

ECOLOGICAL IMPACT ASSESSMENT (EcIA) – IDENTIFICATION OF  
ECOLOGICAL CONSTRAINTS AS REGARDS LANDS IN THE OWNERSHIP OF  
MEATH CO. COUNCIL AT ATHLUMNEY, NAVAN, CO MEATH

APRIL 2022



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## EXECUTIVE SUMMARY

Meath County Council are examining the redevelopment of lands in Meath County Council's ownership in Athlumney, Navan with the view of preparing a Plan and advancing to a planning application. Conceptual Plans and a list of projects have been drafted to date. The sites include Spicer's Bakery, Andy Brennan Park and a portion of the Ramparts, primarily the existing car park and a section to the rear of Spicers Bakery. The lands are in an ecologically sensitive location and ecological assessments will form a significant part of any planning application.

In March 2022, FERS Ltd was commissioned to undertake an Ecological impact Assessment screening identifying potential ecological constraints as regards the lands in question.

The conclusions of this screening report indicate that the lands are in a very ecologically sensitive location of International ecological importance (the River Boyne and River Blackwater Special Area of Conservation (SAC) and the River Boyne and River Blackwater Special Protection Area (SPA)). A comprehensive ecological baseline of the entire area must be undertaken, with cognisance given to the potential presence of numerous Annex I Habitats and Annex II species (Habitats Directive) in addition to Annex I Bird species (Birds Directive). It must also be considered that the habitats present are optimal for numerous species of bat, all Irish species of which are listed in Annex IV of the Habitats Directive.

Of major concern is the recent (likely within the last month) disturbance of a large, well-established population of Japanese Knotweed immediately adjacent the Boyne Navigation Canal.

In summary, a comprehensive ecological assessment, to include an in-depth assessment of bat usage of the habitats present throughout the year, and a comprehensive assessment of Alien Invasive Plant Species occurring must be undertaken to adequately inform any significant development within the lands in question.

In addition, owing to the location of the lands within/immediately adjacent to the River Boyne and River Blackwater SAC/SPA, Appropriate Assessment screening and almost certainly the preparation of a Natura Impact Statement will be required for any proposed development.

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# 1 Introduction

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## 1.1 FERS Company Background

Forest, Environmental Research and Services have been conducting ecological surveys and research since the company's formation in 2005 by Dr Patrick Moran and Dr Kevin Black. Dr Moran, the principal ecologist with FERS, holds a 1<sup>st</sup> class honours degree in Environmental Biology (UCD), a Ph.D. in Ecology (UCD), a Diploma in EIA and SEA management (UCD) a Diploma in Environmental and Planning Law (King's Inn) and a M.Sc. in Geographical Information Systems and Remote Sensing (University of Ulster, Coleraine). Patrick has in excess of 20 years of experience in carrying out ecological surveys on both an academic and a professional basis. Dr Emma Reeves, senior ecologist with FERS holds a 1<sup>st</sup> class honours degree in Botany, and a Ph.D. in Botany. Emma has in excess of 10 years of experience in undertaking ecological surveys on an academic and professional basis. Ciarán Byrne, a senior ecologist with FERS holds a 1<sup>st</sup> class honours degree in Environmental Management (DIT) and a M.Sc. in Applied Science/Ecological Assessment (UCC). Ciarán has in excess of 5 years in undertaking ecological surveys on both an academic and a professional basis.

FERS client list includes National Parks and Wildlife Service, An Bord Pleanála, various County Councils, the Heritage Council, Teagasc, University College Dublin, the Environmental Protection Agency, Inland Waterways Association of Ireland, the Department of Agriculture, the Office of Public Works and Coillte in addition to numerous private individuals and companies.

## 1.2 Aims of this report

The primary aim of the Ecological Impact Assessment screening to provide an overview assessment of the habitats present and to identify potential ecological constraints of any development. The primary aims of the Ecological Impact Assessment screening are:

- To identify the habitats and species present within the survey area;
- To identify ecological constraints of any proposed development within the survey area;
- To assess and make recommendations on conservation priorities regarding the identified biodiversity resource of the survey area;

- To highlight elements or particular areas of specific potential for biodiversity or conservation interest;  
and
- To highlight elements with the potential to damage the ecological integrity of the study area;

Limitations – although outside of the optimal ecological window for surveying, the timing was deemed satisfactory for the purposes of identifying potential ecological constraints.

## 2 Description of lands in question

Any potential development is still at a conceptual and design stage. The primary aim of this document is to identify any potential ecological constraints as relates to the lands in question. The lands include, Spicer’s Bakery, Andy Brennan Park and a portion of the Ramparts, primarily the existing car park and a section to the rear of Spicers Bakery. A detailed description of the receiving environment is described in Section 2.2.

The location of the lands in question is indicated in Figure 1, Figure 2, Figure 3 and Figure 4.

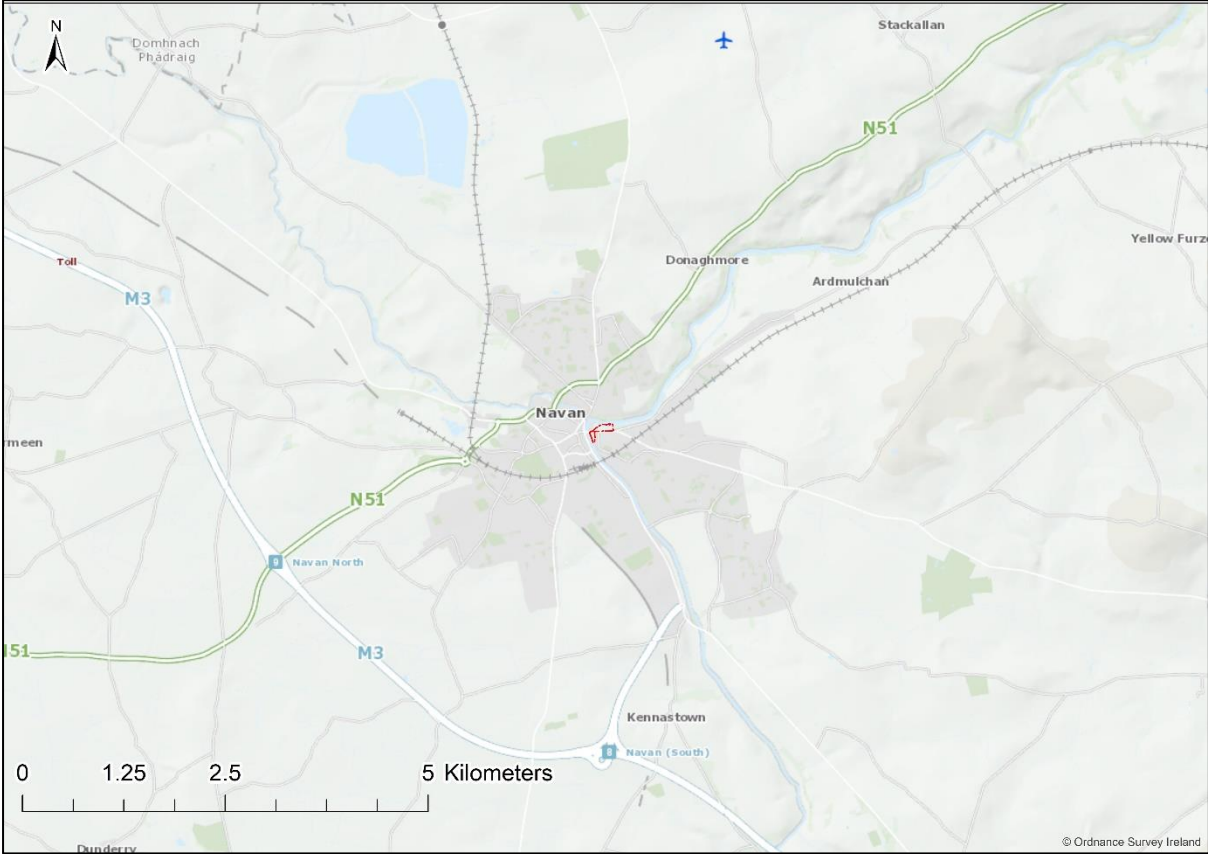


Figure 1: Approximate location of lands in question (1:50,000)



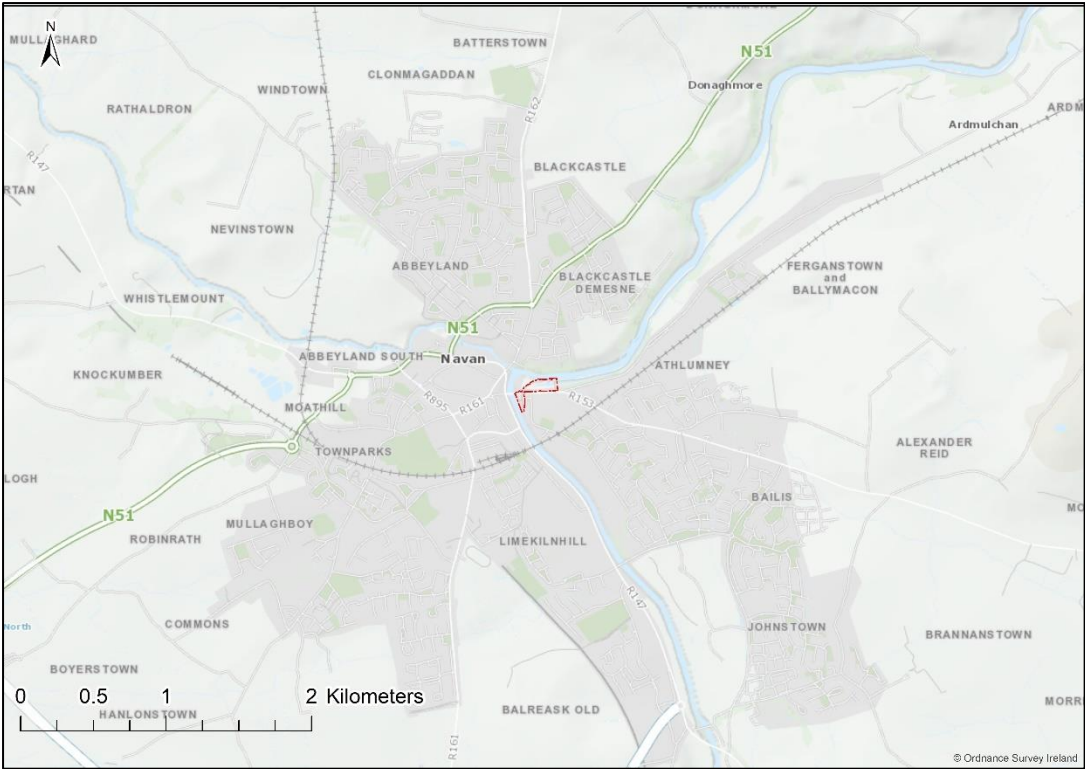


Figure 2: Approximate location of lands in question (1:25,000)

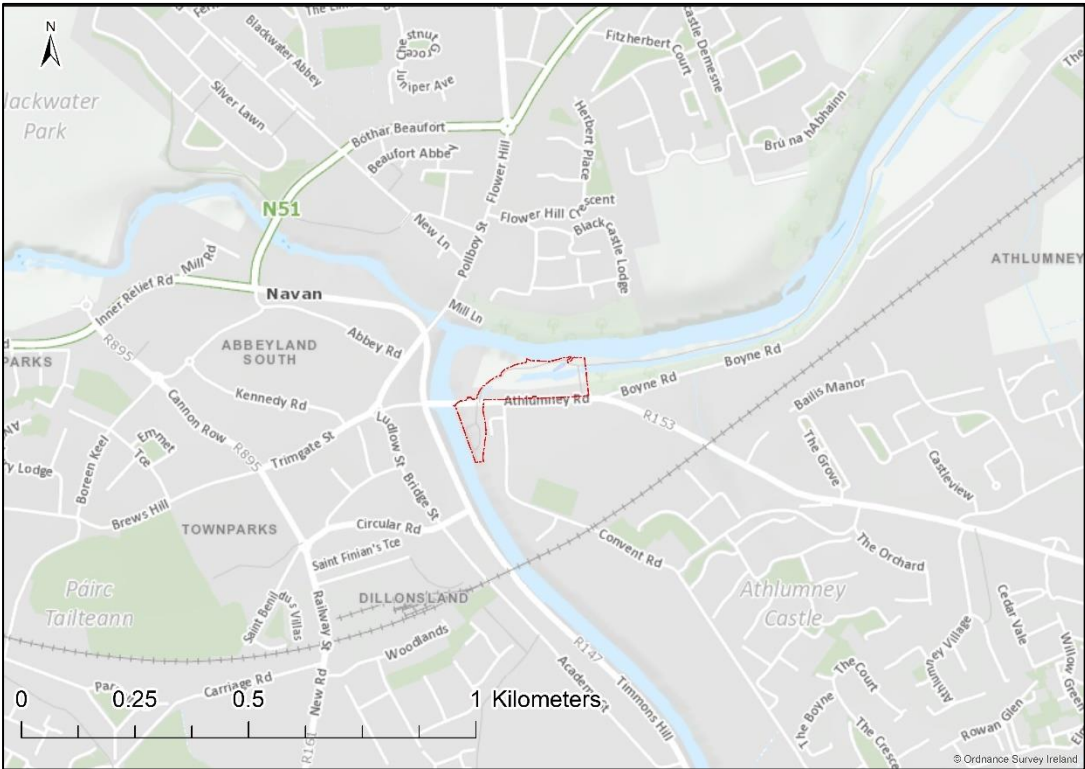


Figure 3: Approximate location of lands in question (1:8,000)



Figure 4: Approximate location of lands in question (1:2,500)

## 2.1 Desk Study

### 2.1.1 NPWS database

The primary body consulted with regard to matters involving ecology within the Republic of Ireland is the National Parks and Wildlife Service (NPWS). The role of the NPWS is:

- To secure the conservation of a representative range of ecosystems and maintain and enhance populations of flora and fauna in Ireland;
- To implement the EU Habitats and Birds Directives;
- To designate and advise on the protection of Natural Heritage Areas (NHA) having particular regard to the need to consult with interested parties;
- To make the necessary arrangements for the implementation of National and EU legislation and policies and for the ratification and implementation of the range of international Conventions and Agreements relating to the natural heritage; and
- To manage, maintain and develop State-owned National Parks and Nature Reserves.

The desk study as pertaining to this survey involved querying the NPWS database for information pertaining to designated sites in the vicinity of the survey area. European designated site (Special Areas of Conservation (SAC) and Special Protection Areas (SPA)) within 15 km and Domestic designated sites (Natural Heritage Areas (NHA) and Proposed Natural Heritage Areas (pNHA)) occurring within 5 km of the survey area were identified. There are one SAC, one SPA and one pNHA occurring within these buffers. Please see Table 1, Table 2, Figure 5, Figure 6, Figure 7, Figure 8 and Figure 9.

**Table 1: Domestic designated sites (NHA/pNHA) within 5 km of proposed development area**

| SITE NUMBER | DESIGNATION | SITE NAME   |
|-------------|-------------|-------------|
| 001592      | pNHA        | Boyne Woods |

**Table 2: European Designated sites within 15 km of proposed development area**

| SITE NUMBER | DESIGNATION | SITE NAME                        |
|-------------|-------------|----------------------------------|
| 002299      | SAC         | River Boyne and River Blackwater |
| 004232      | SPA         | River Boyne and River Blackwater |



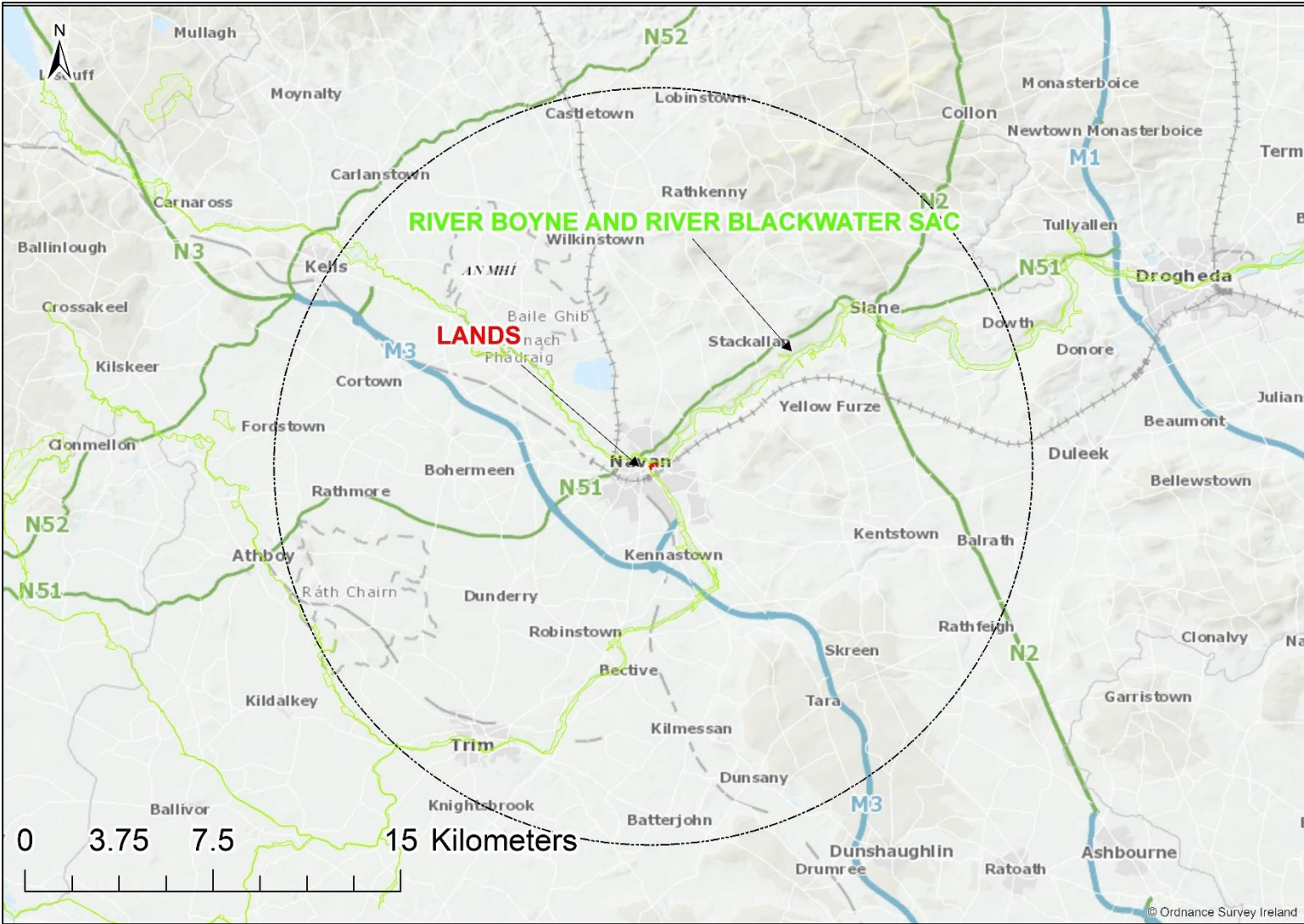


Figure 5: SACs within 15 km of the proposed development area

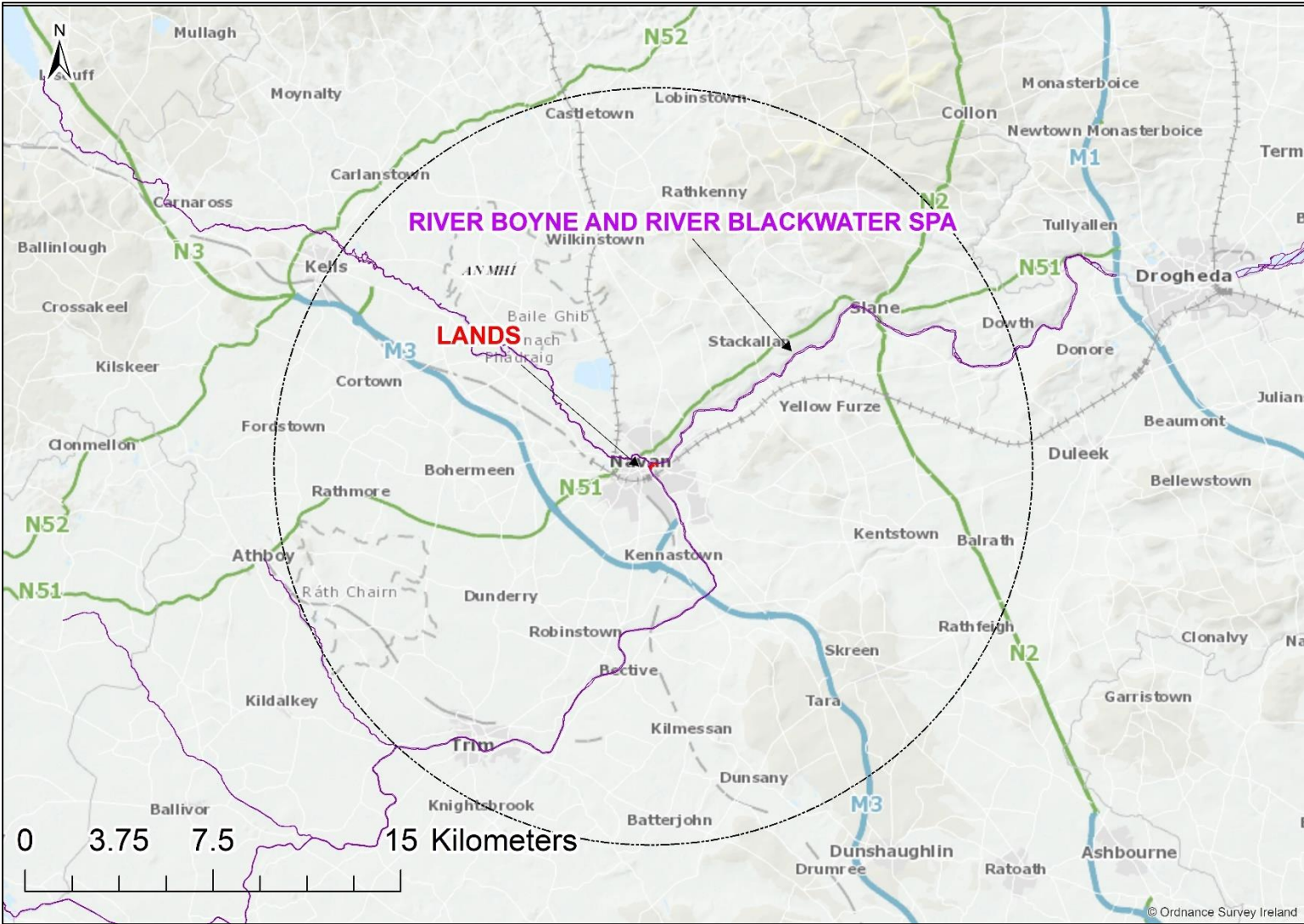


Figure 6: SPAs within 15 km of the proposed development area

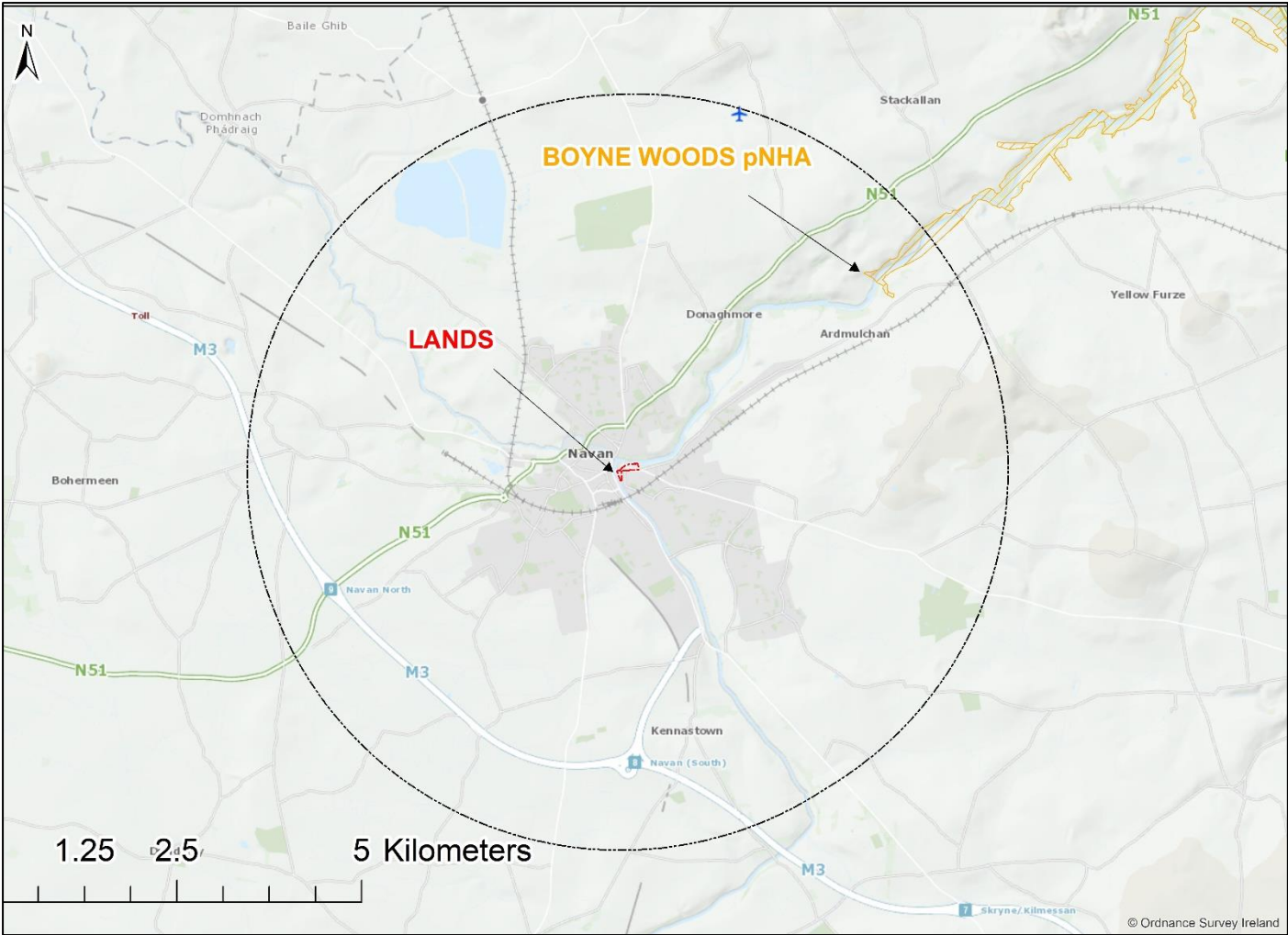


Figure 7: pNHAs within 5 km of the proposed development area (please note there are no NHAs within the buffer zone)



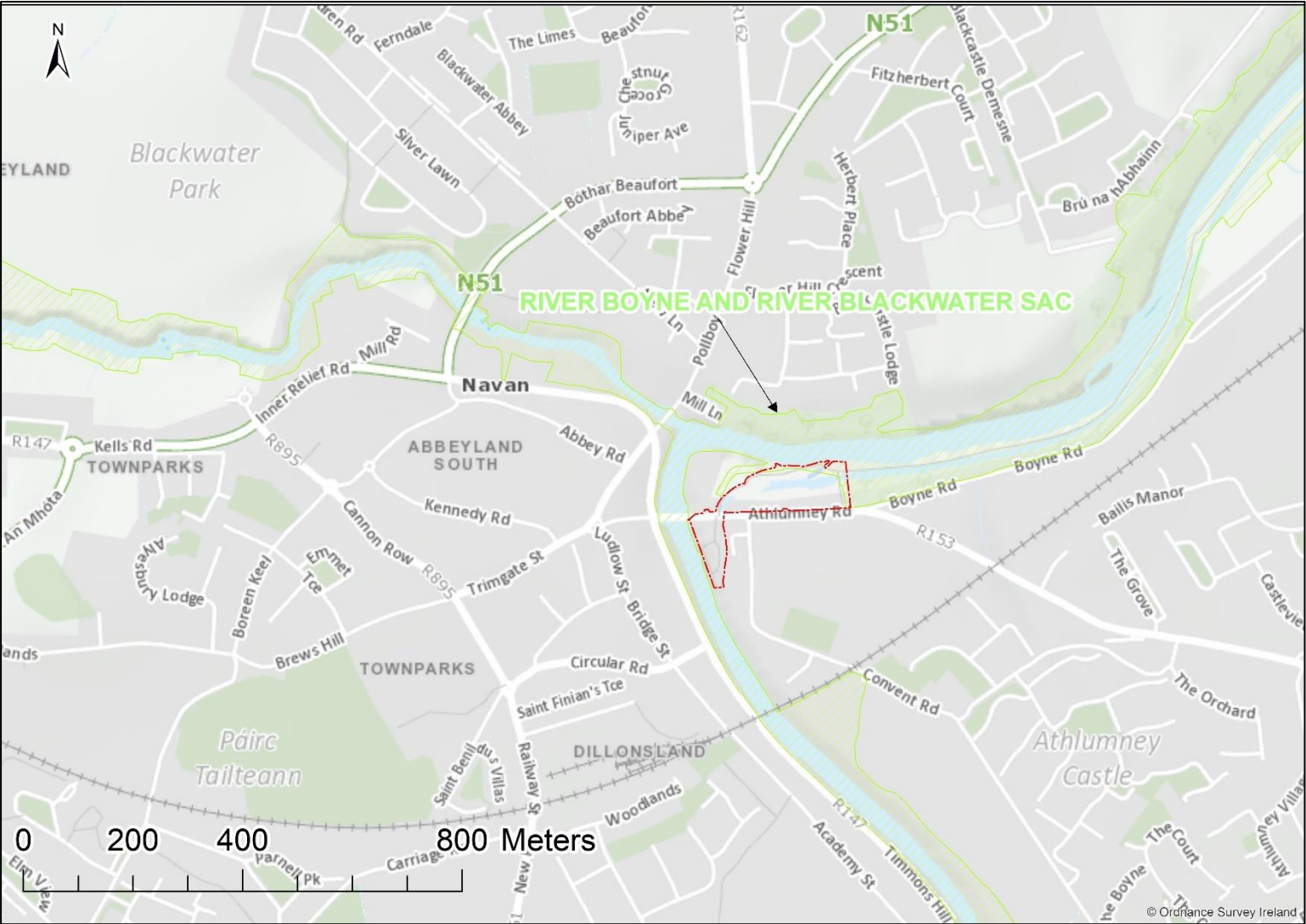


Figure 8: Map illustrating location of lands in question relative to River Boyne and River Blackwater SAC



Figure 9: Map illustrating location of lands in question relative to River Boyne and River Blackwater

**2.1.2 NBDC Database**

The NBDC database was accessed on 22/03/22 to query records occurring within the vicinity of the proposed development (1 km square, N8767 see Figure 10). The species of conservation concern as recorded within this 1 km square are illustrated in Table 3. The list is extensive, indicating that the area in question is well surveyed and that there is a rich biodiversity of species occurring. The map presented in Figure 11 indicates that as regards the “Habitat Suitability Index” for all bats, the proposed development is located in the second highest category as regards all bats, indicating a strong likelihood of several species of bat are utilising the habitat present. Given the habitats present, with the River Boyne and associated ecological corridor, the diversity of bat species present would be expected to be high (with up to eight species potentially utilising habitats throughout the year).



Figure 10: Location of 1 km square queried (National Biodiversity Data Centre)

**Table 3: Species of conservation concern recorded in the vicinity of the proposed development site (includes invasive species)**

| <b>Scientific name</b>                      | <b>Common Name</b>     | <b>Date of last record</b> |
|---|------------------------|----------------------------|
| <i>Acer pseudoplatanus</i>                  | Sycamore               | 24/06/2020                 |
| <i>Actitis hypoleucos</i>                   | Common Sandpiper       | 24/04/2010                 |
| <i>Anas platyrhynchos</i>                   | Mallard                | 18/09/2020                 |
| <i>Apus apus</i>                            | Common Swift           | 07/07/2018                 |
| <i>Buddleja davidii</i>                     | Butterfly-bush         | 21/09/2013                 |
| <i>Clematis vitalba</i>                     | Traveller's-joy        | 21/09/2013                 |
| <i>Cotoneaster horizontalis</i>             | Wall Cotoneaster       | 21/09/2013                 |
| <i>Delichon urbicum</i>                     | House Martin           | 01/04/2014                 |
| <i>Erinaceus europaeus</i>                  | West European Hedgehog | 20/04/2021                 |
| <i>Fallopia japonica</i>                    | Japanese Knotweed      | 18/09/2020                 |
| <i>Hirundo rustica</i>                      | Barn Swallow           | 07/09/2020                 |
| <i>Impatiens glandulifera</i>               | Indian Balsam          | 05/08/2021                 |
| <i>Lutra lutra</i>                          | European Otter         | 15/02/1980                 |
| <i>Meles meles</i>                          | Eurasian Badger        | 30/04/2010                 |
| <i>Myotis daubentonii</i>                   | Daubenton's Bat        | 23/08/2013                 |
| <i>Myotis nattereri</i>                     | Natterer's Bat         | 02/10/2011                 |
| <i>Nyctalus leisleri</i>                    | Lesser Noctule         | 14/08/2010                 |
| <i>Passer domesticus</i>                    | House Sparrow          | 24/02/2018                 |
| <i>Phalacrocorax carbo</i>                  | Great Cormorant        | 25/02/2018                 |
| <i>Pipistrellus pipistrellus sensu lato</i> | Pipistrelle            | 02/10/2011                 |
| <i>Pipistrellus pygmaeus</i>                | Soprano Pipistrelle    | 02/10/2011                 |
| <i>Plecotus auritus</i>                     | Brown Long-eared Bat   | 02/10/2011                 |
| <i>Prunus laurocerasus</i>                  | Cherry Laurel          | 24/06/2020                 |
| <i>Rana temporaria</i>                      | Common Frog            | 06/06/2003                 |
| <i>Riparia riparia</i>                      | Sand Martin            | 21/05/2010                 |
| <i>Sciurus carolinensis</i>                 | Eastern Grey Squirrel  | 08/07/2012                 |
| <i>Tandonia budapestensis</i>               | Budapest Slug          | 07/04/1982                 |

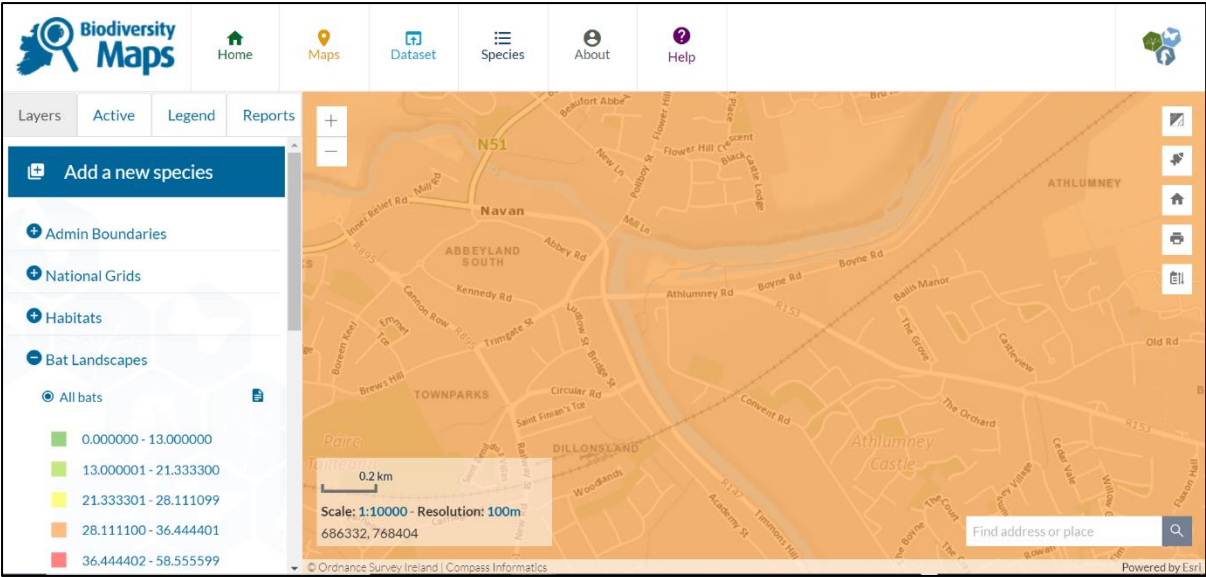


Figure 11: Excerpt from NBDC database online resource indicating Habitat Suitability index of general area



**2.1.3 Map of Irish Wetlands on-line resource**

A query of the Map of Irish Wetlands online resource was undertaken on 22/03/22. As can be seen from Figure 12, there are no recorded wetland sites in the immediate vicinity.

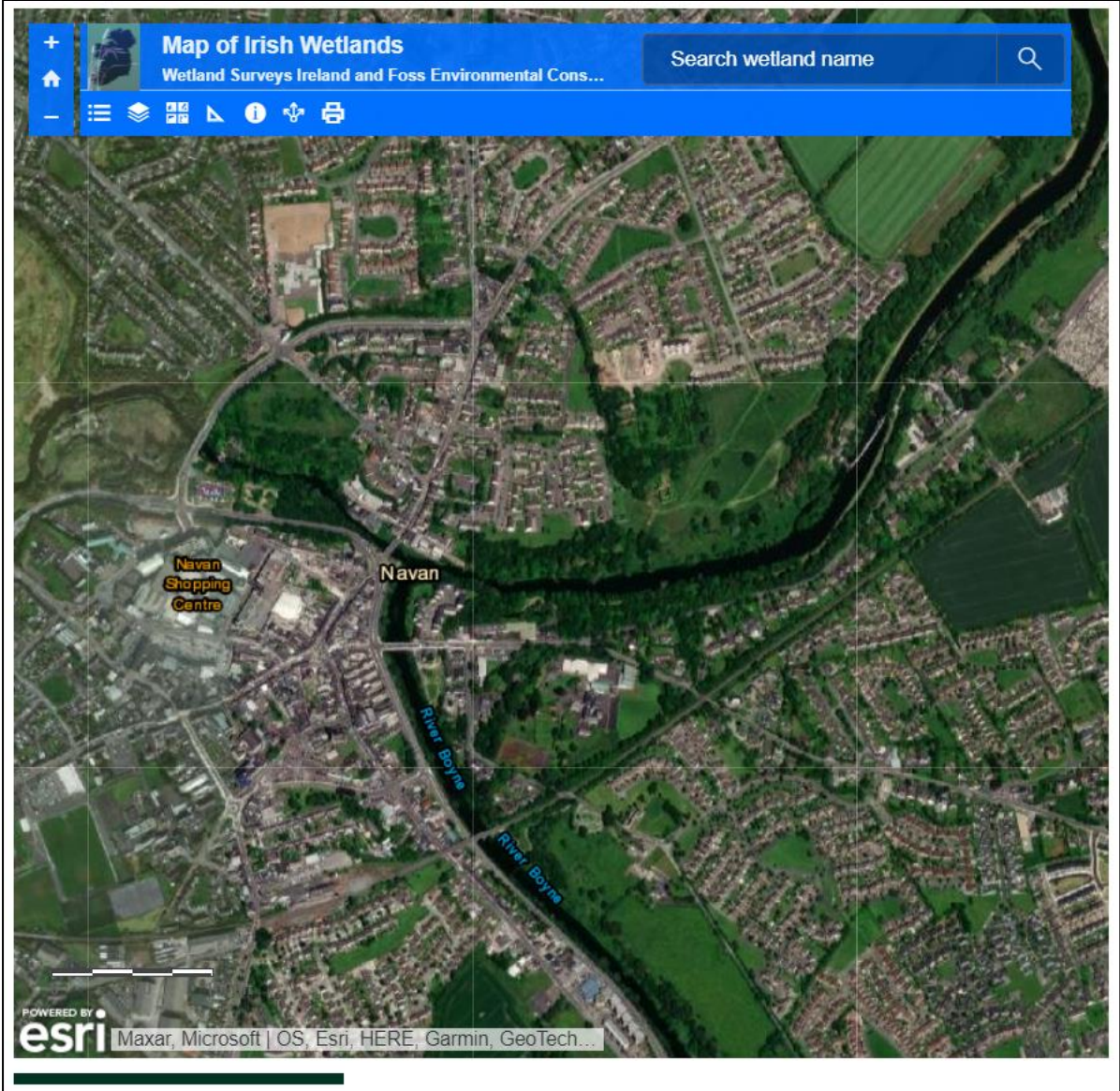


Figure 12: Excerpt from Map of Irish Wetlands resource



### 3 Receiving Environment

A site visit was undertaken by Dr Emma Reeves and Dr Patrick Moran on the morning of the 23<sup>rd</sup> of March 2022. While outside of the optimal window for undertaking ecological assessments, the surveys undertaken were deemed to be sufficient to identify the potential ecological constraints associated with the lands in question. An additional site visit was undertaken on April 6<sup>th</sup> to discuss aspects of the area with representatives of Meath Co. Council.

#### 3.1 Habitats occurring

An overview of the habitats occurring is best illustrated by aerial images captured utilising a DJI Mavic 3 drone. These are presented in Figure 13, Figure 14, Figure 15 and Figure 16.



Figure 13: Overview of lands in question





Figure 14: WD1 habitat adjacent to the River Boyne



Figure 15: Andy Brennan Park





Figure 16: Buildings associated with Spicers

The lands in question were surveyed through walk-over survey in order to assess potential ecological constraints. The primary habitat present occurring are outlined in the following sections.

**3.1.1 Built Land and Artificial Surfaces**

Much of the land in question comprises this habitat type, including the Ramparts car-park, buildings associated with Spicers, a number of houses along the R153 and roads/paths. Of note, numerous buildings appear on the historic 25" maps (Figure 17). These buildings, owing to their age and location have a high potential for supporting numerous bat species as regarding roosting habitat.

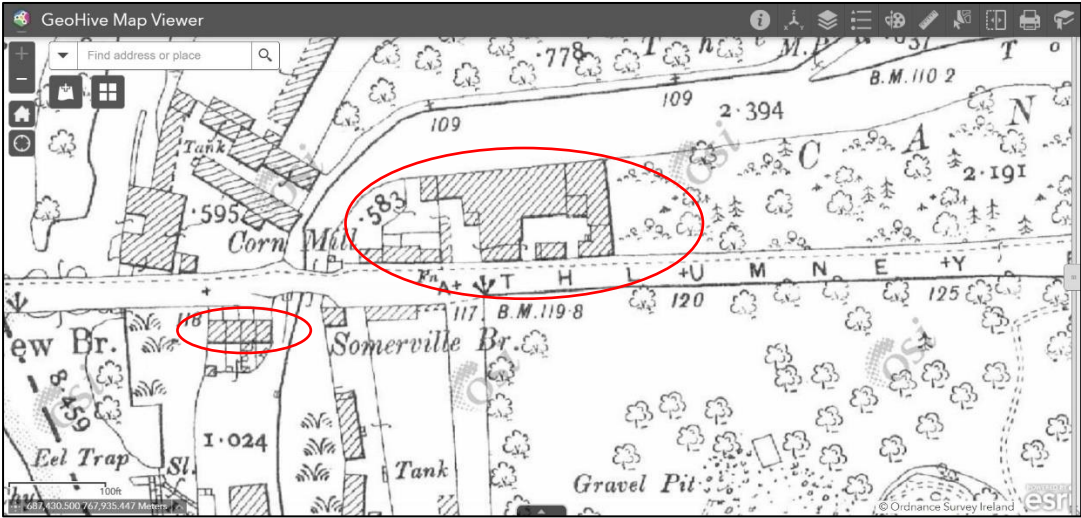


Figure 17: Historic 25" map with buildings present that indicate current structures are in excess of 100 years



Figure 18: Houses along the R153





Figure 19: Ramparts carpark adjacent to Spicer's buildings

**3.1.2 River Boyne and Boyne Navigation Canal**

The River Boyne occurs adjacent to the Ramparts and Andy Brennan Park and a section of the Boyne Navigation Canal occurs within the survey area (see Figure 20, Figure 21 and Figure 22). A portion of the lands in question are within the River Boyne and River Blackwater SAC. Of concern is a very large stand of Japanese Knotweed at the rear of Spicer's buildings that has very recently been extensively disturbed very recently (see Figure 23 and Figure 24).



Figure 20: River Boyne at the Ramparts



**Figure 21: Boyne Navigation Canal within the lands in question**



**Figure 22: River Boyne adjacent to Andy Brennan Park**





**Figure 23: Extensive population of Japanese Knotweed very recently disturbed**



**Figure 24: Extensive population of Japanese Knotweed very recently disturbed**

### 3.1.3 Mixed Broadleaved Woodland

The majority of non-built land habitat within the development lands is comprised of Mixed Broadleaved Woodland. This woodland is present on the 1<sup>st</sup> Edition OSI mapping, indicating that it is almost certainly several hundred years of age. The woodland contains a mix of native broadleaved species such as Ash (*Fraxinus excelsior*) and non-native broadleaves such as Beech (*Fagus sylvatica*) and several coniferous species.



Figure 25: Example of woodland habitat occurring within the lands in question

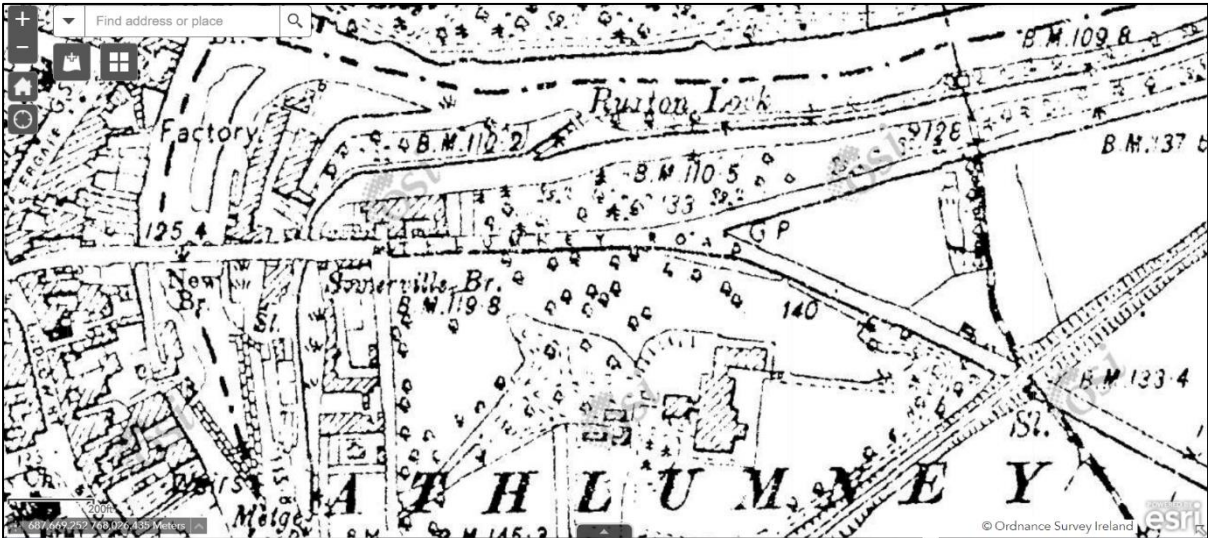


Figure 26: Excerpt from 1st Edition OSI mapping illustrating presence of woodland



**3.1.4 Parkland**

Andy Brennan Park is also included within the lands in question and is connected directly to the woodland habitat through a bridge under the R153. The park is comprised primarily of amenity grassland and is itself of limited ecological value. It is, however, immediately adjacent to the River Boyne and associated ecological corridor.



**Figure 27: Underpass bridge connecting Ramparts with Andy Brennan Park**



**Figure 28: Photograph illustrating primary habitat present in Andy Brennan Park (Amenity Grassland)**

### 3.2 Species of Invasive Alien Plants listed on Part (1) of the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations of 2011 (as amended)

The human introduction of alien plant species into ecosystems (intentionally or unintentionally) is historically a common-place occurrence. The vast majority of these alien plant species, when introduced into a foreign ecosystem for which they are not adapted, will die without specific care. In a small number of cases, however, these plants can come to dominate the ecosystem into which they have been introduced and become “Invasive”. There is presently a great deal of concern regarding the potential for invasive plant species to threaten the species composition, community structure and overall biodiversity of native Irish habitats. Invasive species can change the character and/or condition of an ecosystem over an extensive area through several mechanisms, depending on the species of plant and the nature of the habitat. There are more than 30 species on the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations of 2011 as amended. Riparian systems are particularly vulnerable to plant invasions owing largely to the naturally high disturbance frequencies within riparian habitats and the rapidity with which an invasive can spread utilising the medium of flowing water. In addition, there has been an historic tendency for people to plant “ornamental” species beside water. As a result, the vast majority of the species listed on the Third Schedule are associated broadly with riparian systems, occurring within the water course, or proliferating along the bank (see Table 1). A minimum of one of these species occurs within the lands in question (Japanese Knotweed) and it is highly likely that Himalayan Balsam (*Impatiens glandulifera*) or propagules of this species occur within the lands in question

**Table 4: List of plant species appearing on the Third Schedule**

| Common Name             | Latin Name                            | Associated with freshwater habitats |
|-------------------------|---------------------------------------|-------------------------------------|
| American skunk-cabbage  | <i>Lysichiton americanus</i>          | Yes                                 |
| Red alga                | <i>Grateloupia doryphora</i>          | No                                  |
| Brazilian giant-rhubarb | <i>Gunnera manicata</i>               | Yes                                 |
| Broad-leaved rush       | <i>Juncus planifolius</i>             | Yes                                 |
| Cape pondweed           | <i>Aponogeton distachyos</i>          | Yes                                 |
| Cord-grasses            | <i>Spartina (all species hybrids)</i> | No                                  |
| Curly waterweed         | <i>Lagarosiphon major</i>             | Yes                                 |
| Dwarf eel-grass         | <i>Zostera japonica</i>               | No                                  |
| Fanwort                 | <i>Cabomba caroliniana</i>            | Yes                                 |
| Floating pennywort      | <i>Hydrocotyle ranunculoides</i>      | Yes                                 |
| Fringed water-lily      | <i>Nymphoides peltata</i>             | Yes                                 |
| Giant hogweed           | <i>Heracleum mantegazzianum</i>       | Yes                                 |
| Giant knotweed          | <i>Fallopia sachalinensis</i>         | Yes                                 |
| Giant-rhubarb           | <i>Gunnera tinctoria</i>              | Yes                                 |
| Giant salvinia          | <i>Salvinia molesta</i>               | Yes                                 |
| Himalayan balsam        | <i>Impatiens glandulifera</i>         | Yes                                 |

|                          |                                       |                   |
|--------------------------|---------------------------------------|-------------------|
| Himalayan knotweed       | <i>Persicaria wallichii</i>           | Yes               |
| Hottentot-fig            | <i>Carpobrotus edulis</i>             | No                |
| Japanese knotweed        | <i>Fallopia japonica</i>              | Yes               |
| Large-flowered waterweed | <i>Egeria densa</i>                   | Yes               |
| Mile-a-minute weed       | <i>Persicaria perfoliata</i>          | Yes               |
| New Zealand pigmyweed    | <i>Crassula helmsii</i>               | Yes               |
| Parrot's feather         | <i>Myriophyllum aquaticum</i>         | Yes               |
| Rhododendron             | <i>Rhododendron ponticum</i>          | No                |
| Salmonberry              | <i>Rubus spectabilis</i>              | Yes               |
| Sea-buckthorn            | <i>Hippophae rhamnoides</i>           | No                |
| Spanish bluebell         | <i>Hyacinthoides hispanica</i>        | No                |
| Three-cornered leek      | <i>Allium triquetrum</i>              | No                |
| Wakame                   | <i>Undaria pinnatifida</i>            | No                |
| Water chestnut           | <i>Trapa natans</i>                   | Yes               |
| Water fern               | <i>Azolla filiculoides</i>            | Yes               |
| Water lettuce            | <i>Pistia stratiotes</i>              | Yes               |
| Water-primrose           | <i>Ludwigia (all species)</i>         | Yes               |
| Waterweeds               | <i>Elodea (all except canadensis)</i> | Yes               |
| Wireweed                 | <i>Sargassum muticum</i>              | Marine/transition |

### 3.3 Avifauna

Bird Watch Ireland and the RSPB NI have agreed a list of priority bird species for conservation action on the island of Ireland. These Birds of Conservation Concern in Ireland are published in a list known as the BoCCI List. In this BoCCI List, birds are classified into three separate lists (Red, Amber and Green), based on the conservation status of the bird and hence conservation priority. The Red List birds are of high conservation concern, the Amber List birds are of medium conservation concern and the Green List birds are not considered threatened.

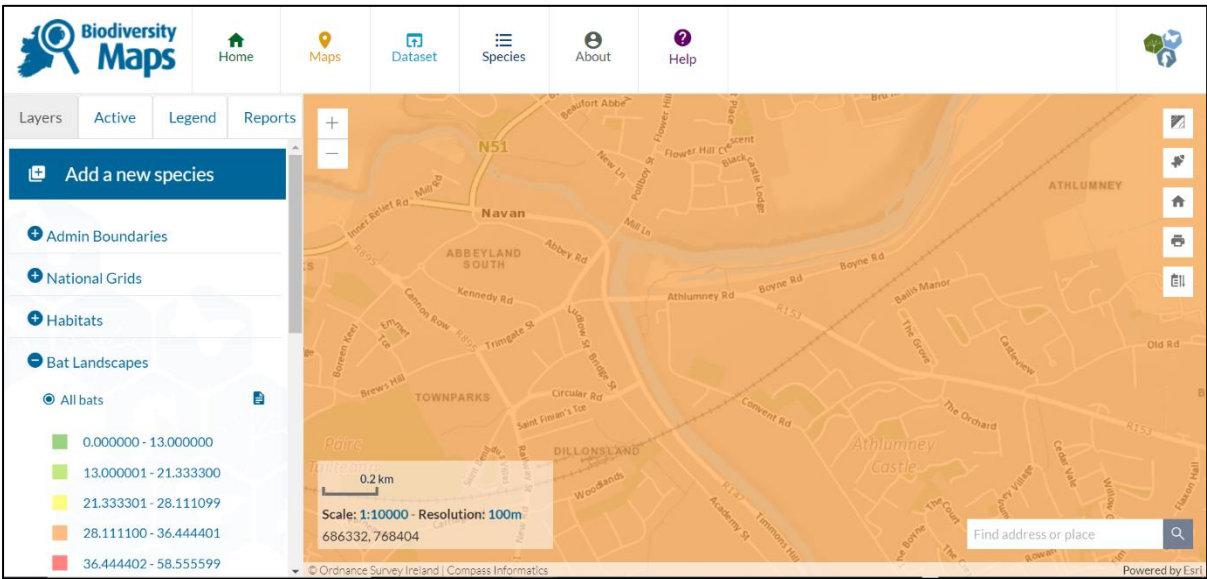
The habitats occurring are almost certain to support a rich diversity of both breeding and wintering species of birds. Of particular note, the Annex I (Birds Directive) species Kingfisher (*Alcedo atthis*), for which the River Boyne and River Blackwater SPA is designated occurs within the lands in question.

### 3.4 Non volant Mammals

A large variety of non-volant of mammals would be expected to utilise the habitats present including Badger, Fox, Pine Marten, Stoat, Pygmy Shrew, Brown Rat and Wood mouse would be expected to occur. Grey Squirrel are also likely to occur, but there has been a return of the native Red Squirrel to Meath in recent years and this species may also be present. A comprehensive assessment of the usage of the development lands by non-volant mammals is required. Of special; note, Otter are known to occur in the immediate vicinity and are a Qualifying Interest of the River Boyne and River Blackwater SAC.

### 3.5 Bat Assessment

The habitats occurring are optimal for a number of species of bats – both foraging and roosting. The lands in question are located within the second highest suitability index for bats. A comprehensive year-long survey must be undertaken in order to assess the use of the habitats present by bats.





## **4 Areas of the proposed development area in which there is potential to impact on the biodiversity/conservation interest of the habitats present**

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Owing to the ecologically sensitive location and international ecological importance of the lands in question and the presumed presence of a wide array of species of conservation concern, almost any element of development has the potential to impact on the biodiversity/conservation interest of the habitats present. A comprehensive assessment of the biodiversity/conservation resource present is required in order to identify potential impacts. A representation of the vision for the survey area is presented in Figure 29.



## 5 Conservation Priorities

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- The primary conservation priority must be to identify, maintain and enhance the current biodiversity resource.
- The lands in question are within/adjacent to two Natura 2000 sites and as such any development must be subject to the Appropriate Assessment process.
- The lands in question are likely to support a variety of bat species, all Irish species of which are listed in Annex IV of the EU Habitats Directive. The preservation and enhancement of conditions supporting the local bat population is a conservation priority.
- There has been extensive disturbance and likely spread of Japanese Knotweed (*Falopia japonica*) within the lands in question. A comprehensive assessment of species listed on Part (1) of the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations of 2011 (as amended) must be undertaken and a Control and management plan for any such species discovered drawn up and implemented.



## 6 Further monitoring/surveys required to inform adequately as regards ecological constraints

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Given the nature and location of the proposals within the Masterplan, the following surveys should be undertaken within the appropriate ecological window:

- Terrestrial flora and habitat survey to include qualitative and quantitative assessments;
- Aquatic flora survey to include the Boyne Navigation Canal as it occurs in the lands and the River Boyne as it occurs adjacent;
- Survey and mapping of any Alien Invasive Plant Species (plant species listed in Part(1) of the Third Schedule of the European Communities (Birds and Natural Habitats) Regulations of 2011;
- General bird survey;
- Kingfisher survey;
- Non-volant mammal survey;
- Otter survey; and
- Bat survey – in addition to (a combination of both static and emergence/dawn) surveys undertaken in June/July to assess activity during the Maternity Roosting season, surveys should be undertaken in September (static and emergence) to assess and mating swarm activity and during the winter months to assess use of habitats such as the Spicers buildings as hibernacula.

Given the ecologically sensitive location of the site, surveys should extend to the habitats occurring adjacent to the lands in question. These surveys will be required to inform any appropriate assessment.

## **7 Summary of potential ecological constraints**

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Given the ecological sensitivity of the location and the international ecological importance of the lands in question and associated ecological corridor and habitats, virtually any aspect of development of the lands has the potential to impact on the ecological/biodiversity resource present. The ecological constraints can only be identified through a wholistic, comprehensive assessment of the ecology of the lands in question and habitats adjacent.

## 8 Conclusions

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As the location of the lands in question, within/immediately to an internationally important ecological corridor, would indicate, the lands are of International importance as regards biodiversity and conservation. A detailed suite of ecological surveys is required in order to identify ecological constraints as regards any significant development of the site.



## 9 References and Bibliography

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