

COVER NOTE: *N60 Balla to Claremorris Realignment at Heathlawn* - Request for additional information in accordance with section 177AE(5) of the Planning and Development (Amendment) Act, 2010 (Dated 22nd April) in relation to request no. 3.

Table 1 provides an overview of the Ecology related surveys undertaken for the N60 Balla to Claremorris Realignment at Heathlawn. In addition the relevant sections of the N60 Environmental Assessment Report (EAR) are also included.

Table 1: Summary of the Ecology Survey locations/extents for the N60 Balla to Claremorris Realignment at Heathlawn

Aspect	EAR Reference	Survey Location/Extent
Phase 1 Habitat Survey	<ul style="list-style-type: none"> • Chapter 5 Ecology, Section 5.2.7 Field Surveys • Habitat Map 32103901/EAR/Figure 5.1 	Footprint including an area of at least 100m extended to 200m as required either side of the footprint of the road.
Detailed Botanical Survey	<ul style="list-style-type: none"> • Chapter 5 Ecology, Section 5.2.7 Field Surveys • Habitat Map 32103901/EAR/Figure 5.1 • Appendix 5.3 - N60 Balla to Claremorris Road Project, Co. Mayo: Botanical Survey of Selected Areas 	<p>The areas included in this survey were:</p> <ul style="list-style-type: none"> • Area 1: Balla Turlough – the area of south Pollavaddy, to the west of the proposed road project. This includes the Turlough habitat to the north and south of the road (approximate OSI Grid reference M266841). • Area 2: An undesignated Turlough at Garhawnagh, to the north east of the proposed road project (approximate OSI Grid reference M272842). • Area 3: A field of semi-natural grassland, east of Pollavaddy, to the north of the proposed project (approximate OSI Grid reference M269841). • Area 4: A spring located to the east of the undesignated Turlough at Garhawnagh (Area 2) (approximate OSI Grid reference M274842).
Badger Survey	<ul style="list-style-type: none"> • Chapter 5 Ecology, Section 5.2.7 Field Surveys 	Undertaken 250m either side of the centreline of the proposed development.
Otter Survey	<ul style="list-style-type: none"> • Chapter 5 Ecology, Section 5.2.7 Field Surveys 	Undertaken 250m either side of the centreline of the proposed development.
Bat Surveys	<ul style="list-style-type: none"> • Chapter 5 Ecology, Section 5.2.7 Field Surveys • Fauna of Conservation Importance Map 32103901/EAR/Figure 5.2 	<p>The following survey related to bat were undertaken:</p> <ul style="list-style-type: none"> • Bat activity and a dusk/dawn bat survey on the derelict stone farm building (Old Forge) with tiled roof (Ch. 3200) • Unmanned night surveys of suitable bat habitats (e.g. hedgerows, treelines, parkland, woodland and drainage ditches) within and immediately adjacent to proposed development footprint Surveyor locations as depicted in 32103901/EAR/Figure 5.2

<p>Other Protected Mammals (Deer species, Irish Hare, Hedgehog, Pine Marten, Pygmy Shrew, Red Squirrel, Stoat)</p>	<ul style="list-style-type: none"> • Chapter 5 Ecology, Section 5.2.7 Field Surveys • Habitat Map 32103901/EAR/Figure 5.1 • Fauna of Conservation Importance Map 32103901/EAR/Figure 5.2 	<p>See below text related to other Protected Mammals surveys, survey area as for extended Phase 1 habitat survey.</p>
<p>Amphibians & Reptiles (Common Lizard, Smooth Newt and Common Frog)</p>	<ul style="list-style-type: none"> • Chapter 5 Ecology, Section 5.2.7 Field Surveys • Habitat Map 32103901/EAR/Figure 5.1 • Fauna of Conservation Importance Map 32103901/EAR/Figure 5.2 	<p>Any suitable ditches or ponds with broad-leaved aquatic vegetation, and suitable bankside refugia were visually examined for displaying or feeding adults, survey area as for extended Phase 1 habitat survey.</p>
<p>Invertebrates</p>	<ul style="list-style-type: none"> • Chapter 5 Ecology, Section 5.2.7 Field Surveys • Habitat Map 32103901/EAR/Figure 5.1 • Fauna of Conservation Importance Map 32103901/EAR/Figure 5.2 	<p>See below text related to Invertebrate surveys, survey area as for extended Phase 1 habitat survey, survey area as for extended Phase 1 habitat survey.</p>
<p>Breeding Bird Survey</p>	<ul style="list-style-type: none"> • Chapter 5 Ecology, Section 5.2.7 Field Surveys • Habitat Map 32103901/EAR/Figure 5.1 • Fauna of Conservation Importance Map 32103901/EAR/Figure 5.2 	<p>Breeding Birds within the footprint of the proposed development and within approximately 100m of the footprint were surveyed</p>

Extract from the N60 Environmental Assessment Report (EAR) N60 Balla to Claremorris Realignment - Chapter 5: Ecology - Section 5.2.7: Field Surveys

Habitat and Detailed Botanical Surveys

An extended Phase 1 habitat survey including habitat mapping was undertaken within the proposed development footprint including an area of at least 100m (and mostly 200m) either side of it. Surveys were undertaken on 29th May-1st June 2012. Flora and habitats within the study area were surveyed using methodology outlined in Best Practice Guidance for Habitat Survey and Mapping (Heritage Council, 2011). All habitat types were identified and classified using the Guide to Habitats in Ireland (Fossitt, 2000). Within each habitat dominant and abundant plant species, indicator species and/or species of conservation interest were recorded.

Additional detailed botanical surveys were undertaken of Turlough and wet grassland habitats that were considered to be of high ecological value (see Appendix 5.3). The detailed botanical survey areas are indicated on the Habitat Map 32103901/EAR/Figure 5.1. Detailed Botanical surveys enabled classification of Turlough vegetation communities according to the communities described in Turloughs over 10ha: vegetation survey and evaluation (Goodwillie, 1992). Vascular plant nomenclature in the main report follows that of the Checklist of the Flora of Britain & Ireland (Botanical Society of the British Isles, 2007), while bryophyte nomenclature follows the Checklist of British and Irish bryophytes (BBS, 2009).

Badger & Otter Surveys

A corridor of approximately 500m (i.e. 250m either side of the centreline of the proposed development) was surveyed for Badger and Otter activity. Where possible, the status (i.e. active or disused, breeding or non-breeding) of any Badger setts or Otter holts was recorded along with any evidence of activity, including paths, paw-prints, feeding signs, latrines or couches (Otter resting places). All activity has been mapped in 32103901/EAR/Figure 5.2 Fauna of Conservation Importance. A draft badger derogation licence application relating to a single badger sett found within the zone of influence of the proposed development has been included in Appendix 5.4.

Bat Surveys

All bat species are Annex IV species under the EC Habitats Directive, as partially transposed in Ireland by the Bird & Natural Habitat Regulations 2011. All bat species and their breeding and resting sites are protected under this legislation.

On 30th May 2012 a derelict stone farm building (Old Forge) with tiled roof (Ch. 3200 – see 32103901/EAR/Figure 5.2 and Photographs in Appendix 5.9) was internally and externally inspected as it is proposed for demolition. The shed is located in the townland of Rathduff in the west of the proposed development footprint and is shown in the photographs at the end of this report. The inspection examined the building for evidence of bat activity which is usually detected by the following signs:

- bat droppings (these will accumulate under an established roost or under access points);
- insect remains (under feeding perches);
- oil (from fur) and urine stains;
- scratch marks; and
- bat corpses.

Following the inspection, a dusk and dawn bat survey was undertaken on 30th May 2012. Dusk survey covered the period from one hour before sunset until three hours after it. The pre-dawn survey covered the period from one and a half hours before sunrise until sunrise. A second dusk survey was undertaken the following night. Bat activity was recorded using

visual observations and a Time Expansion detector (Pettersson D240x) connected to an MP3 recorder. This device enables recordings of bat sound for subsequent species identification, and analysis of behaviour using computer software (Bat Sound). A single surveyor was continually paced the perimeter of the building during the surveys to record any bats entering or exiting.

An Anabat SD1 frequency-division recorder (static recorder) was left in-situ from the completion of the second dusk survey until dawn. Several static recorders were also placed at spaced intervals in suitable bat habitats along the proposed development to obtain uninterrupted high quality bat activity data over extended periods without the need for a surveyor (locations in 32103901/EAR/Figure 5.2). Static recorders were left in-situ overnight (i.e. dusk and dawn) at a total of seven locations in close proximity to the existing N60 road, and within the footprint of the proposed development. They were placed in hedgerow, treeline, parkland, coniferous woodland, and drainage ditch habitats. They were also placed at two potential bat roost buildings, including the derelict shed proposed for demolition which was subjected to dusk & dawn manual survey. Data was gathered for periods of up to 5 days at each site from the 30th May to the 3rd of June.

Other Protected Mammals

Suitable habitat was searched for footprints, droppings, nesting sites and other field signs of other mammal species protected under the Wildlife (Amendment) Act 2000 as amended (Deer species, Irish Hare, Hedgehog, Pine Marten, Pygmy Shrew, Red Squirrel, Stoat). Individuals of all these species and their breeding and resting places are fully protected. There is potential for any of these species to occur in wet grassland, woodland or improved farmland habitats. Even where no field signs were recorded, an assessment was made of the potential for these species to occur in suitable habitat. Potential presence of these species in suitable habitat was recorded based on the habitat preferences in Hayden & Harrington (2001). Road fatalities in the locality were also recorded (often the only indication of Hedgehog presence in an area). All recorded species were assessed for their status on the Irish Red List (Marnell et al., 2009).

Amphibians & Reptiles

Common Lizard, Smooth Newt and Common Frog individuals and their resting/breeding places are fully protected from disturbance or damage under the Wildlife (Amendment) Act 2000. Exposed boulders, fence posts and dry banks were searched for Common Lizards. Potential for Smooth Newt to occur in wetland habitats was assessed using the known habitat preferences of the species (Inns, 2009). Any suitable ditches or ponds with broad-leaved aquatic vegetation, and suitable bankside refugia were visually examined for displaying or feeding adults. Common Frogs breed in a much wider diversity of wetland habitats than newts, including ephemeral pools, and wet grassland so potential habitat may be ubiquitous in poorly drained areas. Locations of all recorded frogs were mapped.

Invertebrates

Multi-disciplinary surveys were undertaken during late May and early June 2012 in warm, sunny conditions suitable for butterfly flight. All recorded species were assessed for their status on the Irish Red List (Regan et al., 2010). Any grassland areas containing the Marsh Fritillary larval food plant Devil's Bit *Scabious Succisia pratensis* were subjected to assessment for potential to support breeding populations using guidance from Fowles (2003). The following parameters were recorded at each habitat patch containing Devil's Bit Scabious:

- No. of Devil's Bit Scabious Plants;
- % Cover of Devil's Bit Scabious;

- % Cover of Scrub;
- Presence of Purple Moor Grass *Molinia caerulea* tussocks;
- Sward height (mean and range); and
- Evidence of Stock Grazing.

These were used to assign one of the following Marsh Fritillary habitat suitability categories of the National Biodiversity Data Centre:

- Good Condition Habitat (i.e. optimal);
- Suitable (Under-Grazed) Habitat (i.e. sub optimal);
- Suitable (Over-Grazed) Habitat (i.e. sub optimal); and
- Unsuitable Habitat.

Breeding Bird Surveys

Breeding Birds within the footprint of the proposed development and within approximately 100m of it were surveyed over three visits on the 29th May, 1st June and 4th June 2012.

The method for recording breeding activity was based on the Common Birds Census territory mapping method outlined in Gilbert et al., 1998. As breeding waders were known to occur from desktop data, Turlough and wet grassland habitats were surveyed using the O'Brien & Smith method for censusing lowland wader populations (see Gilbert et al., 1998). The first visit on 29th May was undertaken within 3 hours of dusk when some waders (particularly snipe) are most likely to display. The two subsequent visits were undertaken within four hours of dawn. The Categories of breeding evidence developed by the British Trust for Ornithology (<http://www.bto.org/volunteer-surveys/birdatlas/taking-part/breeding-evidence>) were applied to all birds recorded. All birds were assessed for their conservation importance in accordance with the traffic light system of Green (Low), Amber (Medium) and High (Red) conservation concern for the island of Ireland (Lynas et al., 2007). All Amber or Red-listed Birds of Conservation Concern in Ireland (BoCCI) recorded have been mapped in 32103901/EAR/Figure 5.2 Fauna of Conservation Importance.