ponds
FW3 - Canals (Mill Race)
BC1 Arable crops
BC2 Horticultural
BC4 Flower Beds and Borders
WS4 Short Rotation Coppice
0
100
200
300
400
500 m
COISCÉIM CONSULTING

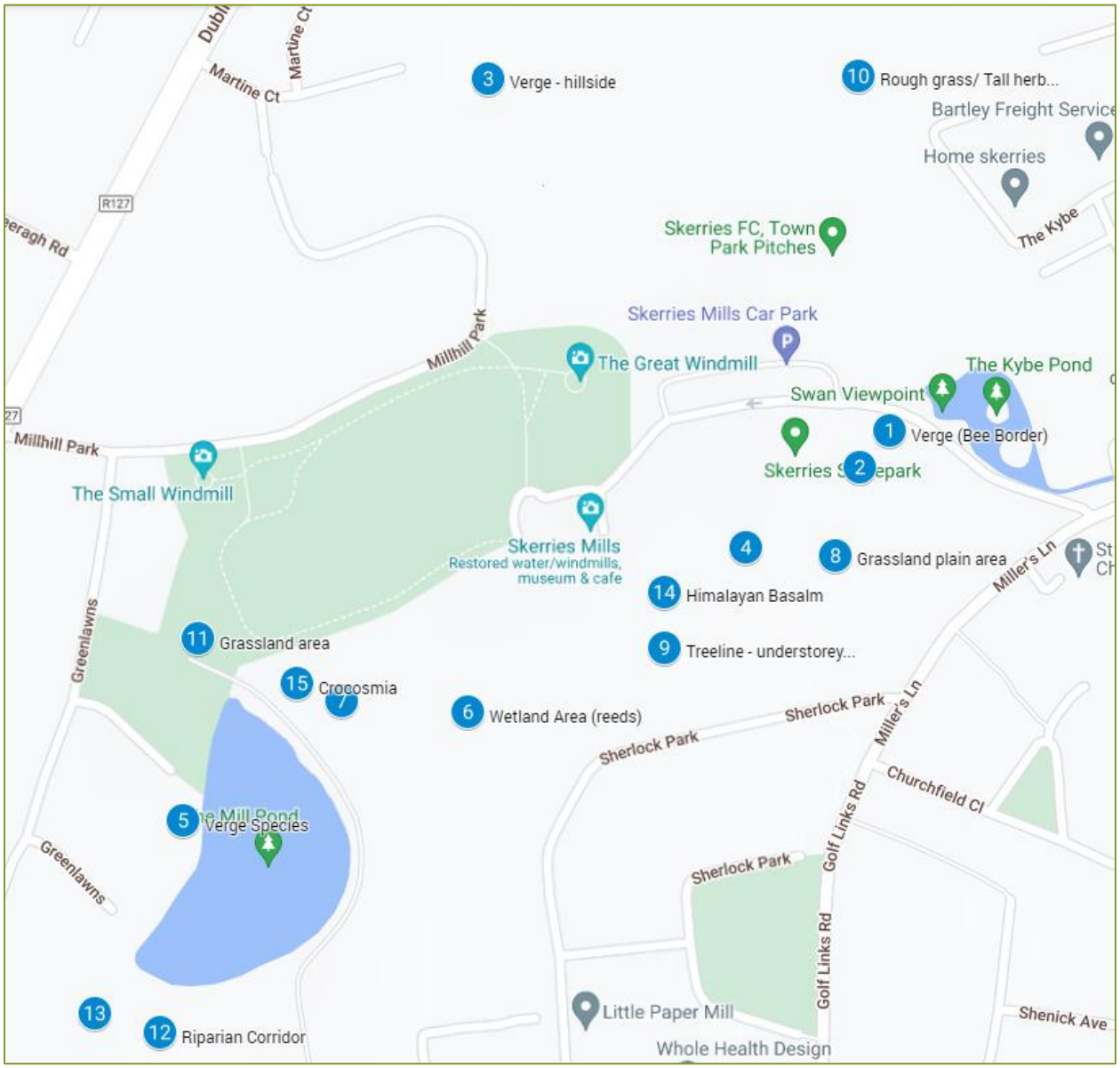

N
Actions for Biodiversity
1 New mowing regime
2 Pollinator planting
3 Heritage Orchard
4 Hedgerows/ Trees Enhancement
5 Bee Banks
6 Scrapes for Birds
7 Reed Management
8 Bat Boxes
9 Removal of Invasive Plants
10 Hedgehog Area
11 Regrading of Kybe Pond
12 - Water Quality Monitoring
13 Schools Liaison
14 Outdoor Classroom
15 Wildseed Repository
16 Biodiversity Trail
Potential Restored planform
Mill Stream Skerries
Possible Floodplain features (temporary)
Site
0
100
200
300
400
500
600 m

APPENDIX C BIRD DATA

Species	Latin Name	Number	Resident	Visitor	Conservation Status
Blackbird	*Turdus merula*	6	✓		Green
Blackcap	*Sylvia atricapilla*	1	✓		Green
Black-headed Gull	*Chroicocephalus ridibundus*	1	✓		Green
Blue Tit	*Cyanistes Caeruleus*	1	✓		Green
Chaffinch	*Fringilla coelebs*	2	✓		Green
Collared Dove	*Streptopelia Decaocto*	3	✓		Green
Dunnock	*Prunella Modularis*	6	✓		Green
Goldfinch	*Carduelis carduelis*	1	✓		Green
Great Tit	*Parus Major*	1	✓		Green
Greenfinch	*Chloris chloris*	2	✓		Amber
Grey Heron	*Ardea cinerea*	1	✓		Green
Grey Wagtail	*Motacilla cinerea*	1	✓		Green
Herring Gull	*Larus argentatus*	4	✓		Amber
Hooded Crow	*Corvus cornix*	1	✓		Green
House Martin	*Delichon urbicum*	4	✓		Amber
House Sparrow	*Passer domesticus*	9	✓		Amber
Jackdaw	*Corvus monedula*	6	✓		Green
Kestrel	*Falco tinnunculus*	1	✓		Red
Linnet	*Linaria cannabina*	1	✓		Amber
Long-tailed tit	*Aegithalos caudatus*	1	✓		Green
Magpie	*Pica pica*	1	✓		Green
Mallard	*Anas platyrhynchos*	4	✓		Green
Moorhen	*Gallinula chloropus*	1	✓		Green
Mute Swan	*Cygnus olor*	1	✓		Amber
Reed Bunting	*Emberiza schoeniclus*	1	✓		Green
Robin	*Erithacus Rubecula*	2	✓		Green
Rook	*Corvus frugilegus*	3	✓		Green
Song Thrush	*Turdus philomelos*	1	✓		Green
Starling	*Sturnis vulgaris*	18	✓		Amber
Swift	*Apus apus*	2	✓		Red
Willow warbler	*Phylloscopus trochilus*	2	✓		Green
Woodpigeon	*Columba palumbus*	6	✓		Green
Wren	*Troglodytes troglodytes*	3	✓		Green

APPENDIX D FLORA DATA

Floral data were collected from the indicative map points and recorded as grid referenced points on the species list below.



GRID REFERENCE	COMMON NAME	LATIN NAME	STATUS
LAT/LONG		(*non-native) († rare)	
53.57496, -6.10858	**Steep Bank by Car park:**		
	False oat grass	*Arrhenatherum elatius*	Common
	Meadow vetchling	*lathyrus pratensis*	Common
	Kidney vetch	*Anthyllis vulneraria*	Common
	Smooth yellow vetch	*Vicia lutea*	Common
	Common vetch	*Vicia sativa*	Common
	Cow parsley	*Daucus carota*	Common
	Black medick	*Medicago lupulina*	Common
	Rosebay willowherb	*Epilobium angustifolium*	Common
	Chenault coralberry*	*Symphoricarpos x chenaultii**	Non-native
	Autumn Hawkbit	*Scorzoneroides autumnalis*	Common
	Red clover	*Trifolium pratense*	Common
	Field thistle	*Cirsium arvense*	Common
	Devils bit scabious	*Succisa pratensis*	Common
	Hare's foot clover	*Trifolium arvense*	Common
	Narrow clover	*Trifolium angustifolium*	Common
	Creeping bramble *	*Rubus tricolor**	Non-native
	Bur chervil	*Anthriscus caucalis*†	Rare†
	Cow parsley	*Anthriscus cerefolium*	Common
	Cotoneaster	*Frachet's contoneaster*	Non-native
	Yellow sweet clover	*Melilotus officinalis*	Non-native
53.57482, -6.10763	**Inner hedgerow by skatepark / playground (Carder Bee bank)**		
	Hedge bindweed	*Calystegia sepium*	Common
	Rough Marsh mallow	*Malva setigera**	Non-native
	Redclaws	*Escallonia rubra**	Non-native
	Common vetch	*Vicia sativa*	Common
	Alexanders	*Smyrnium olusatrum*	Common
	Bladder campion	*Silene vulgaris*	Common
	Hogweed	*Heracleum sphondylium*	Common
	White campion	*Silene latifolia*	Common
	English cinquefoil	*Potentilla anglica*	Common
	Creeping Cinquefoil	*Potentilla reptans*	Common
	Hawksbeard	*Crepis micrantha*	Common
	Great Bindweed	*Calystegia sylvatica*	Common
	Hop trefoil	*Trifolium campestre*	Common

	Large hop clover	*Trifolium aureum*	Common
	Yorkshire Fog	*Holcus lanatus*	Common
	Cocks foot	*Dactylis glomerata*	Common
	Meadow foxtail	*Alopecurus pratensis*	Common
	Common plantain	*Plantago major*	Common
	Mugwort	*Artemesia verlotiorum*	Common
	Butterbur	*Petasites hybridus*	Common
	Doves foot Cranesbill	*Geranium molle*	Common
	Birds foot trefoil	*Lotus corniculatus*	Common
53.57465, -6.10787	**Pollinator patches by skatepark:**		
	Greater knapweed	*Centaurea scabiosa*[†]	Rare[†] (planted)
	Common knapweed	*Centaurea nigra*	Common
	False London rocket	*Sisymbrium loeselii*	Common
	Autumn Hawkbit	*Scorzoneroides autumnalis*	Common
	Ladies Bedstraw	*Galium verum*	Common
	Hedge Bedstraw	*Galium album*	Common
	Common plantain	*Plantago major*	Common
	Garden Speedwell	*Veronica longifolia*	Common
	Field scabious	*Knautia arvensis*	Common
	Woodland sage	*Salvia nemorosa**	Non-native
	Spear Thistle	*Cirsium vulgare*	Common
	White Clover	*Trifolium repens*	Common
	St Johns Wort	*Hypericum perforatum*	Common
	Spreading Bent	*Agrostis stonolifera*	Common
	Barley Brome	*Bromus hordeaceus*	Common
	Perennial rye-grass	*Lolium perenne*	Common
	Common couch grass	*Elytrigia repens*	Common
	Chamomile	*Anthemis cotula*	Common
	Noble yarrow	*Achillea nobilis*	Common
	Pink Mallow	*Malva alcea*	Common
	Oregano	*Origanum vulgare*	Common
	Daisy	*Bellis perennis*	Common
	Oxeye Daisy	*Leucanthemum vulgare*	Common
53.5735, -6.11097	**Wetland Area**		
	Reed Canary grass	*Phalaris arundinacea*	Common
	Nettle	*Urtica Dioeca*	Common
	Yorkshire fog	*Holcus lanatus*	Common
	Hairy willowherb	*Epilobium hirsutum*	Common
	Meadow buttercup	*Ranunculus acris*	Common
	Bush vetch	*Vicia sepium*	Common

	Creeping thistle	*Cirsium arvense*	Common
	Meadow vetchling	*Lathyrus pratensis*	Common
	Ragwort	*Jacobaea vulgaris*	Common
	Creeping cinquefoil	*Potentilla reptans*	Common
	Horsetail	*Equisetum fluviatile*	Common
53.57427, -6.10877	**By Stream Banks**		
	Himalayan Balsam	*Impatiens glandulifera***	Invasive
	Hairy willowherb	*Epilobium hirsutum*	Common
	Creeping thistle	*Cirsium arvense*	Common
	Colts foot	*Tussilago farfara*	Common
	Great bindweed	*Calystegia sylvatica*	Common
	Downy buttercup	*Ranunculus lanuginosus*	Common
	Watercress	*Nasturtium officinale*	Common
	Mallow	*Malva sylvestris*	Common
	Field mustard	*Brassiva rapa var. rapa*	Common
	Perennial Ryegrass	*Lolium perenne*	Common
	Reed canary grass	*Phalaris arundinacea*	Common
	Nettle	*Urtica diocica*	Common
	Broadleaved dock	*Rumex obtusifolius*	Common
	Curly dock	*Rumex crispus*	Common
	Poppy	*Papaver rhoeas*	Common
	Cleavers	*Galium aparine*	Common
	Hogweed	*Heracleum sphondylium*	Common
	Cock's foot	*Dactylis glomerata*	Common
53.57356, -6.11196	**Scrubby area to west of reedbeds**		
	Bramble	*Rubus fruticosus*	Common
	Yorkshire fog	*Holcus lanatus*	Common
	Meadow Vetchling	*Lathyrus pratensis*	Common
	Curly Dock	*Rumex crispus*	Common
	Red Clover	*Trifolium pratense*	Common
	Creeping Thistle	*Cirsium arvense*	Common
	Bush Vetch	*Vicia sepium*	Common
	Gorse	*Ulex europaeus*	Common
	Hawthorn	*Crataegus monogyna*	Common
	Red Bartsia	*Odontites vernus*	Common
	Creeping Cinquefoil	*Potentilla reptans*	Common
	Common knapweed	*Centaurea nigra*	Common
	Great bindweed	*Calystegia sylvatica*	Common
	Cocks foot	*Dactylis glomerata*	Common
	False oat grass	*Arrhenatherum elatius*	Common

	Montbretia	*Crocosmia X crocosmiflora**	Non-native/Invasive
	Meadow buttercup	*Ranunculus acris*	Common
53.57385, -6.1131	**Grassland triangle by Greenlawns**		
	Perennial Ryegrass	*Lolium perenne*	Common
	Dandelion	*Taraxacum officinale*	Common
	Yarrow	*Achillea millefolium*	Common
	Yorkshire Fog	*Holcus lanatus*	Common
	White Clover	*Trifolium repens*	Common
	Creeping Thistle	*Cirsium arvense*	Common
	Ribwort Plantain	*Plantago lanceolata*	Common
	Curly Dock	*Rumex crispus*	Common
	Field Chickweed	*Cerastium arvense*	Common
	Smooth Meadow Grass	*Poa pratensis*	Common
	Common Bent	*Agrostis capillaris*	Common
	Ragwort	*Jacobaea vulgaris*	Common
	Autumn Hawkbit	*Scorzoneroides autumnalis*	Common
	Daisy	*Bellis perennis*	Common
	Meadow Buttercup	*Ranunculus acris*	Common
	Plum	*Prunus domestica*	Common
	Apple	*Malus domestica*	Common
	Crab apple	*Malus sylvestris*	Common
	Field Maple	*Acer campestre*	Common
	Pear	*Pyrus communis*	Common
	Hazel	*Corylus avellana*	Common
53.573, -6.11322	**Western verge by Mill Pond**		
	Common Dogwood	*Cornus sanguinea*	Non-native (likely)
	Bramble	*Rubus fruticosus*	Common
	Ribwort Plantain	*Plantago lanceolata*	Common
	Ivy	*Hedera helix*	Common
	Hedge Mustard	*Sisymbrium officinale*	Common
	Hogweed	*Heracleum sphondylium*	Common
	Creeping Thistle	*Cirsium arvense*	Common
	Elder	*Sambucus nigra*	Common
	Hawthorn	*Crataegus monogyna*	Common
	Spiny Sowthistle	*Sonchus asper*	Common
	Redcurrant	*Ribes rubrum*	Common
	Buddleja	*Buddleja davidii**	non-native / invasive
	Franchets Cotoneaster	*Cotoneaster franchetii*	
	Sweet briar	*Rosa rubiginosa*	

53.57209, -6.11392	**Grassland area to south of Mill pond**		
	Broadleaf plantain	*Plantago major*	Common
	Dandelion	*Taraxacum officinale*	Common
	Daisy	*Bellis perennis*	Common
	White Clover	*Trifolium repens*	Common
	Ragwort	*Jacobaea vulgaris*	Common
	Ribwort Plantain	*Plantago lanceolata*	Common
	Autumn hawkbit	*Scorzoneroides autumnalis*	Common
	Canadian Fleabane	*Erigeron canadensis**	Non-native/invasive
	Field Chickweed	*Cerastium arvense*	Common
	Red Bartsia	*Odontites vernus*	Common
	Yorkshire Fog	*Holcus lanatus*	Common
	Creeping Thistle	*Cirsium arvense*	Common
	Cow parsley	*Daucus carota*	Common
	Kidney Vetch	*Anthyllis vulneraria*	Common
	Hop Trefoil	*Lotus corniculatus*	Common
	Spiny Sowthistle	*Lotus corniculatus*	Common
	Curly Dock	*Rumex crispus*	Common
53.572, -6.1134	**Riparian Corridor south of Mill pond**		
	Colts foot	*Tussilago farfara*	Common
	Nettle	*Urtica dioeca*	Common
	Great bindweed	*Calystegia silvatica*	Common
	Meadow vetchling	*Lathyrus pratensis*	Common
	Cleavers	*Galium aparine*	Common
	Yorkshire fog	*Holcus lanatus*	Common
	Bramble	*Rubus fruticosus*	Common
	Horse tail	*Equisetum arvense*	Common
	Annual meadow grass	*Poa annua*	Common
	False oat grass	*Arrhenatherum elatius*	Common
	Wild angelica	*Angelica sylvestris*	Common
	Hairy willowherb	*Epilobium hirsutum*	Common
	Buddleja	*Buddleja davidii***	Non-native/Invasive
	Red clover	*Trifolium pratense*	Common
	Hard rush	*Juncus Inflexus*	Common
	Creeping thistle	*Cirsium arvense*	Common
	Fools watercress	*Apium nodiflorum*	Common
	Watercress	*Nasturtium officinale*	Common
	Pendulous sedge	*Carex pendula*	Common
	Downy buttercup	*Ranunculus lanuginosus*	Common

	Canary reed grass	*Phalaris arundinacea*	Common
	Chickweed	*Stellaria media*	Common
53.57648, -6.1108	**Hillside verge to west of playing fields**		
	Great bindweed	*Calystegia silvatica*	Common
	Nettle	*Urtica dioeca*	Common
	Creeping thistle	*Cirsium arvense*	Common
	Hogweed	*Heracleum sphondylium*	Common
	Alexanders	*Smyrnium olusatrum*	Common
	White dead nettle	*Lamium album*	Common
	Dandelion	*Taraxacum officinale*	Common
	creeping buttercup	*Ranunculus repens*	Common
	white clover	*Trifolium repens*	Common
	field mustard	*Brassica arvensis*	Common
	false oat grass	*Arrhenatherum elatius*	Common
	perennial ryegrass	*Lolium perenne*	Common
	Common vetch	*Vicia sativa*	Common
	Cocks foot	*Dactylis glomerata*	Common
	Yorkshire fog	*Holcus lanatus*	Common
	Mallow	*Malva sylvestris*	Common
	Ribwort Plantain	*Plantago lanceolata*	Common
	Creeping cinquefoil	*Potentilla reptans*	Common
	Daisy	*Bellis perennis*	Common
	Herb Robert	*Geranium robertianum*	Common
	Broad leaved Dock	*Rumex obtusifolius*	Common
	Ragwort	*Senecio Jacobea*	Common
	Common yarrow	*Achillea millefolium*	Common
	Common Bent	*Agrostis capillaris*	Common
	Bucks horn plantain	*Plantago coronopus*	Common
	Autumn hawksbit	*Leontodon autumnalis*	Common
	Cut-leaved dead nettle	*Lamium hybridum*	Common
	Common Fumitory	*Fumaria officinalis*	Common
	Small Flowered Cranesbill	*Geranium pusillum*	Occasional / rare
	Milk thistle	*Silybum marianum*	Rare†
	Chickweed	*Stellaria media*	Common
	Broad leaved plantain	*Plantago major*	Common
	Wall barley	*Hordeum murinum*	Common
	Spiny sowthistle	*Sonchus asper*	Common

53.57649, -6.10788	**Rough grass area to east of playing field**		
	Creeping buttercup	*Ranunculus repens*	Common
	Mugwort	*Artemesia vulgaris*	Common
	Nettle	*Urtica dioeca*	Common
	Creeping thistle	*Cirsium arvense*	Common
	Curly Dock	*rumex crispus*	Common
	Dandelion	*Taraxacum officinale*	Common
	Perennial Ryegrass	*Lolium perenne*	Common
	Yorkshire fog	*Holcus lanatus*	Common
	Ribwort Plantain	*Plantago lanceolata*	Common
	Juvenile buddleja	*Buddleja davidii*	Invasive
	Ragwort	*Jacobaea vulgaris*	Common
	Bent	*Agrostis capillaris*	Common
	Hairy willowherb	*Epilobium hirsutum*	Common
	Red clover	*Trifolium pratense*	Common
	Hedge bindweed	*calystegia sepium*	Common
	Hogweed	*Heracleum sphondylium*	Common

APPENDIX E FUNDING SOURCES

The following table outlines some of the potential sources of funding to help deliver the actions outlined in this Plan. It is also worth remembering other traditional forms of fundraising such as working with local businesses, raffles, table quizzes, GoFundMe events, etc.

Table 7. Funding bodies

Fund / Funding Body	Description
LEADER Programme, County Fingal LEADER Partnership CLG	To discuss potential project ideas and the availability of funding, contact the County Fingal offices at Swords Enterprise Park, Feltrim Road, Co Dublin. Email: info@fingalleaderpartnership.ie
Fingal County Council	For additional information in relation to funding for biodiversity and heritage projects, contact the Biodiversity Officer
Community Environment Action Fund – Fingal County Council	Formerly known as LA21, this fund covers small community environmental projects. https://www.fingal.ie/media/2822
Community Foundation for Ireland	The Community Foundation for Ireland has funded biodiversity surveys and action plans under their Environment and Nature programme. https://www.communityfoundation.ie/insights/news/environment-and-nature-fund-2019
Heritage Council	The Heritage Council supports a wide range of heritage projects throughout the country through our annual grants programme. https://www.heritagecouncil.ie/funding
Waters & Communities	Their aim is to support communities and stakeholders in the delivery of local water quality projects and initiatives and have an annual grant package available. Contact your local officer to discuss potential projects by searching: http://watersandcommunities.ie/community-water-officers/
Trees on the Land	This charity aims to increase the amount of native Irish trees across Ireland. https://www.treesontheland.com/
NeighbourWood Scheme	This Forestry Service grant supports the creation and enhancement of new native community woodland schemes over 1ha in size (up to 12ha size) including the improvements to woodland facilities such as trail infrastructure. https://www.agriculture.gov.ie/ https://www.teagasc.ie/crops/forestry/grants/management-grants/neighbourwood-scheme/

APPENDIX F CONTACTS

Below is a list of useful contacts which can be used as a resource for further information and support as the various phases of the Biodiversity Action Plan are set in motion.

Table 8. Key Contacts

Organisation / Group	Area of Expertise	Contact Details
Fingal County Council	The local Heritage Officer and Biodiversity Officer are available to discuss and provide information on biodiversity and heritage related matters and projects.	Fingal Biodiversity Officer Tel: (01) 890-5605 Email: biodiversity@fingalcoco.ie
Fingal Public Participation Network	Public Participation Networks (PPNs) act as an independent structure to facilitate public participation in policy and decision making with the local authorities. Community and voluntary, social inclusion, and environmental groups are encouraged to join Fingal PPN.	Telephone: 086 418 3355 Email: info@fingalppn.ie Website: https://fingalppn.ie/
Fingal LEADER Partnership	If your idea is eligible in principle for LEADER funding, a Project Development Officer will work with you to develop specifications of your project, help you with procurement, and assist in bring forward an application for funding. Funding is available in the following categories: capital, training, marketing, and analysis and development	Telephone: (01) 807 4282 Email info@ fingalleaderpartnership Website: https://fingalleaderpartnership.ie/
Irish Wildlife Trust	National environmental charity covering all aspects of biodiversity.	https://iwt.ie/
BirdWatch Ireland	For information on Ireland's birds.	https://birdwatchireland.ie/
BirdWatch Ireland – Fingal Branch	For information on Fingal's birds.	https://bwifingal.ie/
National Parks and Wildlife Service	Responsible for managing the Irish State's nature conservation responsibilities.	https://www.npws.ie/
All-Ireland Pollinator Plan	National Plan with the aim of creating an Ireland where pollinators can survive & thrive.	https://pollinators.ie/
National Biodiversity Data Centre	National centre for the collection, collation, management, analysis and dissemination of data on Ireland's biological diversity.	https://www.biodiversityireland.ie/
Vincent Wildlife Trust	National environmental charity with the aim of conserving and research into selected Irish mammals.	https://www.vincentwildlife.ie/

Botanical Society of Britain & Ireland	National organisation that promotes the study, understanding and enjoyment of British and Irish botany.	https://bsbi.org/ireland
The Local Authority Waters Programme (Waters & Communities)	A shared service working with Local Authorities and State agencies to meet obligations under the EU Water Framework Directive for the development and implementation of River Basin Management Plans in Ireland.	http://watersandcommunities.ie/
River Restoration Centre	A charity based at Cranfield University UK. RRC provide advisory and training services on Restoration measures and a huge database of previous river restoration projects carried out in the UK and across Europe.	https://www.therrc.co.uk/
Ballyboughal Tidy Towns	A Local Tidy Towns Group in the Fingal Area	https://www.facebook.com/Ballyboughal-Tidy-Towns-1943501069039709/
Ballyboughal Hedgerow Society	Local environmental group in the Fingal Area	http://www.thehedge.org/ Contact: Ann Lynch
Castleknock Tidy Towns	A Local Tidy Towns Group in the Fingal Area	https://www.castleknocktidytowns.com/
Garristown Environmental Group (Barn Owl Project and Biodiversity Action Plan)	A Local Tidy Towns Group in the Fingal Area	https://www.facebook.com/GarristownBiodiversityActionGroup/
Laurel Lodge Environmental Group	Local environmental group in the Fingal (Castleknock) area	https://www.facebook.com/LaurelLodgeEG/
Blanchardstown Tidy Towns	Blanchardstown Village Area Tidy Towns Group	https://www.facebook.com/BlanchardstownVillage/
Blakestown Drive Community Group	Residents Association in Blanchardstown area with many green initatives	https://www.facebook.com/search/top/?q=blakestown%20drive%20community%20group

APPENDIX G LINKS TO USEFUL ONLINE BIODIVERSITY RESOURCES

Below is a list compiled of some useful links to guides on a range of topics relating to biodiversity in the community:

Subject	Web Link
Bats	• https://www.batconservationireland.org/ • https://www.facebook.com/dublinbatgroup/
Birdwatching	• https://birdwatchireland.ie/irelands-birds-birdwatch-ireland/ • www.irishbirding.com
Children's Biodiversity Activities	• https://birdwatchireland.ie/our-work/fun-learning/for-kids/ • https://www.woodlandtrust.org.uk/blog/2020/03/kids-nature-activities-self-isolation/ • https://www.rspb.org.uk/fun-and-learning/ • https://www.thrive.org.uk/get-gardening/plant-a-living-willow-structure
General Biodiversity Issues	• https://www.biodiversityireland.ie/ • www.npws.ie
Habitat Boxes	• https://www.biodiversityireland.ie/wordpress/wp-content/uploads/Pollinator-How-to-Guide-1-ALT_FINAL.pdf • https://birdwatchireland.ie/app/uploads/2019/09/Nestboxes-factsheet.pdf • https://www.batconservationireland.org/wp-content/uploads/2015/05/BCIrelandGuidelines_BatBoxes.pdf • NHBS website: https://www.nhbs.com/
Hedgerows	• https://www.biodiversityireland.ie/wordpress/wp-content/uploads/Pollinator-How-to-Guide-3-FINAL-1.pdf • https://www.heritagecouncil.ie/content/files/conserving_hedgerows_2mb.pdf • https://63273-649646-raikfcquaxqncofqfm.stackpathdns.com/wp-content/uploads/2019/04/Hedgerow-CasestudyASPaul21-Send-for-New-Website.pdf • https://mosart.ie/wp-content/uploads/2016/02/Irish-Hedgerows-Networks-for-Nature.pdf • www.hedgelaying.ie
Interpretative Signage	• https://www.nature.scot/sites/default/files/2019-11/Guidance%20-%20Natural%20heritage%20interpretation_1.pdf • https://www.heritagecouncil.ie/content/files/bored_of_boards_1mb.pdf

	• https://pollinators.ie/resources/signage-templates/
Invasive Alien Species	• https://invasivespeciesireland.com/ • https://www.fisheriesireland.ie/Invasive-Species/invasive-species.html
Local Biodiversity News	https://www.facebook.com/LaurelLodgeEG/ https://www.localgymsandfitness.com/IE/Castleknock/1756467877921888/NatureCubsIreland
Orchards	• http://www.irishseedsavers.ie/blog/wp-content/uploads/2014/10/CreatingAnOrchard.pdf • https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/11466/1973262.pdf • http://www.wetlandsystems.ie/goephow.html • https://www.theorchardproject.org.uk/
Native plants and Seeds	Native Trees, shrubs and herbs can be bought from: • Nightpark Nursery Ballymount, Colbinstown, Co. Kildare • None so Hardy https://nonesohardy.ie/ Co Wicklow Native wildflower seeds can be sourced from: • Sandro Cafolla at http://www.wildflowers.ie/ • Connecting to Nature https://connectingtonature.ie/collections/nativewildflowerseed
Pollinator Friendly Planting Schemes	• https://pollinators.ie/resources/ • https://pollinators.ie/wordpress/wp-content/uploads/2018/04/Planting-Code-2018-WEB.pdf • www.rhs.org.uk
Pollinators	• https://pollinators.ie/
Recording Biodiversity	• https://www.biodiversityireland.ie/record-biodiversity/
Reducing Herbicide Use	• https://greensideup.ie/16-natural-alternatives-to-herbicide-why-you-should-use-them/
Schools & Biodiversity	• https://greenschoolsireland.org/biodiveristy/ • https://pollinators.ie/schools/ • http://www.heritageinschools.ie/teachers-resources/strand/living-things-science/p3?q=&c= • http://www.heartoftheglens.org/cms/wp-content/uploads/2017/12/Teachers-Outdoor-Learning-Resource.pdf

	• http://www.ipcc.ie/discover-and-learn/resources/ • Willow Huts: https://www.thrive.org.uk/get-gardening/plant-a-living-willow-structure
Swifts	• https://birdwatchireland.ie/our-work/surveys-research/research-surveys/swift-surveys/ • www.swiftconservation.ie/
Tree Identification & Selection	• https://www.treecouncil.ie/nativeirishtrees • https://drive.google.com/file/d/0B-qemRFHRDRSVnh3bmxGOEVaMHc/edit • http://www.clarecoco.ie/services/planning/publications/tree-design-guide-for-towns-and-villages-in-co-clare-2017-28115.pdf
Wildflower Meadows	• https://pollinators.ie/wordpress/wp-content/uploads/2018/04/How-to-guide-Wildflower-Meadows-2018-WEB.pdf
Wildflowers	• http://www.wildflowersofireland.net/index.php • www.bsbi.org
Wildlife Ponds	• https://www.wildlifetrusts.org/actions/how-build-pond • https://invasivespeciesireland.com/wp-content/uploads/2017/10/AQUATICS_BOOK5.pdf
Woodland	• http://www.woodlandsofireland.com/sites/default/files/Management%20Guidelines%20for%20Ireland%27s%20Native%20Woodlands%202017.pdf • https://www.forestryfocus.ie/social-environmental-aspects/biodiversity-and-nature-conservation/biodiversity-in-forests/conservation-and-restoration/ • http://www.woodlandsofireland.com/sites/default/files/Silvicultural%20Guidelines%20for%20Native%20Trees.pdf • https://www.wildlifetrusts.org/wildlife-advice/how-manage-woodland-wildlife

COISCÉIM CONSULTING

Ecology and Hydromorphology services

Coiscéim Contact: Dr Niamh Burke - coisceim@outlook.com

Comhairle Contae Fhine Gall

Fingal County Council

SKERRIES TIDY TOWNS

sustainable skerries