County Longford

Wetlands Field Survey III 2021

Report prepared for Longford County Council

by P. Crushell, M.C. Gallagher & P. Foss

November 2021

Foss Environmental Consulting

AN LONGFORT
Comhairle Chontae An Longfoirt
Longford County Council
CONNECTED
People · Place · Opportunity

An Chomhairle Oidhreachta
The Heritage Council

An Roinn Tithíochta, Rialtais Áitiúil agus Oidhreachta
Department of Housing, Local Government and Heritage

wetlandsurveys ireland

Authors: Crushell, P., Gallagher, M.C. & Foss, P. (2021) Title: **County Longford Wetlands Field Survey III 2021**. Report prepared for Longford County Council.

An Action of the County Longford Draft Heritage Plan 2015-2020

Wetland Surveys Ireland & Foss Environmental Consulting

Dr Peter Foss
33 Bancroft Park
Tallaght
Dublin 24

peterjfoss@gmail.com

Dr Patrick Crushell
Bell Height
Kenmare
Co Kerry

patrick@WetlandSurveysIreland.com

Photographic Plate Credits

All photographs by Peter Foss and Patrick Crushell 2021 unless otherwise stated. Copyright Longford County Council.

Report cover images:
Gorteen Lough cNHA, Co. Longford (Photos: Patrick Crushell)

Contents

Acknowledgements **2**
Executive Summary **3**
1 Introduction and Background **4**
2 Materials & Methods **5**
3 Results **7**
4 Conclusions and Recommendations **17**
5 Bibliography **21**

List of Figures

FIGURE 1: LOCATION OF SITES SELECTED FOR SURVEY AS PART OF THE LONGFORD WETLANDS FIELD SURVEY III 2021. 8

List of Tables

TABLE 1: LIST OF SITES SURVEYED DURING THE LONGFORD WETLANDS FIELD SURVEY III 2021. 7
TABLE 2: CONSERVATION EVALUATION OF SITES SURVEYED DURING THE LFWS 2021. SITES ARE RANKED ACCORDING TO THEIR CONSERVATION VALUE. 12
TABLE 3: NATURA 2000 IMPACTS AND ACTIVITIES WHICH ARE LIKELY TO HAVE A NEGATIVE EFFECT ON WETLANDS, AND THE WETLAND TYPE MOST LIKELY TO BE AFFECTED BY THESE ACTIVITIES. 16

List of Appendices

Appendix 1: National Roads Authority (2009) Site Evaluation Criteria.
Appendix 2: Individual site survey reports from the Longford Wetlands Field Survey 2021.

County Longford Wetlands Field Survey III 2021

This project involved a field survey of twelve freshwater wetlands in south County Longford. The aim of the survey was to identify the specific wetland habitats and ecological interest at each site. These sites had previously been identified as being of potential interest during the County Longford & Roscommon Wetland Study 2017 project. The sites were selected for survey due to the potential occurrence of notable wetland habitats. This report presents the results of the 2021 field survey and includes detailed site descriptions and habitat maps for each of the wetlands surveyed.

Acknowledgements

The County Longford Wetlands Field Survey III 2021 (LFWS 2021) was made possible through the financial support of Longford County Council and The Heritage Council. The project is an action of the County Longford Draft Heritage Plan 2015-2020.

The authors wish to thank Máiréad Ní Chonghaile, Heritage Officer with Longford County Council for help and advice during the project. Thanks to Joe O'Sullivan for his assistance during the wetland field surveys.

We also acknowledge the assistance of all those landowners who facilitated access to their land during this survey and provided valuable local information.

Executive Summary

1. The aim of the Longford Wetlands Field Survey III 2021 (LFWS 2021) was to undertake a field survey of a selection of wetland sites previously identified during the 2017 Counties Longford & Roscommon Wetland Study project (Foss *et al.* 2017) for which little or no ecological information was available.

2. The twelve sites selected for survey included those that lie outside of designated areas but were deemed likely to contain habitats of biodiversity interest, located in the southern part of the county.

3. Field surveys were undertaken on all twelve sites. These were surveyed in detail and site descriptions, conservation evaluation and habitat maps were prepared and are presented within individual site reports.

4. Habitats were classified and mapped according to the Guide to Habitats published by The Heritage Council (Fossitt 2000). Habitats that occur surrounding each wetland site were also recorded.

5. Detailed survey information on sites, including the habitats and species present, as well as threats and impacts to sites, was stored within a Longford Wetland Survey (LFWS) database.

6. The information collected from the survey was used to update the 2017 Longford Wetlands Map (LFWM) GIS dataset and site database. Site records were updated for each of the sites surveyed in 2021.

7. The main findings to emerge from the 2021 wetlands survey is the identification of a number of important wetland sites (ranging from national to high local importance), including marsh, transition mire, bog woodland, and a number of remnant raised bog sites.

8. The results of the 2021 field survey suggests that many important wetland sites may remain un-identified throughout county Longford and further surveys will be required to improve our knowledge of the county's wetland heritage.

9. Despite the recognised importance and value of wetlands, survey results confirm that they continue to be threatened and lost due to land-use pressures. A series of recommendations are made with regards ensuring the future conservation of the rich wetland heritage of County Longford.

1 Introduction and Background

In 2017 Longford County Council funded the production of a county Longford wetland GIS dataset and associated site database holding information on all known and potential freshwater wetlands in county Longford (Foss *et al.* 2017).

The 2017 Longford Wetlands Map (LFWM) project identified more than 281 wetland areas which were mapped in a digital dataset (LFWM GIS dataset). In 2019, eighteen of these sites were surveyed as part of the Longford Wetlands Field Survey 2019 (Foss *et al.* 2019), and in 2020, a further eleven wetland sites were surveyed as part of the Longford Wetlands Field Survey II 2020 (Crushell *et al.* 2020), with the view of improving the knowledge of the wetlands present on these sites.

Following the Longford Wetlands Field Survey II 2020, a total of 174 sites that were identified during the Longford Wetlands Map (LFWM) project in 2017 remain without detailed background survey information.

The main aim of the current Longford Wetlands Field Survey III 2021 (LFWS 2021) project was to survey a selection of sites identified in the LFWM project, located in the southern section of the county, for which there was little or no site survey information, and assess their ecological status to further contribute to the knowledge of the wetland resource of County Longford.

The outputs of the Longford Wetlands Field Survey III 2021 should assist Longford County Council in its obligations to protect the most important wetlands within the county and inform future conservation policies in relation to wetlands in county Longford.

1.1 Project summary

The LFWS 2021 project was undertaken between July and October 2021, with field surveys being completed during August 2021. The main elements project included:

- **Survey site selection:** Twelve previously un-surveyed sites were selected from the Longford Wetlands Map (LFWM) GIS dataset for survey in 2021. This selection process was undertaken with input from the Longford Heritage Officer and was focused in the southern part of county Longford, which was not covered in the 2019 and 2020 field surveys. Sites considered representative of the more common wetland habitats within the county were included (see Table 1).
- **Field map preparation:** Following the site selection process, a digital survey map was prepared showing the location of the survey sites, with the facility to collect survey notes during the surveys.
- **Database preparation:** A Wetland Survey Database (LFWS), to hold the survey data was created. This database was linked to the original County Longford Wetlands Map (LFWM) site database where core information on wetland sites is held. Following field survey, the survey data held within the LFWS survey database, was used to produce a site report for each surveyed site.
- **Field surveys:** Field surveys of the twelve selected sites were undertaken during August 2021. Following the field survey, the ecological value of each site was assessed using an objective site evaluation scheme. Sites were subsequently ranked in terms of their local, national, or international conservation value (see Appendix 1).
- **Data collation:** Information gathered during the field surveys was used to populate the Wetland Survey Database (LFWS), prepare habitat maps, and update the Longford Wetlands Map (LFWM) GIS dataset.
- **Report preparation:** Individual site reports (which include site descriptions, habitat maps, and conservation recommendations) were prepared for each surveyed site. These site reports are included in Appendix 2 of this report. Digital copies of the updated Longford Wetlands Field Survey III 2021 (LFWS 2021) GIS dataset and site database accompany this report.

2 Materials & Methods

2.1 Longford Wetlands Field Survey 2021 - Site Selection

At project commencement twelve sites located in the southern part of the county were selected from the Longford Wetland Map (LFWM) GIS dataset for survey. The selection of twelve sites was determined based on the budget and resources made available for the project. The final list of sites proposed for survey was considered representative of the more common wetland habitats within the county (see Table 1).

Sites selected for survey are listed in Table 1 below and a map showing their distribution throughout the county is presented in Figure 1.

2.2 Longford Wetlands Field Survey 2021 - Field Survey

The field survey was undertaken during mid-August 2021. The following was recorded at each site:

- General ecological description of the site
- Photographic record of the site
- The habitats both within and immediately adjoining the wetland
- Habitat types listed under Annex I of the EU Habitats Directive
- Threats/damaging activities to the site
- Flora and fauna species observed

All site information was recorded using a standard field survey card on a GPS enabled field computer (see Foss *et al.* 2017 for details). The survey card was designed specifically for use on this survey.

Plant identification followed Webb *et al.* (1996), and species nomenclature follows Scannell & Synnott (1987). Searches for rare or protected species of plants (Curtis & McGough 1988) were not the focus of this study but where these were observed note was taken for inclusion in the database.

Mammals observed were recorded using nomenclature in Sterry (2004) and birds were identified using Ferguson-Lee *et al.* (1983). Any reptiles, amphibians or (readily identifiable) invertebrates were also noted.

Information on threats and damage on the site, and the severity of this, was also noted and recorded in the GIS using target notes.

2.2.1 Consultation with Landowners

Where possible, landowners were consulted by calling to the nearest dwelling, and permission was sought for access to the site. Discussions with landowners typically included an explanation of the project, often followed by an informal conversation about the particular wetland site and its past and recent management.

All landowners that were approached during the survey permitted access to their lands.

2.2.2 Habitat Classification

The habitats within each wetland visited and those immediately adjacent to the site were classified using Fossitt (2000) '*A Guide to Habitats in Ireland*'. The habitat definitions and terminology used in this report follows this guide.

Guidance in determining whether or not a habitat type present within a wetland may correspond to an EU Annex I type was sought from a variety of sources including European Commission (2013), Fossitt (2000), Foss (2007), O'Neill *et al.* (2013), Perrin *et al.* (2013), and Corbett (2004).

2.2.3 Site Conservation Assessment & Evaluation

Each wetland surveyed in the field was assigned an evaluation rating. This evaluation was based on the criteria outlined in Appendix 1 (NRA 2009).

2.2.4 Survey Constraints

The presence of wide deep drainage ditches and high water levels hindered field work by preventing safe access to parts of some of the sites. Such areas were assessed using binoculars. The walkover survey at Cartron East Pond was supplemented by a survey undertaken using an un-manned aerial vehicle (UAV). This method of survey allowed for additional data to be gathered from parts of the site that were inaccessible on foot.

The main purpose of the project is to create an inventory of wetlands within the county. In order to assess sites within the time and budgetary constraints of the project, surveys were normally confined to only those parts of the sites that appeared, from the aerial photography, to be of most interest. The level of information gathered at each site was sufficient to evaluate its ecological importance and wetland interest.

2.3 Longford Wetlands Field Survey Database – Structure and Content

A Longford Wetland Survey (LFWS) database holds survey data on sites from the present survey (together with data from LFWS 2019 & 2020). This database was connected to the existing County Longford Wetland Map site database (which holds general and descriptive site data recorded in various third party reports and datasets) via the unique site code assigned to each site. This database was created using Filemaker Pro software package which allows data export to Excel spreadsheets.

Fields used to store survey data in the LFWS database are detailed in Foss *et al.* (2017).

Initially the sites selected for survey had a site record created in the LFWS database. This updated version of the LFWS database (with the sites surveyed in 2021 added) was given the name Longford Wetland Map Version 4, and is included with this report as part of the final project deliverables.

2.4 Longford Wetlands Field Survey (LFWS) – GIS Dataset

The Longford Wetland Map (LFWM) GIS dataset created by Foss *et al.* (2017) (using ArcView 10.7 GIS software package on a Windows Operating System) was used throughout the LFWS 2021 for all site selection and mapping purposes.

See Foss *et al.* (2017) for further details on the structure and format of this LFWM GIS dataset.

All habitat maps produced during the LFWS 2021 project were added to this LFWM GIS dataset. In certain cases boundaries were also adjusted on sites based on field observations. The updated and revised version of the LFWM GIS dataset was delivered at the end of the project to Longford County Council, dated November 2021. A set of GIS files relevant only to this individual survey (LFWS 2021) are also included with this report.

3 Results

3.1 Longford Wetlands Field Survey 2021

The twelve sites visited during the field survey are listed in Table 1 and their locations are shown in Figure 1.

Summary findings of the survey results in addition to the ecological status of each site are presented in Section 3.2. A detailed report for each survey site (sorted according to site name) together with habitat maps are presented in Appendix 2 of this report.

Table 1: List of sites surveyed during the Longford Wetlands Field Survey III 2021.

LFWS Site Code	Site Name	Centre Northing (IG)	Centre Easting (IG)
LF108	BALLYBRIN	231160	280183
LF128	KILLEEN SOUTH	229381	280021
LF129	KILLEEN BALLYMORE	228748	281159
LF149	OGHIL WEST	216309	282578
LF151	AGHABOY KILLETER CUTOVER	218752	280169
LF168	DRUMURE BOG	216285	279696
LF181	GARVAGH	221189	279201
LF184	GORTEEN LOUGH cNHA	222921	279571
LF185	DRUMMEEL	224904	278317
LF200	CARTRON EAST POND	233273	279357
LF263	AGHNASKEA CORNAFUNSHION CUTOVER	220916	284448
LF282	BALLYBRIEN PONDS (SOUTH)	230982	279984

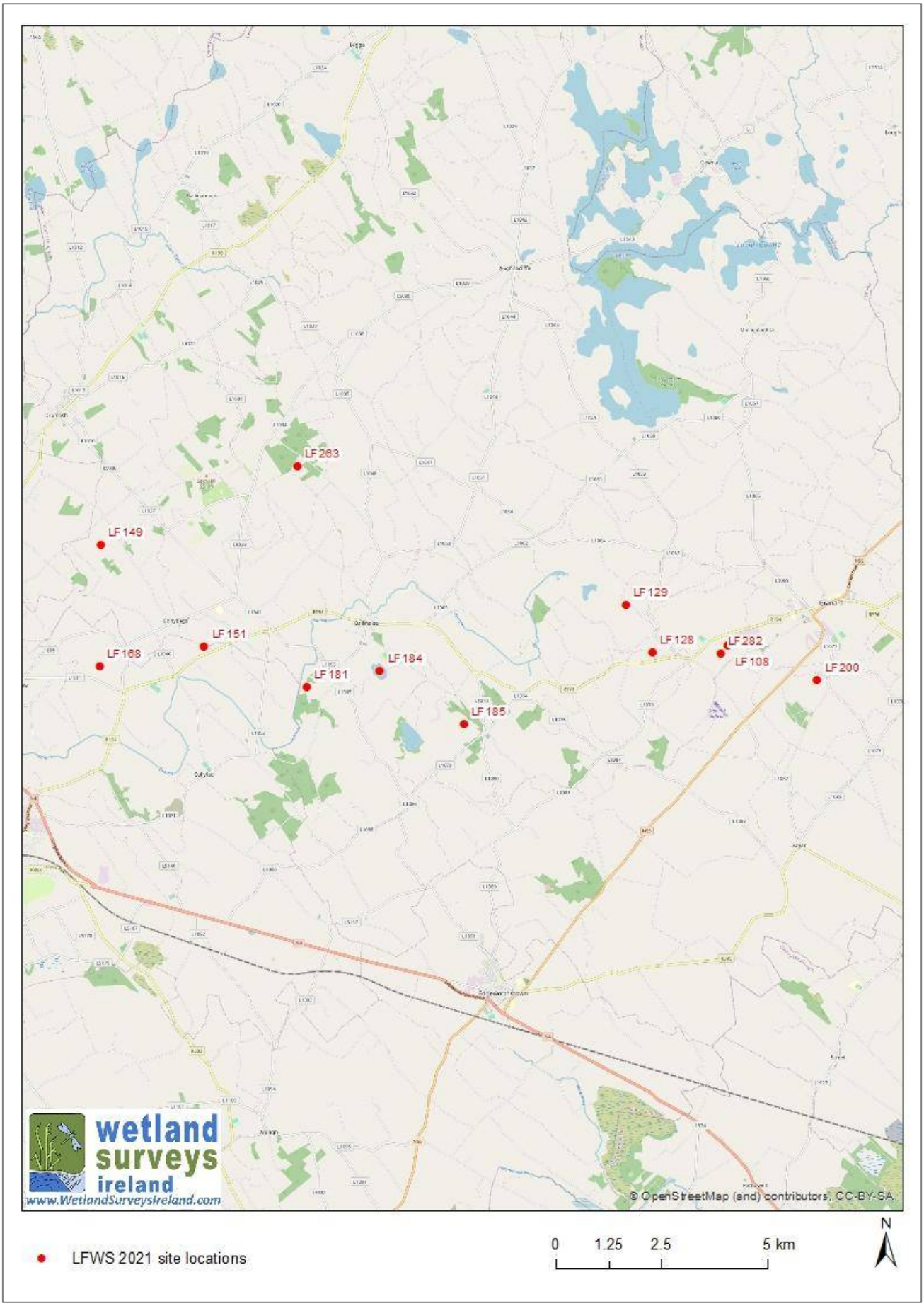


Figure 1: Location of sites selected for survey as part of the Longford Wetlands Field Survey III 2021.

3.2 Wetland types recorded during LFWS Field Survey 2021

Twelve sites were surveyed as part of the LFWS 2021. The habitats present (both wetland and non-wetland) within and surrounding each wetland site were recorded using Fossitt (2000) based on field survey observations. Summary descriptions of these wetland types, with examples of where they can be seen in County Longford is provided in Foss *et al.* (2017), while more detailed habitat descriptions with characteristic species is given in Fossitt (2000).

Wetland habitats recorded during the survey included a wide range of habitats of varying ecological importance. The most notable habitats that were encountered included: raised bogs, mesotrophic lakes, wet woodlands, and wet grasslands.

Wetlands of lower ecological interest that were recorded during the survey included reclaimed cutover bog, agricultural grassland areas, and wet grassland. A summary description of each site surveyed is presented in Table 2 below. Further site details are presented in detailed site reports are presented in Appendix 2.

Table 2: Summary description of sites surveyed during the Longford Wetlands Field Survey 2020.

LFWS Site Code	LFWS Site Name	Survey site location	Site Description
LF151	AGHABOY KILLETER CUTOVER	Former raised bog located 7.5km north east of Longford town.	Former raised bog that has been historically cut for fuel. Small remnants of degraded high bog remain. These areas are dominated by dense Ling Heather and Birch seedlings are common. The cutover is regenerating well with a dominance of wet bog vegetation with good *Sphagnum* cover. Birch woodland and scrub occur in the drier margins of the former bog.
LF263	AGHNASKEA CORNAFUNSHION CUTOVER	Upland site with wet heath and scrub surrounded by mature conifer plantations located 5.6km south east of Drumlish.	Former upland heath/bog area that has been subject to past drainage and peat cutting. Forestry dominates the surroundings. The wetland interest on the site is confined to remnant wet heath dominated by *Calluna vulgaris* with raised moss cushions. Birch and Willow scrub is common throughout the site.
LF282	BALLYBRIEN PONDS (SOUTH)	Ballybrien Ponds (South) are located 2.5km west of Granard.	Small enclosed depression dominated by freshwater marsh. Small area of open water used by cattle as a drinking water source. Mineral esker like ridge occurs close by.
LF108	BALLYBRIN	Farm pond with surrounding wetland vegetation located ca 2km west of Granard.	Small pond with floating macrophytes, mostly Pondweed. To the east, marginal wetland vegetation with Bogbean and Bottle Sedge occurs. This transitions into a floating raft of transition mire dominated by *Sphagnum squarrosum* and S*. palustre* with Bog Cotton, Bottle Sedge, and Bogbean. Further west, this grades into species poor wet grassland.

LFWS Site Code	LFWS Site Name	Survey site location	Site Description
LF200	CARTRON EAST POND	Site contains a mosaic of wetland habitats with tall herb and reed swamps dominating. Located 1.5km south of Granard.	The eastern part of site comprises *Molinia* dominated acid bog with *Potentilla erecta* and *Calluna vulgaris*. Further west, the bog grades into tall herb swamp with abundant Angelica, Meadowsweet, Valarian, and Purple loosestrife. Common Reeds dominate the wettest part of the site.
LF185	DRUMMEEL	Degraded raised bog located 3.2km south east of Ballinalee.	Degraded raised bog remnant of high bog surrounded by extensive regenerating cutover. The high bog is dominated by tall Ling Heather with low moss cover. The cutover comprises a mosaic of dry and wet bog communities. *Sphagnum* dominated communities are locally common in wetter areas. Bracken and Gorse occur in drier areas. Active peat cutting occurs on a single turbary plot. The high bog is severely degraded with extensive cracking and slumping.
LF168	DRUMURE BOG	Cutover bog located just west of Kilnatrauhan, County Longford.	Extensive area of regenerating cutover bog. Historically cut for fuel. The central part of the site is dominated by regenerating wet bog communities with Ling and Purple Moor-grass. Open canopy immature Birch is frequent, together with Lodge-pole Pine. Bracken and Gorse occur in drier areas. Locally abundant *Sphagnum* carpets are present where initial bog woodland establishment is occurring. Mature dry birch woodland surrounds the open regenerating bog.
LF181	GARVAGH	Low lying wetland within an enclosed depression. Located 2km south west of Ballinalee.	The central part of the wetland comprises a small area of transition mire with tall herb swamp. Wet Willow scrub is also present. The central part of the site is surrounded by good quality species rich wet grassland which is lightly grazed by cattle.
LF184	GORTEEN LOUGH cNHA	A mesotrophic lake with a well developed band of emergent vegetation and extensive freshwater marsh located 1km south of Ballinalee.	Mesotrophic lake with floating macrophytes and a band of emergent reed and herb swamp vegetation. An extensive area of species rich marsh and wet grassland surrounds the lake. Excellent successional transition from lake to surrounding agricultural lands. Light grazing occurs.

LFWS Site Code	LFWS Site Name	Survey site location	Site Description
LF129	KILLEEN BALLYMORE	Wet grassland area bordered by a straightened section of the River Camlin. Situated ca 5km west of Granard.	The main part of the site is comprised of species rich grassland. Relatively dry underfoot with old drains. Dominant species include *Holcus lanatus*, *Agrostis stolonifera*, *Cirsium palustre* and *Juncus effusus*. Likely a former floodplain that has been degraded due to former OPW drainage works. The site is bordered on the south by a straightened section of the river Camlin, which resembles a large drainage ditch. Tall herbs and reeds such as *Sparganium erectum* and *Phalarus arundinacea* occur along the channel which has a slow flow.
LF128	KILLEEN SOUTH	Low lying wetland dominated by tall herb swamp and willow woodland located 3.9km west of Granard.	Species poor tall herb swamp dominated by Meadowsweet occurs throughout this low lying wetland. Willow woodland and scrub is common. Bog communities with *Molinia* and Heather are occasional in some parts of the site together with Birch.
LF149	OGHIL WEST	Regenerating cutover bog located 7.8km north east of Longford town.	Former raised bog historically cut out for fuel. The main part of the site is dominated by open Ling Heather, Purple Moor-grass, and Birch with high moss cushions. Heathland species are common including Bilberry and Hard Fern. Dry Birch woodland occurs around the bog margin.

3.3 Floral Observations

Floral observations and records made on the sites surveyed are included in the LFWS database. Plant species lists for each site surveyed are included in the site reports presented in Appendix 2.

The following record of problematic invasive alien species is of note:

Plate 1: American Pitcher Plant (*Sarracenia purpurea*) on bog area at DRUMURE BOG.

American pitcher plant (*Sarracenia purpurea*) – invasive species. Found on raised bog at DRUMURE BOG. Recommendations are made in the site report to eradicate this invasive non-native species which can spread on raised bogs.

Japanese Knotweed (*Fallopia japonica*) – invasive species. Found at KILLEEN SOUTH. Recommendations are made in the site report to eradicate this invasive non-native species.

3.4 Site Conservation Assessment

On completion of the LFWS 2021 field survey, each of the twelve sites were reviewed and given a site conservation rating using the criteria presented in Appendix 1 (from NRA 2009). The site conservation rating for sites surveyed during 2021 is presented in Table 3 below.

Two sites (GORTEEN LOUGH cNHA and DRUMURE BOG) are of County conservation value (C+) due to the occurrence of good quality habitats.

Nine sites are deemed to be of local high local conservation value (C). The one remaining site surveyed during the LFWS 2020 had a lower local conservation ranking (E).

Table 3: Conservation evaluation of sites surveyed during the LFWS 2021. Sites are ranked according to their conservation value.

LFWS Site Code	Site Name	Site Wetland Conservation Ranking	Presence of EU Annex Habitats
LF184	GORTEEN LOUGH cNHA	C+ Rating: County Conservation value	It is not thought that any of the habitats present within

LFWS Site Code	Site Name	Site Wetland Conservation Ranking	Presence of EU Annex Habitats
			this site correspond to a habitat listed under Annex I of the EU Habitats Directive.
LF168	DRUMURE BOG	C+ Rating: County Conservation value	Parts of the woodland area on this site may correspond to the EU Annex 1 habitat Bog woodland (91D0).
LF108	BALLYBRIN	C Rating: Local conservation value (high value)	The small area of transition mire on the site may correspond to the EU Annex I habitat 7140 Transition Mires and Quaking Bogs.
LF128	KILLEEN SOUTH	C Rating: Local conservation value (high value)	It is not thought that any of the habitats present within this site correspond to a habitat listed under Annex I of the EU Habitats Directive.
LF151	AGHABOY KILLETER CUTOVER	C Rating: Local conservation value (high value)	It is not thought that any of the habitats present within this site correspond to a habitat listed under Annex I of the EU Habitats Directive.
LF181	GARVAGH	C Rating: Local conservation value (high value)	This is a good example of 7140 Transition mires and quaking bogs which is a habitat listed under Annex I of the EU Habitats Directive.
LF185	DRUMMEEL	C Rating: Local conservation value (high value)	It is not thought that any of the habitats present within this site correspond to a habitat listed under Annex I of the EU Habitats Directive.
LF200	CARTRON EAST POND	C Rating: Local conservation value (high value)	Areas of tall herb swamp within site may correspond to the EU Annex I habitat 6430 Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels.
LF263	AGHNASKEA CORNAFUNSHION CUTOVER	C Rating: Local conservation value (high value)	It is not thought that any of the habitats present within this site correspond to a habitat listed under Annex I of the EU Habitats Directive.
LF282	BALLYBRIEN PONDS (SOUTH)	C Rating: Local conservation value (high value)	It is not thought that any of the habitats present within this site correspond to a habitat listed under Annex I of the EU Habitats Directive.
LF149	OGHIL WEST	C Rating: Local conservation value (high value)	It is not thought that any of the habitats present within this site correspond to a habitat listed under Annex I of the EU Habitats Directive.
LF129	KILLEEN BALLYMORE	E Rating: Local conservation value (low value)	It is not thought that any of the habitats present within this site correspond to a

LFWS Site Code	Site Name	Site Wetland Conservation Ranking	Presence of EU Annex Habitats
			habitat listed under Annex I of the EU Habitats Directive.

3.5 Threats and Damage to County Longford Wetlands

The majority, if not all, of Irish wetland sites, and by extension those in county Longford, have been subject to some degree of human impact, damage or modification from their natural state in the past, and continue to be threatened and decline in extent due to ongoing human activities (NPWS 2019; Foss & Crushell 2007; Foss 2007). A summary table of impacts and the wetland types most affected is presented in Table 4 below.

Wetlands, (bog, fen, and marsh areas in particular) have historically been regarded as less productive than adjacent agricultural land and measures have been taken to 'improve' their value for agriculture. The principal method of land improvement usually involved one or more of the following; drainage, infill or soil redistribution, burning, and addition of nutrients. These activities were undertaken so as to facilitate the removal of peat, planting of trees, or the creation of new grazing areas, pasture or arable farmland.

Historical evidence indicates that peatlands or bogs, and by extension fens and other associated wetlands, were increasingly utilised by the growing population throughout Ireland. The removal of peat by this growing population resulted in many worked out bogs, which when abandoned became ideal locations for the formation of secondary wetland habitats (fen, marsh and wet woodland *inter alia*).

A more recent trend has been the use of wetlands as areas to dispose of building rubble, rubbish, and landfill materials (Foss & Crushell 2007; Monaghan County Council 2006).

Land conversion and drainage works are ongoing agricultural management techniques which affect the hydrology of wetland habitats.

The 2019 NPWS report on the conservation status of EU Habitat Directive sites in Ireland (NPWS 2019), many of which are wetlands, found that the conservation status of these habitats is far from satisfactory. In fact the overall assessment for inland wetland habitat types listed under the EU Habitats Directive found that only a single habitat was in favourable conservation status, while seven were 'unfavourable - inadequate' and twelve habitat types were deemed to have a 'unfavourable – bad' conservation status overall. The trend for a number of habitats also suggests that their conservation status is in decline during the period 2013-2019.

Included in the latter 'unfavourable – bad' conservation status category were habitats such as; oligotrophic and hard water lakes, raised bogs (active and degraded), blanket bogs, wet heath, transition mires, alkaline fens, tall herb swamps, and alluvial wet woodland. These habitats account for a significant part of the wetland habitat resource in county Longford.

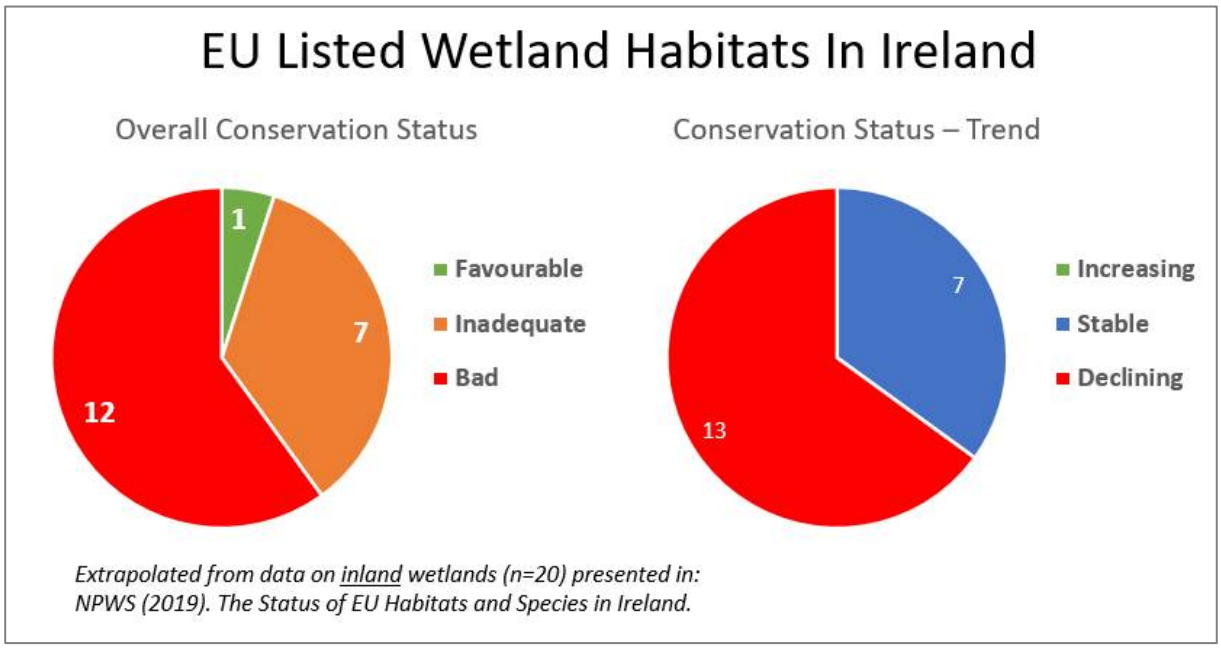


Figure 2: Summary of conservation status reported by NPWS (2019).

Table 4: Natura 2000 Impacts and Activities which are likely to have a negative effect on wetlands, and the wetland type most likely to be affected by these activities.

Natura 2000 Impacts and Activities Main Code	Impacts and Activities Category with brief description	Wetland habitat types most at threat or likely to be affected from Impacts and Activities
A	**Agriculture** *Including cultivation, fertilization abandonment, and over grazing*	Fens, Marsh, Raised bog, Wet heath, Reed swamp, Lake and Lake margins, Wet grassland, Wet woodland, Bog woodland, Rivers
B	**Sylviculture, forestry** *Including fertilisation, planting and re-planting, forestry practices*	Fens, Marsh, Raised bog, Wet heath, Reed swamp, Lake and Lake margins, Wet grassland, Wet woodland, Bog woodland, Turlough, Rivers
C	**Mining, extraction of materials and energy production** *Including quarry activities, turbary and peat removal*	Raised bog, Dystrophic lake, Bog woodland
D	**Transportation and service corridors** *Including road construction, power transmission*	All wetland types
E	**Urbanisation, residential and commercial development** *Including Urban and industrial development, discharges and waste disposal*	Fen, Bog, Marsh, Wet Grassland, Scrub
F	**Biological resource use other than agriculture & forestry** *Including leisure fishing, hunting*	Lake, Fen, Marsh, River, Bog
G	**Human intrusions and disturbances** *Including recreational facilities, outdoor leisure activities, littering, trampling overuse*	Bog, Fen, Marsh, Reed Swamp, Wet Grassland
H	**Pollution** *Including surface and groundwater water pollution, air pollution*	Oligotrophic Lake, River, Marsh, Fen
I	**Invasive, other problematic species and genes** *Including invasive species, genetic pollution*	Oligotrophic Lake, River, Marsh, Fen
J	**Natural System modifications** *Including landfill, drainage, drain maintenance, water abstraction, burning*	Fen, Marsh, Bog, Reed Swamp, Lake margins, Wet grassland, River
K	**Natural biotic and abiotic processes (without catastrophes)** *Including organic material accumulation*	Fen, Marsh, Bog, Wet woodland

During the course of the LFWS 2021, different types of damage to wetlands were noted, and an overall assessment of the severity was undertaken where information was available. This was undertaken on all sites surveyed as part of the study. The following scale for the severity of damage used was: Not serious; Serious; Very Serious, and Unknown.

The individual site reports presented in Appendix 2 describe all specific threats or damage and associated severity on each of the wetland sites surveyed. In many cases more than one damaging activity / threat was recorded on an individual site.

In summary, the main activities that are impacting on the conservation interest of wetlands in County Longford include; drainage, peat extraction (historic, recent, and on-going), diffuse water pollution, dumping, in-filling, and invasive non-native species.

4 Conclusions and Recommendations

4.1 Distribution and Extent of the Longford Wetland Resource

The results of the LFWS 2021 shows that the main GIS layer which was developed for the identification of potential wetlands in Longford (Longford & Roscommon Wetland Study, Foss *et al.* 2017) is a useful tool in identifying wetlands of ecological importance in the county.

Of the twelve sites identified in the LFWS project 2017 (Foss *et al.* 2017) which were surveyed during 2021, most supported wetland habitats of conservation significance.

There is a commitment in the recently published Climate Action Plan (Government of Ireland 2019) to 'upgrade habitat mapping systems to establish the baseline condition of wetlands'. This project is a step towards furthering that national commitment. It is recommended that further inventory work is required throughout the country to adequately address the deficit in baseline data on the extent and condition of wetland habitats.

4.2 Site Designations

It is recommended that all wetland sites which have been identified in this survey, and rated as C+ (of county importance) are forwarded to the National Parks and Wildlife Service (NPWS) for inclusion on their list of sites for survey and possible designation.

4.3 Planning Controls

Sites which are listed as being of county importance (C+), high local importance (C) and of moderate local importance (D) should be highlighted and included in any recommendations made under the County Biodiversity Action Plan or included in local area plans, county development plans or other planning strategies. Again, such recommendations for recognition and listing of sites should be made on a regular basis as further information on the wetland resource of county Longford becomes known.

It is recommended that council planners consult with the GIS layers, which indicate potential wetlands in county Longford, where a development could adversely affect a wetland – through water abstraction, infilling, drainage, etc.

In the event that an application is made that could potentially impact on these sites, a site visit should be conducted by a suitably qualified ecologist to determine the importance and sensitivity of the area.

It is recommended that council staff should be aware of a variety of issues regarding wetlands when assessing development proposals and planning applications. These include:

- The need for an appropriate buffer zone surrounding wetland sites
- The importance of hydrology in how wetland sites function and how indirect impacts on a wetland system can be caused by activities occurring at some distance from the wetland
- The cumulative effect of seemingly isolated losses of wetland habitats across the county
- The loss of wetland habitats as a result of fragmentation of sites and impacts on wetland hydrology
- The ecological value of wetland habitats adjacent to, and fringing, lakes and ponds

- The ecological value of large areas of reed and tall sedge swamps, rivers and river flood plains in controlling and reducing the impacts of flooding events

- The wetland fauna, some of which are listed on Annex II of the Habitats Directive found in the county wetlands and the potential impacts on these species as well as their habitats

- The limited coverage provided in the initial NPWS NHA survey – this was never a comprehensive survey of the entire county – many sites of high nature conservation value remain undesignated

- The potential value of wetland sites which are outside statutory designated areas and the need for adoption of a precautionary approach when assessing applications that may impact on same.

4.4 Ongoing Maintenance of the County Longford Wetland Map Site Database

It is probable that additional third party survey information on wetland sites listed in the County Longford Wetland site database exists.

It is recommended that this site data is compiled within the database and that it is kept up to date where possible by collating data from additional surveys, EIS documents, etc. This work needs to be done concurrently with ongoing maintenance of the County Longford Wetland Survey GIS dataset and following the naming procedure described in Foss *et al.* 2017.

4.5 Ongoing Maintenance of the County Longford Wetland Map GIS Dataset

Coupled with ongoing updates of the County Longford Wetland survey and site database (Foss *et al.* 2017) it is recommended that the GIS layers are also regularly updated as new information becomes available.

4.6 Hydrological Assessment of Wetland Sites

A hydrological assessment of all sites which have been given a rating of C+ should be commissioned in order to assist in our understanding of the hydrological functioning of these wetlands.

4.7 Management and Restoration of Wetland Sites

Agricultural activities have the potential to adversely affect wetland habitats. Drainage, land reclamation, and enrichment from fertilizer application are among the agricultural activities that were recorded as damaging the integrity of wetland sites in County Longford during the current study. It is important that, through appropriate agri-environmental schemes, land management practices in the vicinity of wetland sites recognise the value and sensitivity of wetland ecosystems.

The importance of wetlands in the sequestration of carbon is increasingly recognised. The national Climate Action Plan (Government of Ireland 2019) calls for improved management of peatlands (and other wetlands) and soils. Measures and incentives to re-wet and restore wetland habitats in County Longford should be explored. Payment for Results Agri-environmental Schemes such as the successful Burren Programme and other projects (Pearl Mussel Programme, Hen Harrier Project, and RBAPS) provide a good template which could be adapted to targeting improved management of wetland habitats within an agricultural landscape.

4.8 Control of invasive species in wetland sites

It is important that the establishment and spread of invasive species within wetland sites is controlled as they have the potential to adversely affect the biodiversity interest of wetlands, cause serious nuisance and can be very costly and difficult to remove once they become established.

Typical species affecting wetlands include Rhododendron (*Rhododendron ponticum*), Japanese Knotweed (*Fallopia japonica*), Himalayan Balsam (*Impatiens glandulifera*), Fringed Water Lily (*Nymphoides peltata*), and Parrot's Feather (*Myriophyllum aqauticum*). It is recommended that all records of invasive species in County Longford are submitted to the Invasive Species Ireland database (http://www.invasivespeciesireland.com/sighting/) where advice on control and removal of species is available.

4.9 Local Authority Wetlands Policy

A review of the statutory provisions that govern the management of wetlands in County Longford (such as the Habitats Directive, Wildlife Act, Water Framework Directive, Environmental Liability Directive, Nitrates Directive, Planning Act, etc.) should be conducted and the role of the Local Authority in this regard should be examined. This review could be done in collaboration with other Local Authorities.

Increased co-ordination between agencies in their policy and operative approaches to wetlands need to be strengthened.

4.10 Water Framework Directive

As a member of the European Union, Ireland must, as of the 22nd December 2000 implement the Water Framework Directive (2000/60/EC). This directive provides a consolidated, strengthened framework for the protection and improvement of all of our waters - rivers, lakes, marine and ground waters, and of our water-dependent habitats and species. The aim of the Water Framework Directive is to prevent any deterioration in the existing status of our waters, including the protection of good and high status where it exists, and to ensure that all waters are restored to at least good status by 2015.

The objectives of the WFD are:

- to protect and enhance the status of aquatic ecosystems (and terrestrial ecosystems and wetlands directly dependent on aquatic ecosystems)
- to promote sustainable water use based on long-term protection of available water resources
- to provide for sufficient supply of good quality surface water and groundwater as needed for sustainable, balanced and equitable water use
- to provide for enhanced protection and improvement of the aquatic environment by reducing / phasing out of discharges, emissions etc.
- to contribute to mitigating the effects of floods and droughts
- to protect territorial and marine waters
- to establish a register of 'protected areas' e.g. areas designated for protection of habitats or species

Clearly the identification of wetland habitats in County Longford assists in fulfilling not only obligations under the EU Habitats Directive and the National Biodiversity Plan (Department of Culture, Heritage and the Gaeltacht 2017), but also in implementing the Water Framework Directive.

4.11 Public Information and Interpretation

Public awareness about the importance of wetlands in county Longford could be developed through a series of targeted measures. These could include:

- Specific events county-wide as part of 'biodiversity week' or 'heritage week' which take place annually. Similarly, World Wetlands Day provides an opportunity to hold public events relating to wetlands (further details are available from http://www.ramsar.org/wwd/wwd_index.htm)

- Continued promotion of the 'Longford's Wetlands' Story map resource (Gallagher *et al.* 2020)

- A series of school visits celebrating local wetlands – co-ordinated through the Heritage in Schools Scheme

- Public display boards and signage at popular wetland sites

- A workshop on wetland management for landowners and farmers

5 Bibliography

The bibliography list is presented in alphabetical order by author. Code number appearing on the LHS is the reference/report code number in the LFWS Bibliography Database.

Corbett, P. (2004) Unpublished EHS Field Manual for Fens Condition Assessment. (Revised June 2004).

Crushell, P., Gallagher, M.C. & Foss, P. (2020) County Longford Wetlands Field Survey II 2020. Report prepared for Longford County Council.

Department of Culture, Heritage, and the Gaeltacht (2019). National Biodiversity Plan 2017-2021.

European Commission (2013) Interpretation Manual of European Union Habitats – EUR 28. European Commission, DG Environment.

Ferguson-Lee, J., Willis, I & Sharrock, J.T.R. (1983) The Shell Guide to the Birds of Britain and Ireland. Michael Joseph Ltd., London.

Foss, P.J. (2007) National Parks & Wildlife Service Study of the Extent and Conservation Status of Springs, Fens and Flushes in Ireland 2007. Internal report for the National Parks and Wildlife Service, Department of the Environment, Heritage and Local Government, Ireland.

Foss, P.J. & Crushell, P. (2007) Monaghan Fen Survey I - 2007 (Vols. 1-3). Report for Monaghan County Council and the National Parks & Wildlife Service, Dublin.

Foss, P.J., Crushell, P. & Gallagher, M.C. (2017) Counties Longford & Roscommon Wetland Study. Report prepared for Longford & Roscommon County Councils.

Foss, P.J., Gallagher, M.C. & Crushell, P. (2019) County Longford Wetlands Field Survey 2019. Report prepared for Longford County Council.

Fossitt, J. (2000) A Guide to Habitats in Ireland. The Heritage Council, Ireland.

Gallagher, M.C., Crushell, P. & Foss, P. (2020) Longford's Wetlands. A story map about wetland habitats in County Longford. Online ESRI web app. Online resource for Longford County Council.

Government of Ireland (2019). Climate Action Plan 2019 to Tackle Climate Breakdown.

LCC (2015) Draft County Longford Heritage Plan 2015-2020. Incoprorating the Longford Biodiversity Action Plan. County Longford Heritage Forum, Longford County Council.

NPWS (2019) The Status of EU Protected Habitats and Species in Ireland. Habitat Assessments Volume 2. Version 1.0. Unpublished Report, National Parks & Wildlife Services. Department of Arts, Heritage and the Gaeltacht, Dublin, Ireland.

NPWS (2017a) National Biodiversity Action Plan 2017-2021. National Parks & Wildlife Service, Department of Culture, Heritage and the Gaeltacht.

NRA (2009) Guidelines for Assessment of Ecological Impacts of National Roads Schemes. National Road Authority. pp. 79.

O'Neill, F.H., Martin, J.R., Devaney, F.M. & Perrin, P.M. (2013) The Irish semi-natural grasslands survey 2007-2012. Irish Wildlife Manuals, No. 78. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht, Ireland.

Perrin, P.M., Barron, S.J., Roche, J.R. & O'Hanrahan, B. (2013) Guidelines for a national survey and conservation assessment of upland vegetation and habitats in Ireland. Version 2.0. Irish Wildlife Manuals, No. 79. National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht, Dublin, Ireland. Draft Report.

Scannell, M.J.P. & Synnott, D.M. (1987) Census catalogue of the flora of Ireland. The Stationery Office, Dublin.

Sterry, P. (2004) Complete Irish Wildlife. Harper Collins Publishers, London, pp. 319.

Webb D.A., Parnell, J. & Doogue, D. (1996) An Irish Flora. Dundalgan Press Ltd., Dundalk.

Appendix 1

National Roads Authority (2009) Site Evaluation Criteria

Appendix 1: Site Evaluation Criteria

Modified from National Roads Authority (2009). Guidelines for Assessment of Ecological Impacts of National Roads Schemes.

Rating	Importance of Ecological Sites
A	**Internationally important** Sites designated (or qualifying for designation) as SAC* or SPA* under the EU Habitats or Birds Directives. Undesignated sites containing good examples of Annex I priority habitats under the EU Habitats Directive. Sites designated (or qualifying for designation) as SAC* for salmonids or Annex II species under the EU Habitats Directives. Major salmon river fisheries. Major salmonid (salmon, trout or char) lake fisheries.
B	**Nationally important** • Sites or waters designated or proposed as an NHA* or statutory Nature Reserves. • Undesignated sites containing good examples of Annex I habitats (under EU Habitats Directive). • Undesignated sites containing significant numbers of resident or regularly occurring populations of Annex II species under the EU Habitats Directive or Annex I species under the EU Birds Directive or species protected under the Wildlife (Amendment) Act 2000. • Major trout river fisheries. • Water bodies with major amenity fishery value. • Commercially important coarse fisheries.
C+	**County value** Area of Special Amenity. Area subject to a Tree Preservation Order. Area of High Amenity, or equivalent, designated under the County Development Plan. Resident or regularly occurring populations (assessed to be important at the County level) of the following: • Species of bird, listed in Annex I and/or referred to in Article 4(2) of the Birds Directive; • Species of animal and plants listed in Annex II and/or IV of the Habitats Directive; • Species protected under the Wildlife Acts; and/or • Species listed on the relevant Red Data list. Site containing area or areas of the habitat types listed in Annex I of the Habitats Directive that do not fulfill the criteria for valuation as of International or National importance. County important populations of species, or viable areas of semi-natural habitats or natural heritage features identified in the National or Local BAP, if this has been prepared. Sites containing habitats and species that are rare or are undergoing a decline in quality or extent at a national level.
C	**High value, locally important** Sites containing semi-natural habitat types with high biodiversity in a local context and a high degree of naturalness, or significant populations of locally rare species. Sites containing any resident or regularly occurring populations of Annex II species under the EU Habitats Directive or Annex I species under the EU Birds Directive. Small water bodies with known salmonid populations or with good potential salmonid habitat. Large water bodies with some coarse fisheries value.
D	**Moderate value, locally important** Sites containing some semi-natural habitat or locally important for wildlife. Small water bodies with some coarse fisheries value or some potential salmonid habitat. Any water body with unpolluted water (Q-value rating 4-5).
E	**Low value, locally important** Artificial or highly modified habitats with low species diversity and low wildlife value. Water bodies with no current fisheries value and no significant potential fisheries value.
F	**Unknown Value** Sites of possible ecological value which require further investigation at the optimum season to establish importance. Sites of possible fisheries value requiring further survey.

** SAC = Special Area of Conservation, SPA = Special Protection Area, NHA = Natural Heritage Area*

Appendix 2: Individual Site Reports from the Longford Wetlands Field Survey 2021

Sites are listed in alphabetical order by site name

LFWS Site Code	LFWS Site Name	Page
LF108	BALLYBRIN	25
LF128	KILLEEN SOUTH	30
LF129	KILLEEN BALLYMORE	35
LF149	OGHIL WEST	40
LF151	AGHABOY KILLETER CUTOVER	45
LF168	DRUMURE BOG	51
LF181	GARVAGH	57
LF184	GORTEEN LOUGH cNHA	62
LF185	DRUMMEEL	67
LF200	CARTRON EAST POND	72
LF263	AGHNASKEA CORNAFUNSHION CUTOVER	77
LF282	BALLYBRIEN PONDS (SOUTH)	82

Site Name: BALLYBRIN

Site Code: LF108 **Area (ha):** 0.45 **Grid Ref:** 231160 280183 **County:** LF

Site designation(s):
Undesignated site

Surveyed by:
Patrick Crushell & Joe O'Sullivan

Date of wetland survey:
17/08/2021

Survey Code:
LFWS 2021

Site source information:
Detailed Wetland Survey undertaken
Site previously mapped in GIS dataset

Wetland Present on the Site
YES

Conservation ranking after survey:
C Rating: Local conservation value (high value)

Townland:
BALLYBRIEN

Solid Geology:
Visean basinal limestone "Calp"

Subsoil type:
TLPSsS

Substrate type:
Mineral Soil
Peat

Substrate stability:
Some quaking

River catchment:
Shannon Upr

CORINE Habitats:
Pastures

Site Location

Farm pond with surrounding wetland vegetation located ca 2km west of Granard.

Site Description and Wetland Habitats Recorded

Small pond with floating macrophytes, mostly Pondweed. To the east marginal wetland vegetation with bogbean and bottle sedge. This transitions into a floating raft of transition mire dominated by Sphagnum squarrosum and S. palustre with bog cotton, bottle sedge, and bogbean. Further west this grades into species poor wet grassland.

Target Notes - *(see Habitat Map for location of Target Notes)*

No.	Category	Comment
NA	NA	None

Management Recommendations following survey

Reduce grazing and trampling by cattle.

Future Survey Recommendations

None

Landowner Information Comments

None

Description of potential EU Habitats Directive Annex 1 habitats

The small area of transition mire on the site may correspond to the EU Annex I habitat 7140 Transition Mires and Quaking Bogs.

Main Fossitt habitats on site

FL5 Eutrophic lakes

GM1 Marsh

GS4 Wet grassland

PF3 Transition mire & quaking bog

EU Habitats Directive habitats on site

7140 Transition mires and quaking bogs

Fossitt habitats surrounding site

GA1 Improved agricultural grassland

WD4 Conifer plantation

WL1 Hedgerows

Landuse / Management Activity **Frequency of use**

Grazing - cattle

Impacting Activity (EU code and title)	Intensity	Impact
H01.05 diffuse pollution to surface waters due to agricultural and forestry	B = medium	- 1 = reparable negative influence
A04.02.01 non intensive cattle grazing	B = medium	- 1 = reparable negative influence

Threats

A04.02.01 non intensive cattle grazing

Damaging Operations Comments

None

Flora on site - Latin & English species name

Agrostis stolonifera	Creeping Bent
Calliergonella cuspidata	Pointed Spear Moss
Carex rostrata	Bottle Sedge
Comarum palustre	Marsh Cinquefoil
Dryopteris spp.	Fern
Eriophorum angustifolium	Common Cottongrass
Hydrocotyle vulgaris	Marsh Pennywort

Juncus articulatus	Jointed Rush
Juncus effusus	Soft-rush
Menyanthes trifoliata	Bogbean
Polygonum hydropiper	Amphibious Bistort
Potamogeton natans	Broad-leaved Pondweed
Potentilla erecta	Tormentil
Ranunculus repens	Creeping Buttercup
Rhytidiadelphus squarrosus	Moss
Senecio jacobaea	Common Ragwort
Sphagnum palustre	Blunt-leaved Bog Moss
Sphagnum squarrosum	Spiky Bog Moss
Stellaria graminea	Lesser Stitchwort

Fauna on site - English and Latin species name

Common Frog	*Rana temporaria*
Common Snipe	*Gallinago gallinago*
Grey Heron	*Ardea cinerea*
Mallard	*Anas platyrhynchos*
Moorhen	*Gallinula chloropus*

Aerial Photograph showing location of the site

NPWS NHA site boundary.

GIS Habitat map of the site

Site Name: KILLEEN SOUTH

Site Code: LF128 **Area (ha):** 5.18 **Grid Ref:** 229381 280021 **County:** LF

Site designation(s):
Undesignated site

Surveyed by:
Patrick Crushell & Joe O'Sullivan

Date of wetland survey:
17/08/2021

Survey Code:
LFWS 2021

Site source information:
Detailed Wetland Survey undertaken
Site previously mapped in GIS dataset

Wetland Present on the Site
YES

Conservation ranking after survey:
C Rating: Local conservation value (high value)

Townland:
KILLEEN (GRANARD BY)

Solid Geology:
Visean basinal limestone "Calp"

Subsoil type:
Cut

Substrate type:
Peat

Substrate stability:
Soft Ground

River catchment:
Shannon Upr

CORINE Habitats:
Non-irrigated arable land

Site Location

Low lying wetland dominated by tall herb swamp and willow woodland located 3.9km west of Granard.

Site Description and Wetland Habitats Recorded

Species poor tall herb swamp dominated by Meadowsweet occurs throughout this low lying wetland. Willow woodland and scrub is common. Bog communities with Molinia and heather are occasional in some parts of the site together with birch.

Target Notes - *(see Habitat Map for location of Target Notes)*

No.	Category	Comment
N1	Invasive	Japanese knotweed along roadside.
N2	General	Viewed wetland from this location. Access not possible due to marginal drains and dense nature of vegetation.

Management Recommendations following survey

Remove invasive species Japanese Knotweed from site.

Future Survey Recommendations

None

Landowner Information Comments

None

Description of potential EU Habitats Directive Annex 1 habitats

It is not thought that any of the habitats present within this site correspond to a habitat listed under Annex I of the EU Habitats Directive.

Main Fossitt habitats on site

FS2 Tall herb swamps

FW4 Drainage ditches

WN6 Wet willow-alder-ash woodland

WS1 Scrub

EU Habitats Directive habitats on site

None noted

Fossitt habitats surrounding site

BL3 Buildings and artificial surfaces

GA1 Improved agricultural grassland

GS4 Wet grassland

WD4 Conifer plantation

WL1 Hedgerows

WL2 Treelines

Landuse / Management Activity	Frequency of use
Grazing - cattle	

Impacting Activity (EU code and title)	Intensity	Impact
H01.05 diffuse pollution to surface waters due to agricultural and forestry	B = medium	- 1 = reparable negative influence

Threats

H01.05 diffuse pollution to surface waters due to agricultural and forestry activities

Damaging Operations Comments

None

Flora on site - Latin & English species name	
Arrhenatherum elatius	False Oat-grass
Betula pubescens	Downy Birch
Calluna vulgaris	Ling Heather

Calystegia sepium	Hedge Bindweed
Centaurea nigra	Common Knapweed
Cirsium palustre	Marsh Thistle
Dactylis glomerata	Cock's-foot
Epilobium hirsutum	Great Willowherb
Fallopia japonica	Japanese Knotweed
Filipendula ulmaria	Meadowsweet
Fraxinus excelsior	Ash
Holcus lanatus	Yorkshire-fog
Juncus effusus	Soft-rush
Juncus inflexus	Hard Rush
Lythrum salicaria	Purple-loosestrife
Molinia caerulea	Purple Moor-grass
Ranunculus repens	Creeping Buttercup
Rubus fruticosus agg.	Blackberry
Salix cinerea subsp. cinerea	Grey Willow
Schedonorus arundinaceus	Tall Fescue
Stellaria graminea	Lesser Stitchwort

Fauna on site - English and Latin species name

No faunal observations were made

Aerial Photograph showing location of the site

NPWS NHA site boundary.

GIS Habitat map of the site

Site Name: KILLEEN BALLYMORE

Site Code: LF129 **Area (ha):** 2.93 **Grid Ref:** 228748 281159 **County:** LF

Site designation(s):
Undesignated site

Surveyed by:
Patrick Crushell & Joe O'Sullivan

Date of wetland survey:
18/08/2021

Survey Code:
LFWS 2021

Site source information:
Detailed Wetland Survey undertaken
Site previously mapped in GIS dataset

Wetland Present on the Site
YES

Conservation ranking after survey:
E Rating: Local conservation value (low value)

Townland:
BALLYMORE

Solid Geology:
Visean basinal limestone "Calp"

Subsoil type:
Cut

Substrate type:
Mineral Soil

Substrate stability:
Very firm

River catchment:
Shannon Upr

CORINE Habitats:
Pastures

Site Location

Wet grassland area bordered by a straightened section of the River Camlin. Situated ca 5km west of Granard.

Site Description and Wetland Habitats Recorded

Main part of site comprised of species rich grassland. Relatively dry underfoot with old drains. Dominant species include Holcus lanatus, Agrostus stolonifera, Cirsium palustre and Juncus effusus. Likely a former floodplain that has been degraded due to former OPW drainage works. The site is bordered on the north by a straightened section of the river Camlin, which resembles a large drainage ditch. Tall herbs and reeds such as Sparganium erectum and Phalarus arundinacea occur along the channel which has a slow flow.

Target Notes - *(see Habitat Map for location of Target Notes)*

No.	Category	Comment
N1	General	Archeological feature visible on aerial but nothing obvious on ground. Not showing up as a recorded monument.

Management Recommendations following survey

None

Future Survey Recommendations

Aerial photograph suggests presence of archaeological site.

Landowner Information Comments

None

Description of potential EU Habitats Directive Annex 1 habitats

It is not thought that any of the habitats present within this site correspond to a habitat listed under Annex I of the EU Habitats Directive.

Main Fossitt habitats on site

FW2 Depositing/lowland rivers

FW4 Drainage ditches

GS4 Wet grassland

EU Habitats Directive habitats on site

None noted

Fossitt habitats surrounding site

BL3 Buildings and artificial surfaces

GA1 Improved agricultural grassland

GS1 Dry calcareous and neutral grassland

WL1 Hedgerows

WL2 Treelines

WN2 Oak-ash-hazel woodland

WS1 Scrub

Landuse / Management Activity	Frequency of use
Grazing - sheep	3 Frequent (21-50%)

Impacting Activity (EU code and title)	Intensity	Impact
J02.05 Modification of hydrographic functioning, general	B = medium	- 1 = reparable negative influence
A04.02.02 non intensive sheep grazing	B = medium	0 = neutral

Threats

A04.02.02 non intensive sheep grazing

J02.05 Modification of hydrographic functioning, general

Damaging Operations Comments

None

Flora on site - Latin & English species name

Anthoxanthum odoratum	Sweet Vernal-grass
Arrhenatherum elatius	False Oat-grass

Berula erecta	Lesser Water-parsnip
Cirsium palustre	Marsh Thistle
Crataegus monogyna	Hawthorn
Deschampsia cespitosa	Tufted Hair-grass
Epilobium hirsutum	Great Willowherb
Filipendula ulmaria	Meadowsweet
Holcus lanatus	Yorkshire-fog
Iris pseudacorus	Yellow Iris
Juncus effusus	Soft-rush
Lemna minor	Common Duckweed
Phalaris arundinacea	Reed Canary-grass
Plantago lanceolata	Ribwort Plantain
Ranunculus repens	Creeping Buttercup
Rumex obtusifolius	Broad-leaved Dock
Sparganium erectum	Branched Bur-reed
Urtica dioica	Common Nettle
Valeriana officinalis	Common Valerian

Fauna on site - English and Latin species name

Small Tortoiseshell	*Aglais urticae*
Small White	*Pieris rapae*

Aerial Photograph showing location of the site

NPWS NHA site boundary.

GIS Habitat map of the site

Site Name: OGHIL WEST

Site Code: LF149 **Area (ha):** 55.90 **Grid Ref:** 216309 282578 **County:** LF

Site designation(s):
Undesignated site

Surveyed by:
Patrick Crushell & Joe O'Sullivan

Date of wetland survey:
16/08/2021

Survey Code:
LFWS 2021

Site source information:

Wetland Present on the Site
YES

Conservation ranking after survey:
C Rating: Local conservation value (high value)

Townland:
OGHIL

Solid Geology:
Derryveeny Formation

Subsoil type:
Cut

Substrate type:
Peat

Substrate stability:
Soft Ground

River catchment:
Shannon Upr

CORINE Habitats:
Peat bogs

Site Location

Regerating cutover bog located 7.8km north east of Longford town.

Site Description and Wetland Habitats Recorded

Former raised bog historically cut out for fuel. Main part of site is dominated by open Ling, Purple moorgrass, and Birch with high moss cushions. Heathland species are common including Bilberry and Hard fern. Dry birch woodland occurs around the bog margin.

Target Notes - *(see Habitat Map for location of Target Notes)*

No.	Category	Comment
N1	Damage	Builders rubble discarded at roadside on wetland margin.

Management Recommendations following survey

Remove discarded builders rubble from roadside.

Future Survey Recommendations

Assess restoration potential.

Landowner Information Comments

None

Description of potential EU Habitats Directive Annex 1 habitats

It is not thought that any of the habitats present within this site correspond to a habitat listed under Annex I of the EU Habitats Directive.

Main Fossitt habitats on site

BL3 Buildings and artificial surfaces

GS4 Wet grassland

PB4 Cutover bog

WN7 Bog woodland

WS1 Scrub

EU Habitats Directive habitats on site

None noted

Fossitt habitats surrounding site

BL3 Buildings and artificial surfaces

GA1 Improved agricultural grassland

GS4 Wet grassland

WD4 Conifer plantation

WL1 Hedgerows

WL2 Treelines

Landuse / Management Activity **Frequency of use**

None

Impacting Activity (EU code and title)	Intensity	Impact
J02.05 Modification of hydrographic functioning, general	B = medium	- 1 = reparable negative influence
E03.03 disposal of inert materials	B = medium	- 1 = reparable negative influence
E03.01 disposal of household waste	B = medium	- 1 = reparable negative influence
J02.05 Modification of hydrographic functioning, general	B = medium	- 2 = irreparable negative influence

Threats

E03.01 disposal of household waste

E03.03 disposal of inert materials

J02.01.03 infilling of ditches, dykes, ponds, pools, marshes or pits

J02.05 Modification of hydrographic functioning, general

Damaging Operations Comments

None

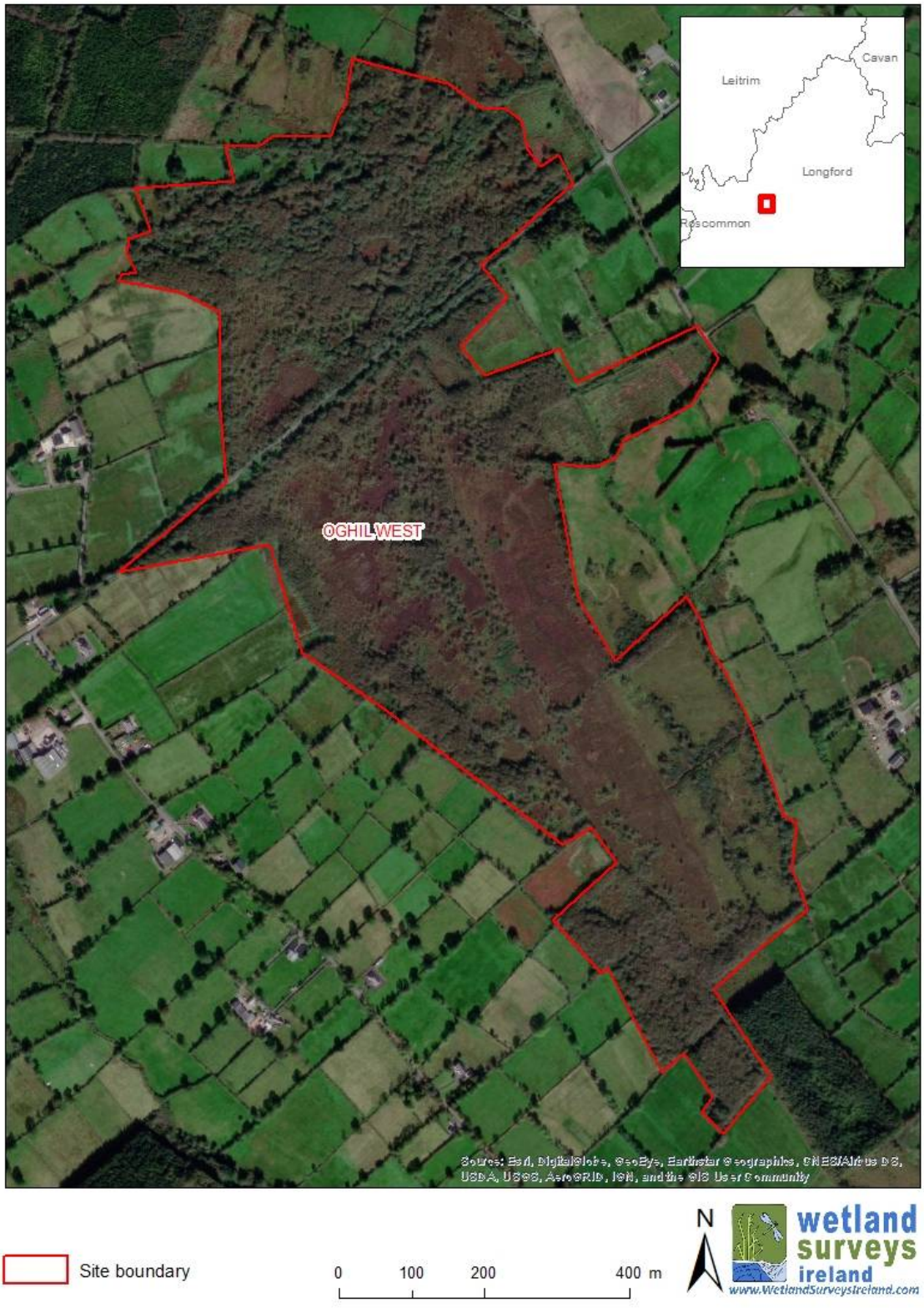
Flora on site - Latin & English species name

Acer pseudoplatanus	Sycamore
Arrhenatherum elatius	False Oat-grass
Betula pubescens	Downy Birch
Blechnum spicant	Hard-fern
Calluna vulgaris	Ling Heather
Calystegia sepium	Hedge Bindweed
Chamerion angustifolium	Rosebay Willowherb
Dryopteris spp.	Fern
Eriophorum vaginatum	Hare's-tail Cottongrass
Filipendula ulmaria	Meadowsweet
Hedera helix	Ivy
Hypnum jutlandicum	Moss
Molinia caerulea	Purple Moor-grass
Plantago lanceolata	Ribwort Plantain
Pleurozium schreberi	Red-stemmed feathermoss
Polytrichum commune	Common Haircap Moss
Potentilla erecta	Tormentil
Prunus laurocerasus	Cherry Laurel
Pteridium aquilinum	Bracken
Rubus fruticosus agg.	Blackberry
Rumex obtusifolius	Broad-leaved Dock
Salix cinerea subsp. cinerea	Grey Willow
Sphagnum capillifolium	Acute-leaved Bog Moss
Sphagnum palustre	Blunt-leaved Bog Moss
Urtica dioica	Common Nettle
Vaccinium myrtillus	Bilberry

Fauna on site - English and Latin species name

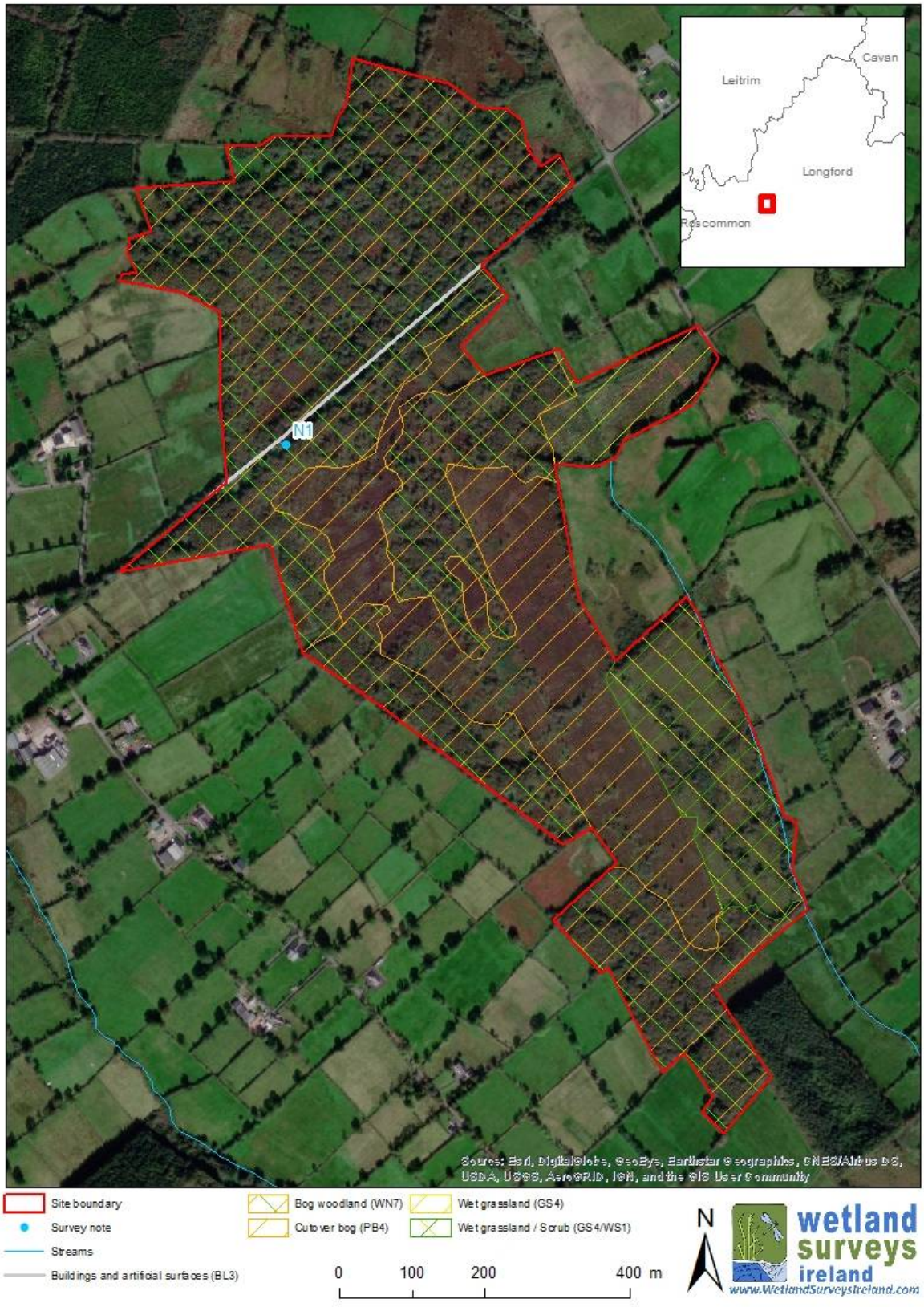
Common Frog	*Rana temporaria*
Green-veined White	*Pieris napi*
Large White	*Pieris brassicae*
Small Tortoiseshell	*Aglais urticae*

Aerial Photograph showing location of the site



NPWS NHA site boundary.

GIS Habitat map of the site



Site Name: AGHABOY KILLETER CUTOVER

Site Code: LF151 **Area (ha):** 40.92 **Grid Ref:** 218752 280169 **County:** LF

Site designation(s):
Undesignated site

Surveyed by:
Patrick Crushell & Joe O'Sullivan

Date of wetland survey:
16/08/2021

Survey Code:
LFWS 2021

Site source information:
Detailed Wetland Survey undertaken
Site previously mapped in GIS dataset

Wetland Present on the Site
YES

Conservation ranking after survey:
C Rating: Local conservation value (high value)

Townland:
AGHABOY (LONGFORD BY)

Solid Geology:
Marine shelf facies

Subsoil type:
Cut

Substrate type:
Peat

Substrate stability:
Firm

River catchment:
Shannon Upr

CORINE Habitats:
Peat bogs

Site Location

Former raised bog located 7.5km north east of Longford town.

Site Description and Wetland Habitats Recorded

Former raised bog that has been historically cut for fuel. Small remnants of degraded high bog remain. These areas are dominated by dense Ling Heather with Birch seedlings are common. The cutover is regenerating well with a dominance of wet bog vegetation with good sphagnum cover. Birch woodland and scrub occur in the drier margins of the former bog.

Target Notes - *(see Habitat Map for location of Target Notes)*

No.	Category	Comment
N1	Invasive	Japanese knotweed present on roadside.
N2	Management	Old building rubble. Now recolonising bare ground.
N3	Habitat	PB1-remnant raised bogs area.
N4	Management	Recently planted conifer plantation.

Management Recommendations following survey

Remove infilled dumped material. Assess restoration potential of drier cutover areas. Eliminate Japanese Knotweed from the roadside.

Future Survey Recommendations

Hydrological survey to determine restoration possibilities.

Landowner Information Comments

None. Local authority notices regarding dumping are in place at the site.

Description of potential EU Habitats Directive Annex 1 habitats

It is not thought that any of the habitats present within this site correspond to a habitat listed under Annex I of the EU Habitats Directive.

Main Fossitt habitats on site

BL3 Buildings and artificial surfaces

ED3 Recolonising bare ground

GS2 Dry meadows and grassy verges

GS4 Wet grassland

PB1 Raised bogs

PB4 Cutover bog

WN7 Bog woodland

WS1 Scrub

EU Habitats Directive habitats on site

None noted

Fossitt habitats surrounding site

BL3 Buildings and artificial surfaces

GA1 Improved agricultural grassland

WD4 Conifer plantation

WL1 Hedgerows

WL2 Treelines

WN7 Bog woodland

WS1 Scrub

Landuse / Management Activity **Frequency of use**

None

Impacting Activity (EU code and title)	Intensity	Impact
E03.01 disposal of household waste	C = low	- 1 = reparable negative influence
I01 invasive non-native species	C = low	- 1 = reparable negative influence
J02.01 Landfill, land reclamation and drying out, general	B = medium	- 1 = reparable negative influence
E03.03 disposal of inert materials	B = medium	- 1 = reparable negative influence

Threats

E03.01 disposal of household waste

I01 invasive non-native species

Damaging Operations Comments

None

Flora on site - Latin & English species name

Agrostis stolonifera	Creeping Bent
Andromeda polifolia	Bog-rosemary
Aulacomnium palustre	Moss
Betula pubescens	Downy Birch
Calluna vulgaris	Ling Heather
Calystegia sepium	Hedge Bindweed
Chamerion angustifolium	Rosebay Willowherb
Cladonia portentosa	Branching Lichen
Drosera rotundifolia	Round-leaved Sundew
Epilobium hirsutum	Great Willowherb
Erica tetralix	Cross-leaved Heath
Eriophorum angustifolium	Common Cottongrass
Eriophorum vaginatum	Hare's-tail Cottongrass
Fallopia japonica	Japanese Knotweed
Fraxinus excelsior	Ash
Hedera helix	Ivy
Holcus lanatus	Yorkshire-fog
Juncus effusus	Soft-rush
Molinia caerulea	Purple Moor-grass
Polytrichum commune	Common Haircap Moss
Potentilla erecta	Tormentil
Pteridium aquilinum	Bracken
Ranunculus repens	Creeping Buttercup
Rubus fruticosus agg.	Blackberry
Salix cinerea subsp. cinerea	Grey Willow
Senecio jacobaea	Common Ragwort
Sphagnum capillifolium	Acute-leaved Bog Moss
Sphagnum magellanicum	Magellan's Bog Moss
Sphagnum palustre	Blunt-leaved Bog Moss
Trichophorum cespitosum	Deergrass
Urtica dioica	Common Nettle

Fauna on site - English and Latin species name

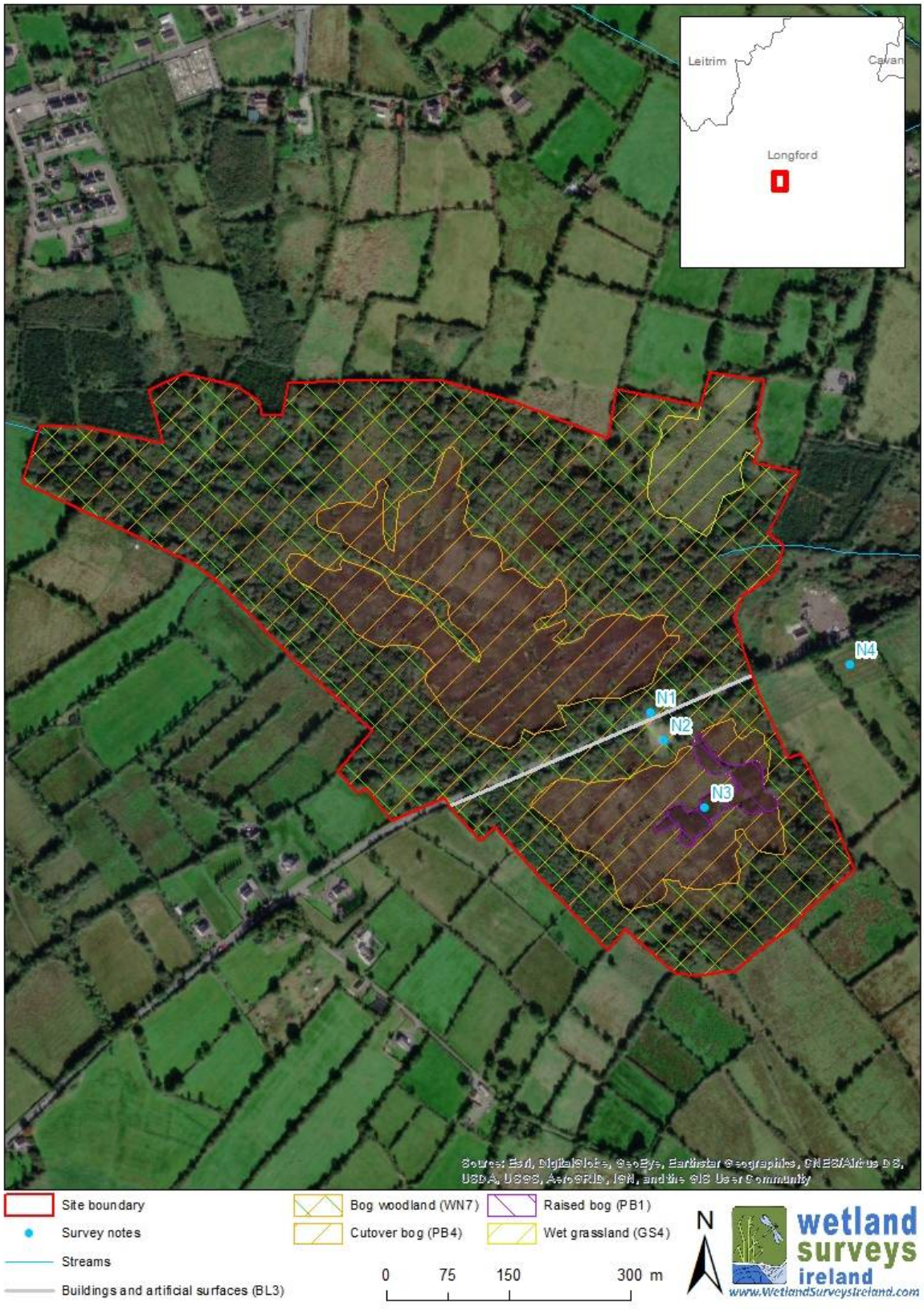
Common Buzzard	*Buteo buteo*

Fox	*Vulpes vulpes*

Aerial Photograph showing location of the site

NPWS NHA site boundary.

GIS Habitat map of the site



Site Name: DRUMURE BOG

Site Code: LF168 **Area (ha):** 23.11 **Grid Ref:** 216285 279696 **County:** LF

Site designation(s):
Undesignated site

Surveyed by:
Patrick Crushell & Joe O'Sullivan

Date of wetland survey:
16/08/2021

Survey Code:
LFWS 2021

Site source information:

Wetland Present on the Site
YES

Conservation ranking after survey:
C+ Rating: County Conservation value

Townland:
DRUMURE

Solid Geology:
Marine shelf facies

Subsoil type:
Cut

Substrate type:
Peat

Substrate stability:
Some quaking

River catchment:
Shannon Upr

CORINE Habitats:
Pastures

Site Location

Cutover bog located just west of Kilnatrauhan, County Longford.

Site Description and Wetland Habitats Recorded

Extensive area of regenerating cutover. Historically cut for fuel. Central part of site dominated by regenerating wet bog communities with Ling and Purple moorgrass. Open canopy immature birch is frequent together with lodge-pole pine. Bracken and gorse in drier areas. Locally abundant Sphagnum carpets with initial bog woodland establishment. Mature dry birch woodland surrounds the site open regenerating bog.

Target Notes - *(see Habitat Map for location of Target Notes)*

No.	Category	Comment
N1	General	Recent road built across wetland from south. Provides access to site. Hardcore base, vegetated with GS2, large drains either side.
N2	Invasive	Saracenia purpurea.
N3	Management	This part of the site has been in filled and sheds, storage units constructed. See Google maps for more recent aerial photograph.
N4	Habitat	Good example of bog woodland establishment. Complete cover of sphagnum mosses with Polytrichum and Aulacomnium and open birch canopy.

Management Recommendations following survey

Prevent further infilling of wetland.

Future Survey Recommendations

Assess potential restoration of drier areas and those parts of the site subject to recent drainage and infilling.

Landowner Information Comments

None

Description of potential EU Habitats Directive Annex 1 habitats

Parts of the woodland area on this site may correspond to the EU Annex 1 habitat Bog woodland (91D0).

Main Fossitt habitats on site	EU Habitats Directive habitats on site
BL3 Buildings and artificial surfaces	91D0 *Bog woodland
GS2 Dry meadows and grassy verges	
PB4 Cutover bog	
WN7 Bog woodland	

Fossitt habitats surrounding site

BL3 Buildings and artificial surfaces

GA1 Improved agricultural grassland

GS4 Wet grassland

WL1 Hedgerows

WL2 Treelines

Landuse / Management Activity	Frequency of use
Industrial	2 Occasional (5-20%)

Impacting Activity (EU code and title)	Intensity	Impact
J02.01.03 infilling of ditches, dykes, ponds, pools, marshes or pits	B = medium	- 2 = irreparable negative influence
J02.05 Modification of hydrographic functioning, general	B = medium	- 1 = reparable negative influence
E03.03 disposal of inert materials	B = medium	- 2 = irreparable negative influence
E03.01 disposal of household waste	C = low	- 1 = reparable negative influence
J02.01.03 infilling of ditches, dykes, ponds, pools, marshes or pits	B = medium	- 1 = reparable negative influence

Threats

E03.01 disposal of household waste

J02.01.03 infilling of ditches, dykes, ponds, pools, marshes or pits

J02.05 Modification of hydrographic functioning, general

Damaging Operations Comments

None

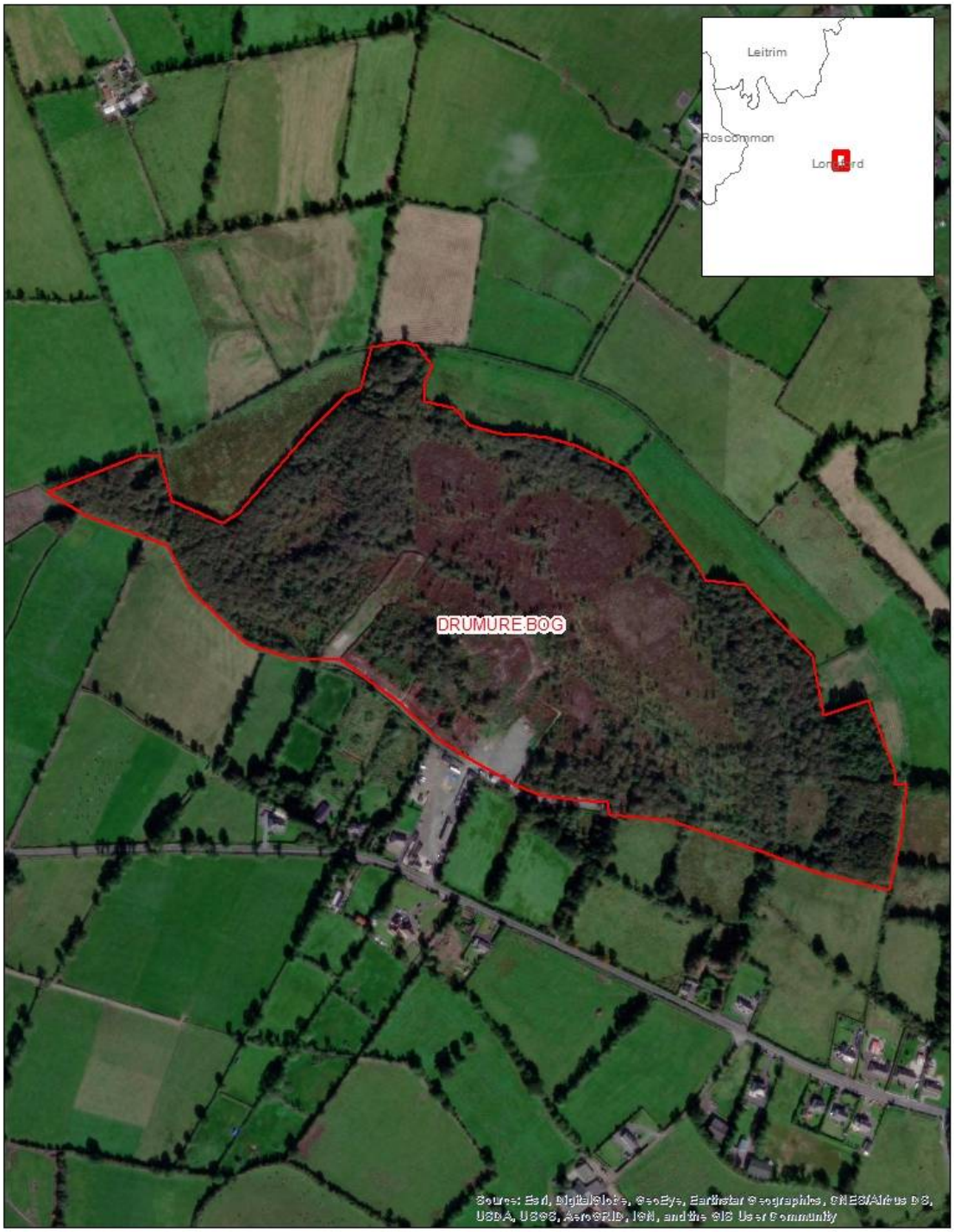
Flora on site - Latin & English species name

Agrostis stolonifera	Creeping Bent
Angelica sylvestris	Wild Angelica
Aulacomnium palustre	Moss
Betula pubescens	Downy Birch
Calluna vulgaris	Ling Heather
Centaurea nigra	Common Knapweed
Cirsium palustre	Marsh Thistle
Cladonia portentosa	Branching Lichen
Dactylis glomerata	Cock's-foot
Deschampsia cespitosa	Tufted Hair-grass
Drosera rotundifolia	Round-leaved Sundew
Erica tetralix	Cross-leaved Heath
Eriophorum angustifolium	Common Cottongrass
Eriophorum vaginatum	Hare's-tail Cottongrass
Filipendula ulmaria	Meadowsweet
Holcus lanatus	Yorkshire-fog
Hypnum jutlandicum	Moss
Juncus effusus	Soft-rush
Molinia caerulea	Purple Moor-grass
Narthecium ossifragum	Bog Asphodel
Pinus contorta	Lodgepole Pine
Plantago lanceolata	Ribwort Plantain
Potentilla erecta	Tormentil
Prunella vulgaris	Selfheal
Pteridium aquilinum	Bracken
Rubus fruticosus agg.	Blackberry
Sarracenia purpurea	Pitcherplant
Sphagnum capillifolium	Acute-leaved Bog Moss
Sphagnum cuspidatum	Feathery Bog Moss
Sphagnum magellanicum	Magellan's Bog Moss
Sphagnum palustre	Blunt-leaved Bog Moss
Sphagnum papillosum	Papillose Bog Moss
Succisa pratensis	Devil's-bit Scabious
Trifolium pratense	Red Clover
Ulex europaeus	Gorse

Fauna on site - English and Latin species name

Common Frog	*Rana temporaria*
Swallow	*Hirundo rustica*

Aerial Photograph showing location of the site



NPWS NHA site boundary.

GIS Habitat map of the site

Site Name: GARVAGH

Site Code: LF181 **Area (ha):** 16.96 **Grid Ref:** 221189 279201 **County:** LF

Site designation(s):
Undesignated site

Surveyed by:
Patrick Crushell & Joe O'Sullivan

Date of wetland survey:
18/08/2021

Survey Code:
LFWS 2021

Site source information:
Detailed fen survey recommended
Detailed Wetland Survey undertaken
Site previously mapped in GIS dataset

Wetland Present on the Site
YES

Conservation ranking after survey:
C Rating: Local conservation value (high value)

Townland:
GARVAGH (GRANARD BY)

Solid Geology:
Visean basinal limestone "Calp"

Subsoil type:
Cut

Substrate type:
Mineral Soil
Peat

Substrate stability:
Floating mat

River catchment:
Shannon Upr

CORINE Habitats:
Pastures

Site Location

Low lying wetland within enclosed depression. Located 2km south west of Ballinalee.

Site Description and Wetland Habitats Recorded

Central part of wetland comprises a small area of transition mire with tall herb swamp. Wet willow scrub is also present. The central part of the site is surrounded by good quality species rich wet grassland which is lightly grazed by cattle.

Target Notes - *(see Habitat Map for location of Target Notes)*

No.	Category	Comment
N1	Habitat	Small patches of scrub and tall herb swamp within transition mire.

Management Recommendations following survey

None

Future Survey Recommendations

A detailed fen survey of the site is recommended.

Landowner Information Comments

Privately owned agricultural site.

Description of potential EU Habitats Directive Annex 1 habitats

This is a good example of 7140 Transition mires and quaking bogs which is a habitat listed under Annex I of the EU Habitats Directive.

Main Fossitt habitats on site

FS2 Tall herb swamps

FW4 Drainage ditches

GS4 Wet grassland

PF3 Transition mire & quaking bog

WN Semi-natural woodland

WS1 Scrub

EU Habitats Directive habitats on site

7140 Transition mires and quaking bogs

Fossitt habitats surrounding site

GA1 Improved agricultural grassland

GS4 Wet grassland

WD4 Conifer plantation

WL1 Hedgerows

Landuse / Management Activity	Frequency of use
Grazing - cattle	3 Frequent (21-50%)

Impacting Activity (EU code and title)	Intensity	Impact
A04.02.01 non intensive cattle grazing	C = low	0 = neutral

Threats

X No threats or pressures

Damaging Operations Comments

None

Flora on site - Latin & English species name

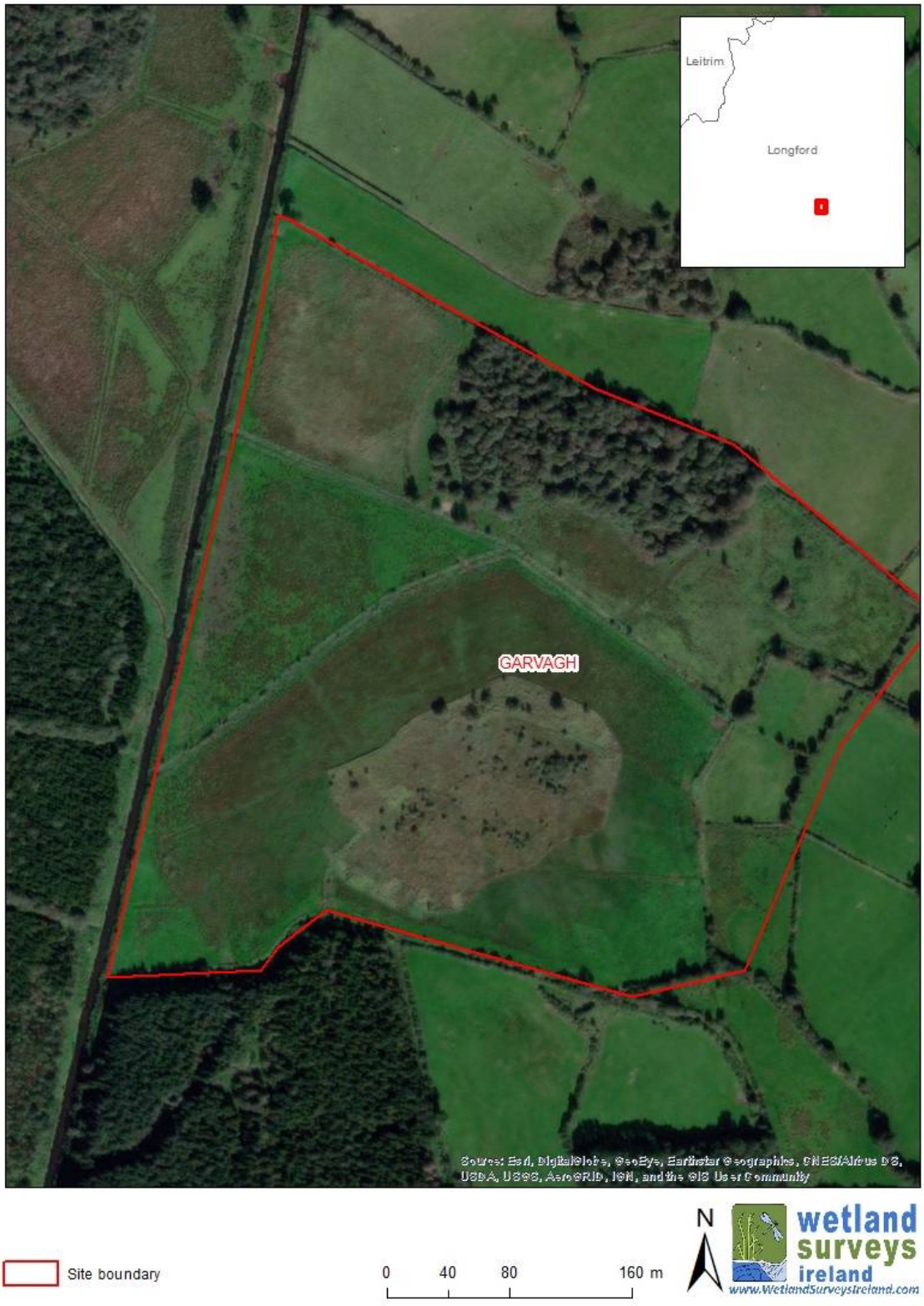
Agrostis stolonifera	Creeping Bent
Alnus glutinosa	Alder
Angelica sylvestris	Wild Angelica
Anthoxanthum odoratum	Sweet Vernal-grass
Calliergonella cuspidata	Pointed Spear Moss

Caltha palustris	Marsh-marigold
Carex rostrata	Bottle Sedge
Cirsium dissectum	Meadow Thistle
Cirsium palustre	Marsh Thistle
Comarum palustre	Marsh Cinquefoil
Equisetum fluviatile	Water Horsetail
Filipendula ulmaria	Meadowsweet
Galium palustre	Marsh-bedstraw
Hydrocotyle vulgaris	Marsh Pennywort
Hypochaeris radicata	Cat's-ear
Juncus effusus	Soft-rush
Lythrum salicaria	Purple-loosestrife
Menyanthes trifoliata	Bogbean
Ranunculus flammula	Lesser Spearwort
Rhytidiadelphus squarrosus	Moss
Salix aurita	Eared Willow
Salix cinerea subsp. cinerea	Grey Willow
Succisa pratensis	Devil's-bit Scabious
Valeriana officinalis	Common Valerian
Viola palustris	Marsh Violet

Fauna on site - English and Latin species name

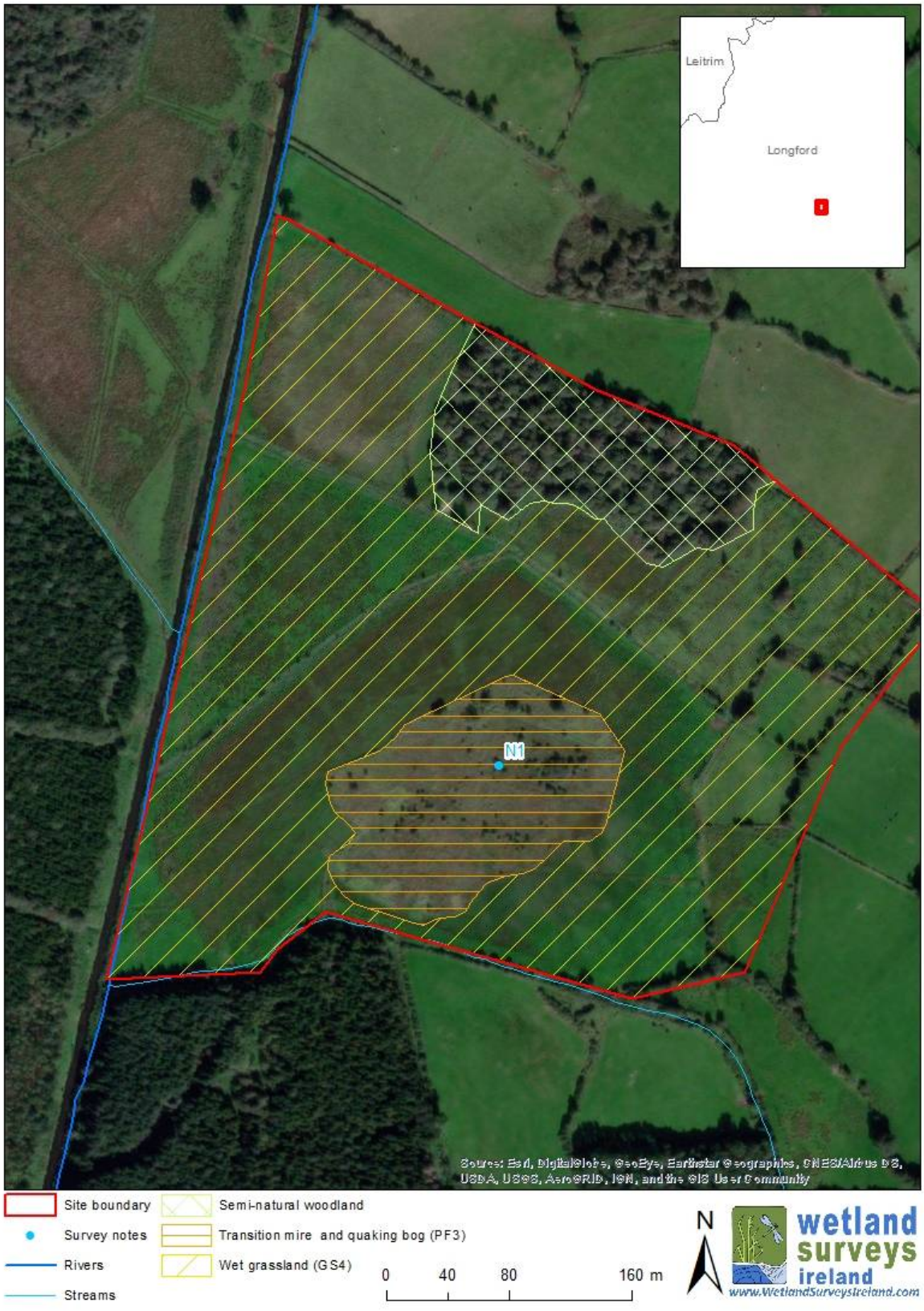
Fox	*Vulpes vulpes*

Aerial Photograph showing location of the site



NPWS NHA site boundary.

GIS Habitat map of the site



Site Name: GORTEEN LOUGH cNHA

Site Code: LF184 **Area (ha):** 32.04 **Grid Ref:** 222921 279571 **County:** LF

Site designation(s):
cNHA

Surveyed by:
Patrick Crushell & Joe O'Sullivan

Date of wetland survey:
16/08/2021

Survey Code:
LFWS 2021

Site source information:
Detailed Wetland Survey undertaken
Site previously mapped in GIS dataset

Wetland Present on the Site
YES

Conservation ranking after survey:
C+ Rating: County Conservation value

Townland:
ACRES

Solid Geology:
Visean basinal limestone "Calp"

Subsoil type:
Water

Substrate type:
Mineral Soil
Peat

Substrate stability:
Soft Ground

River catchment:
Shannon Upr

CORINE Habitats:
Water bodies

Site Location

A mesotrophic lake with well developed band of emergent vegetation and extensive freshwater marsh located 1km south of Ballinalee.

Site Description and Wetland Habitats Recorded

Mesotrophic lake with floating macrophytes and band of emergent reed and herb swamp vegetation. Extensive area of species rich marsh and wet grassland surrounds the lake. Excellent successional transition from lake to surrounding agricultural lands. Light grazing occurs.

Target Notes - *(see Habitat Map for location of Target Notes)*

No.	Category	Comment
NA	NA	None

Management Recommendations following survey

Continue current management regime.

Future Survey Recommendations

Dragonfly survey recommended.

Landowner Information Comments

None. Access via local GAA pitch and pitch and putt course at eastern side.

Description of potential EU Habitats Directive Annex 1 habitats

It is not thought that any of the habitats present within this site correspond to a habitat listed under Annex I of the EU Habitats Directive.

Main Fossitt habitats on site

FL4 Mesotrophic lakes

FS1 Reed and large sedge swamps

FS2 Tall herb swamps

GM1 Marsh

GS4 Wet grassland

WS1 Scrub

EU Habitats Directive habitats on site

None noted

Fossitt habitats surrounding site

GA1 Improved agricultural grassland

GA2 Amenity grassland (improved)

GS4 Wet grassland

WL1 Hedgerows

WL2 Treelines

Landuse / Management Activity	Frequency of use
Boating	
Fishing	
Grazing - cattle	1 Rare (<5%)

Impacting Activity (EU code and title)	Intensity	Impact
F02.03 Leisure fishing	C = low	0 = neutral

Threats

X No threats or pressures

Damaging Operations Comments

None

Flora on site - Latin & English species name

Agrostis stolonifera	Creeping Bent

Alisma plantago-aquatica	Water-plantain
Berula erecta	Lesser Water-parsnip
Caltha palustris	Marsh-marigold
Carex demissa	Common Yellow-sedge
Carex sp.	Sedge
Comarum palustre	Marsh Cinquefoil
Eleocharis palustris	Common Spike-rush
Equisetum fluviatile	Water Horsetail
Filipendula ulmaria	Meadowsweet
Galium palustre	Marsh-bedstraw
Hydrocotyle vulgaris	Marsh Pennywort
Hypochaeris radicata	Cat's-ear
Juncus articulatus	Jointed Rush
Lemna trisulca	Ivy-leaved Duckweed
Lotus corniculatus	Common Bird's-foot-trefoil
Lythrum salicaria	Purple-loosestrife
Mentha aquatica	Water Mint
Menyanthes trifoliata	Bogbean
Myosotis laxa	Tufted forget-me-not
Nuphar lutea	Lesser Water-parsnip
Potentilla anserina	Silverweed
Ranunculus flammula	Lesser Spearwort
Ranunculus repens	Creeping Buttercup
Schoenoplectus lacustris	Common Club-rush

Fauna on site - English and Latin species name

Common Blue Damselfly	*Enallagma cyathigerum*
Common Frog	*Rana temporaria*
Coot	*Fulica atra*
Gull	
Mute Swan	*Cygnus olor*
Small Tortoiseshell	*Aglais urticae*

Aerial Photograph showing location of the site

NPWS NHA site boundary.

GIS Habitat map of the site

Site Name: DRUMMEEL

Site Code: LF185 **Area (ha):** 35.17 **Grid Ref:** 224904 278317 **County:** LF

Site designation(s):
Undesignated site

Surveyed by:
Patrick Crushell & Joe O'Sullivan

Date of wetland survey:
17/08/2021

Survey Code:
LFWS 2021

Site source information:
Detailed Wetland Survey undertaken
Site previously mapped in GIS dataset

Wetland Present on the Site
YES

Conservation ranking after survey:
C Rating: Local conservation value (high value)

Townland:
DRUMMEEL

Solid Geology:
Visean basinal limestone "Calp"

Subsoil type:
Cut

Substrate type:
Peat

Substrate stability:
Firm

River catchment:
Shannon Upr

CORINE Habitats:
Transitional woodland scrub

Site Location

Degraded raised bog located 3.2km south east of Ballinalee.

Site Description and Wetland Habitats Recorded

Degraded raised bog remnant of high bog surrounded by extensive regenerating cutover. The high bog is dominated by tall Ling heather with low moss cover. Cutover comprises of a mosaic of dry and wet bog communities. Sphagnum dominated communities are locally common in wetter areas. Bracken and gorse occur in drier areas. Active peat cutting on a single turbary plot. High bog is severely degraded with extensive cracking and slumping.

Target Notes - *(see Habitat Map for location of Target Notes)*

No.	Category	Comment
NA	NA	None

Management Recommendations following survey

Cease peat cutting.

Future Survey Recommendations

Assess the restoration potential of the site.

Landowner Information Comments

None

Description of potential EU Habitats Directive Annex 1 habitats

It is not thought that any of the habitats present within this site correspond to a habitat listed under Annex I of the EU Habitats Directive.

Main Fossitt habitats on site

FW4 Drainage ditches

PB1 Raised bogs

PB4 Cutover bog

WS1 Scrub

EU Habitats Directive habitats on site

None noted

Fossitt habitats surrounding site

BL3 Buildings and artificial surfaces

GA1 Improved agricultural grassland

WD4 Conifer plantation

WL1 Hedgerows

Landuse / Management Activity

Peat cutting (mechanical)

Frequency of use

2 Occasional (5-20%)

Impacting Activity (EU code and title)	Intensity	Impact
C01.03.02 mechanical removal of peat	C = low	- 2 = irreparable negative influence

Threats

C01.03.02 mechanical removal of peat

Damaging Operations Comments

None

Flora on site - Latin & English species name

Andromeda polifolia	Bog-rosemary
Aulacomnium palustre	Moss
Betula pubescens	Downy Birch
Calluna vulgaris	Ling Heather
Cladonia floerkeana	Matchstick Lichen, Devil's matchsticks
Cladonia portentosa	Branching Lichen

Drosera rotundifolia	Round-leaved Sundew
Erica tetralix	Cross-leaved Heath
Eriophorum angustifolium	Common Cottongrass
Eriophorum vaginatum	Hare's-tail Cottongrass
Hypnum jutlandicum	Moss
Narthecium ossifragum	Bog Asphodel
Pedicularis sylvatica	Lousewort
Polytrichum commune	Common Haircap Moss
Potentilla erecta	Tormentil
Rhynchospora alba	White Beak-sedge
Sphagnum capillifolium	Acute-leaved Bog Moss
Sphagnum cuspidatum	Feathery Bog Moss
Sphagnum magellanicum	Magellan's Bog Moss
Sphagnum palustre	Blunt-leaved Bog Moss
Sphagnum papillosum	Papillose Bog Moss
Sphagnum subnitens	Lustrous Bog Moss
Sphagnum tenellum	Soft Bog Moss
Trichophorum cespitosum	Deergrass
Ulex europaeus	Gorse

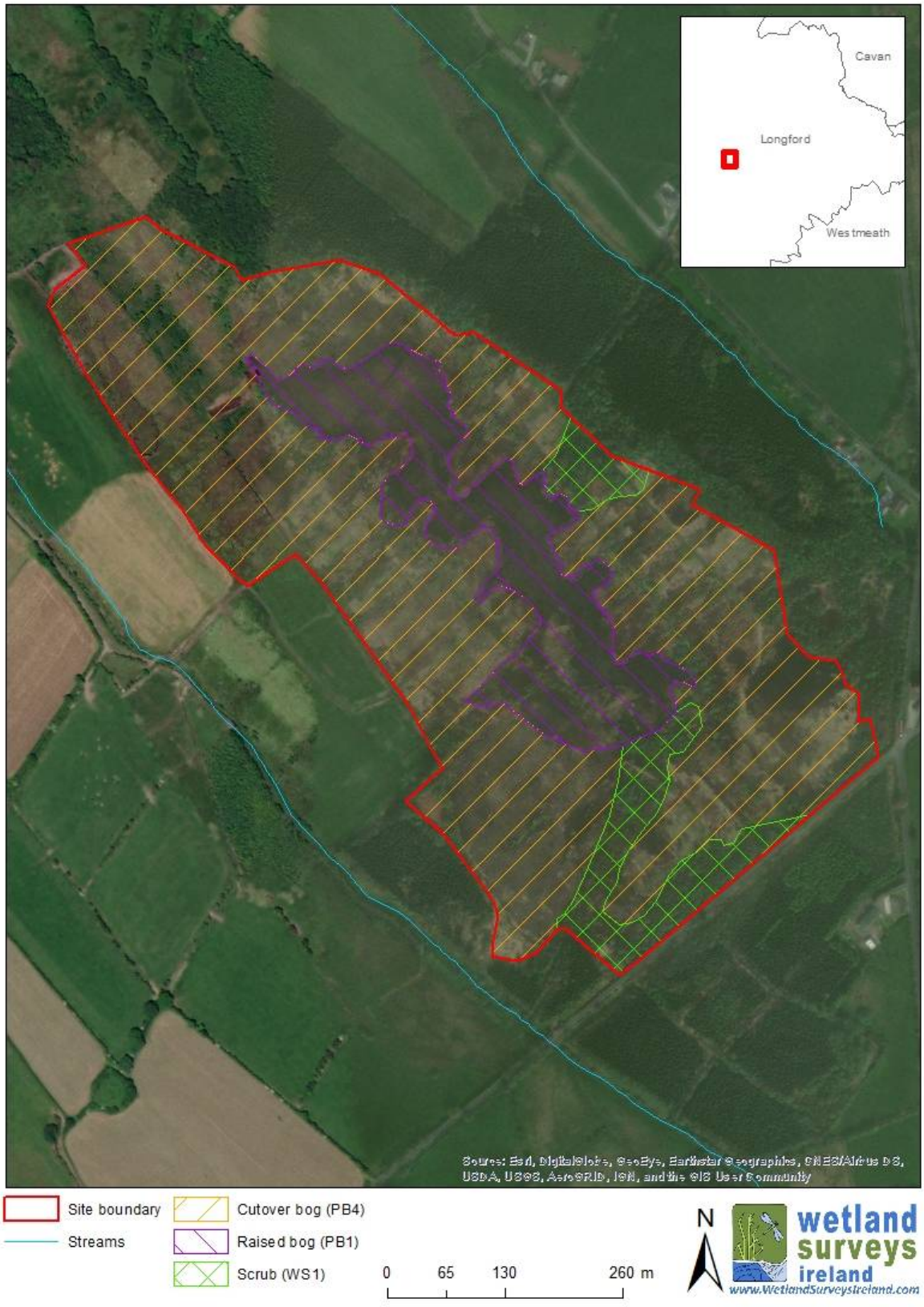
Fauna on site - English and Latin species name

Common Frog	*Rana temporaria*
Fox moth	*Macrothylacia rubi*
Knot Grass Moth	*Acronicta rumicis*

Aerial Photograph showing location of the site

NPWS NHA site boundary.

GIS Habitat map of the site



Site Name: CARTRON EAST POND

Site Code: LF200 **Area (ha):** 5.12 **Grid Ref:** 233273 279357 **County:** LF

Site designation(s):
Undesignated site

Surveyed by:
Patrick Crushell & Joe O'Sullivan

Date of wetland survey:
17/08/2021

Survey Code:
LFWS 2021

Site source information:
Detailed Wetland Survey undertaken
Site previously mapped in GIS dataset

Wetland Present on the Site
YES

Conservation ranking after survey:
C Rating: Local conservation value (high value)

Townland:
CARTRON (GRANARD BY)

Solid Geology:
Courceyan limestone

Subsoil type:
Cut

Substrate type:
Mineral Soil
Peat

Substrate stability:
Some quaking

River catchment:
Shannon Upr

CORINE Habitats:
Pastures

Site Location

Site contains a mosaic of wetland habitats with tall herb and reed swamps dominating. Located 1.5km south of Granard.

Site Description and Wetland Habitats Recorded

Eastern part of site comprises of Molinia dominated acid bog with Potentilla erecta and Calluna vulgaris. Further west this grades into tall herb swamp with abundant Angelica, Meadowsweet, Valarian and Purple loosestrife. Common reeds dominate the wettest part of the site.

Target Notes - *(see Habitat Map for location of Target Notes)*

No.	Category	Comment
N1	Management	Large drain dominated by Lemna minor, discharging away from wetland. Largely stagnant, inserted as part of adjacent forestry.
N2	Invasive	Dense stands of Japanese knotweed.

Management Recommendations following survey

Assess impact of water abstraction.

Future Survey Recommendations

None

Landowner Information Comments

None

Description of potential EU Habitats Directive Annex 1 habitats

Areas of tall herb swamp within site may correspond to the EU Annex I habitat 6430 Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels.

Main Fossitt habitats on site

FS1 Reed and large sedge swamps

FS2 Tall herb swamps

GS2 Dry meadows and grassy verges

PB4 Cutover bog

WS1 Scrub

EU Habitats Directive habitats on site

6430 Hydrophilous tall herb fringe communities of

Fossitt habitats surrounding site

BL3 Buildings and artificial surfaces

GA1 Improved agricultural grassland

GS4 Wet grassland

WD1 (Mixed) broadleaved woodland

WD4 Conifer plantation

WL1 Hedgerows

Landuse / Management Activity **Frequency of use**

Impacting Activity (EU code and title)	Intensity	Impact
B02 Forest and Plantation management & use	B = medium	- 1 = reparable negative influence
I01 invasive non-native species	C = low	- 1 = reparable negative influence
H01.08 diffuse pollution to surface waters due to household sewage and H01.09 diffuse pollution to surface waters due to other sources not listed	D = unknown	Unknown

Threats

B02 Forest and Plantation management & use

H01.05 diffuse pollution to surface waters due to agricultural and forestry activities

H01.08 diffuse pollution to surface waters due to household sewage and waste waters

I01 invasive non-native species

Damaging Operations Comments

None

Flora on site - Latin & English species name

Alnus glutinosa	Alder
Angelica sylvestris	Wild Angelica
Anthoxanthum odoratum	Sweet Vernal-grass
Calluna vulgaris	Ling Heather
Carex paniculata	Greater Tussock-sedge
Epilobium hirsutum	Great Willowherb
Equisetum fluviatile	Water Horsetail
Fallopia japonica	Japanese Knotweed
Filipendula ulmaria	Meadowsweet
Holcus lanatus	Yorkshire-fog
Juncus effusus	Soft-rush
Juncus effusus	Soft-rush
Luzula campestris	Field Wood-rush
Lythrum salicaria	Purple-loosestrife
Molinia caerulea	Purple Moor-grass
Phragmites australis	Common Reed
Potentilla erecta	Tormentil
Rumex acetosa	Common Sorrel
Salix cinerea subsp. cinerea	Grey Willow
Sphagnum palustre	Blunt-leaved Bog Moss
Succisa pratensis	Devil's-bit Scabious
Ulex europaeus	Gorse
Valeriana officinalis	Common Valerian

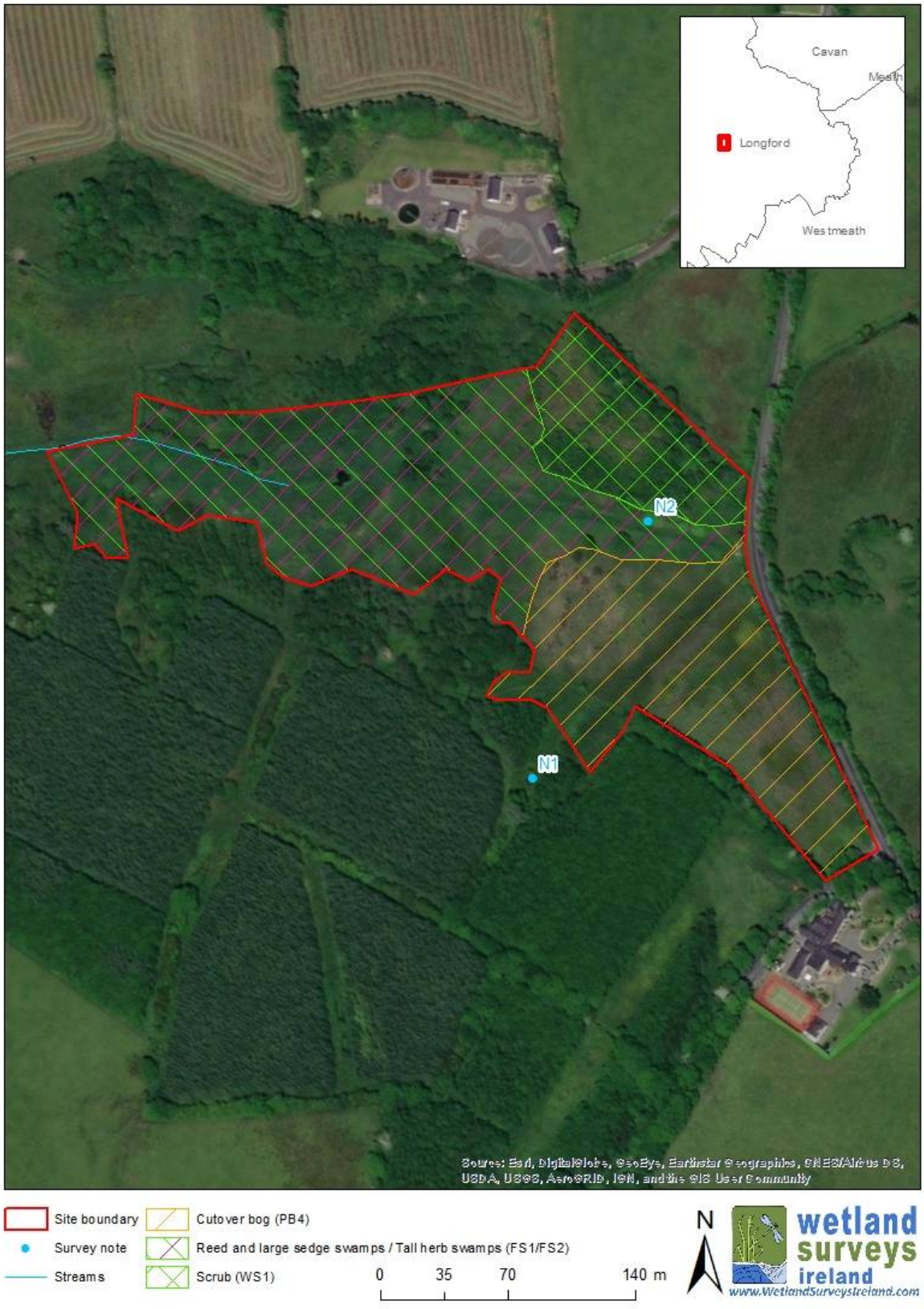
Fauna on site - English and Latin species name

Common Buzzard	*Buteo buteo*
Common Frog	*Rana temporaria*
Mallard	*Anas platyrhynchos*
Swallow	*Hirundo rustica*

Aerial Photograph showing location of the site

NPWS NHA site boundary.

GIS Habitat map of the site



Site Name: AGHNASKEA CORNAFUNSHION CUTOVER

Site Code: LF263 **Area (ha):** 26.81 **Grid Ref:** 220916 284448 **County:** LF

Site designation(s):
Undesignated site

Surveyed by:
Patrick Crushell & Joe O'Sullivan

Date of wetland survey:
16/08/2021

Survey Code:
LFWS 2021

Site source information:
Detailed Wetland Survey undertaken
Site previously mapped in GIS dataset

Wetland Present on the Site
No Data - wetland possible

Conservation ranking after survey:
C Rating: Local conservation value (high value)

Townland:
CARROWLINAN

Solid Geology:
Derryveeny Formation

Subsoil type:
Cut

Substrate type:
Peat

Substrate stability:
Firm

River catchment:
Shannon Upr

CORINE Habitats:
Peat bogs

Site Location

Upland site with wet heath and scrub surrounded by mature conifer plantations located 5.6km south east of Drumlish.

Site Description and Wetland Habitats Recorded

Former upland heath/bog area that has been subject to past drainage and peat cutting. Forestry dominates the surroundings. Wetland interest on site confined to remnant wet heath dominated by Calluna vulgaris with raised moss cushions. Birch and willow scrub common throughout.

Target Notes - *(see Habitat Map for location of Target Notes)*

No.	Category	Comment
NA	NA	None

Management Recommendations following survey

None

Future Survey Recommendations

None

Landowner Information Comments

None

Description of potential EU Habitats Directive Annex 1 habitats

It is not thought that any of the habitats present within this site correspond to a habitat listed under Annex I of the EU Habitats Directive.

Main Fossitt habitats on site

GS2 Dry meadows and grassy verges

HD1 Dense bracken

HH3 Wet heath

PB4 Cutover bog

WS1 Scrub

EU Habitats Directive habitats on site

None noted

Fossitt habitats surrounding site

BL3 Buildings and artificial surfaces

GA1 Improved agricultural grassland

GA2 Amenity grassland (improved)

GS4 Wet grassland

WD4 Conifer plantation

WL1 Hedgerows

Landuse / Management Activity

Forestry

Frequency of use

3 Frequent (21-50%)

Impacting Activity (EU code and title)	Intensity	Impact
B01.01 forest planting on open ground (native trees)	B = medium	- 2 = irreparable negative influence
E03.01 disposal of household waste	C = low	- 1 = reparable negative influence

Threats

B01.02 artificial planting on open ground (non-native trees)

B02 Forest and Plantation management & use

Damaging Operations Comments

None

Flora on site - Latin & English species name

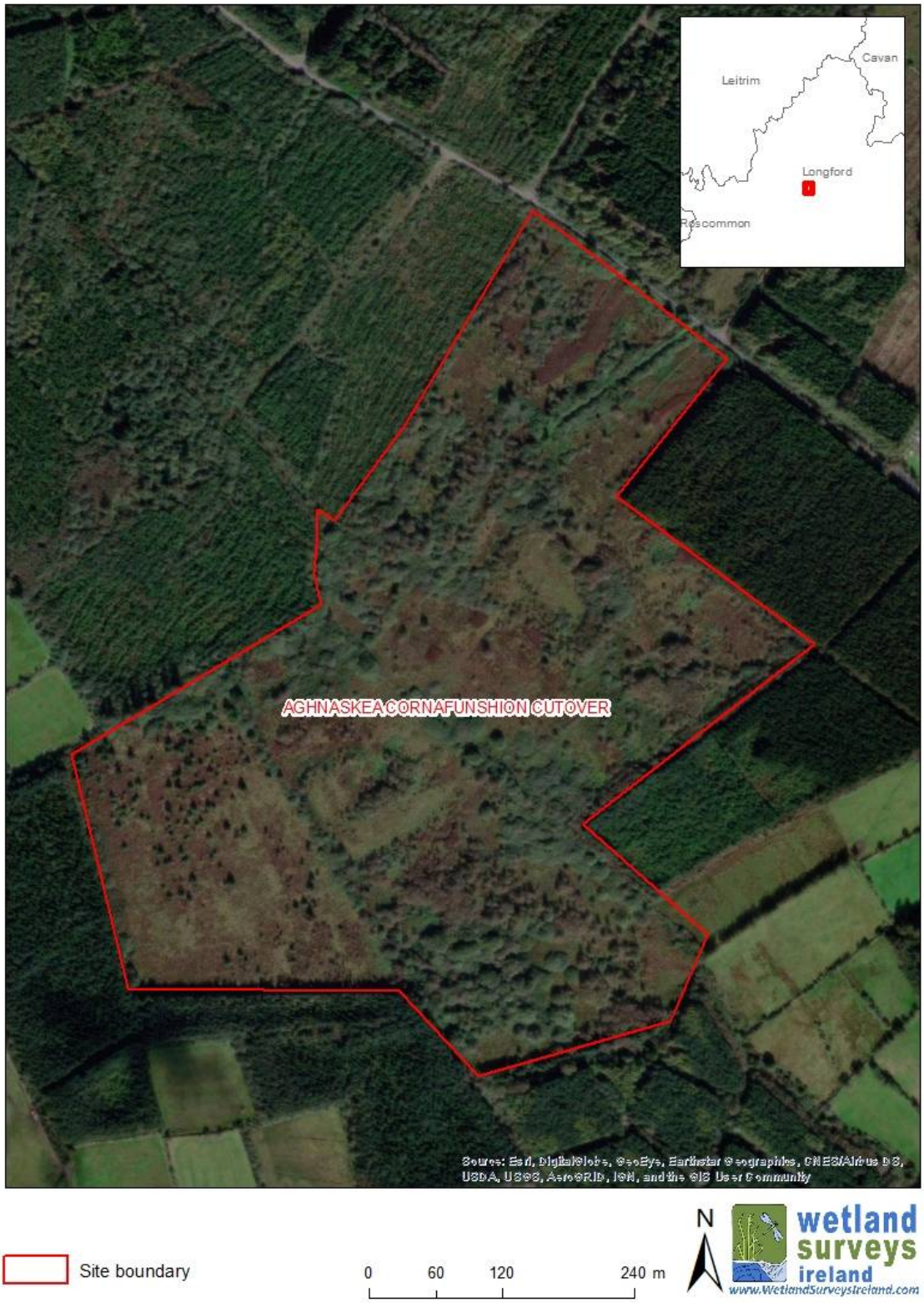
Acer pseudoplatanus	Sycamore

Achillea millefolium	Yarrow
Arrhenatherum elatius	False Oat-grass
Betula pubescens	Downy Birch
Betula pubescens	Downy Birch
Calluna vulgaris	Ling Heather
Chamerion angustifolium	Rosebay Willowherb
Crocosmia × crocosmiiflora	Montbretia
Dactylis glomerata	Cock's-foot
Epilobium hirsutum	Great Willowherb
Equisetum arvense	Field Horsetail
Eriophorum vaginatum	Hare's-tail Cottongrass
Fraxinus excelsior	Ash
Galium aparine	Cleavers
Heracleum sphondylium	Hogweed
Holcus lanatus	Yorkshire-fog
Hypnum jutlandicum	Moss
Juncus effusus	Soft-rush
Osmunda regalis	Royal Fern
Picea sitchensis	Sitka Spruce
Plantago lanceolata	Ribwort Plantain
Pleurozium schreberi	Red-stemmed feathermoss
Polytrichum commune	Common Haircap Moss
Pteridium aquilinum	Bracken
Pteridium aquilinum	Bracken
Ranunculus repens	Creeping Buttercup
Rhytidiadelphus loreus	Little shaggy-moss
Rubus fruticosus agg.	Blackberry
Salix cinerea subsp. cinerea	Grey Willow
Sphagnum capillifolium	Acute-leaved Bog Moss
Symphoricarpos albus	Snowberry
Trifolium pratense	Red Clover
Ulex europaeus	Gorse
Urtica dioica	Common Nettle
Vaccinium myrtillus	Bilberry

Fauna on site - English and Latin species name

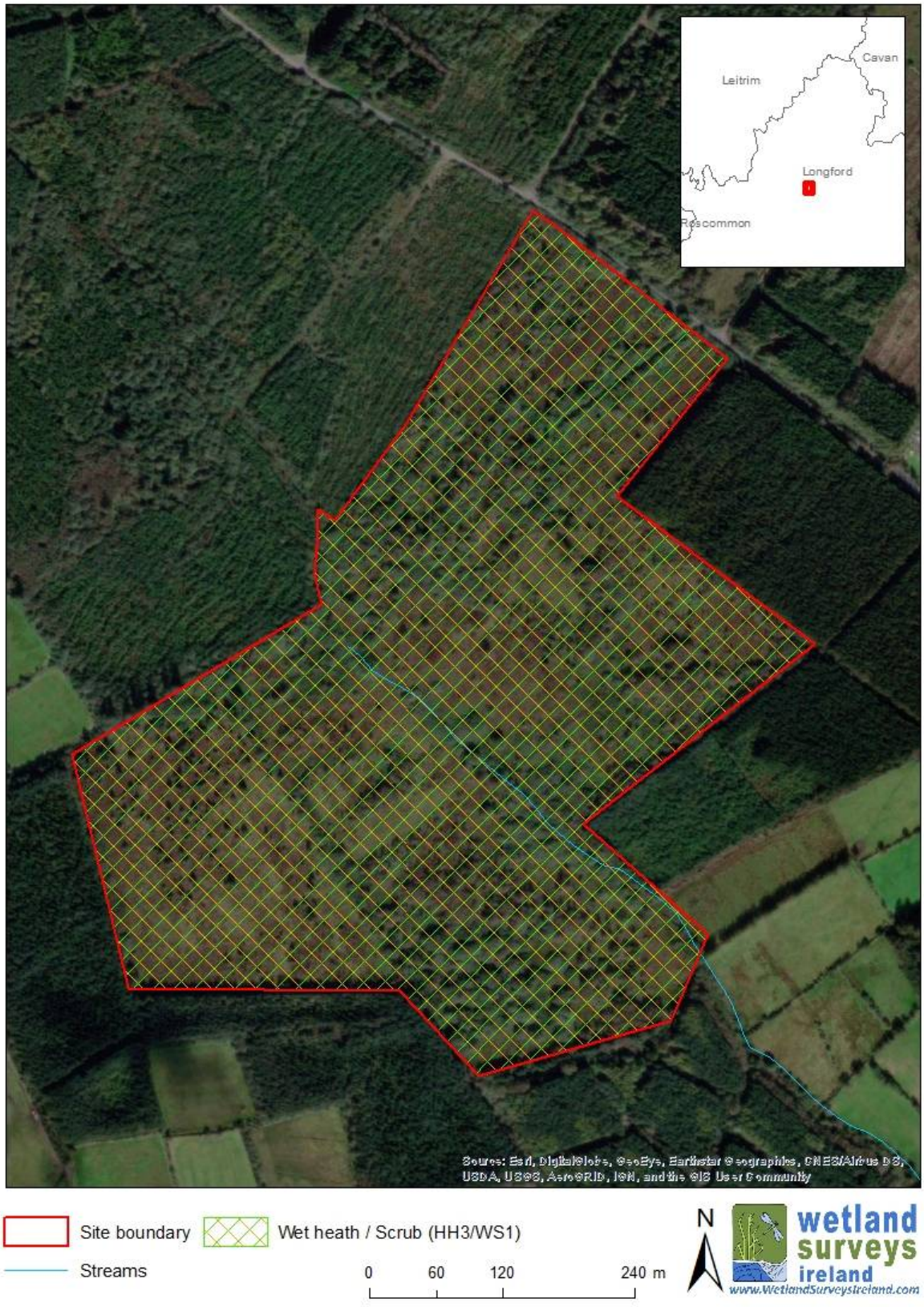
Chiffchaff	*Phylloscopus collybita*
Meadow Pipit	*Anthus pratensis*
Wren	*Troglodytes troglodytes*

Aerial Photograph showing location of the site



NPWS NHA site boundary.

GIS Habitat map of the site



Site Name: BALLYBRIEN PONDS (SOUTH)

Site Code: LF282 **Area (ha):** 0.26 **Grid Ref:** 230982 279984 **County:** LF

Site designation(s):
Undesignated site

Surveyed by:
Patrick Crushell & Joe O'Sullivan

Date of wetland survey:
17/08/2021

Survey Code:
LFWS 2021

Site source information:
Detailed Wetland Survey undertaken
Site previously mapped in GIS dataset

Wetland Present on the Site
YES

Conservation ranking after survey:
C Rating: Local conservation value (high value)

Townland:
BALLYBRIEN

Solid Geology:
Visean basinal limestone "Calp"

Subsoil type:
TLPSsS

Substrate type:
Peat

Substrate stability:
Firm

River catchment:
Upper Shannon

CORINE Habitats:
Pastures

Site Location

Ballybrien Ponds (South) are located 2.5km west of Granard.

Site Description and Wetland Habitats Recorded

Small enclosed depression dominated by freshwater marsh. Small area of open water used by cattle for drinking water source. Mineral esker like ridge occurs close by to the south. A channelised river with an extensive Iris marsh occurs to the south of esker ridge.

Target Notes - *(see Habitat Map for location of Target Notes)*

No.	Category	Comment
N1	Habitat	Open water.

Management Recommendations following survey

Consider fencing and installation of alternative drinking source.

Future Survey Recommendations

None

Landowner Information Comments

None

Description of potential EU Habitats Directive Annex 1 habitats

It is not thought that any of the habitats present within this site correspond to a habitat listed under Annex I of the EU Habitats Directive.

Main Fossitt habitats on site

FL Lakes & Ponds

GM1 Marsh

GS4 Wet grassland

EU Habitats Directive habitats on site

None noted

Fossitt habitats surrounding site

GA1 Improved agricultural grassland

WL1 Hedgerows

WL2 Treelines

WS1 Scrub

Landuse / Management Activity	Frequency of use
Grazing - cattle	

Impacting Activity (EU code and title)	Intensity	Impact
H01.05 diffuse pollution to surface waters due to agricultural and forestry	C = low	- 1 = reparable negative influence
A04.02.01 non intensive cattle grazing	B = medium	- 1 = reparable negative influence

Threats

A04.02.01 non intensive cattle grazing

H01.05 diffuse pollution to surface waters due to agricultural and forestry activities

Damaging Operations Comments

None

Flora on site - Latin & English species name

Berula erecta	Lesser Water-parsnip
Bidens cernua	Nodding Bur-marigold
Calliergonella cuspidata	Pointed Spear Moss
Cardamine pratensis	Cuckooflower
Carex rostrata	Bottle Sedge
Epilobium sp.	Willowherb

Equisetum fluviatile	Water Horsetail
Fraxinus excelsior	Ash
Iris pseudacorus	Yellow Iris
Juncus effusus	Soft-rush
Mentha aquatica	Water Mint
Myosotis sp.	Forget-me-not
Persicaria hydropiper	Water-pepper
Ranunculus flammula	Lesser Spearwort
Ranunculus repens	Creeping Buttercup
Rubus fruticosus agg.	Blackberry
Salix cinerea subsp. cinerea	Grey Willow
Sparganium erectum	Branched Bur-reed

Fauna on site - English and Latin species name

Common Frog	*Rana temporaria*
Peacock	*Inachis io*

Aerial Photograph showing location of the site

NPWS NHA site boundary.

GIS Habitat map of the site

County Longford Wetlands Field Survey III 2021

Data Deliverables Contents

by Patrick Crushell, Mary Catherine Gallagher & Peter Foss

Contents:

1. **County Longford Wetlands Field Survey III 2021.** Main survey report and individual site reports prepared by Patrick Crushell, Mary Catherine Gallagher & Peter Foss (In PDF format, requires Adobe Acrobat to view).

2. **Longford Wetland Site Database 2021 Version 4.0; Longford Wetland Survey Database 2021 Version 3.0** (requires Filemaker Pro to view).

3. **Excel tables to accompany the County Longford Wetlands Field Survey III 2021 report**

   LFWS_Survey_Database_Site_Summary: Summary information on sites surveyed during the LFWS 2021, including site location, and table with site description and conservation ranking.

4. **GIS Shape files from the County Longford Wetlands Field Survey III 2021.**

   a. ArcView GIS dataset (Requires ArcView GIS Software)
   b. MapInfo GIS dataset (Requires MapInfo GIS Software)

An Action of the County Longford Draft Heritage Plan 2015-2020