Wildlife and Natural Amenity Projects

Celbridge Tidy Towns

3 Year Plan

Submitted by Dr. Karen Moore

2013

Contents

1.0 Introduction

In this report Celbridge Tidy Towns sets out what they aim to achieve for Wildlife and Natural Amenities over the next 3 years and how they will practically attain their objectives.

Wildlife and natural amenities are often referred to as biodiversity.

What is biodiversity? Simply put it is the diversity of all life on earth

Biodiversity is often reduced to a number, specifically the number of species in an area. However there is more to biodiversity than this. What the actual species *are* must be taken into account when measuring the biodiversity of an area.

Celbridge Tidy Towns (TT) Mission Statement:
To generate awareness, co-operation and enthusiasm amongst the people of Celbridge in a concerted effort to enhance the natural and built environment of the town.

Celbridge Tidy Towns (TT) Objectives:
- Increase pride and morale in the community
- Public awareness of litter and waste management
- Wildlife conservation and enhancement
- Protection of fresh water resources
- A healthier environment
- Improve waste management
- Reduced waste

Fig 1. Locals on a work day beside Castletown woods. Photo courtesy of Celbridge Walking Trails.

Good for Nature = Good for People

Celbridge wildlife and natural amenities sub-committee

- Michael Connolly
- Roisin McDermott
- June Stuart
- Dr. Karen Moore

This report was compiled following a number of site visits by the author during late April and late May 2013. The focus is on wildlife projects that are both ongoing in Celbridge and are proposed by Celbridge Tidy Towns for 2013-2014.

1.1 Report structure

According to the Tidy Towns Handbook (Department of the Environment, Heritage and Local Government, 2002.) the Wildlife and Natural Amenities Plan section of a 3 year plan should include:

- Aims and objectives of 3 year plan
- Description of habitats within area
- Projects to enhance desirable communities and keep out unwanted species all carried out with a minimum of disturbance

The following report is split into the 3 sections outlined above.

Fig 2 Left, Primrose a typical woodland plant found in many of the woods of Celbridge (photo, Karen Moore). Right, Cowslip, a relative of the Primrose but found in more open habitats such as road side verges in Celbridge (photo, Jenny Seawright).

2.0 Aims and Objectives of 3 Year Plan

i. To continue to promote and enhance the awareness of local Celbridge people to the wildlife in their surrounds through active engagement and making information available.

This will be achieved via the practical projects outlined in this report e.g. Biodiversity walking trials with points of interest highlighted in leaflet: erecting information signs: continuation of liaison with other interested parties on projects e.g. Celbridge Guided Walks, Kildare County Council, Liffey Valley Alliance, etc.: updating Celbridge Tidy Towns Wildlife web site page and maintaining a social media presence on Celbridge Tidy Towns Facebook (over 400 members!).

Fig 3. Left, Castletown Lime tree Avenue. Right, stepping stone over the Liffey. Photos courtesy of Celbridge Waling Trails.

ii. To outline specific projects planned for the next 3 years in Celbridge including those to be directly undertaken by Celbridge TT.

This will aid different groups in Celbridge helping each other by exchanging experiences – what works and what is not as successful. This will also facilitate different groups getting involved in projects together.

3.0 Habitats

The urban environment can support a wide range of wildlife habitats and Celbridge is no exception with species of local and national interest within its habitats.

Habitats described in the area reported here include:

3.1 Water courses
3.2 Boundaries such as masonry stone walls, hedgerows and tree lines
3.3 Woods
3.4 Wetlands
3.5 Grass and meadow areas

Such habitats form part of a mosaic of areas where wildlife exists and a network of wildlife corridors, allowing wildlife to survive and thrive. The continuity of this ecological network is especially helped by maintaining boundaries such as hedgerows, verges and walls in such a state that they can support wildlife. Each of these habitats is described and their importance to wildlife highlighted below.

A map was compiled for the area showing representative habitats and some of the specific areas and projects referred to in report (Fig 4, next page). This is an important step in identifying the habitats with Celbridge that are important for wildlife.

An important part of maintaining urban areas for wildlife is the restriction of intensive management such as herbicide use and frequent trimming and mowing. As recommended by the Heritage Council guidelines on conserving and enhancing wildlife in towns (2002) (guidelines that are also promoted by Tidy Towns) it is very important to not to use herbicides near hedgerows, on trees or tree lines or on stone walls.

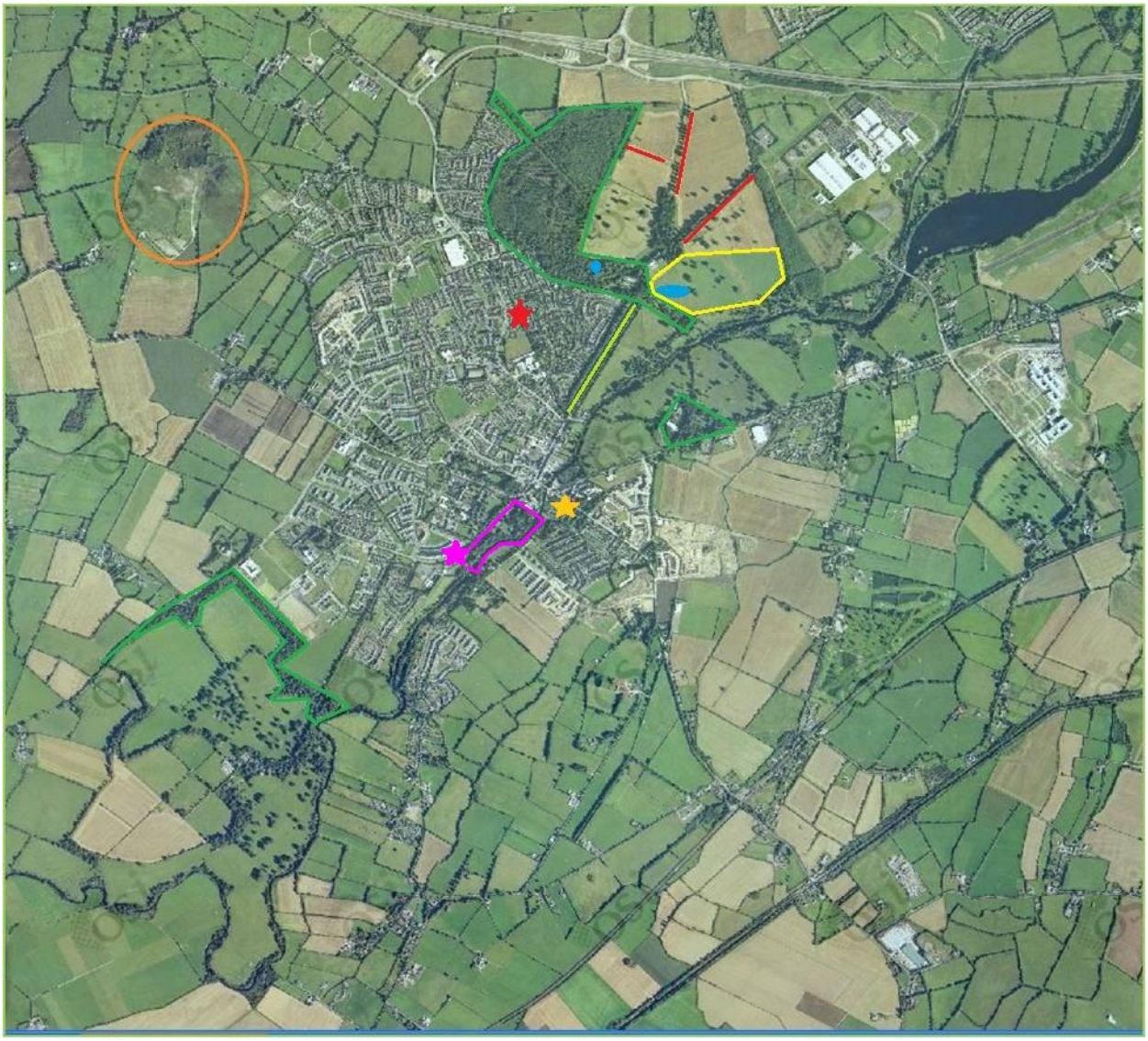

Fig 4. Map of representative habitats and projects in Celbridge. Green outlines are woods: northeast of town are Castletown and Donaghcumper woods, southwest are Killadoon woods. Yellow outlines Castletown meadow. Blue marks the Lower pond and Backlawn ponds of Castletown. Lime green line delineates Castletown Ave. Red lines are representative historic hedges and tree lines. Orange circle shows Kilwoghan wetland. Pink outline is Celbridge Abbey with its mosaic of habitats. Stars: Red - Famine Graveyard Memorial: yellow - proposed site of wildlife information sign: pink - road side verge pilot project (Aerial photo from www.osi.ie).

3.1 Water courses

The Liffey is renowned as a trout river, however, there are plenty of other species besides brown and rainbow trout that call the water and its banks home. Other fish include eels, pike, sticklebacks, minnows and roach.

The newly restored Castletown pond at the House end of Castle town Avenue provides habitat for minnows, sticklebacks. The White clawed crayfish (*Austropotamobius pallipes*) is also found in this area. They are relatively widespread in Ireland but are protected by Irish and European law because Ireland has one of the last remaining viable populations of European crayfish.

Fig 5. Left , bridge over the mill race at Celbridge Abbey, an important area for wildlife. Right, Rockbridge the oldest bridge still spanning the Liffey. Both masonry structures support vegetation. Photos courtesy of Celbridge Walking Trails.

There are several mill races along the Celbridge stretch of the Liffey. These are engineered canals of water leading from a river to a mill that would in the past have turned the mills water wheel. They offer a distinct gradient of habitats for wildlife – masonry walls rising from slow flowing water and a good example can be seen close up in the grounds of Celbridge Abbey. The particular environmental conditions here have led to some important plant species inhabiting the shaded edge of the Abbey mill race and thus great care is required in the management of this particular area.

There are recent (April 2013) local reports of otters (*Lutra lutra*) in Celbridge near weir upstream from Temple Mills (viewing from Abbey Farm estate, upstream end of the Liffey) as well as otters having been recorded previously on the Liffey e.g. stretch through Castletown

estate. In general, healthy otter populations indicate clean water bodies, where fish and other prey are abundant, and where the adjacent habitat offers plenty of cover. Their conservation status is near threatened and they are legally protected not only by Irish Law but by European law.

There is a great diversity of bird life on this stretch of the Liffey although at times it can be elusive. The hard to see species include Kingfishers, Dippers, Grey wagtail – the fact that they are elusive adds to the excitement when they are spotted. More common and visible birds of open water areas are herons, ducks and swans. On site visit to Celbridge Abbey (4th May 2013) pair of dippers *(Cinclus cinclus*) were seen from Rockbridge feeding in Liffey. As they feed on aquatic invertebrates, such as the larvae of caddis and mayflies they are very sensitive to changes in water quality and so their feeding here indicates good water quality.

It is of course important to never use herbicides in the vicinity of any open water as the potential for poisoning is so high (Heritage Council, 2002).

Fig 6. Left Dipper, slightly smaller than a Blackbird. Bobs up and down when perched. Flies low over the water (photo, Michael Finn). Right, Grey wag tail, a river inhabiting relative of the more urban Pied wag tail (photo, Dick Coombes).

3.2 Boundaries

3.2.1 Masonry stone walls

The importance of walls as a potential habitat and wildlife corridor within Celbridge cannot be overstated with its signature masonry stone walls forming an extensive network throughout the town. This wall network can accommodate flowers, lichens, mosses, ferns, insects, birds and small mammals. This is why it is so important not to use herbicides on a wall, especially at the base, where it is unfortunately commonly sprayed. Insects, birds and small mammals use walls to nest, roost and feed, whether in gaps or in vegetation growing on the wall e.g. Wren, Robin, Dunnock, field mouse.

It should be noted that the impact of the mortar used to bind the wall has a large influence on its potential biodiversity and this should be taken into account when repairing walls i.e. do not use concrete to re-point if it was not originally used and do not remove render (Heritage Council, 2002).

Fig. 7. Left, wall of Donaghcumper Demense. Vegetation obvious on top from Demense side but path side has probably been sprayed to keep it clear of vegetation (photo, Celbridge Walking Trails). Right, vegetation growing in cracks and gaps of masonry wall (photo, Caitriona Maher).

3.2.2 Native (historic) hedgerows and tree lines

Native hedgerows can be described as linear strips of woodland and are very important to wildlife in providing food, shelter and linking isolated patches of woodland in a modern fragmented landscape such as Celbridge. Typically native hedgerows in Celbridge consist of shrubs such as Hawthorn (*Crataegus monogyna*), Blackthorn (*Prunus spinosa*), Holly (*Ilex aquifolium*), Hazel (*Corylus avellana*) and Dog Rose (*Rosa canina*). Hedgerows also act as a refuge for woodland species. For example, herbs growing at their base include typical woodland plants such as Primrose (*Primula vulgaris*), Herb Robert (*Geranium robertianum*), Buttercups (*Ranunculus acris* and *R. bulbosus*) and Lords and Ladies (Arum maculatum). This is one of the reasons why it is so important not to spray around hedges and to mow the bottom of the hedge with regard to the plant diversity found there.

Birds, insects bats and other mammals can all be found nesting, roosting and feeding in hedgerows and using them to move among areas. Mature trees lines can also act as corridors for wildlife to move between otherwise isolated patches of habitat in a fragmented landscape, such as in Celbridge. Badgers (*Meles meles*) prefer woodland to live and forage in, but since Ireland has little remaining woodland, over half of Ireland's badgers live in hedgerows.

Note: It is illegal to cut hedges from 1st March to the 31st of August, as an attempt to go some way to protect nesting animals. Of course hedges are nested in outside these periods so before cutting, a hedge should always be monitored for evidence of nesting and if detected this area should be left uncut.

3.3 Woods

There are locally and nationally important areas of woodland within the boundaries of Celbridge according to the species found in them and the types of habitats these form. In the Celbridge Local Area Plan 2010 are details of specific trees and groups of trees of special natural heritage amenity value protected by Tree Preservation Orders:

- Donaghcumper
- On the banks of the Liffey there is riparian (river associated) woodland in many places but especially Celbridge Abbey, Castletown Demesne and Donaghcumper.
- Celbridge Abbey
- Castletown Demesne, including Castletown woods
- Killadoon
- Front of Setanta House Hotel
- St Wolstans Secondary School

3.3.1 Woodland Flora

At Castletown Demnse and Celbridge Abbey there are populations of the endangered, legally protected plant species Hairy St. John's-wort (*Hypericum hirsutum*). It was thought that it was locally abundant in the Liffey Valley, however, recent recording shows this is not the case, thus increasing the critical status of this species. The banks of the Liffey are also a nationally important area for the endangered Green figwort (*Scrophularia umbrosa*).

On a site visit to Castletown woods and the adjacent OPW owned woods a typical suite of woodland species where recorded under a canopy of mixed native and non-native trees that were in 3 distinct structural stages of forest growth owing to differing management, drainage, etc. The tree species included:, naturally regenerating Lime trees, beech, sycamore, horse chestnut and native oak, ash, yew. Unusually the yew is naturally regenerating, which is relatively rare in Ireland where it has usually been planted. The diverse understory, both in terms of species and structure, recorded included mosses, herbs, sedges, ferns, climbers, and native shrubs such as holly, hazel, blackthorn, buckthorn and hawthorn.

Fig 8.
Early purple orchid in ivy (photo, irishwildflowers.ie)

Hairy St. John's Wort (photo, societyofbiology.org)

Wood sorrel. Note clover-like leaves (photo, Karen Moore)

Many of the herb species recorded were typical of woodland: Primrose (*Primula vulgaris*), Herb robert (*Geranium robertianum*), Lesser celadine (*Ranunculus ficaria*), Wood sorrel (*Oxalis acetosella*), Early purple orchid (*Orchis mascula* – rare in the east of Ireland), Wood sanicle (*Sanicula europea*), Wood anemone (*Oxalis acetosella*), Common Dog-violet (*Viola riviniana*), Enchanter's nightshade (*Circaea lutetiana*), Bugle (*Ajuga reptans*) Bluebell (*Hyacinthoides non-scripta*). Ferns recorded included: Hart's tongue (*Phyllitis scolopendrium*), and 3 typical woodland ferns, the Male fern (*Dryopteris filix-mas*), Scaly Male Fern (*Dryopteris affinis*) and Broad Buckler-fern (*Dryopteris dilatata*). Note: many of these groundflora species are classed as typical woodland species although they may not be restricted to this habitat alone.

3.3.2 Woodland Fauna

5 species of bat have been previously recorded in Celbridge, namely in Donaghcumper and Castletown Demesne: Soprano pipistrelle, Common pipistrelle, Daubenton, Leisler's, Natterers and possibly Long-eared bats (RPS, 2008).

During a site visit to Celbridge Abbey in early May active badger (Meles meles) setts were recorded. From previous surveys, Donaghcumper (McMillian, 2008) also has extensive badger setts. Red Squirrels (*Sciurus vulgaris*) have also been recently reported (winter 2012) in Donaghcumper by local residents. Red squirrels are arboreal, meaning they spend almost all of their time in trees thus healthy woodland is essential for their survival. Both the badger and the Red squirrel are legally protected in Ireland under the Wildlife Act and listed in Europe as species in need of protection. During a site visit to Castletown woods birds noted included Coal, Blue and Great Tits, the warbler Chiff Chaff, Chaffinch, Dunnock and Siskin and the ubiquitous Robin.

Fig 9. Left, Dunnock a Robin-sized bird typical of gardens, parks, woodland and farmland. Tends to remain low in vegetation creeping along ground close to or under hedges (photo, Jerry Cassidy). Right, Chiffchaff, widespread summer visitor (April to September) to woodlands. More commonly heard than seen its two note call sounds like it name (photo, Ken Kinsella: info from birdwatch.ie).

3.4 Wetlands

Kilwoghan wetland in Celbridge contains an example of reedbeds habitat which, according to Fossitt (2000), typically includes plants such as Common Reed (*Phragmites australis*), Reed Sweet-grass (*Glyceria maxima*), Reed Canary-grass (*Phalaris arundinacea*), Great Fen-sedge (*Cladium mariscus*) and Common Club-rush (*Schoenoplectus lacustris*). Other species noted in this habitat type include Lesser Water parsnip (*Berula erecta*), Water Plantain (*Alisma plantago-aquatica*) and Purple Loosestrife (*Lythrum salicaria*). Reedbeds are an important habitat for many bird species as they not only provide suitable habitat but they provide a food source for birds in the vast diversity and abundance of invertebrates they typically support.

Kilwoghan wetland also has an extensive network of drainage ditches that, despite being artificial, linear water bodies, can support an array of plants and insects. Drainage ditches, provided they are of appropriate size i.e. not so large that they have a negative impact on the hydrology of a site, can play an important role in regulating the hydrology of wetlands such as Kilwoghan.

Fig 10. Reed warbler recorded in Kilwoghan is about the same size as a Robin with a black crown (photo, Clive Timmons). Widespread summer visitor to wetlands from April to September throughout Ireland (info from birdwatch.ie).

3.5 Grass and meadow areas

Grass areas include amenity grasslands that are maintained for recreational purposes and usually are mown several times per year and treated with herbicides and/or fertiliser. Although they are typically species poor it should be noted that in certain areas grasslands may contain interesting species owing to local conditions such as drainage, soil type and/or management. Cowslip (*Primula veris*) is a species that showed up in amenity grasslands during site visits to Celbridge and is locally common very common. It is typical of calcareous grasslands and is closely related to the typical woodland species Primrose. Although Cowslips are not considered threatened in the Republic, it is under legal protection in Northern Ireland which indicates how the everyday to one can be the rare and unusual to another. In Celbridge it often appears on roadside verges.

Meadows are best represented in Celbridge in the area in front of Castletown House. This area has been managed for wildlife and so is cut only once a year by farmers who bale and remove cuttings. This area is an important habitat for many species and owing to the diversity of plants here there are also plenty of butterflies. Adult butterflies will feed on almost any nectar rich flowers, however, each species can have quite specific requirements for plants on which they will lay their eggs.

Fig. 11 Left, Peacock butterflies ovipositing on the underside of a nettle leaf (photo, Jesmond Harding butterflyconservation.ie). Right, Peacock basking (photo, Adrian Phelan Irishbutterflies.com).

The larval stage or caterpillar can be restricted to eating only certain plant species. The common nettle (*Urtica dioica*) is used by at least 5 species for their larval stage:
Small Tortoiseshell, Peacock, Red Admiral, Painted Lady and the Comma.

4.0 Projects

This section details ongoing wildlife projects in Celbridge and also outlines planned projects as part of the 3 year plan.

4.1 Ongoing projects

4.1.1 Wildlife habitat maintenance

These projects are for the practical enhancement of local biodiversity.

i. Unintensively managed boundaries – hedges and walls

There are good examples of low intensity management of hedge boundaries in Celbridge and it is these linear features which can be so important in supporting viable populations of species of not only plants but insects, birds and mammals e.g. to the north-east (back) of the Workhouse Famine burial memorial tree and hedge line with native species.

During site visits some walls were noted with an interesting flora associated with them: rusty-back fern (*Ceterach officinarum*), Polypody ferns, Ivy-leaved toad flax (*Cymbalaria muralis*). The lichens, mosses, ferns and flowering plants that are on walls in Celbridge are to be left, except where they pose on obstruction to passage on a public path for instance.

Ivy is often attacked with vengeance in an attempt to "clean" walls. However, it has an important place in Ireland's ecology as a habitat and food source for many species, especially so in early spring. When at a relatively low cover on a wall it provides a framework for other species to get a hold, as it retains moisture and soil particles. However, once it reaches a certain spread and density (this point varies with each individual situation) it can exclude all other species (Doogue & Kreiger, 2010). Careful survey of the wall type and extent of ivy needs to be undertaken before any removal is carried out: it may in fact be holding walls together and removal may cause the wall to disintegrate. Control of ivy is another issue and is best done so as not to eradicate the ivy but to prevent it taking complete "control" of a wall. Trailing stems can easily be peeled off or cut on a periodic basis. The spraying of ivy is to be avoided altogether as this method is indiscriminate and will no doubt poison non-target plant species. As recommended by the Heritage Council (2002) seek expert advice before attempting to remove ivy from walls.

Red valerian (*Centranthus ruber*) is a non-native garden escape that is now very familiar on walls throughout Ireland (Doogue & Krieger, 2010). The status of Red valerian on Celbridge walls should be assessed with a view to deciding whether this potentially invasive plant in terms of the habitat of masonry walls should be controlled.

Fig 12. Left, Red valerian showing typical growth in a hedge (photo, gardeningandnaturetherapy.blogspot.ie). Right, Japanese Knotweed surrounding a patch of Bluebells, Celbridge Abbey. (photo, Karen Moore).

A comprehensive survey needs to be undertaken of candidate walls in Celbridge to be sensitively managed to provide habitat for biodiversity. Suggestions for survey include boundary walls of Donaghcumper, Celbridge Abbey, St Wolstan's Abbey and local cemeteries (e.g. Tea Lane).

Maintaining a mosaic of wildlife habitats

If there are differing management regimes in the same area this can lead to a diverse mosaic of habitats thus encouraging biodiversity as more species can use the differing habitats. There is a good example of a 'habitat mosaic' in Celbridge Abbey grounds where there is a mix of two management regimes in the grounds - intensive and unintensive wildlife friendly. This creates a habitat mosaic thus increasing the available habitats for wildlife than if there was only the intensive regime in place. This mix is maintained partly by graduating the mowing regime on the grounds with some areas left unmowed for much of the year allowing wildflowers to establish as opposed to the lawn areas that are mowed very frequently and covered in a thick sward of grasses. It is most important that the areas beside the river and mill race are sensitively managed as it supports many interesting plant species.

Fig 13 Left, Upper or Backlawn pond at Castletown wood. Right, newly restored Lower pond. Photo: left courtesy of Celbridge Walking Trails and right, Karen Moore.

4.1.2 Wildlife habitat creation

i. How to create and maintain biodiversity

In 2006 Celbridge TT seeded a wild flower mixture within the boundary of Daffodil bulbs beside the Workhouse Famine burial memorial. Out of this mix that included the Common poppy (*Papaver rhoeas)* there are few species left. However, during a site visit Cowslips (*Primula veris*), clover (*Trifolium sp.*), Yarrow (*Achillea millefolium*) Ribwort plantain (*Plantago lanceolata*) and Common sorrel (*Rumex acetosa*) where among the species adding to the diversity of the current grassy sward. A cutting regime for meadow habitat is no longer in place. However, it appears that the diversity of species present now will be maintained in the long term.

The planting of wildflower seed mixes for increasing the biodiversity value of an area is to be discouraged in the future. One reason is the fact that these mixes are rarely matched to the local species in an area and so introduce species into a habitat that were never there prior to planting and that can then displace the local flora, potentially having knock-on effects on other species that were using them such as insects, birds, bats, etc. This can result in actually decreasing the diversity of local species that have evolved in a local habitat culminating in the decreasing the biodiversity value of an area. Another issue is the seed mixes often contain the seeds of annual plants that are not naturally occurring in meadows. After flowering once they usually are not seen again resulting in a waste of resources that resulted in only one "successful show".

Create and Maintain Biodiversity = Manage for Local Species

Thus an alternative to spending resources of time and money on seed mixes is to have appropriate management in an area that increases the representation of local species. This method usually requires less intensive management and results in long term maintenance of local biodiversity. An example of this is seen in the current management of the area around the Workhouse Famine burial memorial detailed above. A further example is the pilot project Celbridge Tidy Towns are expanding to manage select roadside verges in this way (see section 4.2.3).

Planting seed mixes as a landscaping measure in beds and border areas specifically for visual appeal is another matter and will continue, albeit, with the wildlife friendly potential of plant species being taken into consideration by Celbridge Tidy Towns.

4.1.3 Increasing local awareness of wildlife and natural amenities

i. Parklands and River Walks map-booklet

This booklet will be available from Castletown House by late May 2013. It is a self-guided nature trail booklet to help people explore the meadow in front of the House and a 15 minute walk each way from the house to the river Liffey at the bottom of the meadow. It will also incorporate the newly restored Lady Louisa walking trails – a project to recreate the walks developed and then enjoyed by Lady Louisa in the 1700's. The booklet will have a map and interpretive information on the habitats and species of note. This nature trial will be especially

suited to schools as Castletown is safe and accessible and it will offer an opportunity to instill local knowledge and pride in students as to what wildlife they have in their locality.

Fig. 14 Castletown woods walking trail passing through open glades that bloom with wildflowers in the Spring/Summer. The white are Wood anemone and the yellow are Lesser celadine.

ii. Increasing public profile of Kilwoghan Bog

Kilwoghan (Kilwogan) Bog is classed in the Celbridge Local Area plan as a wildlife habitat with species of local importance. Although it has previously been recommended for conservation designation this bid failed and it is currently not protected by legislation. It is a wetland area of grassland with some reedbed areas (mainly of Bulrush, *Typha latifolia*) and water filled ditches running through it. The Crodaun stream, which feeds into the Liffey at Castletown rises at Kilwoghan bog.

In the recent past it has suffered from commercial large scale illegal dumping that has left much of the site in a poor state with smoothed mounding of unidentified waste in areas. However, despite this there were some interesting species recorded here during a site visit in April 2013 including the Sedge Warbler (*Acrocephalus schoenobaenus*), a widespread summer visitor to Irish wetlands.

It is proposed that information on this wetland will appear on the Tidy Towns website to act as an introductory source of information on this locally important area. This area certainly could have benefited from this type of local awareness as protection against the illegal dumping that occurred here in the past.

Public access to this site needs to be investigated further with regards to, for example, using it as a local bird watching site. To date there seems to have been no comprehensive wildlife survey of this site and this urgently needs to be undertaken.

4.2. Proposed Projects

4.2.1 Interpretive sign for River Liffey

In 2010 Celbridge TT reclaimed a 50m stretch of stone wall on the Ardclough Rd. from the pedestrian bridge up to the Abbey Hall. This allowed an easily accessible area to be used for viewing the river and its wildlife. More recently they have opened up a very scenic viewing position for the river with a bench and planted areas on the opposite side of the Ardclough Rd. As suggested in previous TT adjudicators report (2012) it is proposed that here will be placed an information sign developed in conjunction with wildlife experts. This sign will detail flora, fauna and other wildlife that use this immediate area. In addition it is planned that these boards will have QR (Quick Response) codes which when scanned with a Smart phone/Blackberry will bring the viewer back to the Celbridge TT website www.celbridgetidytowns.com. From here the viewer can access the upgraded 'Wildlife' page.

4.2.2 "Biodiversity Hotspots" self-guided tour of Celbridge

The map and information compiled for this report will act as a framework for the development of a "Biodiversity Hotspots" self-guided tour of Celbridge to be developed by Celbridge Tidy Towns as part of their 3 year management plan. This tour will be available to download from their web site for printing or use on a smart phone, and, subject to funding, also in the form of a printed leaflet. There will be a map showing the habitats to be visited details on what to look out for at each 'biodiversity hotspot'.

4.2.3 Pilot project to manage select roadside verges for local wildlife

Heritage Council guidelines (2002) recommend that no herbicides be used on roadside verges and that a graduated mowing management scheme can be applied in a town with only some areas being heavily mowed and others being left to allow wild plants to thrive. Celbridge has a pilot project in place to manage road side verges in this way. This will not only contribute not only to biodiversity along road verges but to weed control and cost effective vegetation management.

Sometimes a management plan is only to maintain what is there naturally

The pilot project road side verge is between the car park to Celbridge Abbey and the Esso/Spar up the road on the way out of Celbridge – it is on the left hand side of the road at the corner just before petrol station. Celbridge Tidy Towns hope to roll out this management on a wider basis over the next 3 years.

This verge was chosen for a number of reasons: it shows a contrast between different mowing frequencies (graduated mowing regime) and in the impact this can have on biodiversity (lower slope regularly mowed, upper slope less so): it already supports an interesting suite of species (see below): it has a masonry wall behind it that shows the diversity that can be promoted when walls are not sprayed: it is well situated to inform the passing public about the project i.e. side of a busy road: it is accessible and safe to work on.

Some of the species of interest recorded on a site visit include: Cowslip*, Wild carrot* (*Daucus carota*), Marjoram* (*Origanum vulgare*), Hypericum perforatum* (a species of St. John's wort), Common Knapweed (*Centaurea nigra*), Cuckcoo flower* (*Cardamine pratensis*), Lesser celadine (*R. ficaria*) Meadow buttercup (*R. acris*) Creeping buttercup (*R. repens*) Common sorrel (*Rumex acetosa*): those marked by * are indicative of the lime soils in the Celbridge area. This is an extensive list of species for such as small area of road side verge and this species list is by no means exhaustive!

Fig.15 Left, Common knapweed abundant on roadsides, grassland, wasteland. Right, Cuckcoo flower (Lady's smock) found in damp meadows and lawns, stream sides, open moist woodland. Both photos from Jenny Seabright.

A management plan is needed only to maintain what is already there naturally. When Common knapweed and Cowslips have set their seed for the year it is a good indicator that most plants in the near environment will have also. The plan allows for mowing once these two species have seeded. Every 2-3 years the soil should be lightly scarified to remove dead leaf litter especially of the grasses which can build up thus preventing other plants thriving. This would need to be carried out this year on the higher area of the slope as the dead vegetation is forming tussocks already. There is a large area of bramble which is thriving should be allowed to do so, however, this winter it can be cut back quite hard and it will recover by summer 2014. Trailers from this bramble bush and new plants should be removed to prevent further spread.

It is planned to place a simple sign on the verge i.e. "This verge is managed for biodiversity". Also, as is already in place in the pilot project site, an area surrounding or adjacent to the 'wildlife' or 'biodiversity' area should be cut on a more regular basis to "frame" the wild area. It is important that the public perception is not that these areas have been "left to go to waste" but that they are being actively and sensitively managed for local wildlife.

This type of management is being piloted elsewhere in Ireland with County Council and local communities working together e.g. "Life Lives on the Edge" project County Wexford.

4.2.4 Planting of food and shelter plants for local insects and birds

It is planned to take into account the wildlife friendly potential of a plant species in the general planting of flower beds and border areas in Celbridge. By choosing plants that are rich in nectar and pollen to attract insects (and thus birds) and plants with palatable berries and seeds for birds Celbridge hopes to make as many areas as possible wildlife friendly.

4.2.5 Control of invasive non-native species

The spread of alien species is particularly problematic in aquatic environments such as the River Liffey. Himalayan Balsam (*Impatiens glandulifera*) and Japanese knotweed (*Reynoutria japonica*), recorded during site visits at the Mill and at the Abbey respectively, occur in several local infestations along the River Liffey in the environs of Celbridge. Cherry Laurel (*Prunus laurocerasus*) was recorded on the site visits to both Celbridge Abbey and Castletown Demense and extensive growth of Snowberry (*Symphoricarpus albus*) was recorded in some sections of wood at Castletown. All of these invasives are capable of spreading rapidly, forming dense stands, reducing light available to other native species and thus threatening the diversity of our native wildlife.

There can be disastrous consequences if inappropriate control measures for non-native species are employed e.g. spraying an annual such as Himalayan Balsam that has already set its prolific amount of seed that will be unaffected by spraying and will happily germinate the following year. Also invasives that are adjacent to watercourses where spraying can result in the pollution of the water body. Spaying invasives is a very inexact method of control and without a shadow of a doubt there are desired species, some of which in the Celbridge area are rare and endangered that will be poisoned also. Due to the potentially disastrous consequences of inappropriate control measures it is vitally important that if any control is to be undertaken by the Tidy Towns that a botanical ecologist experienced in non-native species control is involved in the project from the start (Heritage Council 2002). Pilot projects for each of the species to be controlled should be undertaken before removal as the suitability of methods can vary site to site owing to different site conditions.

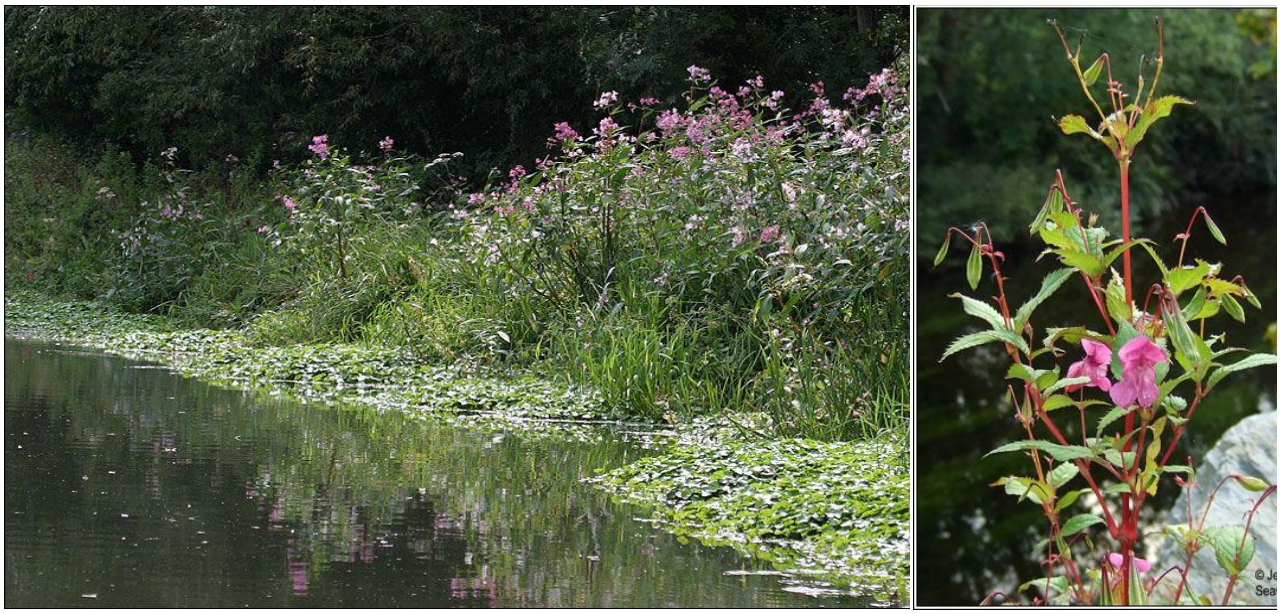

Fig 16. Left, Himalayan Balsam in typical river side situation which further aids its spread (photo, invasbiosecurity.ie). Right, close up of flowers (photo, Jenny Seawright).

4.2.6 Bat and bird boxes

Bird and bat boxes can be useful in areas where nesting and roosting sites, whether trees or buildings, have had to be removed. Requirements for both bird and bat boxes are species specific and they also require maintenance to not only ensure their effectiveness but to maintain their viability for the target species.

There are 10, possibly 11 as of 2013 (Barry, 2013), known species of bats in Ireland, each with its own lifestyle and habitat requirements of these 5 have been recorded in Celbridge: Soprano pipistrelle, Common pipistrelle, Daubenton, Leisler's and Natterers. Bat roosts are protected by Irish and EU law (Habitats Directive) because all species have declined as they are vulnerable to loss of roosts and loss of suitable habitat and some are threatened or endangered.

Bat boxes have been put up adjacent to Castletown house in the trees to provide roosting/hibernation sites for the 5 species of bat recorded in the area. They have also erected breeding boxes to cater for the needs of Blue, Great and Coal Tits in areas where they have had to remove trees. Bird boxes in some areas have had a 60% nesting success. Other boxes are planned for the farm buildings on their completion.

4.2.7 Wildlife surveys

i. Flora survey Castletown Avenue

Survey to determine if there are any remnant woodland plants at base of Lime trees along Castletown Avenue. Celbridge, or Lime, Avenue was planted in the 1700's. A single oak tree of considerable age survives in the avenue. There are reports of rare species such as: Goldilocks buttercup (*Ranunculus auricomus*), Toothwort (*Lathraea squamaria*), a parasitic plant on roots of trees, Ivy broomrape (*Orobanche hederae*) a parasitic plant on ivy and Hairy St. John's-wort (*Hypericum hirsutum*). Survey to be completed at appropriate time of year for survey of woodland ground flora. It is proposed that the survey results will help to inform future management of the Avenue by the managers of Castletown.

ii. Kilwogan Wetland survey

To date there seems to have been no comprehensive wildlife survey of this site and this urgently needs to be undertaken.

iii. Celbridge wall biodiversity survey

A comprehensive survey needs to be undertaken of candidate walls in Celbridge to be sensitively managed to provide habitat for biodiversity.

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Acknowledgements

Some of the images were kindly supplied by ‘Celbridge Guided Walks’. Cover photos from Celbridge Guided Walks and Karen Moore.

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