

**DUBLIN WASTE TO ENERGY PROJECT
ORAL HEARING**

TERRESTRIAL ECOLOGY

BRIEF OF EVIDENCE

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1. QUALIFICATIONS AND EXPERIENCE

My name is Brian Madden. My qualifications are as follows:

- B.A. (Mod.) Natural Sciences, specialising in Botany. University of Dublin, Trinity College, 1984
- Ph.D. from National University of Ireland, 1990 (Botany Dept., UCD)

I am a full member of the Institute of Ecology and Environmental Management (IEEM).

Since 1994 I have worked full time as an ecological consultant. My consultancy Biosphere Environmental Services has carried out flora and fauna assessments for a wide range of planning applications and environmental impact statements. BES has been involved in a number of projects in Dublin Bay, including ongoing ecological studies related to the Dublin Eastern Bypass, an assessment of ecological impacts by the fireworks display on Sandymount Strand on EU Accession Day in May 2004, and provision of advice to Dublin City Council on beach cleaning methods in South Dublin Bay and on flood defences at Merrion Gates.

2. ROLE IN EIS

I was contracted by M.C. O'Sullivan in 2003 to carry out a survey of terrestrial ecological interests in the proposed site and in its immediate surroundings for the purposes of the Dublin Waste to Energy Project. The survey area included the Irishtown Nature Park. The scope of the survey did not extend to the wider Dublin Bay area. In 2006 I re-surveyed the site on behalf of Elsam.

The purpose of my assessment was to establish existing baseline ecological conditions in the study area so that impacts could be assessed on habitats and associated wildlife and especially on habitats or species of conservation importance.

3. METHODS

Two site visits were made in 2003 (May and August), with a further visit in April 2006. On each visit the survey area was walked, with habitats, flora and fauna species recorded and mapped. Habitats were classified according to Fossitt (2000). The vegetation and flora of the Irishtown Nature Park was surveyed in August 2004.

The field surveys were supplemented by evaluation of relevant literature and existing information.

The number of site visits and the extent of the studies undertaken by me are in line with normal professional standards and standard methodologies for a site of this type (i.e. highly modified habitats without any known conservation importance). Also, the flora and fauna surveys were done within the appropriate seasons.

4. BASELINE DESCRIPTION

Habitats & flora

The site, all of which is on reclaimed land, comprises two principal habitats: Buildings and artificial surfaces (BL3) and Recolonising bare ground (ED3). These habitats support a range of weedy plant species that can survive on gravel and disturbed surfaces and in cracks in the various hard surfaces. Gorse, young sycamore and brambles are established along the boundary fenceline. A feature of the vegetation is the high proportion of non-native species in the general area, which reflects the past usage of the land as a landfill site.

The site is surrounded by developed land to the north, east and west. Bare ground and spoil heaps (ED2) occurs to the south of the site, along with further Recolonising bare ground. The Shellybanks Road skirts the western boundary of the site and associated with this is a line of planted sycamore trees (WL2) and a strip of ornamental shrubbery (WS3). The route of the cooling water pipes to the north of the Pigeon House Road is also disturbed ground.



Plate 1. Much of the site is classified as Buildings and artificial surfaces (BL3)



Plate 2. Recolonising bare ground (ED3) is another main habitat.



Plate 3. View of waste ground to south of site.



Plate 4. View of Shellybanks Road.



Plate 5. Route of water cooling pipes.

Fauna

The site supports a low diversity of mammal species. Species present or expected to occur include brown rat, house mouse, pygmy shrew and fox. There are no suitable roost sites for bats. The habitats within the site are not suitable for amphibians such as the common frog, although it is noted that the private lands constituting the ESB property to the west of the site may still contain frogs.

Few bird species occur within the site owing to the low diversity of habitats present. Wren, dunnock, starling and pied wagtail were among the few species recorded. A small number of common garden birds were recorded in the shrubbery along the Shellybanks Road. A reed bunting was recorded in the rough vegetation to the south of the site and could nest locally. This rough ground also attracts species such as linnets and goldfinches.

At least one pair of skylarks was present in the recently cleared ground south of the site. Several pairs of skylark also nest in the nearby Irishtown Nature Park (3 singing males were recorded in February 2004 during baseline survey for the May Day Fireworks Display).

The skylark is a highly territorial species which nests at relatively low densities. They do not breed or colonise in large flocks. In the 2004 published book on the Skylark by world authority Dr Paul Donald, average densities given for different habitats in Europe varied from 0.062 to 0.755 pairs per hectare, with a density of 0.4 pairs per ha for natural grassland. Therefore, the area to the south of the site could physically only support several breeding pairs, whilst the Irishtown Nature Park is unlikely to support more than 2 or 3 pairs owing to its small size (c.8 ha) and limited extent of open grassland.

Amenity grassland within the adjoining waste water treatment works, and especially the 2 ha grassland plot to the south of the works, support brent geese during winter. Gulls, mostly black-headed, are common in the vicinity of the sewage works during winter.



Plate 6. View of western end of amenity grassland plot to south-east of site.



Plate 7. View of amenity grassland, Irishtown Nature Park & Sewerage Works, looking eastwards.

Irishtown Nature Park

The Irishtown Nature Park physically consists of an elevated central plateau of land which slopes down to the sea on its southern side and is bounded on its northern edge by amenity grassland. Its eastern boundary contains a small area of sand dune in front of the main road whilst its western edge culminates in a path linking the Park with the road at Sandymount. The vegetation and plant species reflect the past use of the site together with its current management as a park and amenity area. As might be expected, there is little in the way of natural or semi-natural habitats to be found within the Park.

Over most of the Park a habitat of coarse grassland is found which mostly corresponds to the category Amenity Grassland GA2. Scrub WS1 is actively invading the grassland in places, and

includes two invasive alien species, sycamore and Japanese knotweed. A range of planted shrubs and trees occur, including many non-native species.

Overall, the Park, whilst not of conservation importance, is rich in plant species as they have come from a number of sources. It is noted, however, that in order to maintain the existing plant diversity, appropriate management is required to control the spread of invasive species and the spread of scrub into the grassland areas.

5. ASSESSMENT OF CONSERVATION IMPORTANCE OF SURVEY AREA

The site for the Waste to Energy Plant represents ground that has been entirely modified by man for industrial purposes. All habitats present within and immediately around the site are classified in the broad categories of built land and disturbed ground – such habitats are not of conservation value. There are no flora or fauna species of significant conservation value in this area.

The presence of skylarks on disused ground to the south of the site and in the Irishtown Park is of some note as skylark is listed as a species of moderate conservation concern owing to a decline in the breeding population in Ireland in the last 25 years. The occurrence in winter of brent geese on the grassland associated with the sewage treatment works is of note as these birds are part of the Dublin Bay internationally important population.

The Irishtown Nature Park has local ecological interest. However, from a conservation perspective, it is not significant. A distinction must be made between lands with amenity value and lands with conservation value. The former appears to be an issue of great importance for the local community, and it appears that a lot of work has been done by the community for the establishment and maintenance as an amenity area of the Irishtown Nature Park. The project site does not extend into the Irishtown Nature Park, and my assessment is focussed on the conservation status of the site and its immediate environs based on objective scientific grounds, rather than the amenity value of lands near the site.

From the perspective of terrestrial ecology, the closest sites designated for conservation are as follows:

- Dolphins, Dublin Docks proposed Natural Heritage Area (code: 0201) – a nationally important site for breeding Common Terns (Annex I Bird Directive species).
- Booterstown Marsh proposed Natural Heritage Area (code: 01205) - situated almost 3 km south of the site and of interest for its salt marsh and the presence of the legally protected species Borrer's Saltmarsh-grass.

- Grand Canal proposed Natural Heritage Area (code: 02104) - situated approximately 2 km west of the site, and of interest for aquatic habitats.

In summary, the site for the proposed development and its surrounds are not of any significant conservation value, mainly because the site is within an already built environment.

6. IMPACTS BY PROPOSED DEVELOPMENT

The proposed development will involve clearance of all the existing habitats within the site. As the existing habitats are not of conservation importance, and as there are no associated rare or scarce species of flora and fauna, the impact by site clearance is not considered of significance. Further, some of the existing species will continue to occur in the newly created habitats within the site. Overall, the replacement of the existing habitats within the site with further, highly modified or artificial habitats is rated as a Neutral impact.

The use of the area to the south of the site as a temporary storage area and temporary construction area may displace a nesting pair of skylarks – however, all vegetation will be cleared from this area prior to the start of the nesting season to prevent birds attempting to nest there.

The construction activities could have a disturbance effect on the brent geese which feed during winter on the grassland to the south-east of the site. However, this impact will be temporary. A full assessment of impacts and mitigation for the geese is given by my colleague Ms Eleanor Mayes.

The construction activities would not be expected to have any adverse impacts on the flora and fauna, including the nesting skylarks, of the Irishtown Nature Park.

Once operational, the plant would not be expected to have any impacts on the terrestrial ecological interests of the area.

Cumulative impacts

The site for the Waste to Energy Plant is existing built ground located within an industrial setting. The habitats, flora and fauna of the Ringsend peninsula are opportunistic or transitory in character. As new sites are continuously developed, and others become derelict, the local wildlife adapts to change and this has been the pattern here for many decades (for instance, terns and ringed plover nested opportunistically in the car compounds which were present during the 1970s). The development of the sewerage treatment works was a major recent development for the area.

It is considered that the re-development of the Waste to Energy Plant site, which is relatively small in area, will not add significantly to the cumulative impacts (negative, positive or neutral) of the various developments on the Ringsend peninsula in the last 10 to 15 years.

Impacts on designated sites for conservation

The proposed development could not have any impacts, direct or indirect, on the ecological interests of the Booterstown Marsh or Grand Canal proposed Natural Heritage Areas, as these sites are separated from the development area by distances of 3 km and 2 km respectively. Similarly, no impacts would be expected on the terns which nest on the dolphins in Dublin Port.

7. MITIGATION MEASURES

Owing to the low ecological interests at this site, and considering that there are no significant adverse impacts, site specific mitigation measures are not required. Statutory requirements, such as removal of vegetation outside of the bird nesting season to comply with the Wildlife Acts, will be observed. Measures will be taken to minimise potential disturbance to Brent Geese, which graze the nearby grassland, and these will be detailed by Eleanor Mayes.

The landscaping plan for the site will include some native trees and shrubs, which will be useful for local wildlife.

8. RESIDUAL IMPACTS

Taking into account existing site conditions, and also the location and character of the site, I consider that the impacts by the proposed development on terrestrial ecology will be largely Neutral.

It is expected that all of the species which presently occur within and around the site will continue to be found in the immediate area afterwards and hence the biodiversity of the area will not be affected.

The nearby Irishtown Nature Park will not be affected in any way.