

Appendix A

Dundalk South-West Local Area Plan (DSWLAP) Ecology Report prepared for Louth County Council

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1. INTRODUCTION

This report is written as a contribution to the Local Area Plan for Dundalk South West. It is prepared for Louth County Council, following a request from Mr Terry Savage, Acting Senior Executive Planner, in May 2005. It has benefited from discussions with the Eastern Regional Fisheries Board.

The report describes the habitats of the area and any features of ecological note.

Fieldwork was carried out in June 2005 when much of the area was walked or examined from roads. Previous visits had been made to Balmer's Bog in winter 1998 and Spring 2002.

2. DESCRIPTION OF AREA

The study area is defined by the road system, the M1 on the west, the Dundalk Southern Link Road on the south, the old N1 (Dublin Road) on the east and the Ardee Road on the north. It is divided from North to South by the Belfast-Dublin railway and was formerly crossed at the northern end by a branch line to Carrickmacross (& Castleblayney). The landscape is characterised by undulating drift deposits on acidic slates and shales of Silurian age which are exposed in places, especially on a hill in the SW quarter. Small outcrops of limestone north of the town may also contribute some material to the soils, which are acid brown earths suitable for tillage except when low-lying. A series of depressions is the major topographical feature, trending NNW-SSE, in line with the movement of the last ice sheet. They occur in two main areas, beside the railway and the old access lane to the quarry, and result in a confused drainage system, mostly to the north though some to the SW. Low ground occurs at the northern end in two areas - close to the Ardee road and at Balmer's Bog - and they are linked today by a deepened channel flowing from a wetland named as the Jarogee on the 6" sheet west of the M1. This is called the Cambricville channel, below and was probably created as a water source for the brewery.

Several features of ecological interest occur within the area, mostly based on wetlands and rock outcrops and they will be described from Northwest to Southeast. Vegetation and birdlife are the features concentrated upon as these are amenable to on-site evaluation. A diverse or unusual vegetation normally supports an invertebrate fauna of some interest.

2.1 Pond close to M1 (Donaghmore)

A fine group of willows *Salix alba*, *S. fragilis* and *S. viminalis*, overhangs a small wetland with associated wildlife - e.g. tall herbs meadowsweet *Filipendula ulmaria*, yellow flag *Iris pseudacorus* and moorhen. The flow is to the south towards a section of remaining railway bank where wall lettuce *Myelis muralis* grows in the shaded conditions - its only station near Dundalk (Preston *et al* 2002).

This is more an amenity feature than an ecological one but provides diversity in an agricultural area. It has only local value.

2.2 Filled area by Carrickmacross road (Mounthamilton)

Formerly a dumping ground beside a stream this site retains a flora of some interest through having wetland plants such as pond sedge *Carex acutiformis*, meadowsweet *Filipendula ulmaria* and great willowherb *Epilobium hirsutum* growing beside dry ground ones - dyer's rocket *Reseda luteola*, weltd thistle *Carduus crispus* and hedge cranesbill *Geranium pyrenaicum*, the two latter at their northern limits in Ireland.

The interesting plants are transitory ones (weeds) and are unlikely to survive a change of use. They have only a local value.

2.3 Mounthamilton scrub

A substantial area of scrub occurs north of the old railway line to Carrickmacross with several rocky knobs which have been quarried to a limited extent. Water moves SE through the area with some marshy ground associated with it before discharging into the Cambricville channel near the Knockbridge road. Dumping of railway and other waste has occurred so there is a variation in habitat on the dry ground.

The scrub consists of young willows *Salix cinerea*, *S. caprea*, *S. aurita*, hawthorn *Crataegus monogyna*, gorse *Ulex europaeus*, rowan *Sorbus aucuparia* and silver birch *Betula pendula* with some sycamore *Acer pseudoplatanus*, a few oak *Quercus robur* and in open areas two species of *Cotoneaster*, *C. horizontalis* and another. Canopy closure is occurring but there is little woodland flora as such except for hogweed *Heracleum sphondylium*, nettle *Urtica dioica* and goosegrass *Galium aparine*. More common are glades of grass, of crested dogstail *Cynosurus cristatus* and red fescue *Festuca rubra* with red clover *Trifolium pratense* and sorrel *Rumex acetosa* or of brambles *Rubus fruticosus*, hedge woundwort *Stachys sylvatica*, bush vetch *Vicia sepium* and rose-bay *Chamerion angustifolium*.

Along the southern edge several rocky rises occur showing the shaly nature of the Silurian strata. A rich flora grows here with calcareous affinities, which may be partly derived from the ballast on the adjacent railway. There is fescue *Festuca* grassland with birdsfoot trefoil *Lotus corniculatus*, field woodrush *Luzula campestris*, dog daisy *Leucanthemum vulgare* and bulbous buttercup *Ranunculus bulbosus* but also such species as

<i>Tussilago farfara</i>	coltsfoot
<i>Pilosella officinarum</i>	mouse-eared hawkweed

<i>Myosotis discolor</i>	changing forget-me-not
<i>Trifolium dubium</i>	yellow trefoil
<i>Hypochaeris radicata</i>	catsear
<i>Catapodium rigidum</i>	hard grass
<i>Vicia hirsuta</i>	hairy tare
<i>Rhinanthus minor</i>	yellow rattle
<i>Linum catharticum</i>	fairy flax
<i>Anthyllis vulneraria</i>	kidney vetch
<i>Convolvulus arvensis</i>	field bindweed
<i>Tragopogon pratense</i>	goatsbeard
<i>Dactylorhiza fuchsii</i>	spotted orchid
<i>Hieracium</i> spp	hawkweeds

Towards the eastern end the ground gets damper and there is a wet grassland leading towards the existing playing pitches. Brown sedge *Carex disticha*, meadow vetchling *Lathyrus pratensis* and soft rush *Juncus effusus* are frequent and there is also pond sedge *Carex acutiformis*, reeds *Phragmites australis*, celery-leaved buttercup *Ranunculus sceleratus* and marsh valerian *Valeriana officinalis* beside a stream channel.

Dumping of lawn and hedge mowings at the northern end of the site is leading to an enrichment of the soil with the spread of rank weeds such as hogweed *Heracleum sphondylium* and nettle *Urtica dioica*. In addition some garden plants have been introduced here such as montbretia *Crocsmia x crocosmiflora* and snowberry *Symphoricarpos alba*.

The birdlife in this diverse area consists of scrub and garden species such as song thrush, blackbird, robin, wren, willow warbler and blackcap. Sparrowhawks hunt through it and in future buzzards may breed. At present the trees are too low.

The whole site is an important resource for the town with educational and recreational value. Ecologically it has considerable riches and has some value on a county level. This stems from its habitat diversity and natural vegetation development. If retained as an open area it would be important to manage it so as not to enrich the areas of shallow soils along the southern edge. Many of the plant species here require nutrient-poor soils.

2.4 Cambricville Depression

The stream just mentioned leads through to the general fields of the depression which stretches along the Cambricville Stream. Wet grassland covers these with soft rush *Juncus effusus*, meadow foxtail *Alopecurus geniculatus*, sweet grass *Glyceria fluitans*, oval sedge *Carex ovalis*, marsh ragwort *Senecio aquaticus* and marsh bedstraw *Galium palustre* frequent. A wet section confined by ditches towards the Ardee road carries reed grass *Phalaris arundinacea*, common reed *Phragmites australis*, meadowsweet *Filipendula ulmaria* and yellow flag *Iris pseudacorus* - the common vegetation of the hollows of the area. The Cambricville channel adds water speedwell *Veronica anagallis-aquatica*, bur reed *Sparganium erectum* and much fool's watercress *Apium nodiflorum*. Similar vegetation grows south of the Ardee road between Brookfield and St Margaret's with tall fescue *Festuca arundinacea*, the sedges

Carex hirta and *C.disticha* and meadow foxtail *Alopecurus pratensis* with a few willow bushes surrounding a swampy section of great willowherb *Epilobium hirsutum*, bulrush *Typha latifolia* and water mint *Mentha aquatica*. The adjacent channel carries floating bur reed *Sparganium emersum* at this point.

The whole area supports sedge and grasshopper warblers, as well as moorhen, grey wagtail and heron along the channels.

The value of the area is limited: as a whole it carries a rich flora and fauna but this is spaced out and interfered with by marginal ditches, fields and roads. Nearby is good bat habitat with both Brookfield and St Margaret's having the combination of old buildings and tall parkland and edging trees.

2.5 Ballybarrack House

Much old planting around this house and on the adjacent roadside has produced well-grown trees of likely importance to bats. No investigation of these animals was carried out but it is a factor to be considered in future planning.

2.6 Killally Hill sites (Fairhill)

An old laneway leads south from the Ardee Road giving access to two disused quarries in the hill. At first it is a dry route with grasses and hedge plants such as hedge woundwort *Stachys sylvatica*, bush vetch *Vicia sepium*, germander speedwell *Veronica chamaedrys* and field stitchwort *Stellaria graminea* as well as the introduced horseradish *Armoracia rusticana* and comfrey *Symphytum tuberosum*. Tall ash and a few sycamore line the edges and there is abundant birdlife, including buzzards. The lane bends away from a tree-covered bluff on the western side which was formerly quarried. Here there is a little oak *Quercus robur* as well as hawthorn *Crataegus monogyna*, blackthorn *Prunus spinosa* and gorse *Ulex europaeus*. Male fern *Dryopteris filix-mas* grows in the shade but the ground flora is not rich.

The laneway rises slightly and supports a drier vegetation involving red fescue *Festuca rubra*, meadow vetchling *Lathyrus pratensis*, crested dogtail *Cynosurus cristatus* and early vetch *Vicia sativa* with lady's mantle *Alchemilla filicaulis*, grey sedge *Carex divulsa* and yellow rattle *Rhinanthus minor*. It comes to overlook a linear depression on the eastern side (in Fairhill) which expands in rounded curves into the adjoining potato field. Common reed *Phragmites australis*, yellow flag *Iris pseudacorus* and willowherb *Epilobium hirsutum* dominate the stand which drains northward beside the lane. A more gradual gradient on the eastern side brings in other species, for example

<i>Carex disticha</i>	brown sedge
<i>C.hirta</i>	hairy sedge
<i>Equisetum fluviatile</i>	water horsetail
<i>Festuca rubra</i>	red fescue
<i>Juncus inflexus</i>	hard rush
<i>J. effusus</i>	soft rush
<i>J.subnodulosus</i>	blunt-flowered rush
<i>Lychnis flos-cuculi</i>	ragged robin
<i>Salix cinerea</i>	grey willow

This is an extensive area and home to sedge warbler, reed bunting, burnet moth and

wood white butterfly. Although modified by agricultural activity at the edge it retains significant interest and is large enough to be self-sustaining.

Killally Hill has two former quarries on it, a small one facing east which is now enclosed by gorse and a larger one which has removed the major part of the hill. The access road becomes quite dry as the acidic rock is approached. Sheep's sorrel *Rumex acetosella*, the two St John's worts *Hypericum pulchrum* and *H.humifusum* and soft grass *Holcus mollis* appear amongst the gorse and colonies of rose-bay *Chamerion angustifolium* become widespread. The main quarry presents a large expanse of bare ground and broken rock piles with ponded water in the centre. Vegetation is beginning to colonise most places, involving such typical species as

<i>Tussilago farfara</i>	coltsfoot
<i>Reseda luteola</i>	dyer's rocket
<i>Medicago lupulina</i>	black medick
<i>Matricaria discoidea</i>	pineapple weed
<i>Catapodium rigidum</i>	hard grass
<i>Carex flacca</i>	glaucous sedge
<i>Hypericum perforatum</i>	perforate St John's wort
<i>H. tetrapterum</i>	square-stemmed St John's wort
<i>Cerastium glomeratum</i>	sticky mouse-ear
<i>Cotoneaster horizontalis</i>	cotoneaster
<i>Aira caryophylla</i>	silver hairgrass

Two distinct species of hawkweed *Hieracium* also grow, having arrived quite recently as windblown seeds.

The central wet area has water 20-30 cm deep at maximum and supports stonewort *Chara* sp, along with lesser spearwort *Ranunculus flammula*, self-heal *Prunella vulgaris* and some young willows *Salix cinerea*.

Birdlife in this site included yellowhammer, whitethroat and raven during the visit - the first dependant on neighbouring cereal crops.

Two areas of outcropping rocks occur just to the east of the hill and the most eastern is a steep bluff falling into an arable field. Semi-natural woodland covers this slope with large ash and some hawthorn. A woodland flora prevails including

<i>Hyacinthoides non-scriptus</i>	bluebell
<i>Dryopteris affinis</i>	scaly male fern
<i>D. dilatata</i>	buckler fern
<i>Polypodium vulgare</i>	polypody
<i>Umbilicus rupestris</i>	wall pennywort
<i>Conopodium majus</i>	pignut
<i>Primula vulgaris</i>	primrose
<i>Phyllitis scolopendrium</i>	hartstongue

A little burnet rose *Rosa pimpinellifolia* grows at the upper end amongst gorse, a species that is uncommon away from the coast (and the Burren).

This complex of habitats covers a large (linear) area and is one of the most varied and species-rich of those visited. The dry soils of the hill provide a habitat which is not repeated elsewhere in the study area while the marsh in the depression is second

only to Balmer's Bog. The nearby woodland is the only stand seen with old woodland species such as bluebell.

2.7 Crumlin depression

This is an enclosed depression just south of the quarry (above) but described separately since it drains directly to the east and under the railway. It is surrounded mostly by grassland rather than tillage and shows an excellent transition from the dry to the wet ground. From an overgrown grassland of cocksfoot *Dactylis glomerata*, rough-stalked meadowgrass *Poa trivialis* and meadow foxtail *Alopecurus pratensis* the ground drops into the hollow and a sequence of other species appears, in approximate order

<i>Carex hirta</i>	hairy sedge
<i>Juncus inflexus</i>	hard rush
<i>Festuca arundinacea</i>	tall fescue
<i>Cardamine pratensis</i>	lady's smock
<i>Carex disticha</i>	brown sedge
<i>Filipendula ulmaria</i>	meadowsweet
<i>Equisetum palustre</i>	marsh horsetail
<i>Lotus pedunculatus</i>	greater birdsfoot trefoil
<i>Galium palustre</i>	marsh bedstraw
<i>Mentha aquatica</i>	water mint
<i>Iris pseudacorus</i>	yellow flag
<i>Carex acutiformis</i>	lesser pond sedge
<i>Caltha palustris</i>	marsh marigold
<i>Phragmites australis</i>	common reed

Oval sedge *Carex ovalis*, ragged robin *Lychnis flos-cuculi*, yellow rattle *Rhinanthus minor* and tufted vetch *Vicia cracca* are somewhat localised to a peaty soil in the centre and there is also an inflowing stream with water parsnip *Berula erecta* and butterbur *Petasites hybridus*. Willows *Salix pentandra*, *S.alba* and *S.cinerea* grow in the swamp with a probable hybrid between the two last.

Sedge warbler and reed bunting are again prominent and there was much badger activity showing that a sett is not far away. In winter the area would have snipe and possible water rail.

Overall this is a valuable site with vegetation of high interest which is better developed than any other wetland. This is so because of a lack of tillage or other influences along the edges.

2.8 Balmer's Bog and associated wetlands (Priorland)

Balmer's Bog lies in a natural hollow close to the original shore of Dundalk Bay. It receives water from a wide area, from the south-east and south (including Crumlin marsh, just described) and from the Cambricville channel in the west. The outflow is culverted below Hill Street as the Rampart River.

The bog itself is a reedswamp dominated by common reed *Phragmites australis* which grades into colonies of pond sedge *Carex riparia* along the north-eastern edge. A few associated species also grow there such as bindweed *Calystegia sepium*, marsh bedstraw *Galium palustre*, reed grass *Phalaris arundinacea* and great willowherb

Epilobium hirsutum. The junction of *Phragmites* with the cereal field on the south-western side is marked by some bramble *Rubus fruticosus*, nettle *Urtica dioica* and brown sedge *Carex disticha* as well as a few bushes of hawthorn *Crataegus monogyna* - probably a former hedge.

Woodland occurs at the edges of the depression - alder *Alnus glutinosa* in the south-west corner, on both sides of the railway and willows on the eastern side. The alders are quite large trees and they grow with a little almond-leaved willow *Salix triandra*, osier *S.viminalis* and birch *Betula pubescens* over a mixture of

<i>Iris pseudacorus</i>	yellow flag
<i>Filipendula ulmaria</i>	meadowsweet
<i>Carex riparia</i>	greater pond sedge
<i>Phragmites australis</i>	common reed
<i>Caltha palustris</i>	marsh marigold
<i>Solanum dulcamara</i>	bittersweet
<i>Myosotis scorpioides</i>	forget-me-not
<i>Cardamine pratensis</i>	lady's smock

This vegetation appears to have arisen naturally but the willow wood was planted as sally beds. The trees are based on a series of old ridges separated by shallow ditches. There is grey willow *Salix cinerea*, white willow *S.alba* with some hybrids, and purple osier *S.purpurea* which gives almost a complete range for basket makers. The ground around the trees is shaded to some extent but allows the species listed above to grow, with the addition of

<i>Lathyrus pratensis</i>	meadow vetchling
<i>Vicia cracca</i>	tufted vetch
<i>Urtica dioica</i>	nettle
<i>Betula pendula</i>	silver birch
<i>Phalaris arundinacea</i>	reed grass
<i>Cardamine flexuosa</i>	wavy bittercress
<i>Ribes nigrum</i>	black currant
<i>Calystegia sepium</i>	bindweed
<i>Calliergon cuspidatum</i>	a moss
<i>Climacium dendroides</i>	„

The shallow ditches bring in additional water plants, especially;

<i>Mentha aquatica</i>	water mint
<i>Callitriche stagnalis</i>	water starwort
<i>Ranunculus lingua</i>	greater spearwort
<i>Carex elata</i>	tufted sedge
<i>Equisetum fluviatile</i>	water horsetail
<i>Sparganium erectum</i>	bur reed
<i>Potentilla palustris</i>	marsh cinquefoil
<i>Calliergon giganteum</i>	a moss
<i>Berula erecta</i>	water parsnip
<i>Lemna minor</i>	duckweed

The outer edges of this woodland are infiltrated by various garden species derived from thrown out weeds - ground elder *Aegopodium podagraria* and comfrey *Symphytum* sp. are frequent.

At the north-eastern and south-eastern edges of the marsh, wet grassland occurs which includes the typical mix of grasses - meadow foxtail *Alopecurus pratensis*, tufted hairgrass *Deschampsia cespitosa* and red fescue *Festuca rubra* - growing with rushes *Juncus inflexus* or *J.acutiflorus* and sedges - mainly *Carex disticha*.

The south-eastern side has also been filled to some extent with building waste so is modified with such species as coltsfoot *Tussilago farfara*, early vetch *Vicia sativa* and teasel *Dipsacus fullonum*.

The habitat supports frogs and newts but few mammals - perhaps some mink and brown rats. There is bat habitat however, particularly along the railway where trees continue for some distance. The birdlife is rich with water rail in winter, along with snipe, moorhen, mallard and reed bunting and with tits, siskin and redpolls in the trees. In summer the breeding birds seem to include water rail (1pr), mallard (1pr), moorhen (3prs), wood pigeon, blackbird, stonechat (2prs), wren, sedge warbler (4prs), willow warbler, blackcap, chaffinch, bullfinch, reed bunting, Reed warblers are regularly found (D.Hodgers, pers.comm.) and have been thought to breed in some recent years. Both swallow and kingfisher were seen feeding though there are no nest sites for either. Tree sparrows used to nest in the old farm to the south and may still do so. In autumn and spring many swallows and martins use the reedbed for a roost during migration.

Balmer's Bog is the richest of the wetlands in the study area in terms of species with several relatively rare types of plant (*Ranunculus lingua*, *Carex elata* and *C.riparia*) and a diverse bird fauna. The overall size allows specialists such as water rail, reed warbler and stonechat to occur. In vegetational terms infill has damaged part of the basin but there remains a good transition on the northern edge.

The other wetlands on the stream between Crumlin and Balmer's Bog have been modified by infill, much of it to do with construction of the Xerox factory. A fragment of alder wood remains under Priorland Villa while a larger and well-grown band occurs on the SE feed to Balmer's west of the old Bayview.

2.9 Wetland west of Crumlin Bridge

A large marsh once occurred here spreading into three adjacent fields but it has since been drained by a channel (up to 3m deep) to the south-west. A small but varied marsh remains at the base of a wheat field with species not widely found elsewhere. The surface quakes in part with much bulrush *Typha latifolia* but there is also

<i>Juncus articulatus</i>	jointed rush
<i>J.bufoinus</i>	toad rush
<i>Alopecurus geniculatus</i>	marsh foxtail
<i>Glyceria notata</i>	plicate sweet grass
<i>Catabrosa aquatica</i>	water whorl grass
<i>Lythrum salicaria</i>	purple loosestrife
<i>Epilobium palustre</i>	marsh willowherb
<i>Salix viminalis</i>	osier

Willow warblers were particularly noticeable in this site.

The habitat is still changing after drainage but has the potential to develop local interest if left intact. A group of pine trees at the house in the northern point of Haynestown supports a small rookery of about 20 nests - the only such colony met with in the study area.

3. CONCLUSION

The area contains a significant amount of ecological interest which is located in sites of very different sizes and character. Balmer's Bog and the Mounthamilton scrub are defined quite easily and are the most important. They could be considered as of NHA quality, partly because of their location close to an urban area. Killally Hill and the adjacent wetland and wood in Fairhill also form a complex of more than local interest, particularly if the fine Crumlin Marsh is included. Every effort should be made to retain these sites in their present form and sufficient buffer areas ensured between them and adjacent development.

While these sites have undoubted ecological interest they contain few species that are specially protected by EU or National legislation. No Annex I habitats from the Habitats Directive are involved and only the bats (Annex IV) and the frog (Annex V) are listed. In the first case all bats are 'animals in need of strict protection' while the frog is a species 'whose ... exploitation may be subject to management measures'. It is also listed in the Irish Red Data book (Whilde 1993) because of its vulnerability in Europe. The kingfisher is the only bird which is included in the EU Birds Directive (Annex I) but again mainly because of its rarity in the rest of Europe. It is widespread in Ireland.

The other sites noted above have features of interest but they should perhaps be considered as fitting in around developments that will occur and not dictating the form of such development. Sites of interest within the Cambrickville depression for example already fit in with agriculture and land division and might be suitable in future as attenuation areas for surface run-off rather than as dedicated habitat areas.

In a rural location one could consider creating additional habitat in this area by management but this may not be appropriate so close to town.

References

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