

Restoration of sandpit at
Boherkill, Co Kildare

Appropriate Assessment Screening

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Report prepared for Michael Ennis

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1. INTRODUCTION

The purpose of this report is to supply enough information for the planning authority to make an appropriate assessment of the development with regard to its impact on the Natura 2000 network of protected areas. In this it fulfils the mandatory requirement under Articles 6(3) and 6(4) of the Habitats Directive.

The report follows the form of 'Appropriate Assessment of Plans and Projects in Ireland – Guidance for Planning Authorities', issued in 2009 by the Department of the Environment, Heritage and Local Government, and revised in 2010. It includes a short site description at the beginning to put the area in context. This is based on several site visits in the 2001-2015 period, most recently in May 2015.

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2. ECOLOGY

The site is a worked out sand pit on the north-western side of Dunmurry Hill. It has been active since about 2001 and has been extended from the gateway in a northerly direction.

The main habitat before development was tiled land (BC4 in Fossitt 2000) and the site is still surrounded by wheat fields and separated from them by hedgerows (WL1) or fences. Since excavation has occurred it now consists of active quarries and mines (ED4) and recolonising bare ground (ED3) where there is overburden storage. These habitats are seen on the aerial photograph (at end).

The site is on a high topographical point and there are no watercourses in the area. Any ponded water sinks through the remaining material to enter the groundwater.

2.1 Flora

Quarry

The quarry is being worked to a small extent but there is little ground as yet with a plant cover. Much is taken over by piles of mixed or coarse till and there are substantial settlement ponds also, in low places on the floor. Internally there is some colonisation by tolerant plants such as

<i>Tussilago farfara</i>	coltsfoot
<i>Medicago lupulina</i>	black medick
<i>Epilobium ciliatum</i>	American willowherb
<i>E.parviflorum</i>	hoary willowherb
<i>Senecio jacobaea</i>	ragwort
<i>Reseda luteola</i>	dyer's rocket

<i>Achillea millefolium</i>	yarrow
<i>Agrostis capillaris</i>	common bent
<i>Holcus lanatus</i>	Yorkshire fog

Towards the edges, additional grasses appear and there are occasional piles of topsoil yielding wild turnip *Brassica rapa*, nettle *Urtica dioica* and scutch *Elytrigia repens* but it is mainly the berms and piles of overburden along the western side that are vegetated.

A berm borders the northern edge of the quarry and it has a tall cover of

<i>Chamerion angustifolium</i>	rose-bay
<i>Elytrigia repens</i>	scutch
<i>Arrhenatherum elatius</i>	false oat
<i>Cirsium arvense</i>	creeping thistle
<i>C.vulgare</i>	spear thistle
<i>Senecio jacobaea</i>	ragwort

There are also a few willows *Salix cinerea* 2-3m high.

Overburden has been stored along the western side of the site where there is a considerable area of sparsely-covered banks and terraces, the vegetation constrained by drought. The first plants to grow on this material are wind-dispersed, especially mosses, though these are mainly seen in the winter. In general the cover includes,

<i>Tussilago farfara</i>	coltsfoot
<i>Medicago lupulina</i>	black medick
<i>Agrostis capillaris</i>	common bent
<i>Equisetum arvense</i>	field horsetail
<i>Hypochaeris radicata</i>	catsear
<i>Crepis vesicaria</i>	beaked hawksbeard
<i>Taraxacum officinale</i>	dandelion
<i>Centaureum erythraea</i>	common centauray

Flat, compacted areas in places accumulate water and allow additional species to grow such as

<i>Carex flacca</i>	glaucous sedge
<i>Cerastium glomeratum</i>	sticky mouse-ear
<i>Veronica serpyllifolia</i>	thyme-leaved speedwell
<i>Epilobium parviflorum</i>	hoary willowherb
<i>Juncus inflexus</i>	hard rush
<i>Ranunculus repens</i>	creeping buttercup
<i>Plantago major</i>	great plantain
<i>Salix cinerea</i>	grey willow

Hedgerows

The main hedges occur along the SE side and near to a house on the western side. The south-east hedge consists of ash *Fraxinus excelsior*, blackthorn *Prunus spinosa* and some spindle

Euonymus europaeus which becomes frequent near the ringfort – where it is joined by hazel *Corylus avellana*. Hedge woundwort *Stachys sylvatica*, germander speedwell *Veronica chamaedrys* and field rose *Rosa arvensis* are additional species here. On the opposite side the trees are taller and there are large ash with hawthorn and elder. Growth is vigorous and ivy *Hedera helix*, hogweed *Heracleum sphondylium* and scutch grass *Elytrigia repens* are conspicuous.

Adjacent habitats

Other woody growth occurs around and covering the ringfort where hazel forms a canopy over cow parsley *Anthriscus sylvestris*, false brome *Brachypodium sylvaticum*, hartstongue *Asplenium scolopendrium*, male fern *Dryopteris filix-mas*, shield fern *Polystichum setiferum*, primrose *Primula vulgaris* and barren strawberry *Potentilla sterilis*.

There is a small pit opposite the entrance and to the south of the main site. This is part of a former quarry and is sandy. Rose-bay *Chamerion angustifolium* is a major species but in exposed places there is also wild carrot *Daucus carota*, knapweed *Centaurea nigra*, field horsetail *Equisetum arvense*, dog daisy *Leucanthemum vulgare*, birdsfoot trefoil *Lotus corniculatus* and black medick *Medicago lupulina*. A little sheep's sorrel *Rumex acetosella* shows that the deposit is slightly acid in places. Two introduced species also occur, the butterfly bush *Buddleja davidii* and prickly lettuce *Lactuca serriola*.

2.2 Fauna

There are no mammals in the quarry itself with the exception of a few rabbits in the NE corner. Around the margins however there are further burrows in the hedges while fox and hare occur at times on the western side. There was no evidence of badgers on any visit though they are likely to be in the area. Some bats probably feed along the road and around the ringfort but the habitat elsewhere is not suitable for these animals and the pit itself would not be used.

There is no habitat available for frogs or newts as excavation does not reach the watertable and there are no long-lasting or permanent, vegetated ponds.

Recent excavation has revealed bands of sand within the deposit which are suitable for nesting sand martins. The birds now occupy two sections in the SW corner and there is a small population of 10-20 pairs. The bird is essentially an opportunist, finding and exploiting new nest sites as they become available because of erosion, either natural (riverbanks) or man-made (quarries).

A pair of peregrines attempted to nest in 2015 but abandoned the site in mid-May without success. The nest site was on the western side close to active extraction and the birds were generally not disturbed by machinery. The reason for abandonment is not known. In general, sandpit sites are much less suitable for the species than rock quarries. Of 90 sites occupied by nesting birds in 2002, eighty-eight were in rock quarries and two in pits (Madden *et al*, 2009).

2.3 Evaluation

The habitats available on site are widely found in sand pits and have no significant ecological interest. The plant species also are quite common and widespread in Kildare (*cf* Preston *et al* 2002). A notable feature is the lack of diversity in the flora and this is probably caused by the short period of extraction as well as the characteristics of the material. A long-established site tends to accumulate more species which are either introduced by chance or by visiting vehicles. Allied to this at Boherkill is the absence of introduced species; only two plants, *Buddleja* and *Lactuca*, are of this category and they are restricted to the entrance.

The bird fauna contributes the only items of interest with the potential nesting by peregrine falcons (listed on the EU Birds Directive) and the current small colony of sand martins (a species of amber conservation concern in Colhoun & Cummins 2013). As mentioned, sand quarries are not the most suitable sites for the peregrine and it is quite unlikely that the pair would attempt to breed again, having failed in 2015. Their presence may be the result of a high local population.

Sand martins will probably continue to nest as long as there is a suitable lens of fine material to support their burrows.

3. APPROPRIATE ASSESSMENT

3.1 Introduction

Appropriate assessment was introduced by the EU Habitats Directive as a way of determining during the planning process whether a project is likely to have a significant effect on one of the Natura 2000 sites so far designated (i.e. the candidate SAC's and SPA's), or their conservation objectives. In this case there are four sites within 15km, i.e.

Site name	Designation	Site code
Mouds Bog	SAC	2331
Pollardstown Fen	SAC	0396
River Barrow and River Nore	SAC	2162
Long Derries	SAC	0925

These are shown on the map at the end of the report.

Article 6(3) states

Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives....

In the Irish context this has been interpreted as a four stage process. Firstly a screening exercise (Stage 1, this document) determines if a project could have significant effects on a Natura site. The project should be screened without the inclusion of special mitigation measures unless potential impacts can clearly be avoided through design (or re-design). If impacts are identified or the situation is unclear a Natura Impact Statement (Stage 2) is

provided to the planning or regulatory authority which then conducts an Assessment of the information supplied. Examples of significant effects are loss of habitat area, fragmentation of the habitat, disturbance to species using the site and changes in water resources or quality. If such negative effects come to light in the assessment, alternative solutions are investigated by the proponent (Stage 3) and modifications made unless the project is deemed to be driven by 'imperative reasons of overriding public interest' in its current form. If this is the case, Stage 4 then deals with compensatory action.

3.2 Project description

The proposal is one of restoration using the importation of loads of inert waste coupled with the infill of existing overburden. The final objective is the creation of farmland. The restoration will be phased and start at the northern end, spreading south over ten years or so.

As it develops the site will be landscaped and the hedges restored where necessary.

3.3 Natura 2000 sites

As mentioned above there are four Natura 2000 sites located within 15km of the site. Mouds Bog and Pollardstown Fen are located to the east and both these have an independent water supply, Mouds Bog depending on rainfall and Pollardstown being fed from springs north of Newbridge and the Curragh gravels. The Long Derris is an esker near Edenderry raised above the surrounding land with a self-sustaining watertable. Only the River Barrow and River Nore have a real ecological connection to the site and this is only through groundwater; there is no watercourse linking the two.

The site synopses for these sites are available on the NPWS website and do not need to be included here.

3.4 Conservation Objectives

Candidate SAC's

To maintain or restore the favourable conservation condition of the Annex I Habitat(s) and the Annex II species for which the SAC has been selected

The favourable conservation status of a habitat is achieved when:

- its natural range, and area it covers within that range, are stable or increasing
- the specific structure and functions which are necessary for its long-term maintenance exist and are likely to continue to exist for the foreseeable future
- the conservation status of its typical species is favourable.

The favourable conservation status of a species is achieved when:

- population dynamics data on the species concerned indicate that it is maintaining itself on a long-term basis as a viable component of its natural habitats

- the natural range of the species is neither being reduced nor is likely to be reduced for the foreseeable future
- there is, and will probably continue to be, a sufficiently large habitat to maintain its populations on a long-term basis.

3.5 Likely impacts

The site does not support any of the habitats or species for which nearby SAC's are designated and therefore cannot act as a reservoir area in the event of loss.

There is no pathway for any material originating on-site to reach the Natura 2000 network because there is no connecting watercourse and also an effective closed-cycle wheelwash and bermed fuel store in operation. In addition no chemicals are used (for example as flocculants) that could enter the groundwater and be dispersed more widely.

This means that the sites themselves and their conservation objectives cannot be impacted.

4. CONCLUSION

The project can be operated and completed without significant effects on any SAC or its conservation objectives provided the measures to prevent sediment loss and to protect the groundwater remain in operation.

This being so there is no possibility of cumulative effects and a Natura Impact Statement is not necessary.

In addition there will be no effect on the proposed NHA's in the area – the Grand Canal (Site Code 2104) and the Curragh Site Code 0392).

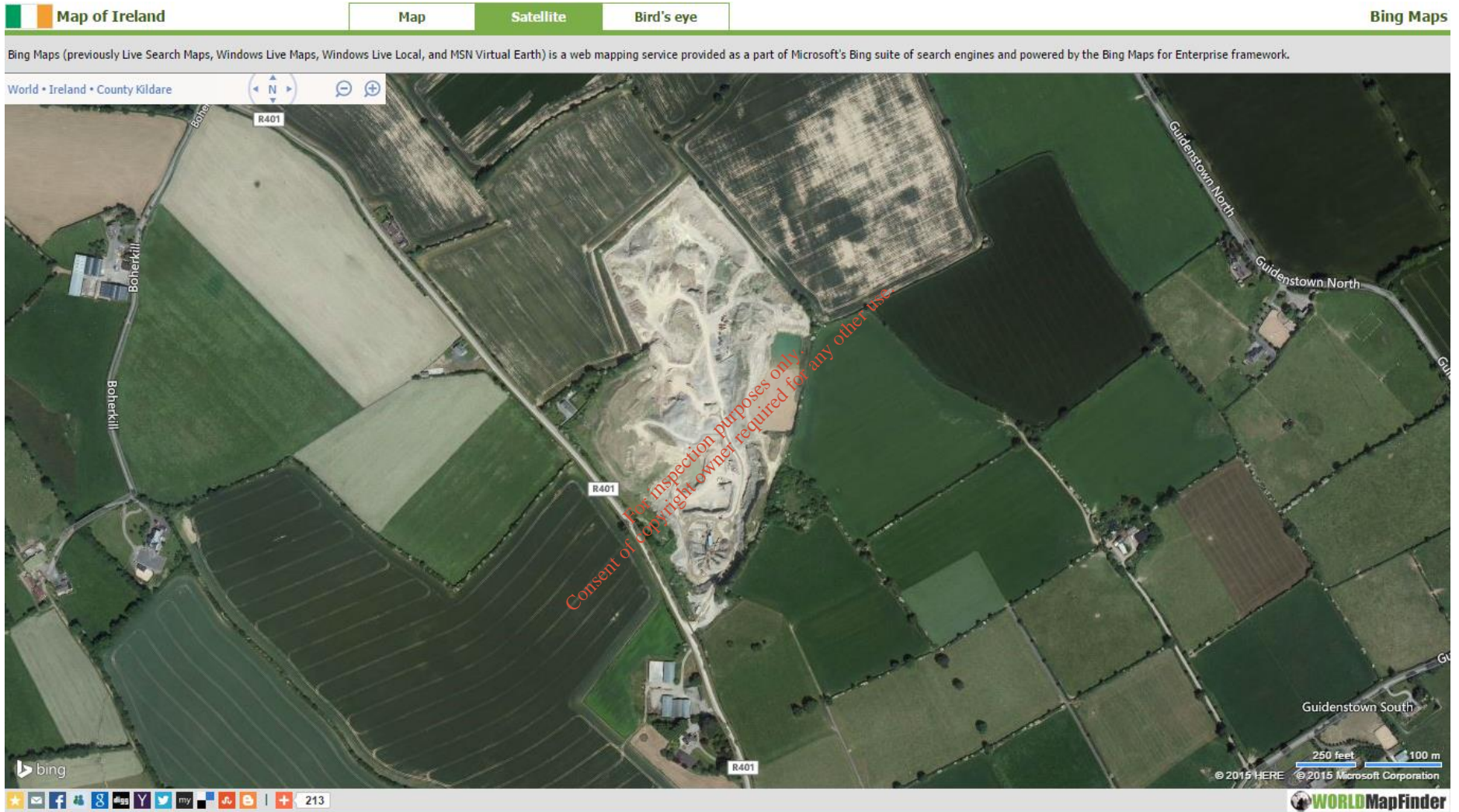
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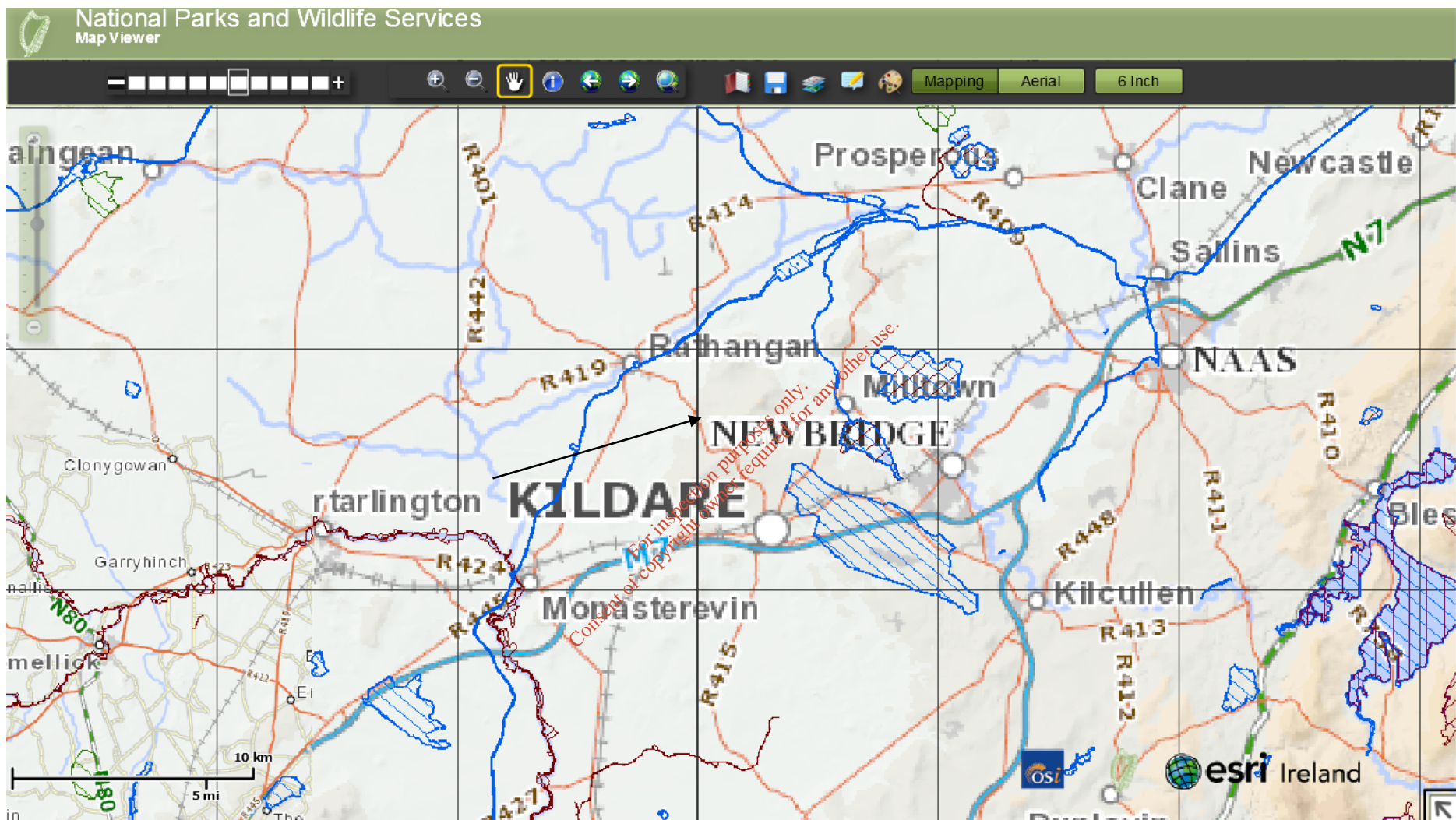
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Site showing quarry plant at southern end, temporary settlement ponds beside it and to the NE, overburden store in western angle.



Location of site (arrows) in relation to Natura 2000 sites in the area (red hatching). The blue sites are pNHA's.