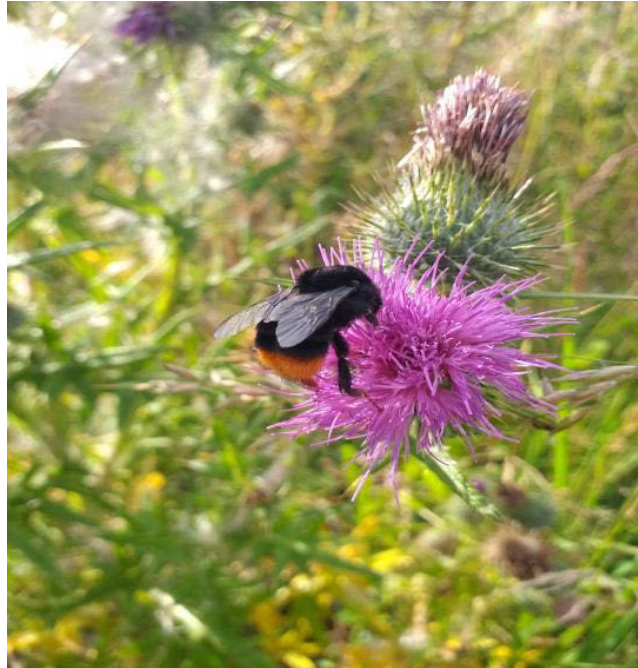


Macroom Town Pollinator Plan



**An Roinn Tithíochta,
Rialtas Áitiúil agus Oidhreachta**
Department of Housing,
Local Government and Heritage



**Cork
County Council**
Comhairle Contae Chorcaí

Prepared by Tony Nagle on behalf of Cork County Council

The preparation of this plan is an action of the Cork County Biodiversity Action Plan. The plan is funded through the National Biodiversity Action Plan by the Department of Housing, Local Government and Heritage and by Cork County Council.

November 2020

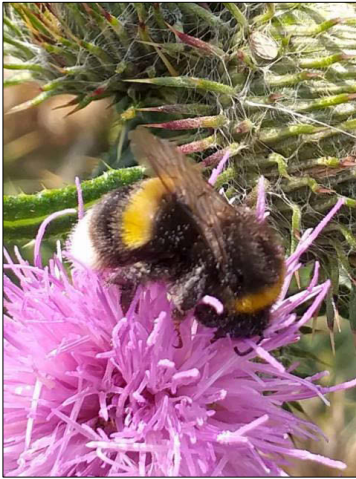
Contents

Introduction	4
What Are Pollinating Insects?	4
Why Are Pollinators in Trouble?	5
The Purpose of This Plan.....	5
How the Plan Was Prepared	9
What the Plan Contains	9
How the Plan Will Be Implemented.....	9
Management Recommendations	10
Other Recommendations.....	20
Raising Awareness	20
Monitoring Progress	20
The Cost of Implementing the Plan	21
The Importance of Choosing Native Trees and Shrubs of Irish Provenance.....	22
Yellow Rattle and its Biodiversity Significance.....	22
Dealing with Invasive Species	23
Wildflower Seeds	23
References	24
Useful Links	24
Appendix 1	25
Appendix 2	28

Introduction

What Are Pollinating Insects?

Pollinating insects (bees, butterflies, moths, hoverflies and other insects) play a vital role in the natural process of pollination. Pollination is essential for many of our food crops, trees, fruit trees, flowers and wildflowers. Insect pollinators fly from plant to plant in search of pollen and nectar and by doing so they transfer pollen from one plant to another thereby facilitating the fertilisation and reproduction of these plants. Pollination by bees is essential for the production of one third of the food crops we eat and the majority of our wildflowers benefit from being pollinated by insects.



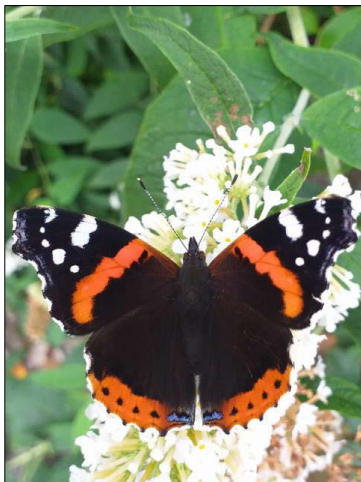
White-tailed Bumblebee



Solitary Bee
(*Halictus rubicundus*)



Honeybee



Red Admiral Butterfly



Emperor Moth



Hoverfly (*Sphaerophoria* spp)

Pollinators are among the most familiar and colourful of Ireland's insects. In Ireland there are 20 species of bumblebee, 77 species of solitary bee and a single species of managed bee (the Honey Bee), 36 species of butterfly, more than 1400 species of moth and 180 species of hoverfly. They all play a

role in pollinating our trees, wildflowers and crops but bees are the most important group and it is estimated that they account for a large proportion of pollination in Ireland.

Pollinators require suitable breeding conditions to build nests in the case of bees; butterflies and moths depend on larval food plants and hoverflies need suitable nesting habitat varying from dead wood to ponds and puddles. It is essential for the success of any pollinator plan to provide adequate nesting/breeding conditions for a range of pollinators as well as providing a broad and seasonal range of pollinator-friendly plants for foraging. Some pollinator plans have focused almost exclusively on the provision of foraging plants while neglecting to retain or provide adequate breeding habitats or larval food plants. Failure to address the breeding requirements of pollinators will reduce the effectiveness of a pollinator plan. Particular attention should be given to the retention of 'wild' habitats such as woodland, hedgerows, 'rough ground', ponds, puddles and man-made features such as stone walls. In the absence of such habitats, artificial nesting conditions can be provided in the form of 'bee scapes', 'bee hotels', dead wood, wet areas and by planting important food plants such as Birdsfoot Trefoil, Nettle and a range of native trees ranging from Hawthorn to Oak.

Why Are Pollinators in Trouble?

Unfortunately, many of Ireland's pollinating insects have undergone serious declines in recent decades and the rate of decline is accelerating. Bumblebees are declining at a rate of 3.7% annually compared to the global average figure of 1%. One third of our 97 native bee species are threatened with extinction within the next 10 years. Butterflies are declining at an average of 2.6% per year and this is considerably higher than the global average figure of 1.8%. The reasons behind these worrying declines are varied but they include agricultural intensification, afforestation and urbanisation, all of which result in habitat loss. The widespread use of insecticides and herbicides has had a serious impact on pollinators and wildlife in general.

The Purpose of This Plan

Studies in Britain have shown that the six commonest bumblebees in Britain (Buff-tailed, Red-tailed, Garden, Early, Common Carder and White-tailed Bumblebees) now often have higher population densities in urban areas than in the surrounding countryside and the situation is likely to be similar in the more intensively farmed areas of Ireland. Therefore, managing public spaces in urban areas can have a very positive impact for pollinators. This plan has been prepared as part of Cork County Councils effort to provide suitable habitat for pollinators in the public spaces it manages. It includes proposals for the management of public spaces in the town of Macroom with a view to increasing food and shelter opportunities for pollinator insects. The plan identifies areas which are already of high value for pollinators where minimal intervention is required. It also includes recommendations for more wildlife friendly management of areas which are traditionally more intensively managed. This includes roadside verges, parklands and amenity areas. The principles of the proposed approach follow those set out in the All-Ireland Pollinator Plan Sectoral [Guidelines for Councils](#) and include, in brief:

1. Identify and protect any existing suitable pollinator foraging habitat



Small Copper butterfly on Bramble

In some ways, protecting existing pollinator resources is perhaps the easiest and most important measure that can be undertaken in each town. Existing habitat can include areas of rough grassland or infrequently-mown grassland, hedgerows, riverbanks, small wild

areas with bramble, nettle or ivy, stone walls, allotments and flowerbeds that have already been planted with pollinator-friendly flowers.

2. Adjust mowing practices on grassland areas

Altering the frequency of mowing can facilitate the transformation of grassland areas into habitats that are more suitable for pollinating insects. Frequent mowing on a weekly or fortnightly basis inhibits the growth of wildflowers and deprives pollinating insects of a potentially widespread food resource. Reducing the frequency of mowing regimes can greatly improve the abundance of wildflowers. On Council land many grassy areas receive up to 22 cuts per year from mid-February onwards and the cut grass is often mulched back in to the lawn. This may look tidy to us but it creates a sterile grassy desert for pollinators. A cost equivalent action would be to change some areas to a pollinator friendly mowing regime where the grass-cuttings are removed (vital to reduce nutrient levels for many wildflower species) and composted. Depending on the site, mowing can be

- reduced to three or four week cuts, producing what is known as a flowering lawn;
- reduced to six-week cuts, creating a temporary 6-week meadow;
- reduced to a single cut at the end of each season, (ideally mid to late September) thereby creating a wildflower meadow.

A pollinator-friendly mowing regime could adapt the following timetable:

- First cut and lift after the 15th April (Dandelions are a vital early food source for pollinators in spring)
- Second cut at the end of May
- Third cut in mid/late July (maximises the growth of Clovers and other wildflowers)
- Fourth cut at the end August
- Fifth cut after mid-October

Reducing the frequency of mowing will result in a financial saving.

If necessary, additional wildflower species (e.g. Yellow Rattle) that will enhance the biodiversity value of the site can be added by seeding or plug planting over time. It is possible to create a wildflower meadow by completely reseeding the site with wildflower seeds but this is a time-consuming and expensive undertaking that often involves the use of herbicides to clear the site of grasses and other vegetation. It is vitally important to remove grass cuttings for composting as decaying grass fertilises the soil and perpetuates the cycle of grass dominance at the expense of wildflowers.

3. Planting pollinator friendly flower beds and trees

Flowerbeds can be very effective pollinator foraging habitats provided the right plants are in place. Many existing urban flower beds contain flowers that are appealing to human eyes but are of no value to pollinating insects. Traditional annual bedding plants such as Geraniums, Begonias, Busy Lizzy, Petunias, Polyanthus or Salvia splendens have virtually no pollen or nectar and are of little value to pollinators. The substitution of non-pollinator friendly flowers

with varieties that are attractive to pollinators (and the public!) can greatly increase foraging habitat for pollinators in urban and suburban areas.



When choosing a selection of pollinator-friendly plants it is very important to recognise that not all pollinator plants suit every pollinator. Differences in anatomical structure mean that some flowers that are suitable for larger species may not be suitable for smaller species. Bumblebees for instance, are divided into long-tongued and short-tongued species and their preferences vary accordingly. It is also very important to choose a mixture of plants that will provide nectar and pollen throughout the spring and summer months to cater for species that are active early in the year as well as species that are active later in the year. A suggested list of plants is provided in Appendix 1 and this chart outlines the typical growing season and the types of pollinators likely to be attracted. A more extensive list of suitable plants is available in the [All-Ireland Pollinator plan in Councils – Actions to Help Pollinators](#) guidance prepared by the National Biodiversity Data Centre.

Planting pollinator-friendly trees (especially some of our native species) provides additional foraging habitat for pollinators in urban landscapes. Scrub or transitional woodland is an important habitat for many bee species. Early flowering trees such as Goat Willow are used by virtually all spring-flying bees. Trees provide hollow twigs and dead wood for various aerial nesters. Trees also create windbreaks providing shelter and allowing some parts of a site to attain higher temperatures than the surrounds. It is very important to prioritise the management and restoration of native plants over ornamental varieties wherever possible. Many ornamental tree species are of little or no value as foraging habitat for pollinators.



Native trees are also used as larval food plants by many of our moths and some of our butterflies and their autumn fruits provide a valuable food resource for a variety of bird and mammal species. The Alder Buckthorn (pictured left) has a very restricted range in Ireland (and is rarely included in planting schemes) but it is one of only two larval food plants for the Brimstone Butterfly. Its flowers are also used by many pollinating insects including bees and hoverflies and it is unusual in that it continues to flower long after the first berries have formed.

4. Provide pollinator nesting habitat

The provision of suitable pollinator nesting habitats is vital to the success of any pollinator plan. Pollinating insects need a variety of different nesting habitats. Some species of bumblebee nest on or just below the surface whereas others build their nests underground accessed by tunnels that can vary in length from a few centimetres to more than a metre. Most bumblebee species will use the old burrows of small mammals (mice and voles). Solitary bees build their nests in places such as south-facing earthen banks, old walls and dead wood.

A ‘Bee scrape’ (pictured below) is one of the best ways to provide nesting habitats for a variety of solitary or mining bees of which there are 62 species in Ireland. Exposing small areas of soil (1 metre x 1 metre) on well-drained south-facing locations can provide suitable nesting habitat for many species of solitary or mining bee. Ideally, locations varying from vertical scrapes in banks to flat areas on well-drained soils should be chosen to create nesting habitats for different solitary bee species. Bee scrapes need to be maintained throughout the breeding season (March-September) by ensuring that the scrapes are kept clear from encroaching vegetation during the summer months. Care should be taken to avoid disturbance (e.g. trampling) to the scrapes once they have been created.



Artificial nest sites (commonly known as ‘bee hotels’) can be provided for some of the 15 species of cavity-nesting solitary bees in or close to suitable foraging areas by placing sawn logs (pictured left) on east or southeast-facing locations ideally within 100 metres of foraging sites. The logs can be placed individually or in small housing structures. Holes varying in diameter from 4-10 mm should be drilled into the sawn side of the log at a depth of 15 cm to attract different species of bees. Drill the holes at a slight upward angle to prevent water-logging. If a housing structure is being used, lengths of bamboo or reeds can be placed in the gaps between the logs as these provide additional nesting habitats for other cavity-nesting species. Bee hotels should ideally be placed at a height of 1 to 1.5 metres above the ground.

Butterflies and moths tend to lay their eggs on various native grasses, herbs and trees that are subsequently used as food plants by the emerging caterpillars.



The Common Nettle (pictured left) is used by 5 of Ireland’s butterfly species: Red Admiral, Painted Lady, Small Tortoiseshell, Peacock and Comma. Other important larval food plants include Birdsfoot Trefoil, native Violet species and a range of wild grass species including Cock’s-foot and Couch Grass.

Preserving corner areas containing a mixture of these species will provide vital egg-laying habitat for a variety of butterfly and moth species. Many of these plant species will also thrive in ‘wildflower’ meadows (see Appendix 2).

180 species of hoverfly have been recorded in Ireland and different species require a variety of different nesting habitats. Adult hoverflies feed largely on nectar and pollen but the larvae of hoverflies (depending on the species) feed on aphids, ant larvae, living plant tissue and decaying plant tissue so their nesting requirements are varied but include leaves of trees, wet mud, ponds and puddles.

5. Reduce the use of pesticides

Pesticides are known to be extremely harmful to pollinating insects. Herbicides eliminate wildflowers and nesting vegetation whereas insecticides are fatally harmful to pollinators.

Fungicides are harmful to some species of hoverfly. Pesticides should only be used when absolutely necessary and great care should be applied in their use.

How the Plan Was Prepared

A meeting was held in September 2020 with Council staff and a number of suggested sites in and around Macroom were visited. Proposed management of these areas and possible constraints were discussed. The sites were revisited and surveyed for existing flora and potential pollinator nesting areas in September and October and a draft proposal describing the sites, proposed measures and details regarding implementation was prepared. The plan was finalised following consultations with staff of Cork County Council including the Council Ecologist and also involved liaison with Macroom Tidy Towns Group.

What the Plan Contains

The plan includes recommendations for management of public spaces including public parks, roadside verges, roundabouts, riverside banks and housing estates managed by Cork County Council. Not all publicly-owned land is included in the current plan but it is hoped that the number of such areas will be expanded over the coming years.

The plan does not include proposals for management of privately owned land or residential estates that are not managed by Cork County Council, however, it is hoped that the management of open areas on privately owned land will be influenced by the measures adopted in this plan. The plan has been prepared by taking account of the needs of the people of the town as well as the local pollinators and public lands that are currently used for sports, general amenity purposes and recreation will not be adversely affected by any of the measures in the plan.

Certain alterations to grass-mowing regimes will occur in some areas but public access will not be impacted by any of these measures and indeed it is hoped that the public will explore and enjoy the results of these measures as they become apparent over time.

Safety concerns are fully acknowledged and respected in the plan and none of the recommended measures will result in any obstruction to traffic or walkways at any location within the town.

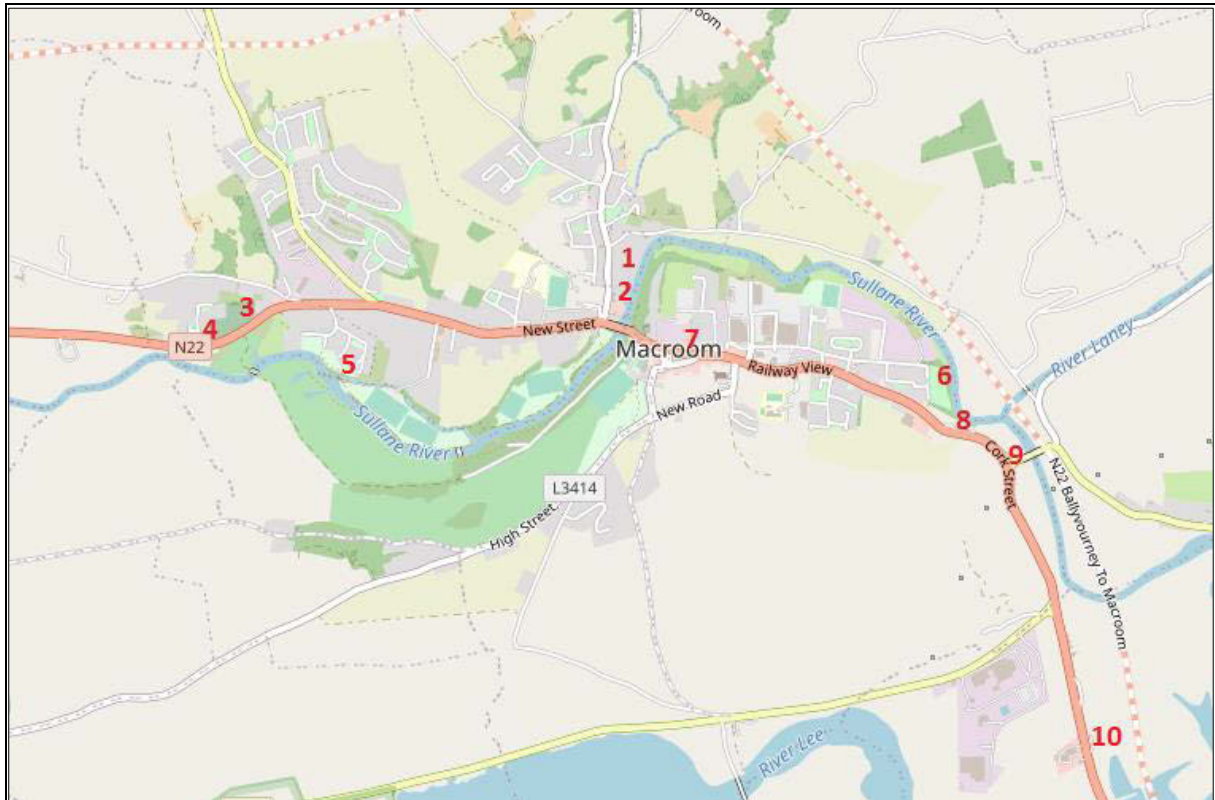
How the Plan Will Be Implemented

The plan will be implemented by Cork County Council staff and members of Macroom Tidy Towns Group.

Management Recommendations

A number of areas within Macroom Town which are within the management control of Cork County Council have been proposed to be incorporated into this plan. These sites were identified through field survey and consultation with local staff of Cork County Council. The areas are described and management recommendations for each of these sites are set out below. The sites are shown on Figure 1 below. Ideally, additional sites can be added each year based on the same suggested guidelines.

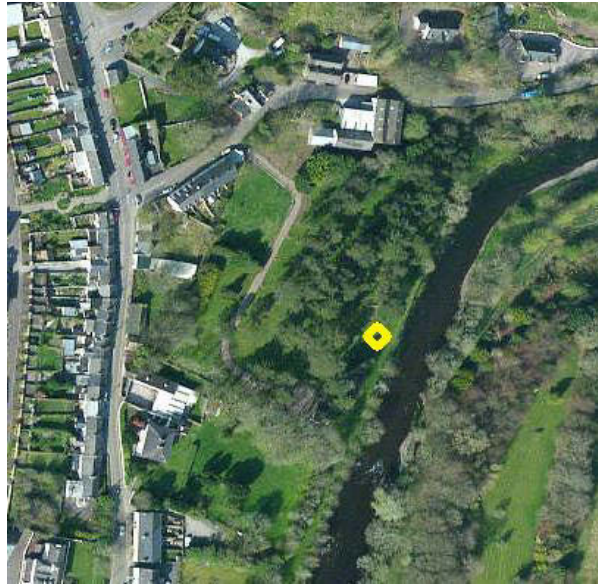
Figure 1. Pollinator Plan sites in Macroom.



1. Fairy Garden

Site Description

This is a popular amenity set in a mature conifer wood. There are some native trees and shrubs in the south (Ash, Elder and Hawthorn). The open setting of the wood has enabled a reasonable ground flora to develop that includes Hogweed and Creeping Buttercup (a springtime visit would enable a more comprehensive inventory of flora). Native Wild Cherry trees have been planted in this area.



Management Recommendation

(a) A springtime assessment of the woodland flora would provide the necessary information on whether or not to introduce native woodland flowers such as Bluebell, Wood Sorrel and Wood Anemone.

(b) Future tree planting focused on the introduction of native trees and shrubs would enhance the biodiversity value of the site.

(c) The earthen bank close to the river is an ideal site for bee scrapes on the east-facing river side.

2. Sullane Riverside Walk

Site Description

A short walk of approximately 300m has been developed on the west bank of the Sullane River adjacent to the Fairy Garden. A plan to lay a 1.5 m wide tarmac layer on the path is planned for the near future but approximately 2 metres either side of the path will remain exposed. The vegetation along the path includes Grey Willow, Nettle (a vital plant for the larvae of 5 of Irish butterflies) and Hogweed (popular with bees and hoverflies). The bank between the walk and the Fairy Garden is ideal for nesting solitary bees and bumblebees. A small patch of Japanese Knotweed occurs next to the path on the town side of the walk.



Management Recommendation

- (a) The margins of the new walk could be managed for pollinators by introducing a 1 metre wide wildflower meadow strip on the outer (riverside) metre.
- (b) 4-week flowering lawns on the inner (wood side) 1metre wide strip adjacent to the path.
- (c) The bank on the west side of the walk is ideal for mining bees and two 1m x 1m bee scrapes could be created here.
- (d) Eradicate the patch of Japanese Knotweed on the town side of the walk to prevent it spreading elsewhere.

3. St Colman’s Graveyard Perimeter

Site Description

This site is located on the southern perimeter of St Colman’s Cemetery and it is currently being managed as a shrubbery using non-native plants such as Cotoneaster, Laurustinus and Pampas Grass.



Management Recommendations

Gradual replacement of these shrubs with a selection of native trees including Holly, Yew, Bird Cherry, Alder Buckthorn, Dogwood and Spindle would be more beneficial to pollinators.

4. An Ghleann Housing Estate Roadside Verge

Site Description

This site is located on the north side of the N71 road on the western outskirts of Macroon. The site consists of two grass verges that are subject to regular mowing. Several excellent pollinator food plants were recorded on the day of the visit including Red Clover, Dandelion and Catsear.



Management Recommendations

It is recommended that mowing at this site would be reduced to a four-week cut and lift approach enabling the development of a flowering lawn that would become a useful resource for pollinating insects.

5. Sullane Weirs Housing Estate Meadow

Site Description

This site is located on the south side of the Sullane Weirs Estate on the north bank of the Sullane River, close to a strip of riparian woodland containing Grey Willow. Grass management at this site has recently changed to a single cut and lift in September and several pollinator-friendly species such as Red Clover, Ragwort and Knapweed are already well established.



Management Recommendations

- (a) The introduction of Yellow Rattle could accelerate the transformation to wildflower meadow.
- (b) Two 1m x 1m bee scrapes could be created to provide habitat for solitary/mining bees.

6. St Colman's Park Meadow

Site Description

This site is located on the western extremity of the town on the west bank of the River Sullane. It is a large grassland site almost completely surrounded by a variety of tree species including Alder, Birch, Maple, Poplar and Lime (popular with many bee species). The west side of the site (closest to the housing estate) is regularly cut but the lower part of the site is not being cut and much of the grassland has become rank.



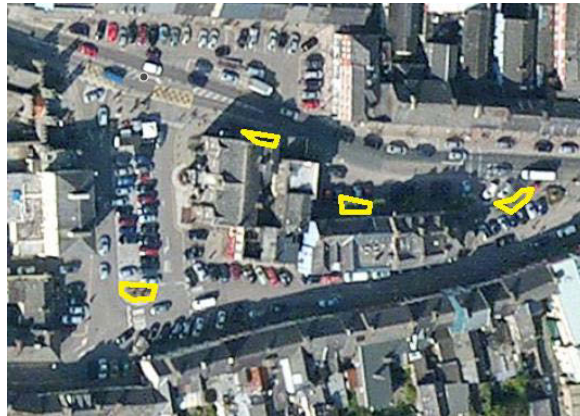
Management Recommendations

- (a) This site has tremendous potential to be developed for pollinators if a cut a single cut and lift policy is introduced and a substantial area could be transformed into a wildflower meadow. Yellow Rattle could be seeded to accelerate the transformation to wildflower meadow.
- (b) Three or four bee scrapes could be created to provide nesting habitat for mining bees.
- (c) Additional pollinator-friendly native trees such as Goat Willow, Hawthorn, Crab Apple, Bird Cherry, Buckthorn and Alder Buckthorn could be planted in small groves creating an open woodland effect.

7. Town Square Flowerbeds

Site Description

There are several attractive flower displays in the vicinity of the Town Square varying from large 'island' displays to smaller displays under windows. The displays seen in October included a good selection of pollinator-friendly species (including species of Daisy, Aster and Nasturtium). A variety of Violet was seen in some displays. Many species and varieties of violet are available in garden centres but not all of them are suitable for pollinators. The length of the nectar-containing spur is variable and the varieties with long spurs are only accessible by long-tongued bee species.



Management Recommendations

It is important to ensure that plants suitable for pollinators are available throughout the season (March to October). A chart containing a variety of suitable plants for different seasons can be seen in Appendix 1 and a wider selection of suggested species is available on the [All-Ireland Pollinator Plan](#) website.

8. The Bull Sculpture on the Eastern Approach

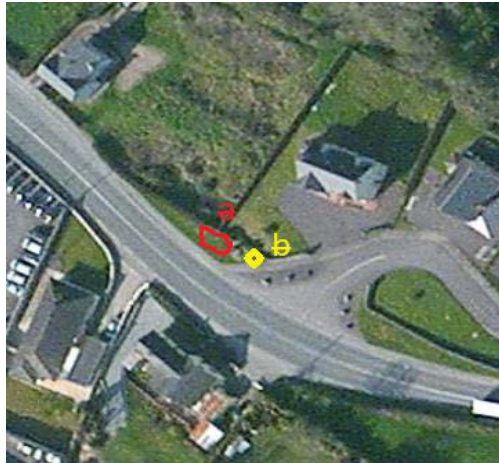
Site Description

This site is used primarily as a display for the well-known bull sculpture on the outskirts of Macroom. A few flowers (primarily Catmint) have been planted around the site and there are at least four mini bee hotels placed on the ground on either side of the sculpture.

Management

(a) A pollinator-friendly planted here using a variety for pollinators. It is equally range of species that will throughout the spring, periods (see recommended

(b) Bee hotels are suitable solitary bee species and restricted ranges in Ireland. perhaps only two or three important that a variety of diameters (4-8mm) are used and the tunnels should be drilled at a depth of 10-15 cm. Bee hotels should be placed at a height of least 1.5 m and ideally not placed on the ground where they are less likely to be used and more prone to predator interference.



Recommendations

flower bed could be of species that are suitable important to choose a provide nectar and pollen summer and early autumn list in Appendix 1).

for fewer than 15 of our many of these have Colonies are often small, nests in some cases. It is

9. Triangular Traffic Junction on the Eastern Approach

Site Description

This site is located at a busy road junction where the R618 joins the N22. It consists of a triangular plot with non-native shrubs and conifers in the centre and a regularly mown grass margin on the perimeter. This site is currently of little value to pollinators.



Management Recommendations

(a) Reducing grass-cutting on the outer perimeter to a four-week cycle would allow smaller flower species to flower such as White Clover and this would provide a good source of nectar and pollen.

(b) Consideration should also be given to replacing some or all of the shrubs in the centre with a variety of native shrub species including some of the following: Crab Apple, Bird Cherry, Dogwood, Buckthorn, Alder Buckthorn and Guelder Rose to provide an extra source of pollen and nectar for pollinators and larval food plants for moths and butterflies.

10. Small Park on the Eastern Approach

Site Description

This site is a small picnic area on the east side of the N22 on the outskirts of Macroom. The site is currently managed as a regularly mown lawn with occasional trees such as Silver Birch and non-native Beech and Maple. The eastern boundary includes a stone wall, Ash Oak, Sycamore, Hawthorn, Bramble and Nettle.



Management Recommendations

(a) The grass areas of this site could be managed using different techniques including a central wildflower meadow (a single cut and lift in September) along with a more regular (weekly or fortnightly) mow (1-2m) around the margins and the picnic tables. A winding path (1m in width) could be mown through the meadow to provide a feature for children.

(b) Two 1m x 1m bee scrapes could be created to provide habitat for solitary/mining bees.

(c) Two or three bee hotels could be placed in sunny south or southeast-facing locations (perhaps on tree trunks using two excess bee hotels from the Bull Sculpture site).

Site Pictures



Site 1a Fairy Garden



Site 1c Fairy Garden Earth Bank



Site 2a Sullane Riverside Walk



Site 3 St Colman's Graveyard Perimeter



Site 4 An Ghleann Roadside Verge



Site 5a and 5b Sullane Weirs Meadow



Site 6a St Colman's Park Wildflower Meadow



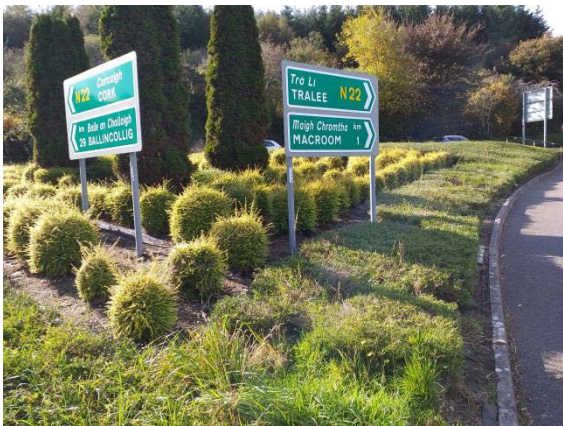
Site 6c St Colman's Park Native Woodland



Site 7 Town Square Flowerbeds



Site 8 Bull Sculpture Garden



Site 9a & b Triangular Traffic Junction



Site 10a Small Park on Eastern Approach

Other Recommendations

Raising Awareness

It is important to inform the public about the rationale behind the pollinator plan. The conversion of tightly-mown lawns into wildflower meadows can be seen initially to some as untidy management or neglect but if the reasons for the new approach are clearly explained to the public widespread acceptance, approval and support usually follows. Public acceptance can be achieved through the provision of signs that explain the importance of pollinators and their habitats, meetings with community groups, school visits and social media.

Monitoring Progress

The success of the plan can be monitored in a number of ways. Ideally, a small group of people (consisting of County Council staff and members of the Tidy Towns Committee) could meet twice a year outlining proposed actions (based on recommendations in the town pollinator plan) early in the year and a second meeting outlining actions that have been implemented. Informing the public of the reasons behind the measures undertaken is vital to the success of the plan but criticisms and positive suggestions should be noted. It is important to monitor the success of each of the measures but wildflower meadows will need particular attention, especially in the early years as the succession to wildflower meadow status is a gradual process and the benefits may not be apparent for some years after the process has begun. Invasive species are a problem at some sites (especially Winter Heliotrope but also Japanese Knotweed) and these will require ongoing attention until they are finally eradicated.

Monitoring of pollinator use of the sites is important and this can be done on a casual basis by noting the numbers of bees, bumblebees, hoverflies and butterflies using the sites (always choose a sunny, calm day if possible). The National Biodiversity Data Centre host a number of monitoring schemes and it would be a good idea to join at least one of these schemes e.g. the [Bumblebee Monitoring Scheme](#) (advice and identification assistance is provided for beginners) or the [Butterfly Monitoring Scheme](#). It would be a good idea to record the species and numbers using the sites and to note sites that appear to be more successful than others and to identify reasons why this may be the case (it could be related to the varieties and numbers of plants present or perhaps because there is not enough suitable nesting habitat available nearby).

Pollinator plan measures will need to be monitored throughout the year to ensure that adequate numbers of foraging plants are in place at critical times of the year. Grassland management measures will need to be assessed to measure the development of pollinator-friendly wildflowers.

A suggested monitoring programme could involve the following steps:

Measure	Timing	Recording Pollinator Plants	Recording Pollinator Activity
Assess early pollinator activity	Mid-February to mid-April (One or two visits over this period)	Record presence or absence of early flowering plants such as Willows, Bluebells Note plants with greatest levels of pollinator use. Record plants with lowest or zero level of pollinator use.	Record presence or absence of pollinator groups: bees, bumblebees, hoverflies, butterflies. Record numbers. Record to species level where confident of identification.
Assess late spring activity	Late April to May (One or two visits over this period)	Record presence or absence of pollinator-friendly plants. Note plants with greatest levels of pollinator use. Record plants with lowest or zero level of pollinator use.	Record presence or absence of pollinator groups: bees, bumblebees, hoverflies, butterflies. Record numbers. Record to species level where confident.
Assess early summer activity	June (One visit in this period)	Record presence or absence of pollinator-friendly plants. Note plants with greatest levels of pollinator use. Record plants with lowest or zero level of pollinator use.	Record presence or absence of pollinator groups: bees, bumblebees, hoverflies, butterflies. Record numbers. Record to species level where confident.
Assess late summer activity	July to August (One or two visits over this period)	Record presence or absence of pollinator-friendly plants. Note plants with greatest levels of pollinator use. Record plants with lowest or zero level of pollinator use.	Record presence or absence of pollinator groups: bees, bumblebees, hoverflies, butterflies. Record numbers. Record to species level where confident.
Assess early autumn activity (prior to mowing)	September (One visit in this period)	Record presence or absence of pollinator-friendly plants. Note plants with greatest levels of pollinator use. Record plants with lowest or zero level of pollinator use.	Record presence or absence of pollinator groups: bees, bumblebees, hoverflies, butterflies. Record numbers. Record to species level where confident.

The Cost of Implementing the Plan

Pollinator plans can be implemented at minimal cost and with relatively limited effort by adopting a number of alterations to existing maintenance and planting policies. Most of the grassland management recommendations for example require significantly reduced mowing effort and this should result in an automatic reduction in the costs associated with mowing and strimming practices. Planting regimes may need to be adjusted (minimally in some cases) by making changes to the range of plants chosen for public spaces to a selection of equally colourful and attractive pollinator-friendly annual and perennial plants. Perennial plants tend to be much better sources of pollen and nectar for pollinators and if managed properly, a perennial mix will not need re-sowing.

Tree-planting (where required) should ideally be focussed on using native trees and shrubs and a number of useful contact details are provided in Appendix 1. Local plant suppliers should be informed of the new requirements associated with the pollinator plan (many garden centres and landscape

professionals are already aware of the need to stock pollinator-friendly flowers, shrubs and trees) but again, it is always best practice to plant native trees and shrubs of Irish provenance wherever possible.

A number of grants are available for some of the measures particularly in relation to native tree planting and these include the Public Woodland Scheme, Neighbourwood Scheme and the Native Woodland Scheme.

- The [Public Woodland Scheme](#) is a new initiative from the Department of Agriculture specifically designed to “encourage Public Bodies to establish new native woodlands on suitable bare land.” This scheme provides 100% funding for planting and maintenance for the first four years. Funding is also available for trails, signage and a woodland playground.
- The [Neighbourwood Scheme](#) run by the Department of Agriculture, Food and the Marine provides up to 85% funding for the establishment of new woodland, the enhancement of existing woodland and/or the provision of recreational facilities in woodland sites of between 0.1 ha to a maximum area of 12 ha.
- The [Native Woodland Scheme](#) is designed to protect and expand native woodland in Ireland. Grants are available for the conservation of existing woodland and the establishment of new woodland.

The Importance of Choosing Native Trees and Shrubs of Irish Provenance

Many species of pollinating insects depend on native trees and shrubs for nectar and pollen sources particularly in spring (especially bees and hoverflies). Native trees and shrubs are also extremely important for the larval stage of many of our moth and butterfly species. Native trees and shrubs have adapted to Irish conditions and so too have many of our insects and birds. A Hawthorn tree imported from continental Europe for example may come into flower a number of weeks later than a Hawthorn of Irish provenance. Many Irish insects (and some bird species e.g. Blue Tit) time their breeding cycles to coincide with the period when native trees and shrubs come into flower and leaf. Any alteration to these established natural cycles could potentially have negative impacts on the breeding cycles of at least some native species. Imported trees also carry the risk of disease introduction (Ash Dieback, currently spreading throughout the country resulted from imported Ash) and invasive species such as the Oak Processionary Moth (which devastates oak trees) has recently been recorded in Ireland and may well have arrived on imported oak trees.

Yellow Rattle and its Biodiversity Significance

Yellow Rattle is a native annual species that was formerly widespread and common in Ireland. It still occurs widely but is now largely confined to rough grassland areas and meadows. Yellow Rattle is favoured by many pollinators but its most significant value relates to its ability to improve conditions for wildflowers by parasitizing the roots of grasses. Grasses often out-compete wildflowers, especially in the first few years of establishment when nutrient levels are still relatively high. Most wildflower species prefer low nutrient levels in the soil and this is why it is very important to remove cuttings after mowing and never apply fertilisers to the meadow. Yellow Rattle is perhaps the single most important species in many wildflower meadows and should be considered for use in any single cut and lift grassland site.

Dealing with Invasive Species

Invasive plant species are mostly plants that were originally introduced for a specific purpose, usually ornamental. Many introduced plant species do not spread and therefore do not pose a threat to our natural flora. A number of introduced species however have adapted to Irish conditions and several of these have become highly invasive and pose a threat to large areas of the Irish landscape. Invasive species generally have no natural enemies and often thrive in Ireland's mild and moist climate. *Rhododendron ponticum* is one of the best known invasive plant species and it now poses a serious threat to large areas of native woodland and other habitats in Ireland. Several invasive species have been encountered during survey work for the current pollinator plans. Japanese Knotweed and especially Winter Heliotrope appear to be widespread in many towns.

Japanese Knotweed is a highly invasive plant that can impede water flow by obstructing waterways. It can also damage built structures and it out-competes native flora. Japanese Knotweed is difficult to eradicate and usually needs specialist treatment. It is very important that the plant is not disturbed prior to treatment as it can regenerate from rhizome fragments and stem sections.

Winter Heliotrope has been the most frequently encountered invasive species and it can dominate large areas by out-competing native flora. Winter Heliotrope was ironically introduced as a winter food plant for bees. It can be controlled by using an application of a glyphosate-based herbicide after flowering in February to March or spraying in midsummer or later but before the foliage begins to die back. Repeated treatments may be necessary over a number of years.

Wildflower Seeds

It is very important to ensure that when creating a wildflower meadow it is always best to allow nature take its course for the first few years. Given the correct management many species will colonise naturally. Wildflower seed mixes are not necessary at most sites but if results continue to be slow (in terms of species variety) it is vitally important that only locally sourced native wildflower seeds (of Irish provenance) are used. Garden plants should only be planted in designated flower beds and should never be introduced to natural habitats such as wildflower meadows.

This plan only relates to public lands managed by Cork County Council. Advice can of course be given to individuals, resident associations and private companies but all advice should be based on the measures recommended in the All-Ireland Pollinator Plan (and strictly adhered to in this plan).

References

- Ball, S. & Morris, R. (2013). *Britain's Hoverflies*. Princeton University Press, Woodstock, Oxfordshire.
- Benton, T. (2019). *Solitary Bees*. Pelagic Publishing, Exeter.
- Edwards, M. & Jenner, M. (2012). *Field guide to the bumblebees of Great Britain & Ireland*. Ocelli, Eastbourne.
- Falk, S. & Lewington, R. (2016). *Field guide to the bees of Great Britain and Ireland*. Bloomsbury Wildlife, London.
- Harding, J.M. (2008). *Discovering Irish Butterflies and their habitats*. Jesmond Harding, Maynooth.
- Kirk, W.D.J. & Howes, F.N. (2012). *Plants for Bees: A Guide to the Plants that Benefit the Bees of the British Isles*. International Bee Research Association, Monmouth, Wales.
- Nash, D., Boyd, T. & Hardiman, D. (2012). *Ireland's Butterflies - A Review*. Dublin Naturalists' Field Club, Dublin.
- National Biodiversity Data Centre. All-Ireland Pollinator Plan 2021-2025.
- Prys-Jones, O.E. & Corbet, S.A. (2014). *Bumblebees*. Pelagic Publishing, Exeter.

Useful Links

[All-Ireland Pollinator Plan](#)

[Bumblebee Conservation Trust](#)

[Councils: actions to help pollinators](#)

[Guidelines on the Management of Noxious Weeds and Non-Native Invasive Plant Species on National Roads. Transport Infrastructure Ireland \(formerly National Roads Authority\)](#)

Appendix 1

Suggested pollinator-friendly flowers and shrubs that could be planted in a flowerbed or (in some cases) flower pots/boxes based on their suitability for bumblebees (long and short-tongued), solitary bees, hoverflies and butterflies for a flowerbed. A variety of plants have been chosen to ensure seasonal availability of pollen and nectar. A wider range of plants is available on the All-Ireland Pollinator Plan website [here](#).

English Name	Latin Name	Flowering	Native (N) or Non-Native (A)	Perennial Biennial Annual Tree or Shrub	Bumblebee Long-tongued	Bumblebee Short-tongued	Solitary Bees	Hoverflies	Butterflies
Crocus	Crocus species	Feb-Mar	A	P					
Arabis (Rock-cress)	Arabis alpina	Mar-May	A	P					
Grape Hyacinth	Muscari species	Mar-May	N/A	P					
Aubretia	Aubretia deltoidea	Apr-May	A	P					
Barberry	Berberis darwinii	Apr-May	A	P					
Borage	Borago officinalis	Apr-Oct	A	A					
Honesty	Lunaria annua	Apr-Jun	A	B					
Meadow-foam	Limnanthes douglasii	Apr-Sep	A	A					
Phacelia	Phacelia tanacetifolia	Apr-Dec	A	A					
Rosemary	Rosmarinus officinalis	Apr-Jun	A	Shrub					
Wallflower	Erysumum species	Apr-Jun	A	P					
Catmint	Nepeta species	May-Sep	A	P					
Hebe	Hebe species	May-July	A	Shrub					
Lily-of-the-valley	Convallaria majalis	May-Jun	A	P					
Lupin	Lupinus species	May-July	A	A/P					

Macroom Town Pollinator Plan

English Name	Latin Name	Flowering	Native (N) or Non-Native (A)	Perennial Biennial Annual Tree or Shrub	Bumblebee Long-tongued	Bumblebee Short-tongued	Solitary Bees	Hoverflies	Butterflies
Mignonette	Reseda odorata	May-Sep	A	A/B					
Mustard, White	Sinapsis alba	May-Sep	A	A					
Thyme	Thymus species	May-Aug	N/A	Shrub					
Allium (Garden)	Allium giganteum	June-Aug	A	P					
Anchusa	Anchusa azurea	June-Sep	A	P					
Anise hyssop	Agastache foeniculum	June-Oct	A	P					
Arnica	Arnica montana	June-Aug	A	P					
Bellflower	Campanula species	June-Sep	A	P					
Chicory	Chicorium intybus	June-Oct	A	P					
Gaillardia	Gaillardia species	June-Sep	A	A/P					
Hound's Tongue	Cynoglossum species	June-Aug	A	A/P					
Hyssop	Hyssopus officinalis	June-Oct	A	Shrub					
Jacob's Ladder	Polemonium caeruleum	June-Aug	A	P					
Lavender	Lavandula angustifolia	June-Aug	A	Shrub					
Lucerne	Medicago sativa	June-July	A	P					
Nemophila	Nemophila species	June-Oct	A	A					
Peony	Paeonia species	June-July	A	P					
Sage	Salvia officinalis	June-Aug	A	Shrub					
Salvia (May Night)	Salvia x sylvestris	June-Sep	A	P					
Sneezeweed	Helenium species	June-Oct	A	P					

Macroon Town Pollinator Plan

English Name	Latin Name	Flowering	Native (N) or Non-Native (A)	Perennial Biennial Annual Tree or Shrub	Bumblebee Long-tongued	Bumblebee Short-tongued	Solitary Bees	Hoverflies	Butterflies
Viper's bugloss	Echium vulgare	June-July	N/A	B					
Aster	Aster species	July-Oct	A	P					
Basil	Ocimum species	July-Sep	A	A/P					
Coneflower	Rudbeckia species	July-Oct	A	A/P					
Dahlia	Dahlia species	July-Sep	A	P					
Heuchera	Heuchera species	July-Sep	A	P					
Nasturtium	Tropaeolum majus	July-Sep	A	A					
Snapdragon	Antirrhinum majus	July-Sep	A	P					
Verbena	Verbena species	July-Nov	A	P					

Appendix 2

Native or long-established pollinator-friendly flowers and shrubs that are highly beneficial to pollinators (especially bees).

English Name	Latin Name	Flowering	Native (N) or Non-Native (A)	Perennial Biennial Annual Tree or Shrub	Bumblebee Long-tongued	Bumblebee Short-tongued	Solitary Bees	Hoverflies	Butterflies
Primrose	<i>Primula vulgaris</i>	Dec-May	N	P					
Blackthorn	<i>Prunus spinosa</i>	Feb-May	N	Tree					
Gorse	<i>Ulex europaeus</i>	Feb-June	N	Shrub					
Marsh Marigold	<i>Catha palustris</i>	Feb-June	N	P					
Willow species	<i>Salix species</i>	Feb-May	N/A	Tree					
Butterbur	<i>Petasites hybridus</i>	Mar-May	N	P					
Cherry (Wild)	<i>Prunus avium</i>	Mar-May	N	Tree					
Coltsfoot	<i>Tussilago farfara</i>	Mar-Apr	N	P					
Comfrey (Common)	<i>Symphytum officinale</i>	Mar-June	N	P					
Dandelion	<i>Taraxacum officinale</i>	Mar-Oct	N	P					
Red Dead-nettle	<i>Lamium purpureum</i>	Mar-Oct	N	A					
Veronica species	<i>Veronica species</i>	Mar-Sep	N	A/P					
Bilberry	<i>Vaccinium myrtillus</i>	Apr-June	N	P					
Bluebell	<i>Hyacinthoides non-scripta</i>	Apr-June	N	P					
Charlock	<i>Sinapsis arvensis</i>	Apr-July	N	A					
Crab Apple	<i>Malus Sylvestris</i>	Apr-May	N	Tree					
Cuckoo flower	<i>Cardamine pratensis</i>	Apr-June	N	P					
Forget-me-nots	<i>Myosotis species</i>	Apr-Sep	N	A/P					
Bird Cherry	<i>Prunus Padus</i>	May-June	N	Tree					
Blackberry	<i>Rubus Fruticosus</i>	May-Sep	N	P					
Broom	<i>Cytisus scoparius</i>	May-June	N	P					
Buckthorn	<i>Rhamnus cathartica</i>	May	N	P					

Macroom Town Pollinator Plan

English Name	Latin Name	Flowering	Native (N) or Non-Native (A)	Perennial Biennial Annual Tree or Shrub	Bumblebee Long-tongued	Bumblebee Short-tongued	Solitary Bees	Hoverflies	Butterflies
Bugle	Ajuga reptans	May-July	N	P					
Cranesbill	Cranesbill species	May-Sep	N	P					
Hawkweed	Hieracium species	May-Nov	N	P					
Hawthorn	Crataegus monogyna	May-June	N	Tree					
Holly	Ilex aquifolium	May-June	N	Tree					
Mint species	Mentha species	May-Oct	N/A	P					
Poppy species	Papaver species	May-Oct	N/A	A/P					
St John's wort	Hypericum species	May-Aug	N	P					
Red Clover	Trifolium pratense	May-Sep	N	P					
Thrift	Armeria maritima	May-July	N	P					
Vetch species	Vicia species	May-Sep	N	A/P					
Yellow Rattle	Rhinanthus minor	May-Aug	N	P					
Agrimony	Agrimonia eupatoria	June-July	N	P					
Autumn Hawkbit	S. autumnalis	June-Oct	N	P					
Bird's-foot trefoil	Lotus corniculatus	June-Sep	N	P					
Carrot, Wild	Daucus carota	June-Aug	N	B					
Catsear	Hypochaeris radicata	June-Sep	N	P					
Figwort species	Scrophularia species	June-Sep	N	P					
Foxglove	Digitalis purpurea	June-Sep	N	B/P					
Heather, Bell	Erica cinerea	June-Oct	N	Shrub					
Heath cross-leaved	Erica tetralix	June-Sep	N	Shrub					
Knapweed	Centaurea nigra	June-Sep	N	P					
Hogweed	Heracleum sphondylium	June-Sep	N	B/P					
Mallow species	Malva species	June-Sep	N/A	P/Shrub					
Meadowsweet	Filipendula ulmaria	June-Aug	N	P					

Macroom Town Pollinator Plan

English Name	Latin Name	Flowering	Native (N) or Non-Native (A)	Perennial Biennial Annual Tree or Shrub	Bumblebee Long-tongued	Bumblebee Short-tongued	Solitary Bees	Hoverflies	Butterflies
Mullein	Verbascum species	June-Aug	N/A	B					
Oxeye Daisy	Leucanthemum vulgare	June-Aug	N	P					
Purple Loosestrife	Lythrum salicaria	June-Aug	N	P					
Radish, Wild	Raphanus species	June-July	A	A/P					
Ragwort	Senecio jacobea	June-Oct	N	B/P					
Raspberry	Rubus idaeus	June-Aug	N	B/P					
Red Bartsia	Odontites vernus	June-Sep	N	A					
Rose species	Rosa species	June-July	N/A	Shrub					
White Clover	Trifolium repens	June-Sep	N	P					
Fleabane	Pulicaria dysenterica	July-Sep	N	P					
Goldenrod	Solidago virgaurea	July-Oct	N	P					
Hemp-nettle	Galeopsis tetrahit	July-Sep	N	A					
Nipplewort	Lapsana communis	July-Oct	N	A/P					
Rosebay Willowherb	Chamerion angustifolium	July-Sep	N	P					
Scabious species	Scabiosa, Knautia, Succia	July-Aug	N	P					
Woundworts	Stachys species	July-Sep	N	A/P					
Stonecrop	Sedum species	July-Sep	N	P					
Teasel	Dipsacus species	July-Aug	N/A	B					
Thistle species	Cirsium & Carduus	July-Sep	N	A/P					
Wood sage	Teucrium scorodonia	July-Aug	N	P					
Heather (Ling)	Calluna vulgaris	Aug-Sep	N	Shrub					
Ivy	Hedera helix	Sep-Nov	N	Climber					

