



**Ballinora and District
Community Association Ltd**



Wildwork

HELPING PEOPLE **HELP NATURE** HELP PEOPLE

Wild Work is a SECAD initiative.

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Introduction

This Habitat Mapping project was commissioned by Ballinora Tidy Towns in January 2020.

The mapped area covers portions of three townlands; Ballinora (sometimes spelled Ballynora), Ballymah, and Inishkenny. Within the mapped area (see Fig.1 below) is a section of Curraheen Stream and a very steep sided valley through which the stream runs. The steepness of this valley in some sections appears to have rendered it largely unsuitable for agricultural or development.

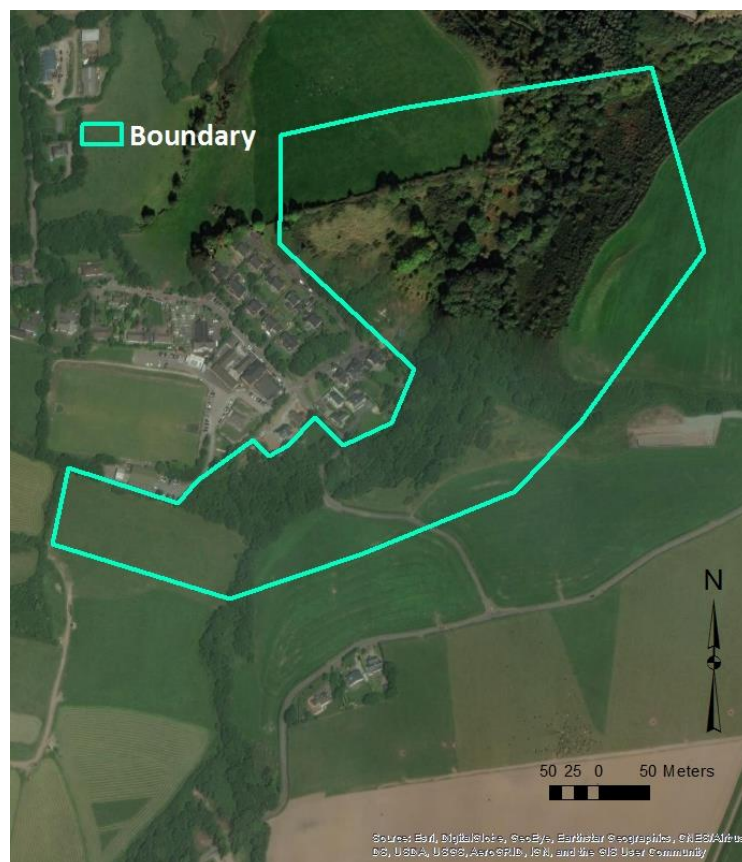


Figure 1 Mapped Area.

On the first edition Ordnance Survey 6 inch map from the mid- to-late 19th century, symbology appears to indicate 'Furze or Whins with Rocks and Trees interspersed' (National Library of Scotland, 2020a). Furze is perhaps more commonly known as Gorse in Ireland, Whin is a synonym for this.

On the second edition Ordnance Survey 25 inch map from the late 19th to early 20th century, symbology indicates a mixture of 'Furze' and 'Rough Pasture' (National Library of Scotland, 2020b) on the valley sides.

On the third edition Ordnance Survey 6 inch map from the early-to-mid 20th century there is again a mix of 'Furze' and 'Rough Pasture'. In contrast to earlier maps a section of conifer woodland is indicated running north-east along the slopes above the river from just below the bridge for about 260 meters.

To some degree the extent of Gorse seen on older maps still persists today. There are notable areas of Bracken on the slopes today which may be a relatively recent development, however this may have been included under the description of 'furze', 'whin' and / or 'rough pasture' applied in older map symbology. There are only a few conifer trees now standing in the section mapped as conifer woodland in the early 20th century, the trees in this woodland now being composed primarily of Sycamore, Ash and Alder. Based on a comparison of the symbology on the older maps against modern aerial photography the amount of woodland in the mapped area would seem to have increased somewhat since the 19th century.



Figure 2 Gorse, bramble and woodland on slopes.

In the 21st century there have been changes within the mapped area. Prior to 2000 the area where Woodside estate now stands was agricultural fields. Immediately east of the estate

three fields, which form a triangle, have succeeded to scrub, immature woodland and rank grassland since c.2000.

The highest point in the mapped area is c. 80 meters above sea level. The Geological Society of Ireland website shows bedrock in the area as Ballytrasna Formation Purple mudstone and sandstone. Teagasc soil maps indicate soil in the mapped area is of two types. On the steep valley sides, it is indicated as being in Soil Group 'Lithosols, regosols' and Category 'Shallow, well drained, mineral (Mainly acidic)'. On the level areas above the valley it is indicated as Soil Group 'Acid Brown Earths, Brown Podzolics' and Category 'Deep Well Drained Mineral (Mainly acidic)'.

For 2019 the highest monthly rainfall recorded at the nearby Cork Airport Weather Station was 179.20mm in October. The lowest monthly rainfall was in May at 41mm. The average monthly rainfall for the year was 105.34mm.

For that year the maximum temperature recorded was in June at 23.3°C, the lowest was in January at -2.1°C. The highest average monthly temperature was in July at 16°C and the lowest in December at 6.2°C.

An interesting excerpt from Lewis' Topographical Dictionary (Lewis, 1837) describes the southern portion of Kilnaglory parish, '*adjoining Inniskenny*' (where Ballinora / Ballymah townlands are located) as '*hilly and the land full of springs, which is a great impediment to cultivation, especially in wet seasons*'.

Main field survey took place on February 20th 2020 with a re-visit on March 6th 2020.

Habitat Classification

Habitats recorded during field work			
Habitat Level 1	Habitat Level 2	Habitat Level 3	Fossitt Code
Freshwater	Watercourses	Eroding/upland rivers	FW1
Grassland and Marsh	Improved grassland	Improved agricultural grassland	GA1
Grassland and Marsh	Semi-natural grassland	Dry meadows and grassy verges	GS2
Grassland and Marsh	Freshwater Marsh	Marsh	GM1
Heath and dense bracken	Dense bracken	Dense bracken	HD1
Woodland and scrub	Semi-natural woodland	Wet willow-ash-alder woodland	WN6
Woodland and scrub	Highly modified/non-native woodland	(Mixed) broadleaved woodland	WD1
Woodland and scrub	Scrub/transitional woodland	Scrub	WS1
Woodland and scrub	Scrub/transitional woodland	Immature woodland	WS2
Woodland and scrub	Linear woodland/scrub	Hedgerows	WL1
Woodland and scrub	Linear woodland/scrub	Treelines	WL2
Exposed rock and disturbed ground	Disturbed ground	Recolonising bare ground	ED3
Cultivated and built land	Built land	Stone walls and other stonework	BL1
Cultivated and built land	Built land	Earth banks	BL2
Cultivated and built land	Built land	Buildings and artificial surfaces	BL3

Table 1 Habitats recorded during field work.

Habitats were mapped according to the classification in 'A Guide to Habitats in Ireland' (Fossitt, 2000) and with reference to 'Best Practice Guidance for Habitat Survey and Mapping' (Smith, et al., 2011).

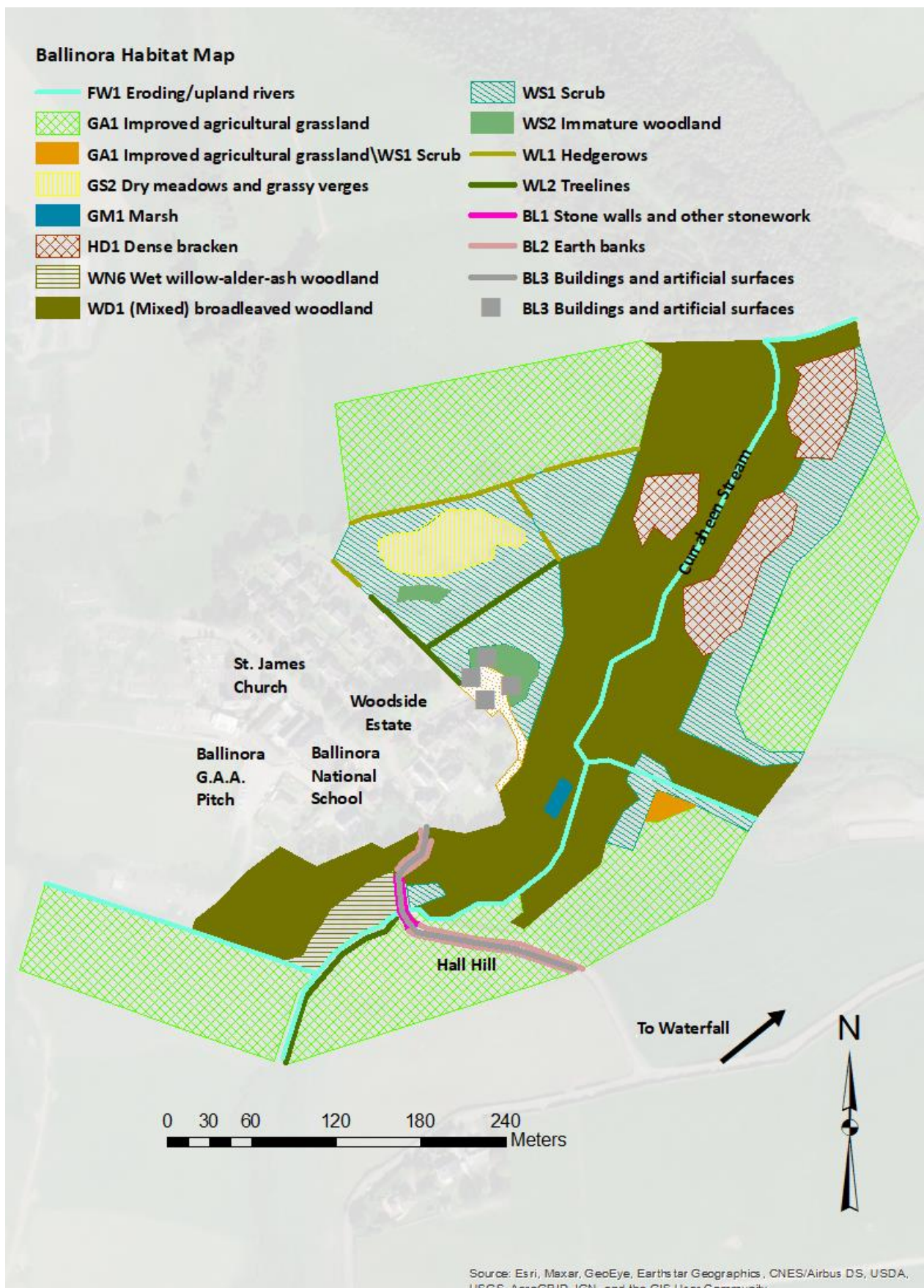


Figure 3 Habitats mapped during field work.

FW1 Eroding/upland rivers

The main component of this habitat type in the mapped area is the Curraheen Stream. Two smaller waterbodies also mapped here as FW1 enter the Curraheen Stream from its east side. That to the south east is named Ballintannig on the EPA mapping website (<https://gis.epa.ie/EPAMaps/>) and that to the north east as Ballymah. On the dates of survey, a third small waterbody was observed on the west side of the Curraheen Stream, adjacent to the feature mapped as WN6 Wet willow-alder-ash woodland. This water body does not appear on EPA maps. Weather prior to the day of survey had been very wet for a period of a week or more so this feature may have been a result of surface drainage. It has however been mapped here as FW1 because the channel through which it runs is quite deep indicating that it is in spate on a regular basis, at least in winter.

GA1 Improved agricultural grassland

This habitat type is one of the largest by area within the mapped area. For the most part this is composed of sward dominated by Perennial Ryegrass. One area of this habitat type west of the bridge and south of the Curraheen Stream lies at the base of a slope and on the day of survey was waterlogged. The plant species composition in that area did not however approach that which would approach the classification of GS4 Wet grassland.

GS2 Dry meadows and grassy verges

This is applied to a section of one field immediately east of Woodside housing estate. From an examination of historic aerial photography this was probably an agricultural field until c. 1995 but by 2000 was not in agricultural use. Since then large areas of this field have succeeded to scrub with a central portion still grassland. The grass species are predominantly Yorkshire Fog and Cock's-foot, and these are generally tussocky due to lack of grazing or mowing. Forbs such as Ragwort, Broad-leaved Dock, Creeping Buttercup, Meadow Buttercup and Ribwort Plantain were noted. The term 'forbs' is used to refer to flowering plants that are not woody and not grasses, sedges, rushes or wood-rushes.

Although rank grassland such as that found here is not very diverse in terms of plant species, it can provide important habitat for invertebrates such as bees (National Biodiversity Data Centre, 2017). It can also provide habitat for ground nesting birds and a Snipe (*Gallinago gallinago*) was flushed here during the field survey.

GM1 Marsh

One small section of the mapped area has been classified as GM1 Marsh, although the classification is tenuous. This refers to a fenced area at the base of a slope east of urban Ballinora. It may have been associated with waste-water treatment at some time in the past. There is no tree canopy over the feature at this time. The soil appears waterlogged with shallow standing water in some areas. Reedmace was noted as present as was as Yellow-flag Iris. Some rushes were observed. There is quite high coverage of grass which would normally preclude the classification of GM1 Marsh but the soil, at time of survey, was too waterlogged to classify as grassland. There was insufficient open water to classify as Swamp.



Figure 4 'GM2 Marsh' at Ballinora.

HD1 Dense bracken

This covers quite a large area of slope on the east of the Curraheen Stream within the mapped area. There is also a smaller section on the west side of the stream. A mammal burrow was noted in that section on the east side.

WN6 Wet willow-alder-ash woodland

This is located west of the bridge over the Curraheen Stream and north of the stream itself. The canopy is a mixture of Alder and Willow with some Ash. In some areas soil was extremely wet on the day of survey. The source of waterlogging here is likely to be a mixture of the stream and run-off from higher ground. In some sections Bramble predominates but in the wetter areas a mixture of Bent grass and mats of Opposite-leaved Golden-saxifrage takes over. Fool's Watercress, Creeping Buttercup, Marsh Bedstraw, Common Valerian and Remote Sedge were also noted.

WD1 (Mixed) Broadleaved woodland

This is the second largest habitat type by area within the mapped area. There is considerable variation in canopy and field layer composition, hydrology and topography across this habitat type here.

For example, along the two smaller river bodies joining the Curraheen Stream from the east are strips of woodland composed almost entirely of Willow. That along the more southerly of these two bodies seems of quite recent development. An examination of aerial photography from c.2000 bears this out



Figure Fig 5 Curraheen Stream and woodland at Ballinora.

There is an area east of Woodside estate that has a number of large, old, specimen non-native conifer trees mixed through with some quite old Sycamore (another non-native species) as well as some native Ash and Hazel. Whereas mid-to-late 19th century mapping indicates a field and rough grazing in this area, early 20th century maps show a woodland composed predominantly of conifers

On the valley floor east of the bridge over the Curraheen Stream, some of the woodland running along the river has a high component of Willow and Alder with some Ash. However, even though the survey took place after periods of very wet weather, apart from some very

small pockets, nowhere was the soil waterlogged or showing indications of frequent flooding. It was observed that the banks along this stretch were generally half a meter or so above the water level. There is some Three-cornered Garlic and Crocosmia dotted through the woodland, particularly on the west of the stream. These non-native species can become problematic in some situations.

19th century maps appear to indicate small scale quarrying near the top of a slope east of the Curraheen Stream and east of the bridge. There are some small areas of exposed rock still extant here, albeit with a covering of mosses and liverworts. Possibly due to the open nature



of the canopy here a number of forb species were obvious e.g. Ivy-leaved Speedwell, Primrose, Herb Robert, Lesser Celandine, Self-heal and Yellow Pimpernel. The canopy was primarily of Ash, but lower growing trees such as Hawthorn, Blackthorn and Elder were also present. A mammal burrow was observed from which Elder was growing.

Figure 6 Woodland on old quarry at Ballymah.

WS1 Scrub

This habitat type occurs at a number of discrete locations across the mapped area and forms a considerable amount of land cover by area. Overall the most common component is Gorse, although in some areas, such as immediately east of the bridge, Bramble dominates.

WS2 Immature woodland

In a couple of the fields accessible from Woodlands there are stands of young trees that have developed on areas that had been cleared back to bare soil in the early 2000s. In one of these stands there is a high proportion of Birch.

WL1 Hedgerows

This habitat type was mapped along agricultural fields on the northern edge of the mapped area and through some adjacent abandoned agricultural fields. There appears to be little recent maintenance. In some sections there are few trees with the main length of hedgerow formed by bramble and bracken. In other sections Blackthorn, Hawthorn, and some young Ash form parts of the hedgerow and at least one Oak was present.

WL2 Treelines

A number of treeline features were mapped. Although not conclusive, from the structure of these it is likely in many cases that these developed from hedgerows. As with the hedgerows, almost all of these are on raised banks which often have a distinct flora associated with them. Species on these banks include Foxglove, Cow Parsley and Ivy and a variety of fern and moss species.

ED3 Recolonising bare ground

This is applied to a section of one field immediately east of Woodside housing estate. From examination of aerial photography this likely dates to the construction of the Woodside estate in the early 2000s. A large area of this field was cleared back to bare soil at that time. Since then a number



Figure 7 ED3 Recolonising bare ground in foreground with WS2 Immature woodland and WL2 Treelines in background.

of other habitat types have developed in this area but a section still has a mixture of bare patches and low vegetation of forbs, grasses, sedges and mosses. It is unclear why this has persisted so long as access to the area is somewhat restricted. There is evidence of horse riding and hunting with dogs through the mapped area and beyond however this would not appear to be linked to the persistence of what is ordinarily an ephemeral habitat. A section of this habitat type to the east of Woodside above the Curraheen Stream seems to be of more recent origin, possibly associated with small scale clearance.

BL1 Stone walls and other stonework

There are two linear examples of this habitat type mapped and these are associated with the bridge over the Curraheen Stream. There was no date discovered for when the current bridge was erected. There is a bridge in this position indicated on OSI maps from the mid-19th century. The appearance of much of the bridge stonework would suggest this is the same bridge. There have been recent, relatively minor, repairs to the bridge (Pat Tuitt, pers. comm.). Particularly on the elevations facing away from the road a nice amount and variety of spleenwort ferns was noted e.g. Maidenhair Spleenwort, Wall Rue, and Hart's Tongue Fern. Forbs included Herb Robert, Navelwort (also called Wall Pennywort), Wood Sage, Barren Strawberry and Groundsel. A number of lichen, moss and liverwort species were also noted.



Figure 8 The stone bridge at Ballinora.

BL2 Earth banks

Within the mapped area the primary location for this habitat type is either side of the road south-east of the bridge. On the date of visit these were very closely cropped however later in the year vegetation here could include Bramble, Bracken, and Ivy with a number of forb and grass species.

Two strips north-east of the bridge were also mapped as BL2. Ordinarily these would not have been mapped separately as, for the most part, they are under the canopy of areas mapped as woodland. However, as the vegetation here is quite diverse and occurs on the boundary between two other habitat types they have been mapped separately.

Species recorded from these latter banks included:

Petty Spurge, Lesser Celandine, Cow Parsley, Wood Avens, Germander Speedwell, Herb Robert, Greater Burnet-saxifrage, Common Nettle, Daisy, Dandelion, Ribwort Plantain, Wavy Bittercress, Broad-leaved Dock, Bush Vetch, Ivy-leaved Speedwell, Wild Privet, Hogweed, Hart's-tongue Fern, Soft-shield Fern, Maidenhair Spleenwort, Grey Sedge, Perennial Ryegrass, Red Fescue, Yorkshire Fog and Wood False-brome.

BL3 Building and artificial surfaces.

The largest section of this habitat type in the mapped area is the tarmacked local road running across the south west end of the mapped area. There are a couple of seemingly abandoned prefabricated buildings in a vacant lot adjacent to Woodside housing estate. These are also mapped as BL3.

Mosaics

One area within the mappable area was classified as 'GA1 Improved agricultural grassland\WS1 Scrub. Here a number of small Gorse bushes were scattered regularly through an area of improved amenity grassland.

Habitat Evaluation

A scheme for evaluating the ecological value of habitats in an Irish context was developed using a variety of criteria in 'Guidelines for Assessment of Ecological Impacts of National Roads Schemes Revision 2' (National Roads Authority, 2009) and ranks habitats sites in terms of importance at a number of scales. These scales are;

- International importance
- National importance
- County importance
- Local importance (higher value)
- Local importance (lower value).

Importance at a regional level could also be considered.

International importance would be applied to sites including those that, for example, have been designated for protection under international laws, treaties and / or conventions etc. These would include sites designated under the Habitats Directive or the Birds Directive for example. Equally sites that are not designated but meet the requirements for designation under such laws or treaties would be considered of international importance.

National level importance would be applied to sites including those that, for example, have been designated for conservation under national law or contain significant populations of species protected by national legislation or that would meet the requirements for designation under such legislation.

The habitats identified during the field survey work are listed below in accordance with the evaluation scheme in Guidelines for Assessment of Ecological Impacts of National Roads Schemes Revision 2. A rationale for the assessment follows.

HABITAT TYPE	FOSSITT CODE	ECOLOGICAL VALUATION
Eroding/upland rivers	FW1	Local importance (higher value).
Improved agricultural grassland	GA1	n/a
Dry meadows and grassy verges	GS2	Local importance (lower value).
Marsh	GM1	n/a
Dense bracken	HD1	Local importance (lower value).
Wet willow-ash-alder woodland	WN6	Local importance (higher value).
(Mixed) broadleaved woodland	WD1	Local importance (higher value).
Scrub	WS1	Local importance (higher value).
Immature woodland	WS2	Local importance (lower value).
Hedgerows	WL1	Local importance (higher value).
Treelines	WL2	Local importance (higher value).
Recolonising bare ground	ED3	Local importance (lower value).
Stone walls and other stonework	BL1	Local importance (lower value).
Earth banks	BL2	Local importance (lower value).
Buildings and artificial surfaces	BL3	n/a

Table 2 Habitat ecological valuation.

Three habitats types recorded in the mapped area are not given an ecological value:

GA1 Improved agricultural grassland: This is an abundant habitat type in the locality; however, this habitat is usually dominated by one or a few grass species with a low diversity of forbs and provides little cover for animal wildlife.

GM1 Marsh: This type of habitat is generally considered of ecological value but the example here is derived from a man-made habitat, is small in size and is low in diversity. There is the possibility that it may be a receptor for point source pollution.

BL3 Buildings and artificial surfaces: Some buildings can have a value e.g. for bats or birds, however the BL3 habitat recorded here is roads and prefabricated buildings which would be of minimal biodiversity value.

Six of the habitat types recorded in the mapped area are given an ecological value of 'Local importance (higher value)'. The higher value is given for a combination of the following two assessment criteria:

- 'Sites containing semi-natural habitat types with high biodiversity in a local context and a high degree of naturalness...'
- 'Sites or features containing common or lower value habitats, including naturalised species that are nevertheless essential in maintaining links and ecological corridors between features of higher ecological value.'

Note that on the second point the features in the mapped area do not necessarily connect features of higher ecological interest but are part of a network of features of perhaps equal ecological interest but set in a wider landscape of very low ecological interest. The 'higher value' assessment is also partly due to objectives within the current (2014-2020) Cork County Development Plan (Cork County Council, 2014).

County Development Plan Objective HE 2-3:

Biodiversity outside Protected Areas

Retain areas of local biodiversity value, ecological corridors and habitats that are features of the County's ecological network, and to protect these from inappropriate development. This includes rivers, lakes, streams and ponds, peatland and other wetland habitats, woodlands, hedgerows, tree lines, veteran trees, natural and semi-natural grasslands as well as coastal and marine habitats. It particularly includes habitats of special conservation significance in Cork as listed in Volume 2 Chapter 3 Nature Conservation Areas of the plan.

Within the same County Development plan under section 12.2.11 '*Wetlands*' it is noted that '*Wetlands include our watercourses and water bodies as well as other habitats types including marshes, fens, reed beds, bogs and wet woodlands.*' The emphasis on wet woodland is made in this habitat mapping report as 'WN6 Wet willow-ash-alder woodland' was recorded during field work. Another two objectives from the County Development Plan related to habitats recorded in the Ballinora area are included below.

County Development Plan Objective

HE 2-4: Protection of Wetlands

Ensure that an appropriate level of assessment is completed in relation to wetland habitats subject to proposals which would involve drainage or reclamation.

This includes lakes and ponds, watercourses, springs and swamps, marshes, heath, peatlands, **some woodlands*** as well as some coastal and marine habitats.

* The emphasis on woodlands is made in this habitat mapping report, not in the County Development Plan.

County Development Plan Objective

HE 2-5: Trees and Woodlands

- a) Protect trees the subject of Tree Preservation Orders.
- b) Preserve and enhance the general level of tree cover in both town and country. Ensure that development proposals do not compromise important trees and include an appropriate level of new tree planting and where appropriate to make use of tree preservation orders to protect important trees or groups of trees which may be at risk or any tree(s) that warrants an order given its important amenity or historic value.
- c) Where appropriate, to protect mature trees/groups of mature trees and mature hedgerows that are not formally protected under Tree Preservation Orders.

The six habitats assessed as 'Local importance (higher value)' here are:

FW1 Eroding/upland rivers

WN6 Wet willow-ash-alder woodland

WD1 (Mixed) broadleaved woodland

WS1 Scrub

WL1 Hedgerows

WL2 Treelines

Six of the habitat types recorded in the mapped area are given an ecological value of 'Local importance (lower value)'. Lower value in this evaluation does not equate with 'no value'.

GS2 Dry meadows and grassy verges

HD1 Dense bracken

WS2 Immature woodland

ED3 Recolonising bare ground

BL1 Stone walls and other stonework

BL2 Earth banks

Note that the habitats in Table 3 below, identified during field work, are noted in Fossitt 2000 as having correspondence with habitats listed in Annex I of the Habitats Directive i.e. *'Habitat types whose conservation requires the designation of Special Areas of Conservation. Priority habitats, which are in danger of disappearing within the EU territory, are highlighted with an asterisk.'*

However, due to the size and quality of these habitats in the mapped area they would not be assessed as being of Annex I quality.

Eroding/upland rivers.	FW1	<i>Watercourses of plain to montane levels with the Ranunculion fluitantis and Callitricho-Batrachion vegetation (3260)</i>
Dry meadows and grassy verges.	GS2	<i>Lowland hay meadows (Alopecurus pratensis, Sanguisorba officinalis) (6510)</i>
Marsh.	GM1	<i>Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels (6430)</i>
Wet willow-ash-alder woodland.	WN6	<i>*Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-padion, Alnion incanae, Salicion albae) (91E0)</i>
Scrub	WS1	<i>Juniperus communis formations on heaths or calcareous grasslands (5130)</i>

Table 3 Fossitt Habitats corresponding with Habitats Directive Annex I Habitats.

The Habitats Directive

The Habitats Directive ensures the conservation of a wide range of rare, threatened, or endemic animal and plant species across the EU.

Some 200 rare and characteristic habitat types are also targeted for conservation in their own right.

All in all, over 1.000 animal and plant species, as well as 200 habitat types, listed in the directive's annexes are protected in various ways:

- Annex II species (about 900): core areas of their habitat are designated as sites of Community importance (SCIs) and included in the Natura 2000 network.
These sites must be managed in accordance with the ecological needs of the species.
- Annex IV species (over 400, including many annex II species): a strict protection regime must be applied across their entire natural range within the EU, both within and outside Natura 2000 sites.
- Annex V species (over 90): Member States must ensure that their exploitation and taking in the wild is compatible with maintaining them in a favourable conservation status.

Source;

https://ec.europa.eu/environment/nature/legislation/habitatsdirective/index_en.htm

The main instrument transposing this EU directive into Irish law is the European Communities (Birds and Natural Habitats) Regulations 2011 (S.I. No. 477 of 2011), but it is also incorporated under the Planning and Development Act 2000 (and as amended)

Recommendations

Within the mapped area most of the land is in private ownership so any recommendations made here are made on the understanding that actioning any of them may be dependent on the co-operation of the landowner(s).

The development boundary of Ballinora Village as described in the Ballincollig Carrigaline Municipal District Local Area Plan (Cork County Council, 2017) is reproduced below. As can be seen the fields immediately east of Woodside housing estate are zoned for residential development. Note that 4 of the habitats recorded in the mapped area only occurred in this area.

The Municipal District Local Plan suggested that 15 houses be developed in Ballinora in the period 2010-2020. This was to be carried out pending the development of appropriate water and waste-water infrastructure. As of 2020 these additional houses have not been built.

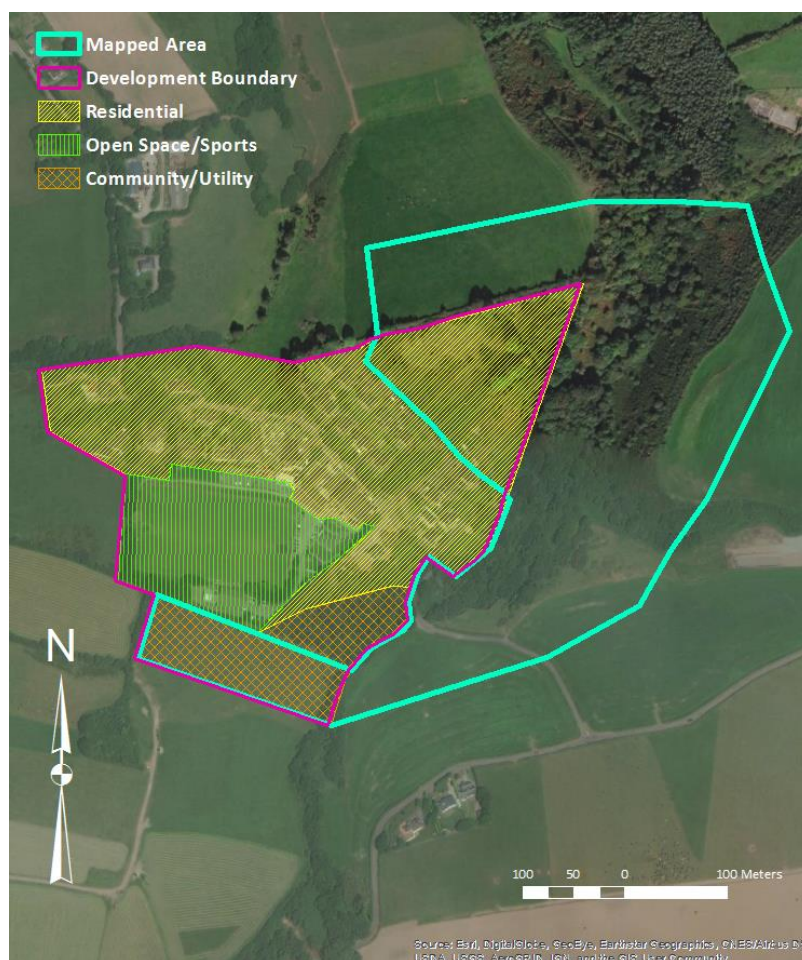


Figure 9 Ballinora Development Boundary / Mapped Habitats

Protect and Enhance Existing Biodiversity Features

Woodlands

WN6 Wet willow-ash-alder woodland.

Although small in extent this feature is one of few truly semi-natural features in the mapped area. This should be preserved as a biodiversity feature. There is a good deal of bramble in here however this is a natural component of this habitat type. The habitat should be monitored for any change in the extent of bramble. The hydrology of this area should also be monitored.

The area where this feature is located is zoned for Community / Utility use in the 2017 Ballincollig Carrigaline Municipal District Local Area Plan (Cork County Council, 2017). It is noted there also that this area is liable to flooding.

WL Linear woodland

Linear features such as hedgerows and treelines are very important as refuges and corridors for wildlife and should be preserved and managed to benefit wildlife as much as possible.

FW1 Eroding/upland rivers

The water quality of features such as this has an impact on their ecological value. Currently this river is not monitored above or along its course through the mapped area. It might be an idea to source training on a water quality monitoring programme that could be carried out by local residents.

BL2 Earth banks

Although evaluated here as 'Local importance (lower value)' in general, two sections of bank north east of the bridge on either side of the road show an interesting and diverse vegetation. Due to the timing of this survey species that may not show until later in the year are likely missed. It would be advisable to allow this to flower a little later one year and identify species that show up through the year. See for example Action 2 in 'Local Communities: actions to help pollinators' (National Biodiversity Data Centre, 2016).

WS1 Scrub

Much of this habitat type in the mapped area is of Gorse (*Ulex europaeus*) which is very valuable for wildlife, in particular invertebrates (Day, Symes, & Robertson, 2003). It is also interesting that Gorse (or Furze) has appeared on Ordnance Survey maps of the mapped area for almost 200 years. Note that relatively recently developed scrub east of Woodside is in an area zoned for residential development. It would be a good idea to preserve some of this habitat type in some areas. This would require monitoring and, possibly, management.

BL1 Stone walls and other stonework

The bridge is important for plants, mosses, lichens and associated fauna but it also has an architectural and cultural importance within the community. A management guide should be developed to balance these competing aspects.

Surveys / Monitoring

There was no concerted effort to record animal species during the habitat survey, although casual observations were made. Mammal burrows and a fox were observed during the survey and a Snipe disturbed as well. Other surveys and monitoring of plants and animals might be considered. Ideally this should include participation from the wider community.

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Appendix: Plant Species Recorded During Field Work

Plant scientific names follow (Stace, 2010).

COMMON NAME	SCIENTIFIC NAME
Barren Strawberry	<i>Potentilla sterilis</i>
Broad-leaved Dock	<i>Rumex obtusifolius</i>
Brooklime	<i>Veronica beccabunga</i>
Bulrush	<i>Typha latifolia</i>
Bush Vetch	<i>Vicia sepium</i>
Common Dog-violet	<i>Viola riviniana</i>
Common Nettle	<i>Urtica dioica</i>
Common Ragwort	<i>Senecio jacobaea</i>
Common Valerian	<i>Valeriana officinale</i>
Cow Parsley	<i>Anthriscus sylvestris</i>
Creeping Buttercup	<i>Ranunculus repens</i>
Daisy	<i>Bellis perennis</i>
Dandelion	<i>Taraxacum agg.</i>
Fool's-water-cress	<i>Apium nodiflorum</i>
Foxglove	<i>Digitalis purpurea</i>
Germander Speedwell	<i>Veronica chamaedrys</i>
Greater Burnet-saxifrage	<i>Pimpinella major</i>
Groundsel	<i>Senecio vulgaris</i>
Herb-Robert	<i>Geranium robertianum</i>
Hogweed	<i>Heracleum sphondylium</i>
Italian Lords-and-Ladies	<i>Arum italicum</i>
Ivy-leaved Speedwell	<i>Veronica hederifolium</i>
Lesser Celandine	<i>Ficaria verna</i>
Marsh Ragwort	<i>Senecio aquaticus</i>
Marsh-bedstraw	<i>Galium palustre</i>
Meadow Buttercup	<i>Ranunculus acris</i>
Montbretia (C. aurea x pottsii)	<i>Crocasmia x crocosmiiflora</i>
Navelwort	<i>Umbilicus rupestris</i>
Opposite-leaved Golden-saxifrage	<i>Chrysosplenium oppositifolium</i>
Petty Spurge	<i>Euphorbia peplus</i>
Primrose	<i>Primula vulgaris</i>
Ribwort Plantain	<i>Plantago lanceolata</i>
Selfheal	<i>Prunella vulgaris</i>
Three-cornered Garlic	<i>Allium triquetrum</i>
Wavy Bitter-cress	<i>Cardamine flexuosa</i>
Wild Angelica	<i>Angelica sylvestris</i>
Wood Avens	<i>Geum urbanum</i>
Wood Sage	<i>Teucrium scorodonia</i>
Yellow Iris	<i>Iris pseudacorus</i>
Yellow Pimpernel	<i>Lysimachia nemorum</i>

Table 4 Forbs recorded during field work.

COMMON NAME	SCIENTIFIC NAME
Bramble	<i>Rubus fruticosus agg.</i>
Dogwood	<i>Cornus spp.</i>
Garden Privet	<i>Ligustrum ovalifolium</i>
Gorse	<i>Ulex europaeus</i>
Raspberry	<i>Rubus idaeus</i>
Rose (probably Dog Rose)	<i>Rosa spp. (probably Rosa canina)</i>
Tutsan	<i>Hypericum androsaemum</i>
Wild Privet	<i>Ligustrum vulgare</i>
Wilson's Honeysuckle	<i>Lonicera nitida</i>

Table 5 Shrubs recorded during field work.

COMMON NAME	SCIENTIFIC NAME
Alder	<i>Alnus glutinosa</i>
Ash	<i>Fraxinus excelsior</i>
Blackthorn	<i>Prunus spinosa</i>
Cherry Laurel	<i>Prunus laurocerasus</i>
Downy Birch	<i>Betula pubescens</i>
Elder	<i>Sambucus nigra</i>
Hawthorn	<i>Crataegus monogyna</i>
Hazel	<i>Corylus avellana</i>
Pedunculate Oak	<i>Quercus robur</i>
Rusty Willow	<i>Salix cinerea subsp. oleifolia</i>
Sycamore	<i>Acer pseudoplatanus</i>

Table 6 Trees recorded during field work.

COMMON NAME	SCIENTIFIC NAME
Bracken	<i>Pteridium aquilinum</i>
Hard-fern	<i>Blechnum spicant</i>
Hart's-tongue	<i>Asplenium scolopendrium</i>
Maidenhair Spleenwort	<i>Asplenium trichomanes subsp. quadrivalens</i>
Polypody	<i>Polypody spp.</i>
Scaly Male-fern	<i>Dryopteris affinis</i>
Soft Shield-fern	<i>Polystichum setiferum</i>
Wall-rue	<i>Asplenium ruta-muraria</i>

Table 7 Ferns recorded during field work.

COMMON NAME	SCIENTIFIC NAME
Cock's-foot	<i>Dactylis glomerata</i>
Creeping Bent	<i>Agrostis stolonifera</i>
Floating Sweet-grass	<i>Glyceria fluitans</i>
Perennial Rye-grass	<i>Lolium perenne</i>
Red Fescue	<i>Festuca rubra</i> agg.
Yorkshire-fog	<i>Holcus lanatus</i>
Wood False-brome	<i>Brachypodium sylvaticum</i>

Table 8 Grasses recorded during field work.

COMMON NAME	SCIENTIFIC NAME
Glaucous Sedge	<i>Carex flacca</i>
Grey Sedge	<i>Carex divulsa</i> subsp. <i>divulsa</i>
Pendulous Sedge	<i>Carex pendula</i>
Remote Sedge	<i>Carex remota</i>

Table 9 Sedges recorded during field work.

COMMON NAME	SCIENTIFIC NAME
Atlantic Ivy	<i>Hedera hibernica</i>
Honeysuckle	<i>Lonicera periclymenum</i>

Table 10 Climbers recorded during field work.

COMMON NAME	SCIENTIFIC NAME
Hard Rush	<i>Juncus inflexus</i>
Soft-rush	<i>Juncus effusus</i>

Table 11 Rushes recorded during field work.