Counties Longford & Roscommon Wetland Study 2017

Report prepared for Longford & Roscommon County Councils by P. Foss, P. Crushell & M.C. Gallagher

November 2017





Comhairle Contae Ros Comáin Roscommon County Council





An Chomhairle Oidhreachta The Heritage Council

Authors: Foss, P.J., Crushell, P. & Gallagher, M.C. (2017) Title: **Counties Longford & Roscommon Wetland Study**. Report prepared for Lonford and Roscommon County Councils.

An Action of the County Longford Draft Heritage Plan 2015-2020 & the County Roscommon Heritage Plan 2012-2016

Copyright Longford & Roscommon County Councils 2017

Wetland Surveys Ireland



Dr Peter Foss 33 Bancroft Park Tallaght Dublin 24

peterjfoss@gmail.com



Dr Patrick CrushellBell Height
Kenmare
Co Kerry

patrick@WetlandSurveysIreland.com

All rights reserved. No Part of this publication may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical photocopying, recording or otherwise without the prior permission of Longford & Roscommon County Councils.

Views contained in this report do not necessarily reflect the views of Longford & Roscommon County Councils.

Photographic Plate Credits

All photographs by Peter Foss & Patrick Crushell 2017 unless otherwise stated. Copyright Longford & Roscommon County Councils.

Report cover images:

Derreenasoo Bog, Co. Roscommon (Photo: P. Foss)

CONTENTS

ACKNOWLEDGEMENTS	4
EXECUTIVE SUMMARY	5
1 INTRODUCTION	7
1.1 BACKGROUND	
2 INTRODUCTION TO WETLANDS	8
2.1 Definition	8
2.2 IMPORTANCE OF WETLANDS	
3 WETLANDS IN COUNTIES LONGFORD & ROSCOMMON	14
3.1 COUNTY LONGFORD: AN INTRODUCTION	14
3.2 COUNTY ROSCOMMON: AN INTRODUCTION	14
3.2.1 Geology	
3.2.2 Sub-soils	
WETLAND HABITATS IN COUNTIES LONGFORD & ROSCOMMON	
4 LONGFORD & ROSCOMMON WETLAND STUDY 2017	
4.1 Introduction	-
4.2 MATERIALS & METHODS	
4.2.1 Longford and Roscommon Wetland Study 2017 - Desktop Study	47
4.2.2 Study Constraints and Elimitations	
4.3.1 LFROWS 2017 – Desktop Study	
5 CONCLUSIONS & RECOMMENDATIONS	
5.1 DISTRIBUTION AND EXTENT OF THE LONGFORD AND ROSCOMMON WETLAND RESOURCE	
5.2 Knowledge of the Longford and Roscommon wetland resource	
5.3 WETLAND SURVEY RECOMMENDATIONS	
5.3.1 Further Development of Wetland Inventory	
5.3.2 Planning Control	
5.3.3 Management of Longford & Roscommon Wetland Sites	
5.3.4 Enforcement of Fines for Illegal Dumping and Infill	
5.3.5 Control of Invasive Species in Wetlands	
5.3.7 Public Information and Interpretation Measures	
5.3.8 Wetland Restoration	
6 BIBLIOGRAPHY & DATA SOURCES	65
7 APPENDICES	68

1 107	$\boldsymbol{\Gamma} \wedge$		\sim		п	-c
LIST	ГΟ	-1	(31	u	ĸ	ES

Figure 3-1: Topography and drainage map of County Longford	
Figure 3-2: Map showing river catchments and surface water features of County Longford	
Figure 3-3: Topography and drainage map of County Roscommon.	
Figure 3-4: Map showing river catchments and surface water features of County Roscommon	
Figure 3-5: Simplified geological map of County Longford	
Figure 3-6: Simplified geological map of County Roscommon	
Figure 3-7: Sub-soil (parent material) map of County Roscommon	
Figure 4-1: Flow chart illustrating the various steps undertaken during the course of the Longford and	23
Roscommon Wetland Study (LFROWS) project 2017	47
Figure 4-2: Location of identified wetland sites (stored within Site database&GIS) in relation to areas	
designated for nature conservation in County Longford	53
Figure 4-3: Location of identified wetland sites (stored within Site database&GIS) in relation to areas	
designated for nature conservation in County Roscommon	
Figure 4-4: Map showing the extent of wetland sites identified in county Longford during the current study.	dy. 55
Figure 4-5: Map showing the extent of wetland sites identified in county Roscommon during the current study	56
Study	50
LIST OF TABLES	
LIST OF TABLES	
Table 2-1: Examples of the economic benefits that wetlands provide	12
Table 3-2 The sub-soil types used to identify potential wetlands in Counties Longford and Roscommon.	
Table 3-3: Wetland habitat types (Fossitt 2000) recorded as part of the Counties Longford and Roscom	
Wetland Study project 2017	
Table 4-4 GIS files produced during the LFROWS 2017.	
Table 4-5 Number of wetland sites (main sites and sub-sites) occurring within designated areas	
are likely to have a negative effect on wetlands, and the wetland type most likely to be affe	
by these activities.	
5) tiloso dotivitos	00
LIST OF APPENDICES	
LIOT OF ALL ENDIOLO	
Appendix 1 Reports and information sources consulted during the compilation of the Site	70
database & GIS datasets	
Appendix 2 Metadata for the Site database and GIS datasets (includes descriptions of data fields	ХХ
used)	
Appendix 3 Counties Longford & Roscommon Wetland Study 2017 Site List and Associated Map	ХХ
Appendix 4 National Roads Authority (2009) Site Evaluation Criteria	XXX
Appendix 5a County Longford Wetland Study Site List Summary	XXX
Appendix 5b County Roscommon Wetland Study Site List Summary	XXX
Appendix 6 Counties Longford & Roscommon Wetland Study 2017 CD ROM - Table of Contents	XXX

Counties Longford & Roscommon Wetland Study 2017

Thispartnership project created a digital GIS wetland map and Site database of known and potential wetland sites in Counties Longford and Roscommon. The wetland habitats recorded include lakes, ponds, watercourses, springs, swamps, wet grassland, marsh, bogs, fens, bog woodland, riparian woodland and wet woodland. In all, 32 wetland habitat types were researched and mapped.

The 2017 project involved two main elements:

- a <u>desktop literature review</u> aimed at identifying all previously reported wetlands in County Longford and County Roscommon and gathering background data on those sites identified; and
- a <u>desktop analysis of aerial photography and other GIS datasets</u> to identify and compile a map of potential wetlands which had not been previously reported.

The resulting data-set from the project should provide a useful tool for future heritage conservation planning in the county, will assist in the development of sustainable planning programmes, and will allow for the design of future targeted wetland surveys and research programmes in Counties Longford and Roscommon.

An Action of the County Longford Draft Heritage Plan 2015-2020& the County Roscommon Heritage Plan 2012-2016

Acknowledgements

The Counties Longford & Roscommon Wetland Study 2017 (LFROWS 2017) partnership project was a joint project intiative of the Heritage Offices of Longford County Council and Roscommon County Council and Wetland Surveys Ireland.

The LFROWS 2017 was made possible through the financial support of Longford County Council, Roscommon County Council, and The Heritage Council.

The authors of this report wish to thank Nollaig Feeney, Heritage Officer, Roscommon County Council and Máiréad Ní Chonghaile, Heritage Officer, Longford County Councilfor providing background data, discussions and comments throughout the period of compilation of the wetlands database and preparation of this report.

An Action of the County Longford Draft Heritage Plan 2015-2020& the County Roscommon Heritage Plan 2012-2016

Executive Summary

- Counties Longford and Roscommon are known to contain a wide variety of wetlands, which support many flora and fauna species of high conservation concern. Due to the varying topography, geology, hydrology, climate, and soils present, Longford and Rosccommon have wetland habitats ranging from raised bogs, turloughs, fens, marshes, rivers and associated floodplains, lakes, springs, and wet woodlands.
- The aim of the Counties Longford and Roscommon Wetland Study 2017 (LFROWS 2017) was to prepare a database of all freshwater wetland sites in the two counties. The project involved two distinct elements:
 - a desktop literature review to identify all known wetlands in Counties Longford and Roscommon and gather background data on these sites; and
 - an analysis of aerial photography and other GIS datasets to identify and map potential wetlands which had not been previously reported.
- 3. The current study focused on the identification of 32 wetland habitat types (21 of which may correspond with habitats listed on Annex I of the EU Habitats Directive) in the two counties.
- 4. The information gathered during the study is stored in a Site database and associated GISdataset for each county, the ROWS (Roscommon Wetland Survey) and the LFWS (Longford Wetland Survey). Together these datasets form, for the first time, a preliminary inventory of the wetland resource of the both counties. This resource should prove useful for, amongst other things, the future spatial planning in the two counties.
- 5. A variety of data sources (reports, publications, databases and inventory lists, and local interest groups) were consulted during the project (see Appendix 1).
- 6. Information on 676 potential wetland sites and sub-sites is held in the ROWS Site database and mapped in the ROWS GIS dataset; with 281 potential wetland sites and sub-sites held in the LFWS Site database and mapped in the LFWS GIS dataset. These sites were identified during a literature review of the two counties and during the GIS analysis of aerial photography and other datasets, and for which there is as yet no background survey information available.
- 7. The sub-soils map of Ireland was used as a primary source in identifying areas of potential wetland within both counties. Based on analysis of the sub-soil types that indicate wetland areas, the total area of wetland within Longford is estimated to be up to 413km² or 37.9% of the county, while in Roscommon it is estimated at 918km² or 34.7% of the county. While an indication of the original extent of wetlands, this approximation is certainly an over estimate as it does not take account of changes due to land management or drainage.
- 8. Preliminary site boundaries have been mapped for main wetland sites identified during LFROWS 2017, providing an estimate of the extent of wetlands within these counties. Subsites occur within the main site areas. The area of wetland sites mapped in Longford covered an area of 203 km² (18.6% of land area) while wetland sites in Roscommon covered an area of 580 km² (21.9% of land area).

- 9. Areas of both Longford and Roscommon are located within lands designated for nature conservation under European and National legislation. Of the wetland sites identified in Longford, 29 lie within areas designated for nature conservation while the remaining 252 remain outside of designated areas. In Roscommon 55 of the wetland sites identified lie within areas designated for nature conservation, with the remaining 621 in undesignated areas. A significant proportion of these undesignated sites, most of which have not been subject to ecological survey, are likely to support habitats and species of conservation importance.
- 10. Our incomplete knowledge of 697 of the wetland areas in Counties Longford and Roscommon suggests that a targeted wetland survey should be a key priority to gain a better understanding of the wetland resource within the two counties and to ensure that those sites of highest importance are protected.
- 11. Sites to be prioritised for survey should include those that have not been surveyed in detail in the past and those that are likely to contain wetland habitats of high conservation importance. Based on this, the following groups of sites should be prioritised:
 - Sites identified by analysis of aerial photography and other GIS datasets for which we have no ecological data;
 - Sites that are likely to contain wetland habitats that are listed on Annex I of the EU Habitats Directive (raised bog including regenerating cutover, turloughs, alkaline fen, transition mire, and calcareous springs); and
 - County Council owned properties that contain areas of potential wetland.
- 12. Other recommendations from the study include:
 - The datasets developed during the current study should be updated as new information becomes available.
 - Extra resources should be put towards enforcing regulations preventing damage to wetland sites throughout Counties Longford and Roscommon.
 - A public awareness campaign should be run to inform and raise awareness on the diverse wetland resource of the counties and the value of this resource through amongst other things the provision of important ecosystem services.

Introduction

1.1 Background

Following discussions with the Heritage Officers of Longford and Roscommon County Councils, Wetland Surveys Ireland agreed to partner with the County Councils in the production of a map and associated database holding information on all freshwater wetlands in CountiesLongford and Roscommon.

Prior to this project no complete inventory of wetland areas existed for either county. The wetlands in Longford and Roscommon are not only important from the perspective of biodiversity, and for their economic value (i.e. tourism and recreation use), but they also provide many important ecosystem services such as flood prevention, provision of clean water, and carbon storage.

The lack of county wetland inventories has resulted in an incomplete picture of the distribution and extent of wetlands in CountiesLongford and Roscommon. The lack of data on wetlands, their distribution and extent in combination with the threats faced by these habitats from various land-uses including peat extraction, afforestation, infilling, and drainage may lead to the future loss of sites which have a county, national or even international value for biodiversity protection, and makes the development of wetland conservation programmes at a county level difficult. The outputs of this project contribute to fulfilling three of the seven objectives of the recently published National Biodiversity Action Plan (DCHG 12017) by providing baseline information on biodiversity that can be used to inform management, decision making, and public awareness initiatives.

1.2 Project aims

To overcome the information deficit on the distribution of wetlands within the two counties, the main aim of the LFROWS 2017 was to prepare a GIS dataset and associated site database of all wetland areas in the two counties.

The wetland habitats to be mapped included lakes and ponds, watercourses, springs, freshwater swamps, wet grassland, freshwater marsh, peat bogs, fens and flushes and semi-natural wet woodlands.

The LFROWS 2017partnership project aimed to consolidate all known third party information on wetlands in Counties Longford and Roscommon, based on GIS and published information held by Government and State agencies, non-governmental organisations and private individuals, and information documented in published and unpublished reports.

In addition to previously reported sites, a desktop survey of other potential wetland sites was undertaken using digital aerial photography and other GIS datasets (such as sub-soils, six inch mapping, Corineland-cover, geology, and soils etc.).

Based on the results of this study, recommendations on priorities for future surveys are made based on critical or endangered habitats and geographical areas within the county where data is particularly lacking.

The methodologies employed in the survey are documented in this report, together with a description of the importance of wetlands, the main wetland habitats present in Counties Longford and Roscommon, and key findings from the current study.

Introduction to Wetlands

1.3 Definition

Wetland is a collective term for ecosystems (habitats and their associated species) whose formation has been dominated by water, and whose processes and characteristics are largely controlled by water. A wetland is a place that has been wet enough for a long enough time to develop specially adapted vegetation and other organisms (Maltby 1986).

They occur where the water table is at or near the surface of the land, or where the land is covered by a layer of shallow water, for some or all of the year.

The 1971 Ramsar Convention on Wetlands of International Importance defines wetland as:

"areas of marsh, fen, peatland or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six meters".

The Planning and Development (Amendment) (No. 2) Regulations 2011 has a similar definition to that presented above:

"Wetlands" means natural or artificial areas where biogeochemical functions depend notably on constant or periodic shallow inundation, or saturation, by standing or flowing fresh, brackish or saline water."

In addition, for the purpose of protecting coherent sites, Article 2.1 of the Ramsar Convention, to which Ireland is a signatory, provides that wetland sites:

"may incorporate riparian and coastal zones adjacent to the wetlands, and islands or bodies of marine water deeper than six meters at low tide lying within the wetlands".

Five major wetland types are generally recognized:

J	marine (coastal wetlands including coastal lagoons, rocky shores, and coral reefs);
J	estuarine (including deltas, tidal marshes, and mangrove swamps);
J	lacustrine (wetlands associated with lakes);
J	riverine (wetlands along rivers and streams); and
J	palustrine (meaning "marshy" – wet grassland, marshes, swamps and bogs).

In addition to naturally occurring wetlands produced as a result of natural environmental processes, there are artificial wetlands such as fish ponds, farm ponds, irrigated agricultural land, reservoirs, gravel pits, sewage treatment facilities, and drainage ditches.

Even in certain, so called "natural" wetland systems, man has played a major factor in wetland formation since pre-historic times. In Ireland, forest clearance in the uplands helped trigger soil and vegetation changes, which altered the hydrology and led in some places to bog formation. In contrast to some other habitat types (e.g. woodlands), wetlands are therefore often young and

dynamic ecosystems, changing in a relatively short period of time as vegetation changes, sediments are laid down, and local hydrological conditions are altered.

One other concept that should be borne in mind when considering wetlands is that a specific wetland area is often composed of many different habitat types, which form a mosaic. For example, a cutover bog wetland may contain small areas of regenerating fen and bog communities, pools, drainage ditches, and even shallow lakes.

On a global scale, wetlands occur everywhere, from the tundra to the tropics. The area of the earth's surface currently covered by wetlands is unknown. However, the UNEP - World Conservation Monitoring Centre has suggested an estimate of about 570 million hectares (5.7 million km²) of wetland – roughly 6% of the Earth's land surface – of which 2% are lakes, 30% bogs, 26% fens, 20% swamps, and 15% floodplains.

In the context of the LFROWS, analysis of sub-soil data suggests that wetlands once covered an area of 413 km², equivalent to approximately 37.9% of the land area of Longford, while wetlands once covered 918km² or 34.7% of the land area of county Roscommon. Provisional wetland site boundaries drawn during LFROWS indicate that wetland sites in county Longford currently cover an area of 203km² (18.6% of land area) and wetland sites in county Roscommon cover an area of 580km² (21.9% of land area). The exact extent of wetlands will only be determined when field surveys of wetland sites are carried out.

1.4 Importance of wetlands

As with many other natural environments humanity has generally looked on wetlands as an economic resource to be used for short term economic gain, and has often not recognised the long term benefits (both economic and non-economic) of functioning wetlands (DEHLG 2008). Three examples of such actions in Ireland include:

- national and local drainage schemes, or the embankment of rivers which can result in catastrophic floods during high rainfall periods when the drained land results in rapid surface water run-off;
-) past forestry schemes on bogs, which often did not produce the timber crop envisaged at the time of afforestation; and
-) overgrazing of blanket bog which continues to have a detrimental effect on the national peatland resource.

The multiple roles of wetland ecosystems and their value to humanity have been increasingly understood and documented in recent years, as in the Irish Government report on the Economic & Social Aspects of Biodiversity (DEHLG 2008). Internationally, this has led to large expenditures to restore the lost or degraded hydrological and biological functions of wetlands.

Functional wetlands are among the world's most productive environments. They are a haven of biological diversity, providing the water and primary productivity upon which a great range of plants and animals depend. They support high concentrations and diversity of birds, mammals, reptiles, amphibians, fish, and especially invertebrates.

Wetlands provide many economic benefits including:

- Wetlands improve water quality by removing and sequestering pollutants and sediments in the water:
- Wetlands are of high importance to fisheries. Over two thirds of the world's fish harvest is linked to the health of coastal and inland wetland areas;
- Wetlands may be of high importance to agriculture and timber production, through the maintenance of water tables and nutrient retention in floodplains;
- Wetlands store floodwaters, acting like natural sponges and slowing down the force of flood and storm waters as they travel downstream. Far from posing a flood threat, wetlands should be viewed as buffers, to protect areas where people live (DEHLG 2008):
- Wetlands may provide important energy resources, such as peat and plant matter;
- Wetlands may be of value to transport, recreation and tourism;
- Wetlands offer habitat for wildlife. Many migratory birds and other wildlife depend on the ecological setting of wetlands for their survival;
- Wetlands support biodiversity. The variety of living organisms found in wetlands contributes to the health of our planet and our own lives possible by ensuring our food supply, regulating the atmosphere and providing raw materials for industry and medicine;
- Wetlands provide valuable open space and create wonderful recreational opportunities. Hiking, fishing, boating and bird watching are just a few of the activities people can enjoy in wetland areas. The scenic vistas of wetlands make them an ideal area for nature photographers or painters; and
- Wetlands are vital in preventing further climate change by acting as a store of carbon. Until recently this has not been fully appreciated, and in Ireland it has still not been adequately communicated to the general public. For example, peatlands are known to store 20-30% of the world's soil carbon exceeding by three times the amounts stored in tropical rainforests (Bragg and Lindsay 2003).

In addition, wetlands have special attributes as part of the cultural heritage of humanity: they are related to religious and cosmological beliefs, constitute a source of aesthetic inspiration, provide wildlife sanctuaries, and form the basis of many important local traditions.

These functions, values, and attributes of wetlands can only be maintained if the ecological processes of wetlands are allowed to continue functioning. Unfortunately, and in spite of important progress made in recent decades, wetlands continue to be among the world's most threatened ecosystems, owing mainly to ongoing drainage, conversion (most often to agricultural lands), pollution, and over-exploitation of their resources.

Putting an economic value on something as abstract as the ecological services of a wetland is a difficult idea for most people, but is becoming a more accepted economic tool. More commonly, the open market puts monetary values on society's goods and services. In the case of wetlands, there is no direct market for services such as clean water, maintenance of biodiversity, and flood control. There is, however, a growing recognition that such natural benefits do have real economic value and that these values need to be included in decision-making processes (see Table 2-1).

A study that summarised the global value of ecosystem services estimated that wetlands are worth \$14,785 per ha per year due to their role in gas regulation, disturbance regulation, water supply and regulation, waste treatment, provision of habitat food and resources, in addition to their recreational and cultural value (Constanza et al. 1997).

In a report by the Biodiversity Unit of the Department of the Environment, Heritage and Local Government (DEHLG) (2008) the biodiversity value of wetlands in Ireland was estimated to be worth €385 million per year to the Irish economy. In addition, a further proportion of the €330 million assigned by this study to the economic value of the nature and eco-tourism value of all Irish habitats can be assigned to wetlands.

One other stark fact to emerge from this report was that "it is clear that the benefits of biodiversity far exceed the costs of the current levels of biodiversity protection" in Ireland, an indication that we still do not value the functions and services provided by wetlands to our well being as a society.

Numerous other reports exist in the literature that gives clear examples of the economic value of wetlands. The UK Environment Agency has a wealth of literature showing the value of intact functioning wetlands in the control and alleviation of flooding episodes (Callan 2008). In addition a number of reports exist which show that intact wetland systems provide excellent value for money in the provision of water services when compared to the costs that would accrue if these services had to be supplied by artificial systems. For example in the USA the State of New York purchased a watershed area at a cost of 1.5 billion dollars, rather than spend 3 to 8 billion dollars it estimated it would cost for artificial waste water treatment facilities to do the same job (Ramsar Bureau 2006).

Unfortunately, to date, society has generally only realised the benefit of wetland services after they have disappeared or been seriously degraded. Problems with flooding, lost recreational opportunities, reduced fish populations and more costly water treatment are examples of costs understood only after a wetland ecosystem has been degraded or destroyed.

The idea behind putting an economic value on some of these wetland benefits before ecosystemaltering decisions are made is to recognise these potential costs up front and thereby put wetlandrelated decisions on a more economically sound footing. -

Table 2-1: Examples of the economic benefits that wetlands provide (modified from Barbier et al. 1997).

USE BENEFI	NON-USE		
			BENEFITS
Direct Use	Indirect Use Benefits	Option Benefits	Existence Benefits
Benefits			Denents
recreation - boating	nutrient retention	potential future uses (as per direct and indirect uses)	biodiversity
- birding - wildlife	water filtration	future value of information, e.g.,	culture
viewingwalking	flood control	pharmaceuticals, education	heritage
- angling	shoreline protection		archaeology
trapping- hunting	groundwater recharge		non-use
commercial harvest	external ecosystem support		bequest value
- nuts - berries	micro-climate stabilization		
grainsfisheries	erosion control		
- peat - forestry	associated expenditures, e.g., travel, guides, gear, etc.		

1.5 Protection of wetlands

The importance of wetlands is recognised in planning legislation and has been strengthened by amendments to the Planning and Development Regulations in 2011. The Planning and Development (Amendment) (No. 2) Regulations 2011 define wetlands as follows:

"Wetlands" means natural or artificial areas where biogeochemical functions depend notably on constant or periodic shallow inundation, or saturation, by standing or flowing fresh, brackish or saline water."

These regulations bring the drainage and reclamation of Wetlands under Planning Control, making planning permission a requirement for the drainage or infilling of wetland areas 0.1 ha or above, and requiring an Environmental Impact Assessment (EIA) to accompany applications of 2 ha or more. Where a Planning Authority considers that applications for drainage which fall under the above thresholds (i.e. less than 0.1 ha) are likely to have a 'significant effect on the environment' an EIA will also be required (Department of the Environment, Community and Local Government 2011).

The Department of Agriculture, Fisheries and Food (DAFF) also introduced a new consent process in 2011 in relation to certain agricultural activities that may affect wetlands. Under the European Communities (EIA) (Agriculture) Regulations 2011 landowners must seek 'screening' from the

DAFF prior to undertaking certain works, including drainage of agricultural land or infilling of earth (above 15 ha and 2 ha thresholds respectively), and consent can only be given following a screening process, where it can be shown that wetlands are not affected. Activities below the relevant thresholds which would have a 'significant effect on the environment, a Natura 2000 site (Special Area of Conservation (SAC) or Special Protection Area (SPA)), a Natural Heritage Area (NHA) or a recorded monument' may also not proceed without a positive outcome from screening.

On a county level, wetlands in Longford and Roscommon are protected through the scope of the river basin and sub basin management plans associated with the implementation of the EU Water Framework Directive. In addition the Longford County Development Plan (2015-2021) states that the County Council is committed to the conservation and preservation of the environment and natural resources. Preservation of natural heritage and maintenance of ecological integrity is also a priority of the Roscommon County Development Plan (2014-2020). The Roscommon County Development Plan specifies the important of preserving peatlands, turloughs, and wetlands, watercourses and fens as these are significant features of the landscape of County Roscommon (Objectives 7.20 - 7.26).

Wetlands in Counties Longford & Roscommon

1.6 County Longford:an introduction

County Longford has an area of 1,091km². It is the fourth smallest of the 32 counties in area and second smallest in terms of population. It borders counties Cavan to the northeast, Westmeath to the east and southeast, Roscommon to the west and southwest and Leitrim to the northwest (Wikipedia 2017).

County Longford is a low-lying county (Figure 0-1), situated in the heart of the 'Lakelands and Inland Waterways' region (Longford Tourism 2017). Lakes, bogs, pasture land, and wetland typify Longford's generally low-lying landscapes: the highest point of the county is in the northwest - Carn Clonhugh (also known as Cairn Hill) near Drumlish at 279m (Wikipedia 2017). The majority of the county lies within the Upper Shannon catchment, with Lough Ree forming much of the county's western boundary. The north-eastern part of the county, however, drains towards the River Erne and Lough Gowna. The surface water drainage features and river catchments in County Longford are shown in Figure 3-2.

In the list of Irish counties by highest point, Longford ranks third lowest. Only Meath and Westmeath have lower maxima. In general, the northern third of the county is hilly, forming part of the drumlin belt and Esker Riada stretching across the northern midlands of Ireland. The southern parts of the county are low-lying, with extensive areas of raised bog and the land being of better quality for grazing and tillage. The River Shannon marks the county's border with Roscommon while the Rivers Inny and Tang form much of the boundary with Westmeath.

The Royal Canal flows through the south of the county terminating at Cloondara at the Shannon. The canal was refurbished and reopened in 2010. Notable lakes include Kinale Lough and Lough Gowna on the Cavan border, Lough Forbes on the Roscommon border and of course Lough Ree in the south where Longford, Westmeath and Roscommon meet.

1.7 County Roscommon: an introduction

County Roscommon has an area of 2,648 km². It is the 11th largest Irish county. The county shares a border with every other county in Connacht (Galway, Mayo, Sligo and Leitrim) as well as three Leinster counties - Longford, Westmeath and Offaly (Wikipedia 2017).

County Roscommon is bounded by the extensive waterways of the River Shannon and Lough Ree to the east, the River Suck in the west and Lough Key in the north. Roscommon is generally a low-lying County (Figure 0-3), with meandering rivers and lakes, wetlands such as the Shannon callows, raised bogs, grasslands and turloughs. The unique landscape supports a diversity of habitats and an abundance of flora andfauna, as well as historical and archaeological features (Kearney 2011). The surface water drainage features and river catchments in County Roscommon are shown in Figure 3-4.

The uplands are confined largely to the north east of the County on the borders of Sligo and Leitrim. The highest peaks are Kilronan Mountain (355m) and Corry Mountain (426m). The Curlew Mountain Range also on the boundary of Roscommon and Sligo reaches elevations of just over 250m. Seltannasaggart which is located along the northern border with County Leitrim is the tallest point in County Roscommon measuring to a height of 428m.

The low-lying plains of southern Roscommon supports extensive peatlands, whilst the grey

limestone in the central area of the county forms rising plateaus. A drumlin belt runs in an east-west direction, north of Strokestown.

The River Shannon forms the whole of the eastern boundary of County Roscommon. The Suck rises in County Mayo and soon passes into Roscommon, running through Lough O'Flynn and passing by Castlerea, forming a boundary of approximately 80km between counties Roscommon and Galway, until it joins the River Shannon near Shannon Bridge. The Arigna river flows mostly through the northern part of the county, into the Shannon. The Boyle River flows through the "Plains of Boyle" from Lough Gara to Lough Key, and merges with the Shannon. Other rivers include the Breedogue River and the River Lung (Kearney 2011).

Lakes of varying sizes are scattered throughout the county. The most significant of these is Lough Key, nestled in the north of Roscommon, covering an area of 900ha. The lakes on the River Shannon which extend into the county are Lough Ree, Lough Forbes, Lough Bofin, Lough Boderg, and Lough Allen.

Turloughs are temporary lakes occurring in karst regions that are filled and emptied through a swallow hole connected with the underground water table. Turloughs are abundant in Roscommon, especially in the west of the county. A grouping occurs in the region around Castleplunkett and a second grouping occurs along the River Suck Valley, between Castlecoote and Four Roads. Two further sites are located in the Ballinlough area(Kearney 2011).

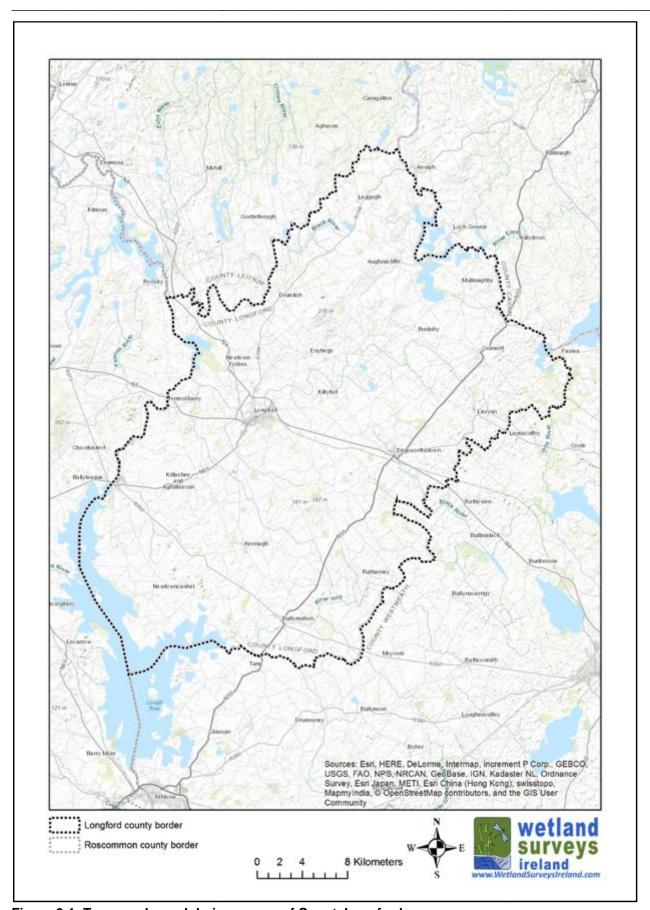


Figure 0-1: Topography and drainage map of CountyLongford.

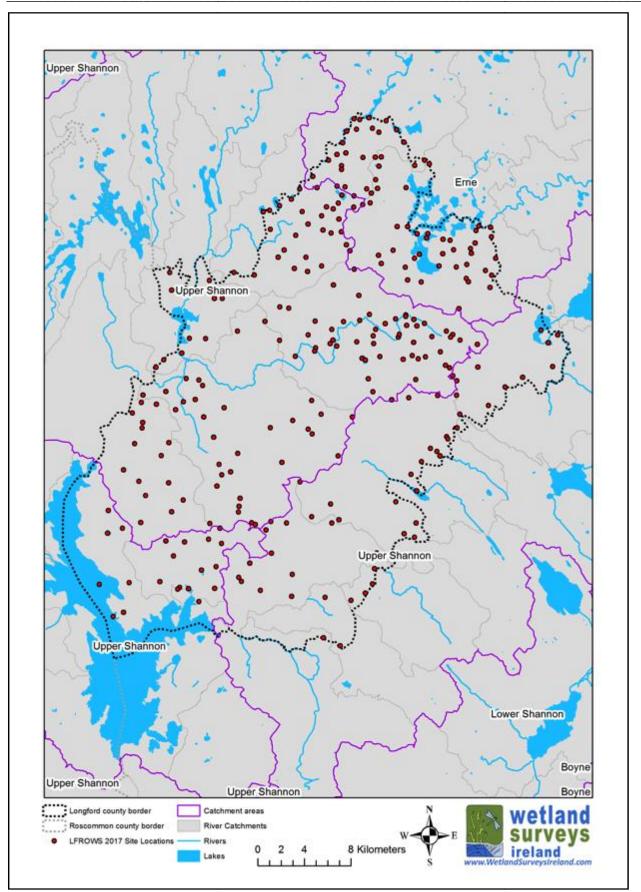


Figure 0-2: Map showing river catchments and surface water features of County Longford (drawn using EPA datasets) in relation to potential wetland sites.

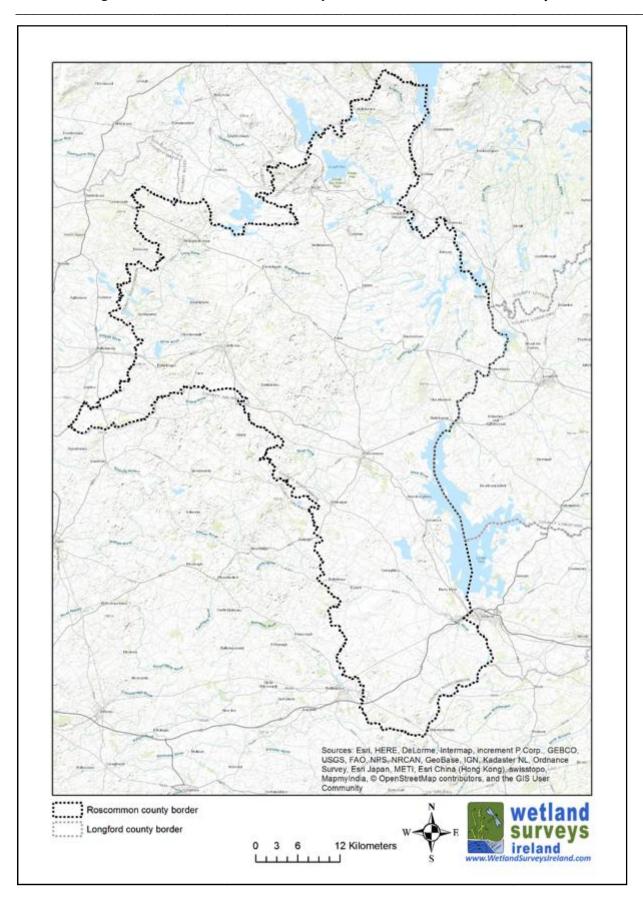


Figure 0-3: Topography and drainage map of County Roscommon.

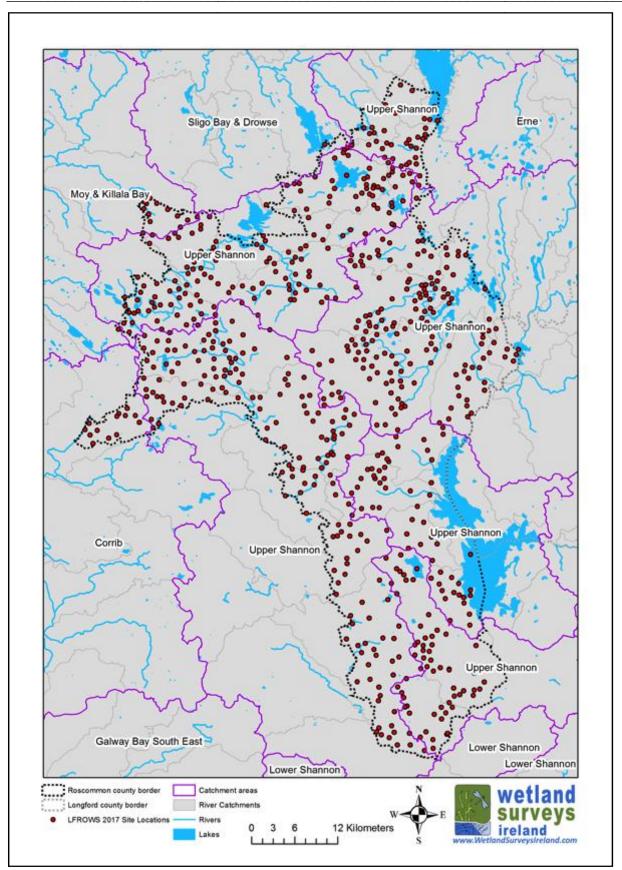


Figure 0-4: Map showing river catchments and surface water features of County Roscommon (drawn using EPA datasets) in relation to potential wetland sites.

1.7.1 Geology

Maps showing the bedrock geology of the Counties Longford and Roscommon are presented as Figure 3-5- and Figure 3-6 respectively.

The geology and soils of CountiesLongford and Roscommon are the predominant factors influencing the habitats which it supports. The underlying geology generates a variety of soil-forming parent materials, which are an important element in governing the distribution of vegetation (Kearney 2011).

1.7.1.1 Longford

The southern part of County Longford is dominated by limestones from the Carboniferous Period (330 million years old). These limestones are present in very uniform horizontal layers. The northern third of the county is covered by much older rocks, partly volcanic, from the Silurian and Ordovician periods (470 - 420 million years ago).

Near Longford town, there is an area of higher ground where older rocks are exposed at the surface, including the south-western part of the Longford-Down Massif. The Longford-Down Massif are from the Ordovician Period and are the remnants of a former mountain chain and ocean floor.

Some Silurian rocks including sandstones, siltstones and shales are present near Granard in the north east of the county.

There are no rocks younger than the Lower Carboniferous present in Longford. The majority of the bedrock is covered by a generous covering of glacial till or boulder clay which was deposited during events in the last Ice Age. It is believed that the ice age was the most significant force that shaped the form of county Longford as it is today. The large sheets of ice that were present for thousands of years eroded the underlying rocks. As these ice sheets dissolved the sediments present in the meltwaters formed landforms such as eskers.

Since the ice age the exposed limestone has become karstified, meaning it has slowly become dissolved by acidic waters moving through the rock. The process of karstification results in features such as collapses, caves, swallow holes, sinking streams, turloughs (seasonal lakes) and dry valleys. It also results in a unique and dynamic groundwater and surface water flow regime, where drainage is largely underground in solution enlarged fissures and conduits.

1.7.1.2 Roscommon

The oldest rocks in County Roscommon are from the Ordovician and Silurian periods, 470 - 420 million years ago, and consist of sandstones, siltstones and shales with minor amounts ofvolcanic tuffs and lavas. These form part of a belt of bedrock which stretches from Longfordthrough Roscommon, and into County Down.

Most of Roscommon's geological history is within the Carboniferous Period, 350 - 325million years ago. Nearly all the county has limestone near the surface, which was laid downin a shallow tropical sea which covered Ireland during this period. This limestone occurs inthick beds that are continuous over a large area. In the uplands around Lough Allen on thenorth-eastern boundary of the county, younger Carboniferous rocks are present. Thesecomprise mainly shales and sandstones with occasional beds of coal, and some ironstonenodules.

Glacial deposits overlay the limestone in some areas, but it is generally a thin layer. Parts ofRoscommon are now known to have karstic features such as swallow holes and caves in

thelimestone, where water mostly drains underground. Turloughs in particular are common in County Roscommon and are of major ecological importance, with priority status under the EU Habitats Directive.

Eskers are plentiful in the southeast part of the county. Eskers are conspicuous ridges of gravel deposited by rivers flowing beneath ice sheets during the last ice age, and were left assinuous ridges once the ice had melted. Many of these ridges have been subject to gravelextraction by small quarries. Drumlins occur in the north east of the county, north of Strokestown, and run in an east-west direction.

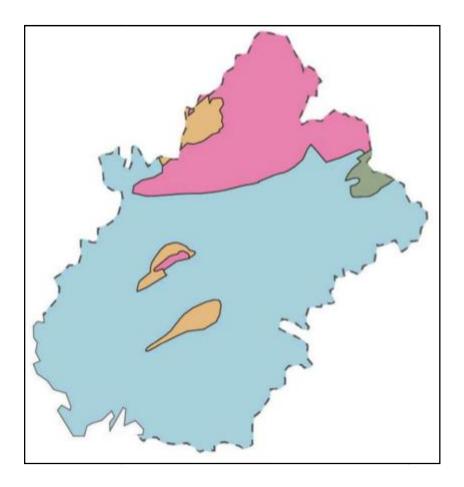


Figure 0-5: Simplified geological map of County Longford (reproduced from http://geoschol.com/).

(Pink: Ordovician; Grey: Ordovician & Silurian; Beige: Devonian sandstones and conglomerates; Light Blue: Lower Carboniferous limestone).

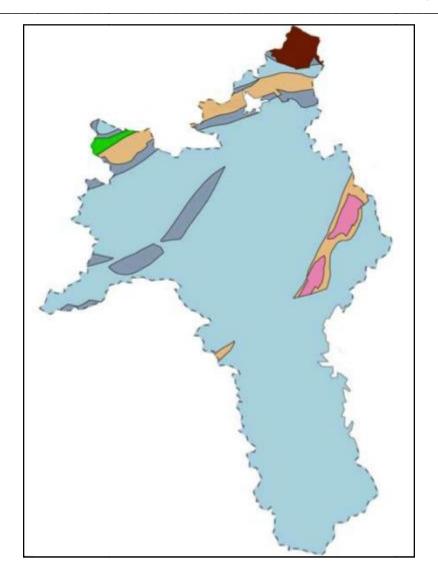


Figure 0-6: Simplified geological map of County Roscommon (reproduced from http://geoschol.com/).

(Pink: Ordovician; Green: Silurian; Beige: Devonian sandstones and conglomerates; Dark Blue: Lower Carboniferous sandstones; Light Blue: Lower Carboniferous limestone; Brown: Upper Carboniferous shaales).

1.7.2 Sub-soils

The various sub-soils that were used to indicate potential wetland areas during the GIS analysis of the county's wetland resource are presented in Table 3-2 (as mapped by Meehan 2004). A map showing the full extent of these sub-soil types (full extent of potential wetland) for Longford is presented in Figure 0-7. The extent of these subsoils in County Roscommon can be seen in Figure 0-7.

Table 3-2The sub-soil types used to identify potential wetlands in Counties Longford and Roscommon (from Teagasc Parent Material map (Meehan 2004)).

Sub-soil type	Code	Likely wetland type (Fossitt)
Mineral alluvium	А	GM1
Cutaway (Basin & Blanket Peats) ¹	Cut	PB1/PB4/FS1/PF2/PF3
Blanket Peat	BktPt	PB3/PB4/HH3
Basin Peat (Fen Peat)	FenPt	PF1/PF2/PF3
Lacustrine	L	GM1/FS1/FS2/FP1/FP2/PF1/PF2
Clayey	Lc	GM1
Marl	Mrl	PB4 / PB1
Lake (including reservoirs)	Water	FL

1_

¹This category also includes remnant areas of intact raised bog in both counties.

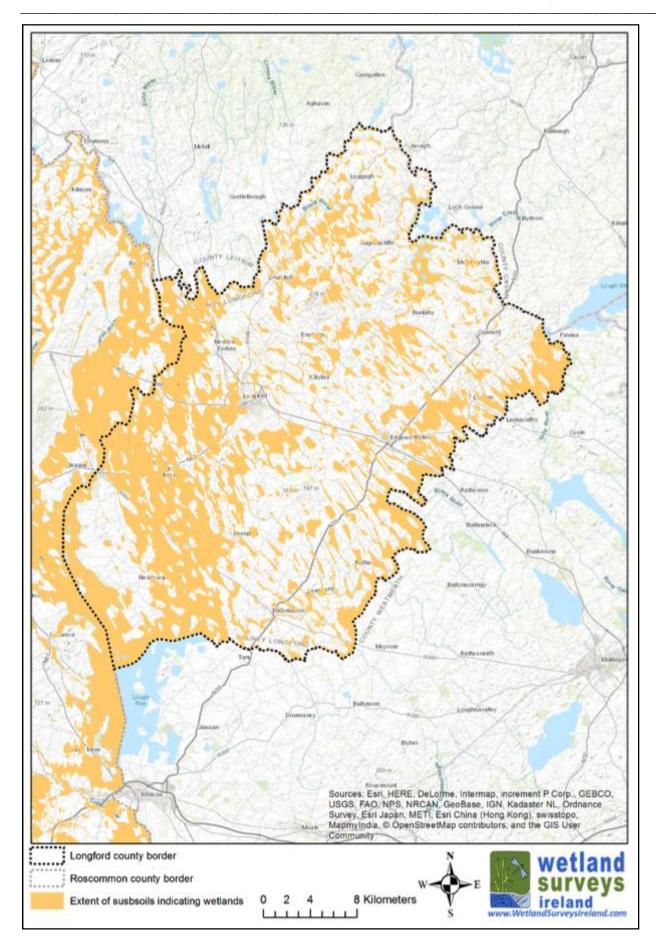


Figure 0-7:Sub-soil (parent material) map of CountyLongford. Source: Teagasc subsoil (or parent material) map (Meehan 2004).

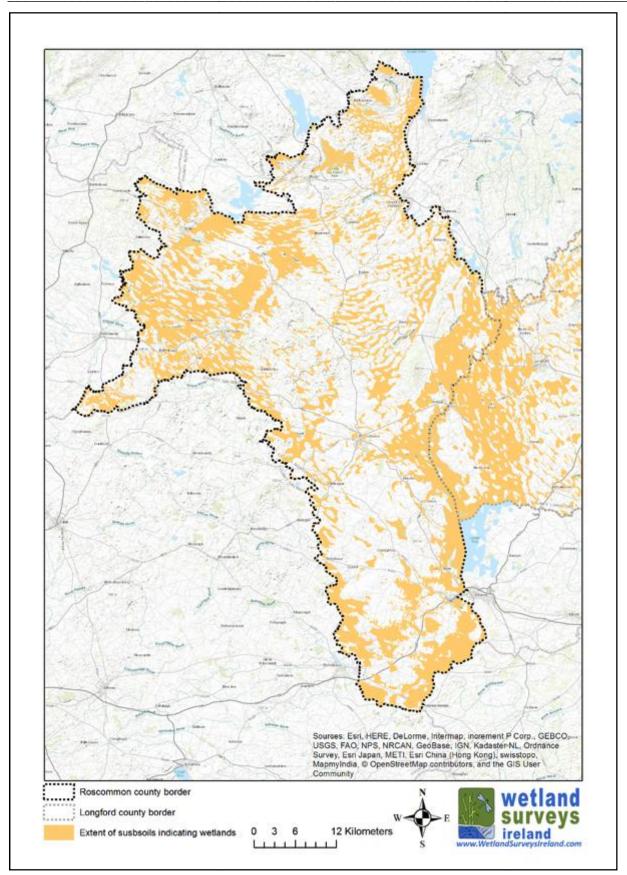


Figure 0-8: Sub-soil (parent material) map of County Roscommon. Source: Teagasc subsoil (or parent material) map (Meehan 2004).

1.8 Wetland Habitats in Counties Longford & Roscommon

Counties Longford and Roscommon contain a wide range of wetlands of international and national importance. Due to the topography, hydrology, climate and soils present it has wetland habitats ranging from raised bogs, fens, marshes, large riverine systems, a variety of lake types, wet woodlands, and many more.

The LFROWS 2017 set out to map the distribution and extent of all known and potential wetland areas in counties Longford and Roscommon. This is the first such inventory of wetland sites in these counties.

This section provides a brief description and illustration of the main freshwater wetland habitat types likely to occur in the wetland sites in Longford and Roscommon as defined by the Heritage Council habitat classification system (Fossitt 2000)¹, together with examples of where they have been reported in either county. An indication is also provided of the main threats faced nationally by those wetlands habitats deemed to be of high conservation importance, based mainly on the National Parks and Wildlife Service (NPWS) report entitled 'The Status of EU Protected Habitats and Species in Ireland' (NPWS 2013). Further details on the habitat characteristics together with their relationship to habitats listed on the EU Annex I Habitats Directive habitats is presented in Fossitt (2000).

The Heritage Council Guide to Habitats in Ireland (Fossitt 2000) sets out a standard hierarchical scheme for the identification of habitats in Ireland. It provides a practical tool to allow identification and recording of habitat types. The guide lists the main terrestrial wetland and wetland related habitats in Ireland under the main level 1 categories of freshwater, grassland and marsh, heath and dense bracken, peatlands, woodland and scrub, and coastal. Table 3-3 lists the principal wetland habitat types likely to occur in the wetland sites identified during the LFROWS 2017. The level 1 wetland habitat categories are further divided to level 2 and subsequently level 3 as shown in Table 3-3. These levels provide progressively more detail of the specific wetland habitat(s) recognised.

Recent targeted national surveys commissioned by the NPWS are improving our knowledge of the extent of particular habitats in both Longford and Roscommon (Perrin *et al.* 2008; O'Neill*et al.* 2013; O'Neil and Martin 2015; and NPWS 2013). Similarly, a number of biodiversity initiatives promoted by Longford and Roscommon County Councils, the Heritage Council, and local interest groups are also adding to our knowledge of the natural history of the county (e.g. Browne Dunne Roche 2002; Kearney 2010; Roscommon County Council 2012; Foulkes and Murray 2005; Foulkes 2006, Minerex 2006). However, to date there has been no systematic survey of many wetland types such as fens and marshes in either county.

Table 3-3: Wetland habitat types (Fossitt 2000) recorded as part of the Counties Longford and Roscommon Wetland Study project 2017.

Fossitt Level 1	Fossitt Level 2	Fossitt Level 3
Habitat Code and Name	Habitat Code and Name	Habitat Code and Name
F Freshwater	FL Lakes and Ponds	FL1 Dystrophic lakes *
		FL2 Acid oligotrophic lakes *
		FL3 Limestone/marl lakes*
		FL4 Mesotrophic lakes
		FL5 Eutrophic lakes *
		FL6 Turloughs **
		FL7 Reservoirs
		FL8 Other artificial lakes and ponds
	FW Watercourses	FW1 Eroding/upland rivers *
		FW2 Depositing/lowland rivers *
		FW3 Canals
		FW4 Drainage ditches
	FP Springs	FP1 Calcareous springs **
		FP2 Non-Calcareous springs
	FS Swamps	FS1 Reed and large sedge swamps
		FS2 Tall herb swamps *
G Grassland and Marsh	GS Semi-natural grassland	GS4 Wet grassland *
	GM Freshwater marsh	GM1 Marsh *
H Heath & dense bracken	HH Heath	HH3 Wet heath *
P Peatlands	PB Bogs	PB1 Raised bogs **
		PB2 Upland blanket bog **
		PB3 Lowland blanket bog **
		PB4 Cutover bog*
		PB5 Eroding blanket bog
	PF Fens and Flushes	PF1 Rich fen and flush **
		PF2 Poor fen and flush
		PF3 Transition mire and quaking bog *
W Woodland and scrub	WN Semi-natural woodland	WN4 Wet pedunculate oak-ash woodland **
		WN5 Riparian woodland
		WN6 Wet willow-alder-ash woodland
		WN7 Bog woodland **
	WS Scrub/transitional woodland	WS1 Scrub *

Note: Level 3 Fossitt habitats with an equivalent habitat under Annex I of the EU Habitats Directive are marked with an *, while **priority** habitats under the EU Habitats Directive are marked with **.

FL1 - Dystrophic lakes



Natural dystrophic lakes and ponds are an Annex I habitat (3160) under the EU Habitats Directive.

Natural lakes and ponds that are highly acidic (pH range 3.5-5.5), base-poor and low in nutrients, and where the water is brown in colour owing to inputs of humic and other acids from peat.

They are usually associated with blanket bogs, mainly the lowland type, raised bogs, cutover bogs and wet heathland areas and are characterised by peaty rather than

rocky margins and substrata. The transition from bog to open water is often abrupt. These lakes are important habitats for insect life.

The principal threats to natural dystrophic lakes and ponds are peat cutting, overgrazing and afforestation of peatland habitats.

This habitat is present throughout the bogland areas of the county such as Kilronan Mountain Bog NHA and raised bogs such as Derreenasooin Co. Roscommon (illustrated).

FL 3 - Limestone and marl lakes



Annex I habitat (3140) under the EU Habitats Directive. Hard water lakes and ponds of limestone areas that are base-rich and poor to moderately rich in nutrients (oligo- to mesotrophic).

The water is typically clear and the lake sediment usually has a high proportion of marl, a white clay precipitate of calcium carbonate. Marl-forming Stoneworts (*Chara* spp.) are often abundant and may form dense carpets in unpolluted waters. Various-leaved Pondweed (*Potamogeton gramineus*) is also characteristic. These lakes are

frequently fringed by alkaline fen and flush vegetation. These lakes are important habitats for insect and birds.

Hard water lakes are often shallow and have a natural high capacity to buffer the effects of enrichment from phosphorus. However, build up of phosphorus in the sediment of these lakes can lead to rapid shifts in ecosystem quality. There is a continued threat from nutrient enrichment in these lowland lakes arising from intensification of agriculture and urban developments.

This habitat type occurs at Errit Lough, County Roscommon.

FL4 - Mesotrophic lakes



Lakes and ponds that are moderately rich in nutrients, and where the water is sometimes discoloured by algae. Characteristic aquatic plants include White Water-lily (*Nymphaea alba*), Yellow Water-lily (*Nuphar lutea*), and a large number of Pondweeds, Stoneworts (*Chara* spp.) may also be present. The fringing and aquatic plant communities are typically more lush than those associated with oligotrophic lakes.

These lakes are important habitats

for insect and birds.

The principal threats to mesotrophic lakes include nutrient enrichment arising from agricultural practices such as overgrazing and excessive fertilisation, as well as afforestation, and waste water from housing developments in rural areas. Lakes may also be negatively affected by the introduction of invasive alien species, and their utilization for an increasing number of sport and leisure activities.

Lough Ree, the second largest lake on the Shonnon system inCountiesLongford and Roscommon is a fine example of a mesotrophic lake (illustrated).





Natural Eutrophic lakes are an Annex I habitat (3150) under the EU Habitats Directive.

Eutrophic lakes and ponds that are high in nutrients and baserich and the water is usually discoloured or turbid, often grey to green in colour, from the abundant algae and suspended matter present.

Some water bodies are naturally eutrophic but most Irish lakes

are eutrophic as a result of enrichment and high levels of nutrients entering the water.

Characteristic aquatic plants of eutrophic lakes and ponds include Duckweeds (*Lemna* spp.), Pondweeds (*Potamogeton* spp.) and Spiked Water-milfoil (*Myriophyllum spicatum*). Submerged aquatics are usually rare or are restricted to shallow waters owing to poor light penetration. Reed beds on sheltered shores and dense stands of fringing vegetation are characteristic of eutrophic

lakes and ponds. The main threat to this lake type is further nutrient enrichment caused by human activities.

Lough Gowna in Co. Longford (illustrated), is an example of a moderately eutrophic lake (EPA 2017).

FL6 - Turloughs



Turloughs are a priority habitat under the EU Habitats Directive.

Turloughs are seasonal lakes that occupy basins or depressions in limestone areas, and where water levels fluctuate markedly during

the year. They are virtually unique to Ireland and are present in high numbers in counties Roscommon, Clareand Galway.

The general pattern of turloughs is to flood in winter and dry out in summer, but there may be other sporadic rises in response to periods of high rainfall. Turloughs normally fill through underground passages and sinkholes in the limestone, but some also have inflowing rivers or streams. Some turlough basins retain standing water in channels, pools or small lakes when flooding subsides. All areas within the normal limit of flooding are considered as part of the turlough habitat. The presence of the distinctive dark moss, *Cinclidotus fontinaloides*, on stone walls or rocks can help to establish the flooding level within a turlough.

Soils of turlough basins can include marls, peat, clays or loams. Large boulders or exposures of bedrock may also be present. Nutrient enrichment and inappropriate grazing regimes are the main threats to turlough habitats in Ireland.

County Roscommon has numerous turloughs within the county and together with sites in Galway, Clare and Sligo forms the centre of distribution for this important habitat type in Ireland. The photograph shows Lisduff Turlough, Co. Roscommon. Turloughs also occur numerous in County Longford, although less frequently.

FL8 - Other artificial lakes and ponds



This category includes farm ponds, artificial or ornamental bodies of standing water that may be found in parks, demesnes, gardens or golf courses as well as flooded quarries, tailings ponds and water treatment plants (with open water). The nutrient status of these artificial water bodies is variable and may be high as in the case of hypertrophic lakes in urban parks.

These water bodies are often important habitats for invertebrates and amphibians as they represent a more 'natural' habitat within otherwise highly managed environments. They may also have a high educational value in urban areas as a first contact point for people with a wetland habitat and its wildlife. The main threats faced by such habitats include water pollution, habitat destruction caused by changes in farming practice or abandonment and infill by encroaching vegetation.

An example of this habitat can be seen at Corlea in Co. Longford, where a series of artificial ponds were created to keep the bog containing the Iron Age trackway wet (illustrated).

FW1 - Eroding/upland rivers



The EU Annex I habitats Floating river vegetation (3260) or Chenopodium rubri (3270) may correspond with this habitat type.

Natural watercourses, or sections of these, that are actively eroding, unstable and where there is little or no deposition of fine sediment. Eroding conditions are typically associated with the upland parts of river systems where gradients are often steep, and water flow is fast and turbulent. For some rivers on the seaward side of coastal mountains, particularly in the west of Ireland, eroding conditions persist to sea level because of

comparatively steep gradients over short distances, and high rainfall. Small sections of other lowland rivers may also be eroding where there are waterfalls, rapids or weirs. The beds of eroding/upland rivers are characterised by exposed bedrock and loose rock. Pebbles, gravel and coarse sand may accumulate in places, but finer sediments are rarely deposited. These rivers vary in size but are usually smaller and shallower than depositing/lowland rivers.

The unstable rocky channels of eroding/upland rivers usually support little vegetation cover. Submerged rocks and boulders may be colonised by aquatic mosses. Exposed rocks and wet

shaded banks may also support extensive cover of lichens and liverworts. Higher plants are generally rare or absent except in places where fine sediments are trapped.

Pressures from eutrophication, overgrazing, excessive fertilisation, afforestation and the introduction of invasive alien species are the main threat to this habitat. Almost two thirds of the rivers assessed by the Environmental Protection Agency (EPA) are at risk of failing to meet their environmental objectives.

This habitat is rare throughout Counties Longford and Roscommon due to the absence of significant upland areas in the two counties.

FW2 - Depositing/lowland rivers



The EU Annex I habitats Floating river vegetation (3260) or *Chenopodium rubri* (3270) may correspond with this habitat type.

Watercourses, or sections of these, where fine sediments are deposited on the river bed. Depositing conditions are typical of

lowland areas where gradients are low and water flow is slow and sluggish. These rivers vary in size but are usually larger and deeper than those above. In a natural state these rivers erode their banks and meander across floodplains.

Plant and animal communities are influenced by numerous factors including substratum type, water force, nutrient status, water quality, channel size, water depth, human impact, disturbance and shade. The substratum of depositing/lowland rivers comprises mainly fine alluvial or peaty sediments. Vegetation may include floating and submerged aquatics, with fringing emergents in shallow water or overgrowing the banks.

Due to their location in lowland areas, where agricultural activities are prevalent and with increased population pressures, most of these rivers have been modified to some extent to control water flow, facilitate navigation or prevent flooding and erosion. Canalised or walled sections of rivers, dredged or deepened sections, and artificial earth banks may occur. These activities all alter the natural river bank and adjacent vegetation occurring along such rivers.

The principal threats to these rivers include nutrient enrichment arising from agricultural practices, human developments along river banks and the introduction of invasive alien species, and utilization for sport and leisure activities.

Numerous examples of this habitat occurin counties Longford and Roscommon. The River Suck in Co. Roscommon (illustrated) fits into this category.

FW3 - Canals



Canals are artificial linear bodies of water that were originally constructed for the purpose of navigation. They typically lack currents and strong any significant channel or bank erosion. This means that canals tend to have closer affinities with ponds than rivers. They are readily colonised by aquatic plants and frequently support floating, submerged or emergent vegetation.

Locks that are used to control

water levels are considered as part of the canal habitat. Canals are important habitats for fish, insect and bird life.

All canals require management and maintenance to keep them open and operational. Where canals are abandoned they rapidly become choked with aquatic vegetation. An example of this habitat in Co. Longford is the Royal Canal (illustrated).

FW4 - Drainage ditches



These are linear water bodies or wet channels that are entirely artificial in origin, and some sections of natural watercourses that have been excavated or modified to enhance drainage and control the flow of water. Drainage ditches may be intimately associated with a range of other wetland types, including wet grassland, and modified marsh, bog and fen habitats.

Drainage ditches are generally not used for navigation and are typically narrower than canals. Drainage ditches either contain water (flowing or stagnant) or are wet enough to support wetland

vegetation. Water levels are also likely to undergo seasonal fluctuations.

Drainage ditches must be maintained and cleared in order to keep them open. Those that are overgrown with vegetation are likely to be cleared intermittently.

This is a common habitat type throughout CountiesLongford and Roscommon, examples of the habitat can be seen at most wetland sites in the county (Illustrated:drainage ditch at Castlesampson Bog, Co. Roscommon).

FS1 - Reed and large sedge swamps



Swamps are commonly found around lakes, on slow flowing river banks and estuaries.

They are usually species-poor stands of vegetation that are dominated by reeds and other large grasses or large, tussockforming sedges. Most reed and large sedge swamps are overwhelmingly dominated by one or a small number of species, as in the case of reed beds. Stands of vegetation can range from very dense to open. Unlike tall-herb swamps below, in reed and large

sedge swamp the broad-leaved herb component is a minor element in the vegetation.

Swamps support a number of EU protected species including Otter, Sedge Warbler, Water Rail, Moorhen and other water fowl.

The principal threats to this habitat include nutrient enrichment and damage arising from agricultural practices (overgrazing, mowing and drainage), human developments around lakes and utilisation of lakes for increased sport and leisure activities.

Examples of this habitat are common on lakes and lowland rivers throughout Counties Longford and Roscommon.

GS4 - Wet grassland



Better examples of the habitat may correspond with *Molinia* meadows on calcareous, peaty or clayey-silt-laden soils are Annex I habitat (6410) under the EU Habitats Directive.

Rushy fields or wet grassland can be found on flat or sloping ground in upland and lowland areas. It occurs on wet or waterlogged mineral or organic soils that are poorly-drained or, in some cases, subjected to seasonal or periodic flooding. On sloping ground, wet grassland is mainly confined to clay-rich gleys and loams, or

peaty soils that are wet but not waterlogged. Wet grassland occurs on areas of poorly-drained farmland that have not recently been improved, seasonally flooded alluvial grasslands such as the River Shannon callows, and wet grasslands of turlough basins.

Agricultural intensification over the past century, drainage, increased fertilisation and more recently, abandonment of pastoral systems, which contributes to rank vegetation and scrub encroachment, all lead to the loss of some typical flora and to a reduction in the area of the habitat nationally.

This habitat type is common throughout CountiesLongford and Roscommon, and can be seen in

agricultural areas with impeded drainage.

GM1 - Marsh



May correspond with Annex I habitat 'hydrophilous tall herb swamps (6430)' under the EU Habitats Directive.

Marsh is found on level ground near slowflowing river banks, lake shores, and in other places where mineral or shallow peaty soils are waterlogged, and where the water table is close to ground level for most of the year.

Unlike swamps, standing water is not a characteristic feature except, perhaps, during very wet periods or in winter months.

Marshes tend to be comparatively species-rich especially with herbs. It can be an ideal breeding ground for waders such as Snipe.

The main threats to this habitat include the spread of invasive species, arterial drainage and agricultural improvement at the edge of rivers and lakes.

Marsh areas are likely to be common throughout counties Longford and Roscommon.

HH3 - Wet Heath



Annex I habitat (4010) under the EU Habitats Directive. Wet heaths include vegetation with at least 25% cover of dwarf shrubs such as Ling Heather, on peaty soils and shallow wet peats that typically have an average depth of 15-50 cm (where deeper peat deposits occur the habitat is usually classified as bog). Wet heath can occur in upland and lowland areas and is widespread on the lower slopes of hills and mountains that are either too dry or too steep for deep peat accumulation.

Wet heath can grade into, or form intimate mosaics with upland blanket bog, or lowland

blanket bog with minor changes in slope and topography. Wet heath is typically dominated by Ling Heather (*Calluna vulgaris*) and Cross-leaved Heath (*Erica tetralix*), or by Purple Moor-grass (*Molinia caerulea*) and/or Sedges. Moss and Lichen cover may be high in areas of undamaged wet heath. Wet heaths and adjacent blanket bog areas support a number of EU protected species including Red Grouse, Curlew, Golden Plover and Hen Harrier.

Reclamation, afforestation and burning have resulted in extensive loss of wet heath. Overstocking of land with sheep has also degraded large areas of the habitat, especially in western regions, through overgrazing and trampling. This has depleted heather and other plant cover and allowed invasion by non-heath species, or exposure of peat to severe erosion.

This habitat is only known for the upland areas in the north-western part of County Roscommon.

PB1 - Raised bogs



Priority habitat (7110) and Annex I habitat (7120 & 7150) under the EU Habitats

Directive.

Raised bogs are accumulations of deep acid peat (3-12 m) that originated in shallow lake basins or topographic depressions at the end of the last glaciation 10,000 years ago. The name is derived from the elevated surface, or dome, that develops as raised bogs grow upwards from the surface accumulating organic material; the domed effect is often exaggerated when the margins of a bog are damaged by turf cutting or drainage,

and are drying out.

The surface of a relatively intact raised bog is typically wet, acid and deficient in plant nutrients (as bogs receive most of nutrients through rainfall), and supports specialised plant communities that are low in overall diversity. The vegetation is open and colourful *Sphagnum* mosses dominate the ground layer. Raised bogs are most abundant in the lowlands of central and mid-west Ireland.

Intact actively growing raised bog is extremely rare, having decreased in area by over 35% in the last 10 years. Ongoing deterioration of the hydrological conditions of raised bogs at current rates caused by peat cutting, drainage, forestry and burning severely threatens the viability of the habitat at most locations in Ireland.

Excellent examples occur on a number of raised bog sites in both Longford and Roscommon. The photograph shows active raised bog habitat at Castlesampson Bog, Co. Roscommon.

PB4 - Cutover bog



either domestic or commercial purposes.

Depressions on peat substrates (found within cutover bog areas) are an Annex I habitat (7150) under the EU Habitats Directive that can occur in areas of cutover bog.

Cutover bog is a variable habitat, or complex of habitats, that can include mosaics of bare peat and re-vegetated areas with woodland, scrub, heath, fen and flush or grassland communities. It occurs where part or all of the original peat has been removed through turf cutting, by the traditional hand method or mechanically, for

The nature of the recolonising vegetation depends on numerous factors including the frequency and extent of disturbance, hydrology, the depth of peat remaining, and the nature and soil chemistry of the peat and the underlying rock or soil. Standing water is usually present in drains, pools or excavated hollows. Some large areas of cutover bog have been reclaimed as farmland or planted with trees, particularly conifers.

The full extent of cutover may be difficult to establish as it frequently grades into other marginal habitats or farmland.

The habitat is widespread surrounding industrially and traditionally cutover raised bogs in Counties Longford and Roscommon. Examples of the habitat occur Rooskagh Bog, Co. Roscommon (illustrated).

PF1 - Rich fen and flush



Alkaline (rich) fen is an Annex I habitat (7230) under the EU Habitats Directive. Saw sedge (*Cladium mariscus*) fen, a particular type of rich fen, is a priority habitat (7210) under the EU Habitats Directive.

Rich fen and flush are peat forming wetlands that receive mineral nutrients from sources other than rainfall, usually groundwater or flowing surface waters that are at least mildly base-rich or calcareous, and are usually found over areas of limestone bedrock. The substratum is

waterlogged peat and this usually has a high mineral content.

Fens differ from bogs because they are less acidic and have relatively higher mineral levels. They are therefore able to support a much more diverse plant and animal community.

They occur in a variety of situations including valleys or depressions, valley head fens, within transition mire and tall reed beds, on the landward side of hard-water oligotrophic lakeshore communities, calcium-rich flush areas in blanket bogs, dune slack areas, fens adjacent to raised and blanket bogs, in turlough sites, depressions in limestone pavement and wet hollows in machair, and spring fed habitats including cliffs, and even saltmarsh.

Alkaline fen may also occur as a secondary regenerating habitat on mined out bog sites which have been excavated to the fen peat layer.

Vegetation is typically dominated by Black Bog-rush (*Schoenus nigricans*) and/or small to medium Sedges (grass like plants). Rich fen and flush can be important for orchids. A well-developed layer of brown moss is also characteristic. Rich fen are also important habitats insects and for a number of rare snail species.

Like most peatland types in Ireland, fens have declined in extent mostly as a result of activities such as peat mining, agricultural drainage, infilling, and fertiliser pollution and eutrophication. Only limited measures have been introduced to address these damaging activities, which are likely to have increased in severity since the 1990's.

The habitat occurs frequently in Counties Longford and Roscommon often associated with floodplain or cutover bog situations. Rich fen habitats occur at Lough Gara in Roscommon and around the shores of Lough Ree in both counties.

PF2 - Poor fen and flush



Poor fen and flushes include peatforming communities that are fed by groundwater or flowing surface waters that are acid. In most cases the substratum is acid peat which has a higher nutrient status than that of surrounding acid bogs. The vegetation of poor fens and flushes is typically dominated by sedges and extensive carpets of mosses, in particular, *Sphagnum* moss.

Poor fens occur in a variety of situations including areas flushed by moving water in upland and lowland blanket bogs, flushed depressions in grassland areas, cutover bogs and wet heath areas. Like most peatland types in Ireland, poor fens have declined in extent mostly as a result of activities such as peat cutting and mining, afforestation, agricultural drainage, infilling, and fertiliser pollution and eutrophication.

The habitat is commonly associated with the wetter areas on cutaway raised bog and upland bogs in Counties Longford and Roscommon, such as Kilronan Mountain Bog NHA, Co. Roscommon (illustrated).

PF3 - Transition mire & quaking bog



Annex I habitat (7140) under EU Habitats Directive. Transition mires and quaking are peat-forming bogs communities developed at the surface of waters with little or moderate amounts of nutrients. with characteristics intermediate between rich (alkaline) and poor (acidic) fen types. For this reason, they are considered as a separate habitat but they may occur within, or on the fringes of other peat-forming systems.

They present a large and diverse range of plant communities. In large peaty systems, the most prominent communities are swaying swards, floating carpets or quaking mires formed by medium-sized or small Sedges, associated with Sphagnum or brown mosses.

Transition mires and quaking bogs are usually associated with the wettest parts of a bog or fen and can be found in wet hollows, infilling depressions, or at the transition to areas of open water. The vegetation frequently forms a floating mat or surface scraw over saturated, spongy or quaking peat. Standing water may occur in pools or along seepage zones. The vegetation typically comprises species that are characteristic of bog, fen and open water habitats.

In some cases the mire occupies a physically transitional location between bog and fen vegetation, for example on the margin of a raised bog, or may be associated with valleys or basins.

The habitat is occasional in Counties Longford and Roscommon on former cutover bogs and on the margins of many small lakes, such as at Derrinea Bog, Co. Roscommon and Derry Lough pNHA in Co. Longford.

WN4 - Wet pedunculate oak-ash woodland



Priority habitat (91E0) under the EU Habitats Directive.

This type of woodland is associated with areas that are flooded or waterlogged in winter but which dry out in summer. It occurs on periodically-flooded alluvial sites that are well above the limits of regular inundation, and on drumlins and other sites with heavy, poorly-drained clay soils that are subject to waterlogging.

The woodland is dominated by Pedunculate Oak (*Quercus robur*) and/or Ash (*Fraxinus excelsior*), with other common components including Alder (*Alnus glutinosa*), Willows (*Salix* spp.) can be locally abundant.

When flooding subsides in alluvial sites, exposed channels and depressions may remain wet or waterlogged.

The area of alluvial forests has declined in Ireland and this, taken together with their fragmented nature, abundance of alien invasive species and sub-optimal grazing regimes and drainage continues to threaten the habitat. This habitat is uncommon in the counties Longford and Roscommon, but has been reported from Kiltyreher Wet woodland in Co. Longford.

WN5 - Riparian woodland



This can correspond to priority habitat (91E0) under the EU Habitats Directive.

Riparian woodlands are wet woodland habitats of river margins (gallery woodland) and low islands that are subject to frequent flooding, or where water levels fluctuate as a result of tidal movement (in the lower reaches of rivers).

Riparian woodland is dominated by stands of Willows that may include native and non-native species. Alder (*Alnus glutinosa*) is occasional. Stands of Reed Canary-grass

(*Phalaris arundinacea*) are common. Indian Balsam (*Impatiens glandulifera*), an introduced species, is locally abundant. These woodlands often reveal an accumulation of river borne debris, including dead vegetation and plastic, when water levels are low. A fine coating of grey mud on vegetation and tree bases that are regularly submerged and immersed is also characteristic.

Their fragmented nature, abundance of alien invasive species and sub-optimal grazing regimes and drainage continues to threaten the habitat.

The habitat is rare in Counties Longford and Roscommon.

WN6 - Wet willow-alder-ash woodland



Some example of this habitat can correspond with priority habitat (91E0) under the EU Habitats Directive.

Includes woodlands of permanently waterlogged sites that are dominated by willows (*Salix* spp.), Alder (*Alnus glutinosa*) or Ash (*Fraxinus excelsior*), or by various combinations of some or all of these trees.

It includes woodlands of lake shores, stagnant waters and fens, known as carr, in addition to woodlands of spring-fed or flushed sites. Carr occurs on organic soils and fen peats that are subject to seasonal flooding but remain waterlogged even when flood waters recede.

As the area of fen has declined so has the area of wet woodland, mostly as a result of activities such as peat cutting and mining, conifer afforestation, agricultural drainage and reclamation, infilling, and fertiliser pollution from adjacent farmland. Although drainage of fens may in some cases have led to a local short term increase in the cover of wet woodland in some areas.

This is likely to be the most common wet woodland type in CountiesLongford and Roscommon. Good examples of this habitat can be seen at many locations on the shores of Lough Ree, and the shores of many other lakes (Illustrated: Wet woodland fringe at Lough Duff, Co. Roscommon).

WN7 - Bog woodland



Priority habitat (91D0) under the EU Habitats Directive.

Woodlands found on intact ombrotrophic bogs (raised or blanket), bog margins and cutover bog. Bog woodland typically occurs on deep acid peat that is relatively well-drained in the upper layers and is commonly associated with former turf cutting activity or drainage or where internal raised bog drainage patterns allow the development of woodland stands (i.e. soak systems on bogs). It may also occur in areas of cutover bog where

most of the peat has been removed. Downy Birch (*Betula pubescens*) is the usual dominant and may form pure stands. Willows (*Salix* spp.) may also occur.

A characteristic feature is the ground cover of *Sphagnum* moss species which often form deep carpets, usually with *Polytrichum* mosses and occasional Lichens. Bog woodlands are closely associated with raised bogs, occurring either on intact bogs, on cutaway or on transition mires (transition between fen and bog). They are found mostly in the central and north midlands. Their total area is uncertain.

They are threatened by drainage, peat cutting, burning and development; although in the long term it is believed that they will expand as cutaway re-floods.

Drier (non-annex) examples of the habitat are frequent in Counties Longford and Roscommon, around the edges of raised bogs and on cutover bog abandoned for a long period. The Annex habitat Bog Woodland is rare in both counties with an example present on Clooneen Bog SAC, County Longford (illustrated).

WS1 - Scrub



Scrub dominated by Juniper can correspond to Juniperus communis formations on heaths or calcareous grassland are Annex I habitat (5130) under the EU Habitats Directive.

Found on a variety of habitat types, scrub includes areas that are dominated by at least 50% cover of shrubs (e.g. Gorse), stunted trees or brambles. The canopy height is generally less than 5 m, or 4 m in the case of wetland areas.

Scrub frequently develops as a precursor to woodland and is often found in inaccessible locations, or on abandoned or marginal farmland. In the absence of grazing and mowing, scrub can expand to replace grassland or heath vegetation. Trees are included as

components of scrub if their growth is stunted as a result of exposure, poor soils or water-logging. If tall trees are present, these should have a scattered distribution and should not form a distinct canopy.

This habitat is common on the edges / or invading the centre of many of the wetland sites particularly when impacted by drainage.

1.9 Protection of Wetlands in Longford & Roscommon

Due to their recognised ecological importance, a significant number of wetland sites in Counties Longford and Roscommon are offered legislative protection under various site conservation designations. The main nature conservation designations that afford protection to wetland sites in these counties are summarised below.

NP – National Park

National parks are defined as areas where one or several ecosystems are not materially altered by human exploitation and occupation; where plant and animal species, geomorphological sites and habitats are of special scientific, educational and recreational interest or which contain a natural landscape of great beauty (NPWS 2014).

There are no National Parks in Counties Longford and Roscommon.

NNR - National Nature Reserve

National Nature Reserve are areas set aside for their conservation value by the Minister for the Department of Environment, Heritage and Local Government. These sites are usually State owned, in cases where these areas are privately owned, land-owners enter into a management agreement with the National Parks and Wildlife Service.

There are no Nature Reserves in counties Longford or Roscommon.

SAC – Special Area of Conservation

Special Areas of Conservation (SACs) have been selected from the prime examples of wildlife conservation areas in Ireland. The legal basis from which selection is derived from the EU Habitats Directive (92/43/EEC of the 21st May 1992) (CEC 1992). SACs that are still undergoing the formal designation process are referred to as "candidate Special Areas of Conservation" or cSACs.

Actions that may affect the ecological integrity of sites are not to be permitted except in circumstances of overriding public interest or safety. Land-owners require permission from the Minister of the Environment to carry out certain 'notifiable actions' such as drainage or fertiliser application, depending on the habitats in question.

Carrowbehy / Caher Bog SAC is one of 32 wetland sites (main sites and sub-sites) located within areas designated as SACs in County Roscommon, while Clooneen Bog SAC is one of 13 wetland sites (main sites and sub-sites) designated as SACs in County Longford (see Appendix 3 for a list of these sites).

SPA - Special Protection Area

Special Protection Areas (SPAs) for Birds are areas which have been designated to ensure the conservation of certain categories of birds. Ireland is required to conserve the habitats of two

categories of wild birds under the European Birds Directive (Council Directive 79/409/EEC of the 2nd April 1979) (CEC 1979).

The NPWS are partly responsible together with national agencies and planning authorities for ensuring that such areas are protected from significant damage.

Lough Ree SAC SPA is one of 9 wetland sites (main sites and sub-sites) located within areas designated as SPAs in county Longford and one of 11 such sites in county Roscommon (see Appendix 3 for a list of these sites).

NHA - Natural Heritage Area

The basic designation for wildlife conservation is the Natural Heritage Area (NHA). This refers to an area considered important in a national context for the habitats present or which holds species of plants and animals whose habitat needs protection. Some of these sites are small, such as roosting areas for rare bats; others can be large such as a blanket bog complex or a sand dune system.

To date in Ireland, only raised bogs (75 sites) and blanket bogs (73 sites) have been formally designated as Natural Heritage Areas covering an area of ca 60,000 ha (NPWS 2014). Under the Wildlife Amendment Act (2000), NHAs are legally protected from damage from the date they are formally proposed for designation. The protection afforded to Natural Heritage Areas is similar to that afforded to Special Areas of Conservation as described above.

Kilronan Mountain Bog NHA is one of 12 wetland sites (main sites and sub-sites) located within areas designated as NHAs in County Roscommon, while Aghnamona Bog NHA is one of seven such wetland sites in county Longford (see Appendix 3 for a list of these sites). To date only raised bogs (currently under review – see DAHG 2014) and blanket bogs have been designated as NHAs.

pNHA - proposed Natural Heritage Areas

Proposed Natural Heritage Areas (pNHA) were published on a **non-statutory** basis in 1995, but have not since been statutorily proposed or designated. These sites are of significance for wildlife and habitats although a resurvey is urgently required to determine their current ecological value.

Nationally pNHAs cover approximately 65,000 ha and NPWS has indicated that designation will proceed on a phased basis over the coming years (NPWS 2014). Prior to statutory designation, pNHAs are subject to limited protection being considered in afforestation grants, REPS and recognition by planning authorities.

Within County Longford a total of 20 wetland sites (main sites and sub-sites) are listed as occurring within areas listed as pNHAs, while 24 wetland sites (main sites and sub-sites) are listed as occurring within areas listed as pNHAs in County Roscommon (see Appendix 3 for a list of these sites).

cNHA - candidate Natural Heritage Area

Candidate Natural Heritage Areas (cNHAs) is the name given to wildlife sites that are proposed by NPWS and by third parties for consideration as NHAs. Included within this category are the pNHAs

described above, together with newly discovered sites recommended for conservation by a variety of third parties. These sites are likely to be of importance for wildlife and habitats.

Prior to designation these sites will require further detailed survey and evaluation for their conservation value. If they are considered of national conservation value they may then enter the formal NHA designation process. The cNHA sites have no legal protection until they are taken up into the formal NHA designation process; unless they are also former pNHA (see above).

In County Longford three wetland sites (main sites and sub-sites) are listed as occurring within areas listed as cNHAs, while eight wetland sites are listed as occurring within cNHAs in County Roscommon (see Appendix 3 for a list of these sites).

Longford & Roscommon Wetland Study 2017

1.10 Introduction

The aim of the LFROWS 2017 project was to determine the location and approximate extent of wetlands in Counties Longford and Roscommon. The process of identifying wetlands involved a two phase approachas follows:

- I. a **desktop literature review** to identify all known wetlands in both counties (from published sources and known to groups and individuals) and gather background data on these sites (see Appendix 1); and
- II. a desktop analysis of Aerial Photography and other GIS datasets to identify and document potential wetlands which had not been previously reported.

Where data existed and for sites surveyed recently, the sites were ranked in terms of their conservation/ecological importance (see NRA Site Evaluation Criteria in Appendix 4) to assist Longford and Roscommon County Councils in their obligations to protect the most important wetlands within the county and to inform future conservation policies in relation to the wetland resources in these counties.

All survey data recorded during the 2017 project are held in the *LFWS* and *ROWS* Site databases, and associated *LFWS* and *ROWS* GIS datasets which should help guide spatial planning and development management by Longford and Roscommon County Councils.

1.11 Materials & Methods

As outlined above, the LFROWS 2017 comprised a comprehensive desktop study aimed at identifying the entire wetland resource of Counties Longford and Roscommon and documenting it in a *Site database* and associated GIS.

1.11.1 Longford and Roscommon Wetland Study 2017 - Desktop Study

The methodology employed during the course of the study is illustrated in Figure 0-1 below. The main stages involved were: data acquisition; design and set-up of *Site database* and *GIS datasets*; site identification and background research; data entry (and mapping) and data transfer between databases; data analysis and result presentation.

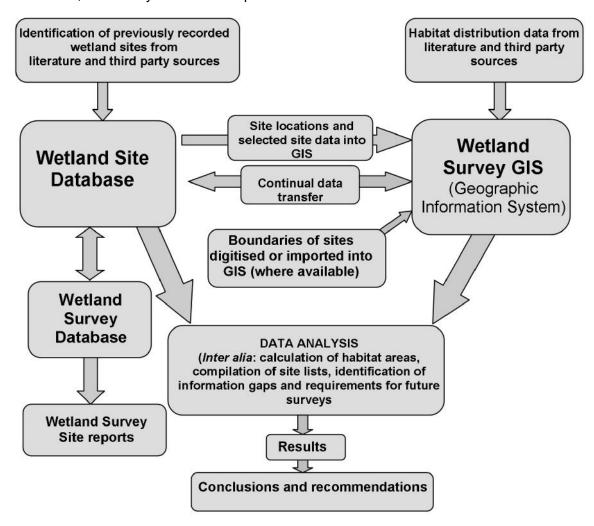


Figure 0-1:Flow chart illustrating the various steps undertaken during the course of the Longford and Roscommon Wetland Study (LFROWS) project 2017.

1.11.1.1 Data acquisition

The first stage of the LFROWS 2017 involved identifying potential wetland site data sources which included published literature, unpublished reports, scientific publications, digital data-sets, and information held by state agencies, and non-governmental organisations. Data sources that were consulted during the project are listed in Appendix 1.

The relevant data was held in a variety of formats including GIS datasets, habitat and site records in databases and spreadsheets, and in published reports, surveys and scientific publications.

1.11.1.2 LFWS and ROWS Site databases - structure and content

A *Site database* was created at the outset of this project for each county to hold and manage data on the wetland sites recorded during the study. The databaseswere created in Filemaker Pro Version 11.0 which runs on both PC and Mac platforms. Site information from the databases is readily exported to Microsoft Excel format.

In summary, the main core *Site database* holds information including: site name and code, site provenance, size (area in ha), third party site name and code, national grid reference, site conservation designations, habitat information on the specific wetland vegetation type(s) present (and extent where available), information on rare species of note, a list of published reports holding information on the site and the nature of same, and a site description.

This information is stored in the *Site database* within a series of database fields thus enabling searches, data-examination and creation of site lists during the data analysis stage of the study. An overview of the data fields and database structure used to record information in the *Site database* is provided in Appendix 2.

1.11.1.3 LFROWS Literature review – site identification

On project commencement an extensive literature review was carried out with the aim of identifying previously reported wetland sites throughout Counties Longford and Roscommon. During the data and literature review each new site found to contain, or believed to contain one or more of the 32 wetland habitat types being recorded in this study, was added to the *Site database*, or in some cases where a site record already existed additional site information was added. Basic site data (county, grid reference etc.) and data relating to the occurrence and extent of one or more of the wetland types was entered into the database for each new site added.

Where more than one individual site occurred within a larger NHA or SAC complex, a record was created for both the site complex (the main site) and the individual sub-sites within the main site (see Appendix 2 for further details).

Further information on the data recorded in the Site database is presented in Appendix 2.

1.11.1.4 LFWS and ROWS GIS datasets – structure and content

The *GIS Dataset*(created using ESRI ArcView10.3 GIS software package) holds site related information on each polygon, point, or linear feature mapped. A detailed explanation of the various GIS files and associated attribute fields are presented in Appendix 2 and on the 'readme' file in the folder containing the GIS files on the report CD (see Appendix 5).

The shapefiles created during the project were converted into MapInfo format for use by Longford and Roscommon County Councils. Both ArcGIS and MapInfo versions of the final GIS files are included on the CD accompanying this report. A summary description of the various files that make up the GIS is presented below.

Two different GIS shapefiles relating to the distribution and extent of freshwater wetland habitats were produced for each county as summarised in Table 4-4 below. Further details of attributes and data associated with each of the GIS files are presented below.

A third party dataset available from the EPA is available to show the distribution of linear watercourses within the county. This dataset could be incorporated into further revisions to the

Longford or Roscommon Wetland Survey GIS to show the distribution of canals (FW5), upland rivers (FW1), and lowland rivers (FW2).

In addition, there are a range of other third party habitat datasets available that could be incorporated into the GIS to further inform the wetland resource in each county. Examples of these datasets include; Bord na Móna habitat mapping, Raised Bog Monitoring Project mapping (NPWS), Coillte biodiversity area mapping, National Survey of Native Woodlands, National Survey of Semi-natural Grasslands, and Roscommon Habitat mapping project (Kearney 2011).

Table 4-4 GIS files produced during the LFROWS 2017.

File Name	Description
LFWS or ROWS 2017 Site	This file shows point locations of all wetland sites identified during the
Locations	2017 study.
LFWS or ROWS 2017 Site	This file shows the boundaries of a selection of sites identified during the
Boundaries	study. This file requires updating with any future county wetland survey,
	as boundaries drawn are an estimate of site extent.

1.11.1.5 LFROWS GIS - Site Identification

ArcView10.3 GIS software package on a Windows Operating System was used throughout the LFROWS 2017 for all mapping purposes. During the same period as the site database was being developed, GIS data-sources were incorporated into the two county *GIS*datasets. Following the acquisition of the relevant base-maps and aerial photography from Longford and Roscommon County Councils, other data-sets were added as they became available (see Appendix 1 for list of all GIS datasets used during the LFROWS). See Appendix 2 for further details of methodology employed in compiling the GIS.

The county was systematically surveyed on a 10km x 10km basis using the OS series of 6 Inch Maps in combination with colour aerial photography (Ordnance Survey of Ireland, 2005 series), the subsoils map, and other relevant GIS datasets. As new sites were identified, a new site record was created in the *Site Locations* (point) GIS file. An approximate boundary based on pre-existing designations or interpretation of aerial imagery was drawn for each site. Due to project constraints, habitat polygons were not drawn for wetland sites. Following this a site name was applied (usually the townland where site occurs), and grid co-ordinates recorded. This information was subsequently exported to the *Site database*.

In general, it is relatively straight-forward to identify wetlands from non-wetland habitats based on aerial photography in combination with six inch mapping, the parent material (sub-soil) dataset, and topographical mapping. Digitising was undertaken at a scale of 1:2000 and the feature being digitised either traced an underlying vector or followed the centre of the feature in the underlying raster (usually either aerial photography).

It is important to note that analysis of aerial photography is a relatively crude exercise and should not be used for any more than identifying 'potential' wetland types. Habitats can only be assigned (especially to level 3 of Fossitt) by field survey and ground-truthing.

1.11.1.6 Data Transfer and Mapping of sites from the Site database

The sites identified from the literature review were exported from the *Site database* and imported into the GIS as individual points by using the grid co-ordinates reported in the literature. Each of the sites was examined in the GIS and the precise location confirmed.

Where existing digital habitat map data was acquired from third party sources for identified sites, this was incorporated into the GIS. Desktop habitat mapping of sites was not undertaken during the LFROWS 2017due to study constraints.

1.11.2 Study Constraints and Limitations

The main output from this study is the production of a preliminary inventory of wetlands for Counties Longford and Roscommon.

A number of difficulties and limitations with respect to the compilation of the LFROWS list of wetland sites were encountered, which the reader should be aware of, before interpretation of the data is undertaken and to provide an estimate of the level of confidence that can be applied to the data from the current study.

1.11.2.1 Wetland site identification

Although every effort was made to compile a complete map of all potential wetland sites in Counties Longford and Roscommon, it is probable that additional smaller wetland sites do occur which have not been mapped within the *GIS* or listed in the *Site database*. Therefore the list of sites presented in the GIS and accompanying database should not be regarded as definitive.

1.11.2.2 Wetland boundary mapping

The data-sets which contributed to the site boundaries came from a variety of sources (as recorded within GIS). This has meant that it is of varying quality. Some of the data originates from detailed field surveys while other data may originate from interpretation of sub-soils, aerial photography, or six inch mapping. Therefore, it must be emphasised that the boundary data should be treated with care and used only as an indicative map of wetland distribution. The methodology and scales used when digitising also varies across datasets.

It is foreseen that the wetland boundaries will be refined following field surveys. Coupled with this, a review of all sites should be undertaken with a view to carrying out field surveys at those sites likely to be of highest ecological importance.

1.12 Results

1.12.1 LFROWS 2017 - Desktop Study

1.12.1.1 Site Databases

The *Site database* version 1.0 holds information on 281 wetland sites (main sites and sub-sites) in County Longford and 676 wetland sites (main sites and sub-sites) in County Roscommon.

The CD accompanying this report includes a copy of both the *LFWS* and the *ROWS* Site database in both Filemaker Pro and Microsoft Excel formats (see Appendix 4).

A list of all the wetland sites recorded in both the *LFWS* and *ROWS* Site databases are provided in Appendix 3 in this report together with a labelled map showing their location (an Excel version of this spreadsheet is included on the report CD).

A complete export of information held on the site records in the *LFWS*and *ROWS Site* databases are provided in a separate Excel spreadsheet file (LFWS2017_total_site_list.xls and ROWS2017_total_site_list.xls) included on the report CD.

1.12.1.2 GIS Databases

Point locations of all 281 wetland sites (main sites and sub-sites) in County Longford and 676 wetland sites (main sites and sub-sites) in County Roscommon are included in the site location datasets (LFWS Site Locations and ROWS Site Locations).

Boundaries of all 255main sites in County Longford and 633 main sites in County Roscommon are included in the site boundary shapefiles (LFWS Site Boundaries and ROWS Site Boundaries). Sub-sites occur within these main site areas.

The *LFROWS GIS* includes two individual ESRI shape-files and equivalent MapInfo Tab files. These are summarised in 1.11.1.4above and further details are presented in Appendix 2. Copies of these files can be found on the report CD (see Appendix 4).

1.12.1.3 Distribution and extent of wetlands in Counties Longford and Roscommon

As outlined above, a total of 957 wetland sites have been identified, with 281 sites present in Longford and 676 sites in Roscommon. Maps showing the distribution of these sites in relation to designated sites are shown in Figure 0-2 and Figure 0-3. From these maps, it can be seen that the wetland sites are relatively evenly distributed throughout both counties and the majority of wetland sites occur in non-designated areas.

The sub-soils (or parent material) map of Ireland was used as a primary source in identifying areas of potential wetland within the county. Based on analysis of the sub-soil types that indicate wetland areas, the total area of wetland within Longford is estimated to be up to 413km^2 or 37.9% of the county. For Roscommon, wetland areas indicated by subsoils covered 918km^2 or 34.7% of the land area of the county. While an indication of the original extent of wetlands, this approximation is certainly an over estimate as it does not take account of changes due to land management or drainage.

During the LFROWS intital site boundaries were drawn for wetland sites in both counties. The boundaries were mapped using information available from third parties and by interpretation of aerial imagery and other datasets. The extent of main wetland sites mapped in County Longford

was 203km², representing 18.6% of land area (Figure 0-2). In County Roscommon the total area mapped was 580km², or 21.9% of land area in the county (**Figure 0-3**). This includes areas of bog, wet grassland, lakes, swamp, fen and wet woodland. However, there are significant areas of dryland habitat also present within these site boundaries where they occur in close association with wetland habitats. In order to determine the exact extent of wetlands in these counties field surveys are required.

A preliminary review of available third party habitat datasets suggests that good quality data only exists for a small selection of habitats that have been subject to detailed field survey (such as the larger intact raised bogs). Other habitats such as fens, marshes, and turloughs have not been the subject of systematic survey and therefore data quality is poor. There is a lack of detailed habitat data available for extensive parts of Longford and Roscommon.

Sources: Esri, HERE, DeLorme, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, Mapmy India, © OpenStreetMap dontributors, and the GIS User Community Longford county border Roscommon county border Designated Nature Conservation Sies (SACs/SPAs/NHAs) 8 Kilometers 2 LFROWS 2017 Site Locations

Figure 0-2: Location of identified wetland sites (stored within *Site database&GIS*) in relation to areas designated for nature conservation in County Longford. A larger format overview map labelled according to site is presented in Appendix 3.

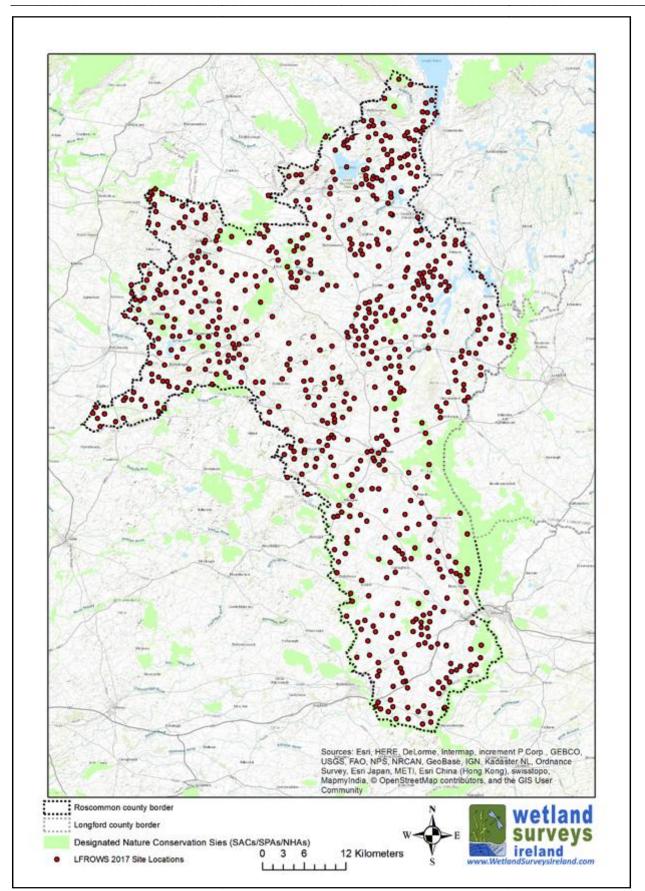


Figure 0-3: Location of identified wetland sites (stored within *Site database&GIS*) in relation to areas designated for nature conservation in County Roscommon. A larger format overview map labelled according to site is presented in Appendix 3.

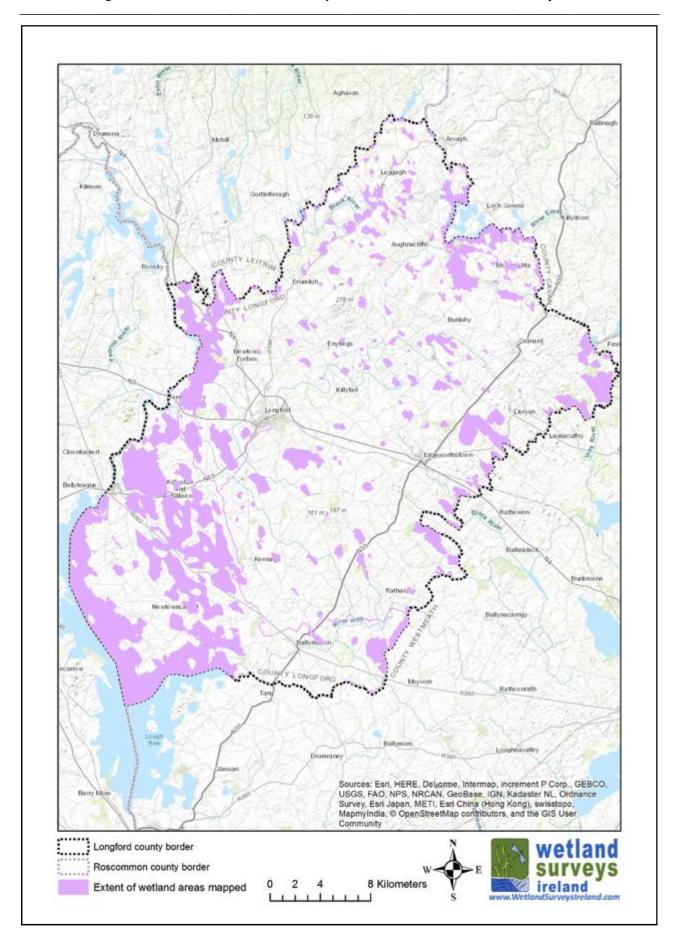


Figure 0-4: Map showing the extent of wetland sites identified in county Longfordduring the current study.

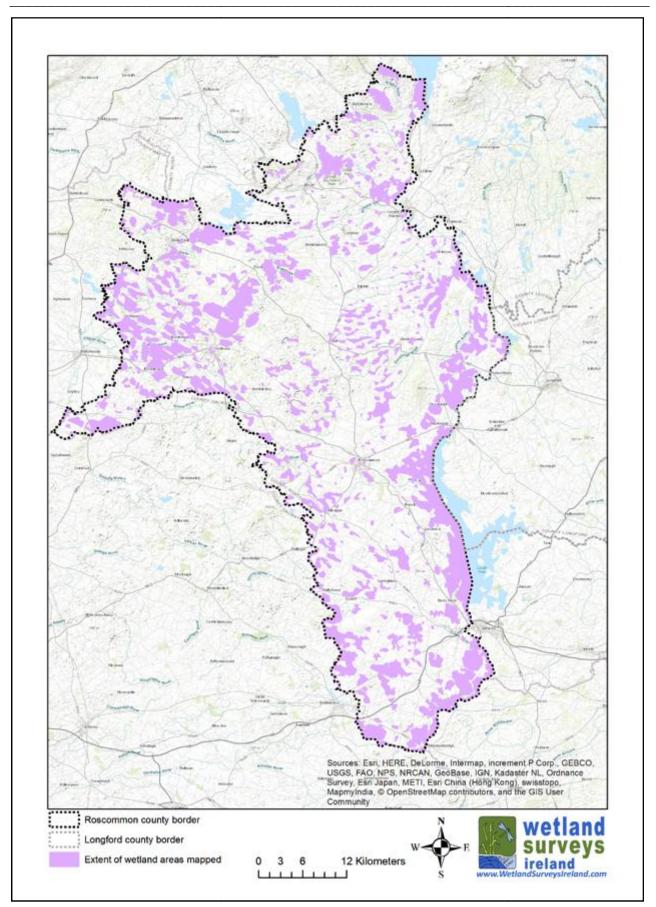


Figure 0-5: Map showing the extent of wetland sites identified in county Roscommon during the current study.

1.12.1.4 Wetland site conservation evaluation

As discussed in Section 1.9 above, few wetland sites in Longford or Roscommon are offered legislative protection under either national and / or international site conservation designation schemes.

Within the *Site database* information on conservation designations or status of sites was recorded in relation to the following conservation categories:

NHA - Natural Heritage Area with legal protection

cNHA - candidate Natural Heritage Area - no legal protection

pNHA - proposed Natural Heritage Area as advertised in 1995 - some legal protection

SAC - Special Area of Conservation with legal protection

cSAC - candidate Special Area of Conservation open to appeal/ transmitted to EU

pcSAC - proposed candidate Special Area of Conservation open to appeal/ not yet transmitted to EU

SPA - Special Protection Area with legal protection

cSPA - candidate Special Protection Area

NP - National Park with legal protection

WHS - World Heritage Site

NNR - National Nature Reserve with legal protection

BIO - Unesco Biosphere Reserve

RAM - Ramsar Site

ESA - Environmentally Sensitive Area

EDS - Eurodiploma Site

ASI - Area of Scientific Interest

BGR - Berne Convention Biogenetic Reserve

COR - Corine site

WS - Wildfowl Sanctuary

RFF - Refuge for Flora or Fauna

CBA - Coillte Biodiversity Area

CFP - Coillte Forest Park

SGI - Sites of Geological Interest

LOP - Local Auhtority Park

OPW - OPW Managed Park

PNR - Private Nature Reserve

Undesignated site - no known designation

The number of sites listed in the *Site database* with a nature conservation designation and the degree of protection offered are summarised in Table 4-5 below. A list of all 957 wetland sites (main sites and sub-sites) recorded in the *Site database* and the specific conservation designations on each site is provided in Appendix 3 of this report (the Excel version of this spreadsheet is included on the report CD). Figure 0-2 and **Figure 0-3**above show the location of all 957 LFROWS sites (main sites and sub-sites) in relation to designated sites.

In the LFROWS 2017 sites were given an indicative conservation ranking based on their conservation/ecological importance as defined by the NRA 2009 scheme (see NRA Site Evaluation Criteria in Appendix 4). Site indicative conservation rankings for sites in Longford and Roscommon are presented in Appendix 5.

Table 4-5 Number of wetland sites (main sites and sub-sites) occurring within designated areas.

		Roscommon	Longford
Conservation Designation	Protected Status	Number of sites and sub-sites located within designated areas	Number of sites and sub-sites located within designated areas
NP - National Park	Protected	0	0
NHA - Natural Heritage Area	Protected	12	7
pNHA - proposed Natural Heritage Area	Partially Protected	24	20
cNHA – candidate Natural Heritage Area	Not Protected	8	3
SAC - Special Area of Conservation	Protected	32	13
SPA - Special Protection Area	Protected	11	9
NNR - National Nature Reserve	Protected	0	0
Undesignated sites	Not protected	621	252

Notes: Data on the current number of sites designated as NNR, NHA, SAC and SPA is based on data available from NPWS website dated June 2014.

1.12.1.5 Damage to wetlands

The majority of, if not all, Irish wetland sites, and by extension those in Counties Longford and Roscommon, 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 are in decline due to such activities (Foss and Crushell 2007).

Wetlands, (bog and fen areas in particular) have historically been regarded as less productive than adjacent agricultural land and measures have been taken to 'improve' their quality for agriculture. The principal method of land improvement usually involved some form of drainage, creation of barriers to prevent flooding, burning or the addition of nutrients so as to either facilitate the removal of peat, the planting of trees, or the creation of new grazing areas, pasture or farmland.

It is likely that the information recorded in the *Site database* on site activities, impacts and damage represents a minimum, and that additional sites have been negatively affected by human operations which have not been documented in the *Site database*. The *Site database* does however provide a tool for recording such damage on sites in the future, and provides an indication of the types of activities which have affected wetland habitats to date.

Impacts and Activities influencing the conservation status of each site are recorded in the site database according to the EU Natura system. The original list supplied from the EU Commission has been modified slightly for use in Ireland by NPWS (Foss & Crushell 2008; D. Lynn, NPWS *pers com.*).

The main impacts and activities and the wetland types most likely to be affected by these activities are summarised inTable 4-6. A review of the impacts and damage to wetlands in Counties Longford and Roscommon is outside the scope of the current project but should be considered in any future analysis of the wetland resource in the county.

Table 4-6Natura 2000 Impacts and Activities recorded on wetland sites as part of the LFROWS 2017 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	Natura 2000 Impacts and Activities Category with brief description	Broad Wetland habitat types most at threat or likely to be affected from Impacts and Activities
A	Agriculture Including cultivation, fertilisation, and over grazing	Fens, Marsh, Bog, Wet heath, Reed Swamp, Lake and Lake margins, Wet grassland, Wet woodland, Bog woodland, Rivers, Coastal wetlands
В	Silviculture, forestry Including fertilisation, planting and replanting, forestry practices	Fens, Marsh, Bog, Wet heath, Reed Swamp, Lake and Lake margins, Wet grassland, Wet woodland, Bog woodland, Rivers
С	Mining, extraction of materials and energy production Including quarry activities, turbary and peat removal	Bog, Dystrophic lake, Bog woodland
D	Transportation and service corridors Including road construction, power transmission	All wetland types
Е	Urbanisation, residential and commercial development Including Urban and industrial development, discharges and waste disposal	Fen, Bog, Marsh, Wet Grassland, Scrub, Coastal wetlands
F	Biological resource use other than agriculture & forestry Including leisure fishing, hunting	Lake, Fen, Marsh, River, Bog, Coastal wetlands
G	Human intrusions and disturbances Including recreational facilities, outdoor leisure activities, littering, trampling overuse	Bog, Fen, Marsh, Reed Swamp, Wet Grassland; Coastal Wetlands
Н	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, Coastal Wetlands
К	Natural biotic and abiotic processes (without catastrophes) Including organic material accumulation,	Fen, Marsh, Bog, Wet woodland

Conclusions & Recommendations

1.13 Distribution and extent of the Longford and Roscommon wetland resource

The aim of the LFROWS 2017 was to establish a preliminary inventory of all wetland areas in both counties. Information relating to these areas has been incorporated into a *LFWS Site database* and a *ROWS Site database* (holding textual information) with associated *GIS datasets* (holding spatial information). Through the inclusion of data on sites and their habitats, provided by other groups, and by using aerial imagery it has been possible to draw preliminary site boundaries for main wetland sites, within sub-sites located within the main site areas. In total, some 957 potential wetland sites have been identified, 281 of these sites are in Longford while 676 are in Roscommon.

The most valuable outcomes of the LFROWS 2017 are thedatabases that have been developed during the course of the survey. These contain considerable information on the extent, distribution, previous studies carried out, and characteristics of the known wetland resource in the counties. They should prove most useful as information sources for any future investigations into the biodiversity contribution of the wetlands of Longford and Roscommon.

1.14 Knowledge of the Longford and Roscommon wetland resource

From the results of the LFROWS 2017it has been possible to produce a comprehensive list of sites that contain wetland habitats. In relation to the sites which have been identified to date, significant gaps exist in relation to our knowledge of this wetland resource. Specifically, the following information deficits have been identified:

- A significant area of wetland across both counties remains un-surveyed as indicated by the identification of 697 main wetland sites (196 main sites in Longford and 501 main sites in Roscommon) which have not previously been reported in the literature;
- The exact extent of wetland areas within the county remains unclear. The following contributes to this lack of information:
 - Mapping of site areas during this project was done using pre-existing boundaries from third parties or drawn using aerial imagery interpretation. Accurate data on wetland extent can only be drawn using data collected from field surveys;
 - Wetland habitats often occur as a complex mosaic of different types within a single site making it difficult to map individual habitats.
- Improvements in our knowledge of the wetland resource in Counties Longford and Roscommon, will only be achieved when a systematic wetland survey of the counties are undertaken. Such a survey should at a minimum:
 - follow a standard accepted survey methodology and utilise appropriate data capture and management systems;
 - o prioritise previously un-surveyed areas identified as having a high potential to support biodiversity; and
 - prioritise key habitats that are deemed most threatened and for which information is lacking.

1.15 Wetland Survey Recommendations

From the results of the LFROWS 2017 the following recommendations in relation to future surveys, additional data acquisition and project development are suggested.

1.15.1 Further Development of Wetland Inventory

It is recommended that countywide surveys of wetlands in Counties Longford and Roscommon are carried out to build on the preliminary inventory of wetlands compiled during the LFROWS 2017.

Sites to be prioritised for survey should include those that have not been surveyed in detail in the past and those that are likely to contain wetland habitats of high conservation importance. Based on this, the following categories of sites should be prioritised:

- The **697 non-designated main sites identified by analysis of aerial photography** and other GIS datasets for which we have little or no ecological data;
- Sites that are locally rare or are likely to contain wetlands habitats that are listed on Annex I of the EU Habitats Directive (raised bog including regenerating cutover, alkaline fen, turlough, transition mire); and
- County Council owned properties that contain areas of potential wetland.

Future phases of the LFROWS should aim to provide the following information on the wetland sites being surveyed:

- A detailed site description highlighting the wetland habitat types (classified according to Fossitt) present on each site;
- Detailed mapping of the extent of each of the wetland type(s) within each site;
- Accurate mapping of site boundaries to ensure conservation of a hydrologically intact unit;
- Recording of threats to the conservation and future protection of the site; to include restoration suggestions and management priorities and needs; and
- Conservation evaluation of each site based on its importance at a geographic scale (local, county, national, or international).

1.15.2 Planning Control

Based on the broad definition of wetlands that is contained in the Planning and Development Regulations 2011² and guidance on the Drainage and Reclamation of wetlands issued by the Department of the Environment (2011), all those sites listed in the GIS and database that are listed as having a wetland habitat present would conform to the definition.

It is therefore recommended that council planners consult with the LFROWS GIS layers, which indicate potential wetlands in the county. Where a development could adversely affect a wetland – through water abstraction, infilling, drainage, etc. a site visit should be conducted by a suitably qualified ecologist to determine if the area supports a wetland of conservation interest.

-

²http://www.irishstatutebook.ie/pdf/2011/en.si.2011.0454.pdf

As outlined in Section 1.5above, the 2011 regulations require that any proposal to drain or reclaim a wetland area over 0.1 ha necessitate a Planning Application and EIA be undertaken. The outputs of the current study should prove useful to Longford and Roscommon County Councils in fulfilling thier role in relation to this.

It is recommended that those sites listed as being of Local Importance (C) (high value) or higher should be considered for future protection within a network of locally important biodiversity sites. They should also be given due consideration in future development plans adopted by the county.

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. This relates to the hydrological zone of influence which is different for every site and often extends beyond the extent of wetland (and in many cases designated site boundaries).
- 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 on the county resource.
- The ecological value of wetland habitats adjacent to, and fringing lakes and ponds.
- The ecological value of 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 or IV 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 biodiversity (ASI & NHA) surveys 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 developments that may impact on same.
- The role that the wetland resource plays in combating global warming. Large quantities of carbon are stored within the wetland soils (in particular peat) of the county that could be lost due to drainage or other disturbance.

1.15.3 Management of Longford & Roscommon Wetland Sites

For further information on best practice management guidelines for many of the wetland habitats listed, the reader is referred to "The Living Farmland – A Guide to Farming for Nature in Clare" (Anonymous 2008) which provides practical advice on habitat maintenance and improvement for landowners and farmers. In addition, the NPWS website (www.npws.ie) provides a range of guidelines to help with the protection, management and wise use of conservation-worthy habitats and protected species. Furthermore the Irish Peatland Conservation Council has published a

Management Handbook for Peatland, which provides practical advice on habitat management and restoration³.

Newly proposed regulations requiring certain agricultural activities to go through the EIA process is a positive development and should aid the protection of wetlands throughout the country.

1.15.4 Enforcement of Fines for Illegal Dumping and Infill

Infilling and reclamation of wetland is an ongoing threat to many wetland resources in Ireland. This practice should be dissuaded through both education on the value of wetlands and the enforcement of suitably deterring fines. Article 10(1)(y) of the EPA Guidance Manual Waste Facility Permit and Registration Regulations requires that an application for a waste facility permit or certificate of registration contain details of the biodiversity of the land and specifically details wetlands within same. The protection of the diverse wetland resource in Longford and Roscommon depends on strict enforcement of national conservation legislation by the NPWS, and planning laws by the Local Authoritiesto ensure any unauthorised damaging activities are prevented.

1.15.5 Control of Invasive Species in Wetlands

It is important that invasive species are controlled and eradicated within wetland sites as they have the potential to 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*) and Himalayan balsam (*Impatiens glandulifera*). It is recommended that all records of invasive species found in wetland sites (for example during future wetland surveys)in CountiesLongford and Roscommon are submitted to the Invasive Species Ireland database⁴ where advice on control and removal is also available.

1.15.6 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:

J	to protect and enhance the status of aquatic ecosystems (and terrestrial ecosystems and wetlands directly dependent on aquatic ecosystems).
J	to promote sustainable water use based on long-term protection of available water resources.
J	to provide for sufficient supply of good quality surface water and groundwater as needed for sustainable, balanced and equitable water use.
J	to provide for enhanced protection and improvement of the aquatic environment by reducing / phasing out of discharges, emissions etc.
J	to contribute to mitigating the effects of floods and droughts.

³www.ipcc.ie

⁴http://www.invasivespeciesireland.com/sighting/

64

- 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 Counties Longford and Roscommon assists in fulfilling not only obligations under the EU Habitats Directive and the National Biodiversity Plan but also in implementing the Water Framework Directive.

1.15.7 Public Information and Interpretation Measures

Public awareness about the importance of wetlands in CountiesLongford and Roscommon should be developed through a series of targeted measures. On-going public awareness campaigns should be undertaken to inform the people of Longford and Roscommon of the value of the county's wetland resource and the valuable ecosystem services they provide.

These could include:

J	Information aimed specifically at landowners and farmers to explain the value of wetlands
	on their land should be developed.

- Specific events county-wide as part of 'Heritage Week' or 'World Wetlands Day⁵' which take place annually.
- 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 should be developed to inform the public of their biodiversity value and the ecosystem services such wetlands play.
- A workshop on wetland management for landowners should be held.
- A colour leaflet should be produced to illustrate the beauty and importance of wetland conservation within the county. A similar leaflet was produced in County Monaghan and County Clare.

1.15.8 Wetland Restoration

Opportunities exist for significant restoration and enhancement works to re-instate part of the biodiversity resource that has been lost due to peat exploitation and other land-uses over the past century. Local projects aimed at restoring or enhancing the value (biodiversity or educational) of wetlands should be encouraged and supported. A current example of such a project is the EU Life funded project aimed at restoring raised bog habitat within the Network of Irish Raised Bog SACs 2016-2020, also known as the Living Bog Project. Three raised bog sites in Longford and Roscommon are included in the project (Ardagullion Bog (Longford), Carrowbehy / Caher Bog and Derrinea Bog in (Roscommon)).

_

⁵ http://www.ramsar.org/cda/en/ramsar-activities-wwds/main/ramsar/1-63-78_4000_0

Bibliography & Data Sources

The bibliography list is presented in alphabetical order by author.

Anonymous (2008c) The Living Farmland. A Guide to Farming with nature in Clare. Rural Resource Development, Shannon, Clare and Clare County Council.

Barbier, E.B., Acreman, M. & Knowler, D. (1997) Economic valuation of Wetlands - A Guide for Policy Makers and Planners. Ramsar Convention Bureau, Gland, Switzerland.

Bragg, O. & Lindsay, R. (2003) Strategy and action plan for mire and peatland conservation in Central Europe. Wetlands International, Wageningen, the Netherlands.

Callan, R. (2008) Role of wetlands and floodplains for flood prevention. Oral presentation at Wise Use of Wetland Conference, Monaghan County Council February 2008.

Costanza, R., d'Arge, R., de Groot R., Farber, S., Grasso, M., Hannon, B., Limburg, K., Naeem, S., O'Neill, R.V., Paruelo, J., Raskin, R.G., Sutton, P. & van den Belt, M. (1997) The value of the world's ecosystem services and natural capital. Nature, 387: 253-260.

DCHG (2017). National Biodiversity Action Plan 2017-2021.

DEHLG (2008) The economic and social aspects of biodiversity. Benefits and Costs of Biodiversity in Ireland. Department of Environment, Heritage and Local Government, Ireland. pp. 195.

Department of the Environment, Community and Local Government (2011) Guidance for Planning Authorities on Drainage and Reclamation of Wetlands . Department of Environment, Community & Local Government, Ireland. 54 pp.

DoAHG (2014) National Raised Bog SAC Management Plan (Draft for Consultation 15 January 2014). Department of Arts, Heritage and the Gaeltacht. 135 pp.

DoAHG (2014) Review of Raised Bog Natural Heritage Area Network. Department of Arts, Heritage and the Gaeltacht. 59 pp.

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. (2008a) Guidelines for a National Fen Survey of Ireland - Survey Manual. Report for the National Parks & Wildlife Service, Dublin.

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

Foulkes, N. and Murray, A. (2005) Roscommon Hedgerow Survey Report. Roscommon County Council.

Foulkes (2006) County Longford Hedgerow Survey Report. Longford County Council and the Heritage Council.

Hennessy, R., Meehan, R., Parkes, M. & Gatley, S. (2015) The Geological Heritage of County Longford - An audit of County Geological Sites in County Longford. Geological Survey of Ireland.

Browne Dunne Roche (2002) A preliminary study of the upper Shannon floodplain. Report prepared for Dúchas, The Heritage Service, Department of Arts, Heritage, Gaeltacht and the Islands.

Kearney (2011) Habitat Mapping of HabitatsIn County RoscommonSurvey Findings Report. Report prepared by RPS Group for Roscommon County Council.

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

Maltby, E. (1986) Waterlogged Wealth. An Earthscan Paperback, International Institute for Environment and Development, Washington DC. pp. 200.

Meehan, R. (2004) Soils Parent Material Map. Forest Inventory and Planning System – Integrated Forestry Information System (FIPS-IFS). Teagasc, Ireland.

Minerex (2006). Peatlands Study of County Longford. Report prepared for Longford County Council.

NPWS (2013) 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 (2013) The Status of EU Protected Habitats and Species in Ireland 2013. Overview Volume 1. Unpublished Report, National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht. pp. 149.

NPWS (2013) The Status of EU Protected Habitats and Species in Ireland 2013. Habitat Assessments Volume 2. Unpublished Report, National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht. pp. 843.

NPWS (2013) The Status of EU Protected Habitats and Species in Ireland 2013. Species Assessments Volume 3. Unpublished Report, National Parks and Wildlife Service, Department of Arts, Heritage and the Gaeltacht. pp. 709.

NPWS (2017) NPWS On-line site descriptions for conservation worthy sites (NHA, SPA and SAC). See www.npws.ie. National Parks and Wildlife Service, Ireland.

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.

O'Toole, L. & Lauder, A. (2017) Concept development for a landscape-scale Wetland Wilderness Park in the Mid Shannon Region. A report funded by the Heritage Council's Heritage Grant Scheme.

Parkes, M., Meehan, R. & Préteseille, S. (2012) The Geological Heritage of Roscommon - An audit of County Geological Sites in Roscommon. Geological Survey of Ireland.

Parnell, J. & Curtis, T. (2012) Webb's: An Irish Flora. Cork University Press. pp. 504.

O'Neill, F.H. & Martin, J.R. (2015). Summary of findings from the Survey of Potential Turloughs 2015. Unpublished Report for National Parks & Wildlife Service. Volume I: Main Report.Ramao, C. (1996) Interpretation manual of European Union Habitats. Version EUR 15. European Commission, Environment, Nuclear Safety and Civil Protection, Brussels.

Ramsar Bureau (2006) Wetland Values and Functions – Water Purification.. Ramsar Bureau, Gland, Switzerland.

Longford County Council (2015). Longford County Development Plan 2015-2021.

Roscommon County Council (2014). Roscommon County Development Plan (2014-2020)

Roscommon County Council (2012). Nature and Wildlife in Roscommon Action for Biodiversity. Text prepared by Giorria Environmental Services and Janice Fuller.

Roscommon County Council (2012) County Roscommon Heritage Plan 2012-2016. Incorporating the County Roscommon Biodiversity Action Plan. County Roscommon Heritage Forum, Longford County Council.

Smith, A.J.E. (1980) The Moss Flora of Britain and Ireland. Cambridge University Press, Cambridge.

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

Appendices

In the LFROWS 2017 report appendices which follow, the PDF layouts (produced from Excel or Word files) have been formatted and reduced to allow printing of tables at A4 page size. The original Excel spreadsheets from which some of these PDFs were produced are included on the CD ROM included with this report (see Appendix 4 for contents of CD ROM).

List of Appendices	Page
Appendix 1 Reports and information sources consulted during the compilation of the Site database & GIS datasets	70
Appendix 2 Metadata for the Site database and GIS datasets (includes descriptions of data fields used)	xx
Appendix 3 Counties Longford & Roscommon Wetland Study 2017 Site List and Associated Map	xx
Appendix 4 National Roads Authority (2009) Site Evaluation Criteria	xxx
Appendix 5a County Longford Wetland Study Site List Summary	xxx
Appendix 5b County Roscommon Wetland Study Site List Summary	XXX
Appendix 6 Counties Longford & Roscommon Wetland Study 2017 CD ROM - Table of Contents	xxx

Appendix 1

Reports & information sources consulted during the compilation of the Counties Longford and Roscommon Wetland Study GIS & Site Database

1. Reports and data sources containing information on wetland sites in Counties Longford and Roscommon consulted during the compilation of the LFWS and ROWS database 2017.

No code - NPWS online list of SAC/SPA

No code - NPWS NHA/SAC/SPA site descriptions. Various NPWS sources.

County Longford

- 1 Crushell P. (2000) Irish Fen Inventory A review of the status of fens in Ireland. Irish Peatland Conservation Council, Dublin, pp. 100.
- Foss, P.J. & O'Connell, C.A. (eds.) (1999) A Survey of Cutover & Cutaway Bog Habitats of the Irish Midlands. Irish Peatland Conservation Council, Dublin, pp. 57.
- An Foras Forbartha (1981) National Heritage Inventory. Areas of Scientific Interest in Ireland. An Foras Forbartha, Dublin, pp. 166.
- 38 Cross, J. (1989) Ireland Former and Present Extent of Raised Bogs (map). Wildlife Service, Office of Public Works, The Stationery Office, Dublin.
- 39 Cross, J. (1990) The Raised Bogs of Ireland, their ecology, status and conservation. Report to the Minister of State at the Department of Finance. The Stationery Office, Dublin.
- Douglas, C. & Grogan, H. (1986) Survey to locate raised bogs of Scientific interest in Counties Longford, Westmeath and East Mayo (also Counties Cavan, Leitrim, Sligo & Roscommon). Internal Report, Wildlife Service, Dublin.
- Heuff, H. (1984) The vegetation of Irish Lakes. Internal report, Wildlife Service, Dublin.
- Derwin, J., Gabbett, M., Keane, S. Long, M. & Martin, J. (2002) Raised bog Natural Heritage Areas (NHA) Project. Internal Report, National Parks and Wildlife Service, Department of Environment, Heritage and Local Government, Dublin.
- 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.
- 276 Goodwillie, R. (1992) Turloughs over 10 ha. Vegetation Survey & Evaluation. Report for the NPWS, Dublin.
- 356 Anonymous (1974) Report on wetlands of international and national importance in the Republic of Ireland. Forest and Wildlife Service, Dublin.
- 357 Heuff, H. (1987) The Vegetation of Irish Rivers. Internal Report, Wildlife Service, Dublin.
- 405 Mayes, E. (2008) A national survey of potential turlough sites. Draft report prepared for NPWS.
- 445 Anonymous (2006) Peatland study of Co. Longford. Longford County Council.
- 479 Malone, S. & O'Connell, C.A. (2009) Ireland's Peatland Conservation Action Plan 2020 Halting the loss of peatland biodiversity. Irish Peatland Conservation Council, Ireland. pp. 152.
- Perrin, P.M., Martin, J.R., Barron, S.J., O'Neill, F. McNutt, K. & Delaney, A. (2008) National Survey of Native Woodland in Irelands 2003-2008. Vol. I: Main Report. Report for National Parks & Wildlife Service, Dublin, pp. 177.
- 487 BirdWatch Ireland (2010) iWeBs Irish national site list 2010/11. On-line resource at http://www.birdwatchireland.ie/Ourwork/SurveysProjects/IrishWetlandBirdSurvey/IWeBScoverage/tabid/906/Default.aspx.
- 497 Mayes, E. (2008) Turlough Database Consolidation Project. Report prepared for NPWS.
- Coillte (2008a) After-LIFE Conservation Plan. Restoring Raised Bog in Ireland. (Project No: LIFE04 NAT/000121) October 2004-September 2008. Coillte, pp. 10.
- Coillte (2008b) Technical Final Report, covering the project activities from 01.10.2004 to 30.09.2008.
 Life Project Name: Restoring Raised Bog in Ireland. (Project No: LIFE04 NAT/000121). Coillte, pp. 63.
- Coillte (2005) First Progress Report to the end of Year 1, covering the period from 01.10.2004 to 30.09.2005. Life Project Name: Restoring Raised Bog in Ireland. (Project No: LIFE04 NAT/000121). Coillte, pp. 33.
- Coillte (2004) Restoring Raised Bog in Ireland. Brochure (Project No: LIFE04 NAT/000121). Coillte, pp. 2.

- Coillte (2008c) Bringing the Bogs Back to LIFE, Project Results Booklet. Life Project Name: Restoring Raised Bog in Ireland. (Project No: LIFE04 NAT/000121). Coillte, pp. 12.
- Derwin, J. (2008) Restoring Raised Bog in Ireland. (Project No: LIFE04 NAT/000121). Fourteen individual end of project site reports entitled "A report on the restoration of project site No. 1 to No 14". Coillte.
- O'Neill, F.H., Martin, J.R., Perrin, P.M., Delaney, A.M., McNutt, K.E. & Devaney, F.M. (2009) Irish Semi-Natural Grasslands Survey Annual Report No. 2: Counties Cavan, Leitrim, Longford & Monaghan. Unpublished Report to the National Parks & Wildlife Service.
- Perrin, P., Martin, J., Barron, S., O'Neill, F., McNutt, K. & Delaney, A. (2008) National Survey of Native Woodlands 2003-2008 Volume II: Woodland classification. Report for National Parks & Wildlife Service, Dublin, pp. 80.
- NPWS (2012) On-line List of Wildlife Sanctuaries from OPW Wildlife Service Report (1990). NPWS Website.
- 924 Birdlife International (2011) Important Bird Areas in the Republic of Ireland. Birdlife International.
- 977 BNM (2013) Clonwhelan, Co. Longford Westmeath Rehabilitation Plan. Internal Report, Bord na Mona.
- 985 NPWS (2013) List of designated raised bog Natural Heritage Areas. NPWS.
- 986 NPWS (2013) List of designated raised bog Special Areas of Conservation. NPWS.
- 990 Derwin, J. & Mac Gowan, F. (2000) Raised Bog Restoration Project. Part 1 Summary Report. Unpublished report, Duchas The Heritage Service, Dublin.
- 992 NPWS (2013) Restoration works undertaken on raised bog sites. Internal document, National Parks & Wildlife Service.
- 1051 Farrell, L. (1972) Report on Areas of Scientific Interest in County Longford. An Foras Forbartha, Dublin.
- 1052 DoAHG (2014) Review of Raised Bog Natural Heritage Area Network. Department of Arts, Heritage and the Gaeltacht. 59 pp.
- 1054 DoAHG (2014) National Raised Bog SAC Management Plan (Draft for Consultation 15 January 2014). Department of Arts, Heritage and the Gaeltacht. 135 pp.
- DAHG (2014) Appendices to National Raised Bog SAC Management Plan (Draft for Consultation 15 January 2014). Department of Arts, Heritage and the Gaeltacht. 152 pp.
- 1175 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.
- 1183 NPWS (2011) NPWS pNHA Site Synopsis Portfolio. Unpublished report National Parks and Wildlife Service
- 1223 NPWS (2015) Raised bog SAC Site Specific Conservation Objectives (SSCO) plan. National Parks and Wildlife Service.
- 1259 NPWS (2016) Conservation Objectives Supporting Document Raised Bog habitats. Brown Bog SAC (site code 002346). Version 1. National Parks and Wildlife Service.
- 1261 NPWS (2015) Conservation Objectives Supporting Document Raised Bog habitats. Ardagullion Bog SAC (site code 002341). Version 1. National Parks and Wildlife Service.
- 1312 EPA (2016) Online mapping resource of EPA Drinking Water Lakes. EPA online gis.epa.ie
- 1369 NPWS (2017) NPWS On-line site descriptions for conservation worthy sites (NHA, SPA and SAC). See www.npws.ie. National Parks and Wildlife Service, Ireland.
- 1370 Ní Chatháin, B. & Minchin, D. (2011) Invasive Species Survey of Counties Longford and Cavan Phase 1: Lough Gowna, Kinale & Derragh Loughs. Counties Longford and Cavan County Council.
- 1371 Foulkes, N. (2006) County Longford Hedgerow Survey Report. A report for Longford County Council.
- 1372 O'Toole, L. & Lauder, A. (2017) Concept development for a landscape-scale Wetland Wilderness Park in the Mid Shannon Region. A report funded by the Heritage Council's Heritage Grant Scheme.
- 1373 NPWS (2017) Various digital habitat maps originating from regional and national ecological surveys carried out by NPWS, submitted to Longford and Roscommon Wetland Study 2017. (GIS dataset). National Parks and Wildlife Service, Dublin.
- Hennessy, R., Meehan, R., Parkes, M. & Gatley, S. (2015) The Geological Heritage of County Longford An audit of County Geological Sites in County Longford. Geological Survey of Ireland.
- 1388 Coillte (2011) Demonstrating best practice in Raised Bog Restoration in Ireland. Project No: LIFE09 NAT/000222). Seventeen Coillte owned site restoration projects 2011-2014, brochure, website. Coillte.

County Roscommon

1 Crushell P. (2000) Irish Fen Inventory - A review of the status of fens in Ireland. Irish Peatland Conservation Council, Dublin, pp. 100.

- Foss, P.J. & O'Connell, C.A. (eds.) (1999) A Survey of Cutover & Cutaway Bog Habitats of the Irish Midlands. Irish Peatland Conservation Council, Dublin, pp. 57.
- An Foras Forbartha (1981) National Heritage Inventory. Areas of Scientific Interest in Ireland. An Foras Forbartha, Dublin, pp. 166.
- 38 Cross, J. (1989) Ireland Former and Present Extent of Raised Bogs (map). Wildlife Service, Office of Public Works, The Stationery Office, Dublin.
- 39 Cross, J. (1990) The Raised Bogs of Ireland, their ecology, status and conservation. Report to the Minister of State at the Department of Finance. The Stationery Office, Dublin.
- Douglas, C. & Grogan, H. (1985) Survey to locate raised bogs of Scientific interest in Counties Galway (E) and Roscommon. Part II. Internal Report, Wildlife Service, Dublin.
- Douglas, C. & Grogan, H. (1986) Survey to locate raised bogs of Scientific interest in Counties Longford, Westmeath and East Mayo (also Counties Cavan, Leitrim, Sligo & Roscommon). Internal Report, Wildlife Service, Dublin.
- Douglas, C. & Mooney, E. (1984) Survey to locate raised bogs of Scientific interest in Counties Galway (east) and Roscommon. Part I. Internal Report, Wildlife Service, Dublin.
- Douglas, C., Dunells, D., Scally, L. & Wyse-Jackson, M. (1990) A survey to locate lowland blanket bogs of scientific interest in County Donegal and upland blanket bogs in Counties Cavan, Leitrim and Roscommon. Internal report, National Parks and Wildlife Service, Dublin.
- 101 Heuff, H. (1984) The vegetation of Irish Lakes. Internal report, Wildlife Service, Dublin.
- Derwin, J., Gabbett, M., Keane, S. Long, M. & Martin, J. (2002) Raised bog Natural Heritage Areas (NHA) Project. Internal Report, National Parks and Wildlife Service, Department of Environment, Heritage and Local Government, Dublin.
- 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.
- Goodwillie, R. (1992) Turloughs over 10 ha. Vegetation Survey & Evaluation. Report for the NPWS, Dublin.
- Anonymous (1974) Report on wetlands of international and national importance in the Republic of Ireland. Forest and Wildlife Service, Dublin.
- Heuff, H. (1987) The Vegetation of Irish Rivers. Internal Report, Wildlife Service, Dublin.
- 405 Mayes, E. (2008) A national survey of potential turlough sites. Draft report prepared for NPWS.
- 479 Malone, S. & O'Connell, C.A. (2009) Ireland's Peatland Conservation Action Plan 2020 Halting the loss of peatland biodiversity. Irish Peatland Conservation Council, Ireland. pp. 152.
- 484 Perrin, P.M., Martin, J.R., Barron, S.J., O'Neill, F. McNutt, K. & Delaney, A. (2008) National Survey of Native Woodland in Irelands 2003-2008. Vol. I: Main Report. Report for National Parks & Wildlife Service, Dublin, pp. 177.
- 487 BirdWatch Ireland (2010) iWeBs Irish national site list 2010/11. On-line resource at http://www.birdwatchireland.ie/Ourwork/SurveysProjects/IrishWetlandBirdSurvey/IWeBScoverage/tabid/906/Default.aspx.
- 497 Mayes, E. (2008) Turlough Database Consolidation Project. Report prepared for NPWS.
- Coillte (2008a) After-LIFE Conservation Plan. Restoring Raised Bog in Ireland. (Project No: LIFE04 NAT/000121) October 2004-September 2008. Coillte, pp. 10.
- Coillte (2008b) Technical Final Report, covering the project activities from 01.10.2004 to 30.09.2008. Life Project Name: Restoring Raised Bog in Ireland. (Project No: LIFE04 NAT/000121). Coillte, pp. 63.
- Coillte (2005) First Progress Report to the end of Year 1, covering the period from 01.10.2004 to 30.09.2005. Life Project Name: Restoring Raised Bog in Ireland. (Project No: LIFE04 NAT/000121). Coillte, pp. 33.
- Coillte (2004) Restoring Raised Bog in Ireland. Brochure (Project No: LIFE04 NAT/000121). Coillte, pp. 2.
- Coillte (2008c) Bringing the Bogs Back to LIFE, Project Results Booklet. Life Project Name: Restoring Raised Bog in Ireland. (Project No: LIFE04 NAT/000121). Coillte, pp. 12.
- Derwin, J. (2008) Restoring Raised Bog in Ireland. (Project No: LIFE04 NAT/000121). Fourteen individual end of project site reports entitled "A report on the restoration of project site No. 1 to No 14". Coillte.
- Martin, J.R., Gabbett, M., Perrin, P.M. & Delaney, A. (2007) Semi-natural Grassland Survey of Counties Roscommon & Offaly. Unpublished Report to the National Parks & Wildlife Service.

- Perrin, P., Martin, J., Barron, S., O'Neill, F., McNutt, K. & Delaney, A. (2008) National Survey of Native Woodlands 2003-2008 Volume II: Woodland classification. Report for National Parks & Wildlife Service, Dublin, pp. 80.
- 721 RCC (2010a) Bogs of County Roscommon. Roscomon Heritage Poster Series No. 3. . Roscommon County Council, Ireland.
- 722 RCC (2010b) Turloughs of County Roscommon. Roscomon Heritage Poster Series No. 4. . Roscommon County Council, Ireland.
- 819 NPWS (2012) On-line List of Wildlife Sanctuaries from OPW Wildlife Service Report (1990). NPWS Website.
- 924 Birdlife International (2011) Important Bird Areas in the Republic of Ireland. Birdlife International.
- 978 BNM (2013) Clonboley 1& 2, Co. Roscommon Rehabilitation Plan. Internal Report, Bord na Mona.
- 979 BNM (2013) Killeglan Bog Group, Co. Roscommon Rehabilitation Plan. Internal Report, Bord na Mona.
- 981 Scallan, D. (2009) Red Grouse Conservation Plan for Balydangan Bog, County Roscommon for 2010-2015. Internal Report, Regional Game Council.
- 985 NPWS (2013) List of designated raised bog Natural Heritage Areas. NPWS.
- 986 NPWS (2013) List of designated raised bog Special Areas of Conservation. NPWS.
- 990 Derwin, J. & Mac Gowan, F. (2000) Raised Bog Restoration Project. Part 1 Summary Report. Unpublished report, Duchas The Heritage Service, Dublin.
- 992 NPWS (2013) Restoration works undertaken on raised bog sites. Internal document, National Parks & Wildlife Service.
- 1052 DoAHG (2014) Review of Raised Bog Natural Heritage Area Network. Department of Arts, Heritage and the Gaeltacht. 59 pp.
- 1054 DoAHG (2014) National Raised Bog SAC Management Plan (Draft for Consultation 15 January 2014). Department of Arts, Heritage and the Gaeltacht. 135 pp.
- 1055 DAHG (2014) Appendices to National Raised Bog SAC Management Plan (Draft for Consultation 15 January 2014). Department of Arts, Heritage and the Gaeltacht. 152 pp.
- Nolan, M. (2013) Spiders (Araneae) of Irish raised bogs: Clara bog, Co. Offaly and Carrowbehy bog,
 Co. Roscommon. Bulletin of the Irish biogeographical Society 37: 172-203.
- 1175 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.
- 1183 NPWS (2011) NPWS pNHA Site Synopsis Portfolio. Unpublished report National Parks and Wildlife Service
- 1223 NPWS (2015) Raised bog SAC Site Specific Conservation Objectives (SSCO) plan. National Parks and Wildlife Service.
- 1224 Goodwillie, R. & Fahy, E. (1974) A preliminary report on Areas of Scientific Interest in Co. Roscommon . Unpublished Report An Foras Forbartha.
- 1225 Alexander, K. N. A. (2011) An invertebrate survey of Coill Eoin, St Johns Wood, Co. Roscommon. Irish Wildlife Manual No. 57. National Parks & Wildlife Service, Department of the Arts, Heritage and the Gaeltacht, Dublin, Ireland
- 1226 Fuller, J. (2012) Nature and Wildlife in Roscommon. Action for Biodiversity. Roscommon County Council.
- 1258 NPWS (2016) Conservation Objectives Supporting Document Raised Bog habitats. Corliska Trien Cloonfelliv Bog SAC (site code 002110). Version 1. National Parks and Wildlife Service.
- 1266 NPWS (2015) Conservation Objectives Supporting Document Raised Bog habitats. Bellanagare Bog SAC (site code 000592). Version 1. National Parks and Wildlife Service.
- 1267 NPWS (2015) Conservation Objectives Supporting Document Raised Bog habitats. Callow Bog SAC (site code 000595). Version 1. National Parks and Wildlife Service.
- 1272 NPWS (2015) Conservation Objectives Supporting Document Raised Bog habitats. Cloonchambers Bog SAC (site code 000600). Version 1. National Parks and Wildlife Service.
- 1274 NPWS (2015) Conservation Objectives Supporting Document Raised Bog habitats. Cloonshanville Bog SAC (site code 000614). Version 1. National Parks and Wildlife Service.
- 1275 NPWS (2015) Conservation Objectives Supporting Document Raised Bog habitats. Corbo Bog SAC (site code 002349). Version 1. National Parks and Wildlife Service.
- 1277 NPWS (2015) Conservation Objectives Supporting Document Raised Bog habitats. Derrinea Bog SAC (site code 000604). Version 1. National Parks and Wildlife Service.
- 1293 NPWS (2015) Conservation Objectives Supporting Document Raised Bog habitats. Tullaghanrock Bog SAC (site code 002354). Version 1. National Parks and Wildlife Service.
- 1310 BNM (2016) Bord na Mona Biodiversity Action Plan 2016-2021 (Final version). Bord na Mona, pp. 90.
- 1312 EPA (2016) Online mapping resource of EPA Drinking Water Lakes. EPA online gis.epa.ie

- 1327 O'Neill, F.H. & Martin, J.R. (2015) Summary of findings from the Survey of Potential Turloughs 2015. Volume I: Main Report. Unpublished Report for National Parks & Wildlife Service.
- 1328 O'Neill, F.H. & Martin, J.R. (2015) Summary of findings from the Survey of Potential Turloughs 2015. Volume II: Site Reports. Unpublished Report for National Parks & Wildlife Service.
- Waldren, S. (2015) Turlough Hydrology, Ecology and Conservation. Unpublished Report, National Parks & Wildlife Services. Department of Arts, Heritage and the Gaeltacht, Dublin, Ireland.
- 1330 Waldren, S. (2015) Turlough Hydrology, Ecology and Conservation. Site reports. Unpublished Report, National Parks & Wildlife Services. Department of Arts, Heritage and the Gaeltacht, Dublin, Ireland.
- 1369 NPWS (2017) NPWS On-line site descriptions for conservation worthy sites (NHA, SPA and SAC). See www.npws.ie. National Parks and Wildlife Service, Ireland.
- 1372 O'Toole, L. & Lauder, A. (2017) Concept development for a landscape-scale Wetland Wilderness Park in the Mid Shannon Region. A report funded by the Heritage Council's Heritage Grant Scheme.
- 1373 NPWS (2017) Various digital habitat maps originating from regional and national ecological surveys carried out by NPWS, submitted to Longford and Roscommon Wetland Study 2017. (GIS dataset). National Parks and Wildlife Service, Dublin.
- 1378 Kearney, P. (2011) Habitat Mapping of Habitats In County Roscommon Survey Findings Report. Report for Roscommon County Council.
- 1383 Parkes, M., Meehan, R. & Préteseille, S. (2012) The Geological Heritage of Roscommon An audit of County Geological Sites in Roscommon. Geological Survey of Ireland.
- 1386 BNM (2015) Cloonshannagh (Roscommon) Rehabilitation Plan (DRAFT). Bord na Mona. pp. 12.
- 1388 Coillte (2011) Demonstrating best practice in Raised Bog Restoration in Ireland. Project No: LIFE09 NAT/000222). Seventeen Coillte owned site restoration projects 2011-2014, brochure, website. Coillte.

2. GIS data sources examined in determining wetland sites in Counties Longford and Roscommon

Source title and author	Bibliography Code	Information type	Data Content Comments
GSI National Bedrock Map of Ireland 1:500,000 Scale (GSI)	246	GIS Dataset	Used to determine the underlying solid geology of sites
EPA (2006) Lakes and Ponds	253	GIS Dataset	Used to determine the location of
Dataset. EPA, Wexford (EPA)			lake, pond and reservoir sites
EPA (2006) Rivers. Streams, Canals,	899	GIS Dataset	Used to determine the location of
Dataset. EPA, Wexford (EPA).			rivers and canals
EPA (1997) Catchments All Island.	255	GIS Dataset	Used as base-map in site
EPA, Wexford (EPA)			mapping and wetland site identification.
OSI Color orthophotos (OSI)	258	GIS Dataset	Used as base-map in site mapping and wetland site identification
EPA Corine Land-cover in Ireland (CLC2000) (OSI)	259	GIS Dataset	Used in the production of site maps
OSI 1:2500 OS vector maps (OSI)	898	GIS Dataset	Used as base-map in site mapping and wetland site identification
OSI 6 Inch Map series (OSI)	262	GIS Dataset	Used as base-map in site mapping and wetland site identification
OSI 1:50000 Discovery series (OSI)	331	GIS Dataset	Used as base-map in site mapping and wetland site identification
OSI Townlands (OSI)	332	GIS Dataset	Used as base-map to identify townlands
Teagasc (2006) National Subsoils Data (EPA)	333	GIS Dataset	Identification of subsoil types
NPWS (2011) pNHA Boundaries (NPWS)	711	GIS Dataset	Used in site mapping and wetland site identification
NPWS (2011) NHA Boundaries (NPWS)	710	GIS Dataset	Used in site mapping and wetland site identification
NPWS (2011) SAC Boundaries (NPWS)	712	GIS Dataset	Used in site mapping and wetland site identification
NPWS (2011) SPA Boundaries (NPWS)	713	GIS Dataset	Used in site mapping and wetland site identification
Teagasc (2006) National Soils Data (EPA)	345	GIS Dataset	Identification of soil types
NPWS (2014) Various Digital habitat maps originating from regional and national ecological surveys carried out by NPWS.	1151	GIS Datasets	Used in site mapping and wetland site identification
BirdWatch Ireland I-WeBS Sites (2011)	487	GIS dataset derived from records	Used in determining potential wetland locations
Teagasc indicative habitat mapping - County Roscommon (2010)	1391	GIS Dataset	Used in site mapping
Teagasc indicative habitat mapping - County Longford (2010)	1392	GIS Dataset	Used in site mapping
Kearney (2011) Habitat Mapping of Habitats In County Roscommon Survey Findings Report. Report prepared by RPS Group for Roscommon County Council.	1378	GIS Dataset	Used in site mapping and wetland site identification

Appendix 2

Meta Data for the LFROWS Site Database and GIS datasets (includes descriptions of data fields used)

Contents

1	Introd	luction	71
2	Wetla	nd Survey - Core Wetland Site Database suite version	on 1.073
	2.1	Data fields held in the Site database suite (version 1.0)	73
3	Wetla	nd Survey - Survey database suite	83
	3.1	Oata fields held in the Survey database suite (version 1.0	0)84
4	Other	related databases used by the database suite	89
5	Wetla	nd Survey 2017 GIS Dataset	90
	5.1 2	017 GIS dataset– files and associated data fields	90
	5.1.1	2017 Site Locations	91
	5.1.2	2017 Site Boundaries	91
	5.1.3	2017 Potential Wetlands	Error! Bookmark not defined.
	5.1.4	2017 Polygon Habitats	Error! Bookmark not defined.

1 Introduction

As part of the Counties Longford & Roscommon Wetland Study 2017 project (LFROWS2017) two main database suites were used to hold site information were created for each county, namely the GIS dataset and the Site database (version 1.0).

The structure of the database suite allows digital recording of field survey data on the iPad and facilitates data transfer and integration of results into the GIS and GIS system used by Longford and Roscommon County Councils via the export of data in the Site database into Excel and Filemaker formats.

As illustrated in Figure 1 below there are two main databases associated with the LFROWS, the Core Wetland Database (Version 1) and the Core Site Survey Database (Version 1). The structure of the site database suite developed and used throughout the current project is outlined below.

The relationship of the Core Wetland Database and Core Site Survey Database suites (i.e. the main database elements and the sub-databases that make up the *Longford and Roscommon Wetland Database*) is presented in Figure 1 below. The fields held within each database and sub-database, are described in the table presented in Section 2.1 below.

The Core Wetland Database holds all basic site data obtained from an extensive search of various literature sources. This database is linked (via a unique site record number) to the Core Site Survey Database which holds all of the detailed data gathered during field surveys. Therefore by accessing the Core Wetland Database, the user is able to access all data relating to each site contained in the database including detailed survey data (habitat maps, species lists etc.) where the site in question has been the subject to a detailed targeted wetland field survey.

The files associated with the LFROWS 2017 GIS are described in Section 5 below.

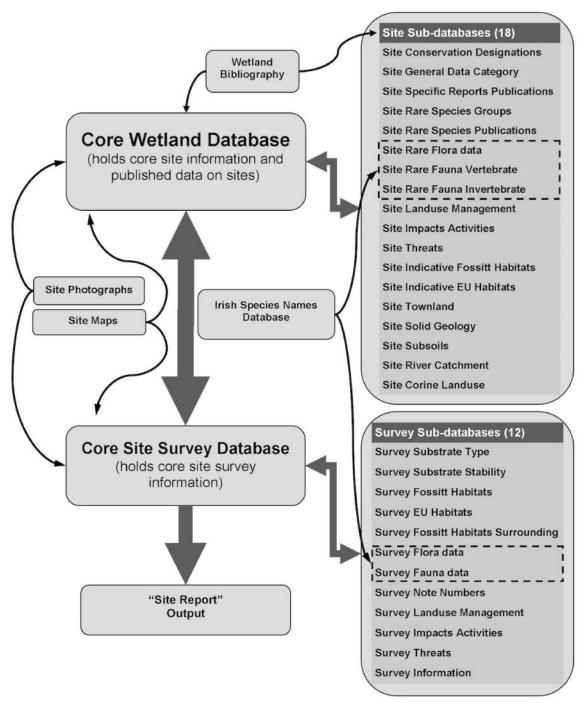


Figure 1. Relationship structure of the Site Database and the Survey Database and associated subdatabases.

2 Core Wetland Site Database Suite version 1.0

The **Site Database** (Filemaker Pro 11.0 software package) suite holds some of the information in the GIS database, but allows for easier sorting and display of site records, survey report preparation as well as data analysis. In additional this database and the associated sub-databases (18 in total) hold more detailed information on sites than is possible within the GIS for certain data fields (e.g. site descriptions, rare species recorded from the site, survey history etc.), and allows site photographs and maps to be displayed.

The database displays site data via a series of layouts. These layouts are used when adding or reviewing data on a site. These layouts are accessed via the green or yellow link buttons along the top of the database window.

The core Wetland Survey database amalgamates data from a series of 18 sub-databases to compile a complete site description. The sub-databases and the data they contain are detailed below.

2.1 Data fields held in the Site database suite (version 1.0)

An explanation of the data fields used in the database suite is provided below.

Table 2.1 Site database and sub-database files and the record data held within each database for individual sites.

^{*} Name in bold is the name applied to database fields as seen when accessing the database in browse/operating mode; the underlined name is the actual field name assigned within the database (used when exporting data, performing calculations etc.).

Database name (sub database names are italicised)	Field name *	Comment
Database Fields Common to the Core Wetland Database and all associated sub-databases listed here		
	Site Code (Site Code UACC)	Unique site code for the site as assigned in Core Site database and used by each of the subdatabases to relate site record information. Auto generated.
	Database Record number (Database Record number)	Unique record number for each record entry within each database and sub-database. Auto generated.
	Created by (Created by)	Name of person who created record within each database and sub-database. Auto generated.
	Date Created (Date Created)	Date record was created within each database and sub-database. Auto generated.
	Modified by (Modified by)	Name of person who last modified record within each database and sub-database. Auto generated.
	Date modified (Date modified)	Date record was last modified within each database and subdatabase. Auto generated.

Database name (sub database names are	Field name *	Comment
italicised) Core Wetland Database	Time modified (Time modified)	Time record was last modified within each database and subdatabase. Auto generated. The main Wetland Site database holding information on all wetlands identified within the county for which there is published/report site information.
	Site Name (Site Name UACC)	The name of the wetland site, based on the most widely used name for site proposed by third party sources and adopted for the project. (see also Other Groups Site Name below).
		Where a site record occurs as a subsite within a larger site complex, the specific subsite name is followed by the name of the main site preceded by a - (e.g. DERRYMACAR LOUGH - LOUGH REE SAC SPA, here Derrymacar Lough, a subsite occurs within the Lough Ree SAC SPA, the main site).
	Designated Site Code	NPWS Site Code number for
	(Designated Site Code UACC) Other Groups Site Name (Other Group Site Name UACC)	NHA, SAC and SPA. Alternative site name applied to site by other reports or publications (for reference).
	Other Crayna Site Code (Other	(When trying to locate a site within the database it is essential that this field is also searched in the case where the site cannot be found under the Site Name field above).
	Other Groups Site Code (Other Group Site Code UACC) Site area (ha) from literature (Total Site Area (ha) from literature UACC)	Site code applied by other groups (for reference).
	Site area (ha) from GIS (Total Site area (ha) from GIS UACC) Total Site Length (km) from literature (Total Site Length (km) from literature UACC)	Calculated site area from GIS dataset.
	Total Site Length (km) from GIS (Total Site Length (km) from GIS UACC)	Calculated site length from GIS dataset.
	Easting Centre (Easting Centre UACC)	The grid reference of the E co- ordinate of the site is recorded, where this is given in the new format of a 6 digit number.
	Northing Centre (Northing Centre UACC)	The grid reference of the N co- ordinate of the site is recorded, where this is given in the new format of a 6 digit number.
	Grid Reference (Grid Ref Old UACC)	Grid reference previously reported from literature. The grid reference of the site is recorded, where this is given in the old format of a letter

Database name	Field name *	Comment
(sub database names are italicised)		
,		followed by 4 or 6 digit number.
		(It should be noted that this grid reference, based on information provided in published reports, should be interpreted with care, and in many cases may be found to be inaccurate. In relation to site location the Easting and Northing co-ordinates above are considered the more reliable when locating the site in question).
	Year last reported field Survey	4 digit year for the last reported
	(Date of last survey UACC) First Noted in (Site Source UACC)	survey of site. Reference to where site was first reported in literature source.
	County (County Name UACC and County Name UACC text string)	Two fields to record county; the first a check box selection; the second producing county names in which site occurs as a text string.
	Wetland areas on site (Wetland areas on site UACC)	Check box system to record whether a wetland type occurred on site, was likely to occur or was absent. Check box selection, only 1 choice to be selected. J YES J No wetland present J No Data - wetland possible J No Data - wetland unlikely
	Site type (Site type UACC)	Check box allowing a site record to be characterised, i.e. whether the database record is for a discrete site or a subsite, a smaller part (e.g. lake) within a larger site complex. A subsite record was generally created where specific site data related to the subsite.
		(Example: DERRYMACAR LOUGH - LOUGH REE SAC SPA) - here Derrymacar Lough has a unique data record, while the inclusion of the Lough Ree SAC SPA in the site name allows the relationship to the larger main site (an SAC) to be maintained and recognised).
	Comment Box (Comment Box UACC)	Check box selection, only 1 choice to be selected. Main Site Sub-site Text field to hold temporary comments on site, queries on site etc. Used during data compilation phase of the project.
	Temporary flag record (Temporary flag record UACC)	Check box allowing the temporary flagging of selected site records. Used during data compilation or data abstraction phase of the

Database name	Field name *	Comment
(sub database names are italicised)		
,		project.
	Annex Species Present – EU	Yes No option for the reported
	Birds or Habitats Directive	occurrence of EU Habitats or
	(Species Annex species Present	Birds Directive Annex species on
	EU Birds Habitats Directive	site.
	UACC) Red Data Book Species Present	Voc No ention for the reported
	(Species Red Data Book Species	Yes No option for the reported occurrence of Red species on
	Present UACC)	site.
	Comment/Notes on rare species	Comment box.
	groups (Species comments on	Common sox
	rare groups UACC)	
	Damaging Operations/ Threats	Comment box.
	on site comments (Damaging	
	operations comments UACC)	
	Site description and source	Text box holding site descrition as
	(Previous site description UACC)	reported by third party source(s).
	Comment on Previous surveys	Comment box.
	(Comment box previous surveys	
	UACC)	
	Indicative Site Wetland	Check box system to record
	Conservation Ranking	overall indicative ranking of site
	(Indicative Site Wetland	based on designated status or
	Conservation Ranking)	ranking following filed survey:
		A Rating: Internationally Important B Rating: Nationally Important
		C+ Rating: County Conservation
		value
		C Rating: Local conservation
		value (high value)
		D Rating: Local conservation
		value (moderate value)
		E Rating: Local conservation
		value (low value)
		F Rating: Unknown value - survey
		required
	Indicative Site Wetland	Comment box.
	Conservation Ranking	
	Comment (Indicative Site Wetland Conservation Ranking	
	Comment)	
	Site Ownership (Site Ownership)	Check box allowing site ownership
	tone of the state	to be recorded based on
		published information or field
		survey observations.
Site Conservation		Sub database holding information
Designations		on the conservation status of a
		site.
	Site Designation (Site	If the site has or was designated
	designations MACC)	under one of the various
		conservation initiatives the
		appropriate designation was
		recorded.
		Choose from:
		NHA - Natural Heritage Area with
		legal protection
) cNHA - candidate Natural
		Heritage Area no legal protection

Database name (sub database names are italicised)	Field name *	Comment
Site General Data Category		PNHA - proposed Natural Heritage Area as advertised in 1995 some legal protection SAC - Special Area of Conservation with legal protection cSAC - candidate Special Area of Conservation open to appeal/ transmitted to EU pcSAC - proposed candidate Special Area of Conservation open to appeal/ not yet transmitted to EU SPA - Special Protection Area cSPA - candidate Special Protection Area cSPA - candidate Special Protection Area NP - National Park with legal protection WHS - World Heritage Site NNR - National Nature Reserve with legal protection BIO - Unesco Biosphere Reserve RAM - Ramsar Site ESA - Environmentally Sensitive Area EDS - Eurodiploma Site ASI - Area of Scientific Interest BGR - Berne Convention Biogenetic Reserve COR - Corine site WS - Wildfowl Sanctuary RFF - Refuge for Flora or Fauna CBA - Coillte Biodiversity Area CFP - Coillte Forest Park Undesignated site - no known designation De-designated NHA - Site previously designated as an NHA but since downgraded by NPWS Sub database holding a list of
	General information available on site (General information	information categories under which data has been recorded on the site in previous reports or data sources. Choose from: Vegetation Type - relevé data
	available on site MACC)	recorded from site Species Data - recorded for general and/or on rare species Habitat Data - habitat data in Fossitt format available for all or part of site Habitat Map - map data of variable quality available (may include GIS habitat map) Hydrochemical Data - water chemistry data available on site Site Size - from published source Ownership Data - owner information available on site Detailed Site Description - detailed description of available in published report Site Management - site

Database name (sub database names are italicised)	Field name *	Comment
		management recommendations have been made in published report Conservation Designation - site conservation recommendations have been made in published report iWeBS Site - site is listed as a location for bird recording as part of the Irish Wetlands Birds Survey Scheme Visitor & Recreation Facilities - wetland site with visitor and recreational facilities i.e. parking, walks and trails, picnic areas, seating, viewing platforms etc., other than angling facilities Angling Lake - lake or river is used or managed as a location for angling, with or without angling facilities EPA Drinking Water Lake - lake or river is used or managed as a drinking water source
Site Specific Reports Publications		Sub database holding a list of reports and publications which refer to site; uses Wetland
		Bibliography database to get full citation.
	Reference Code (Reference Code)	Unique bibliography reference code.
Site Rare Species Groups	Amalgamated Reference (Amalgamated ref)	Full report or publication citation as text string; lookup from Wetland Bibliography database. Sub database holding information as reported from literature on
		groups recorded on site (e.g. rare plants, animals, EU spp etc.)
	Species rare groups present on site (Species rare groups present on site MACC)	Choose from: Botanical Higher Plant Fern Bryological Lichen Algae Fungi Zoological Invertebrates Invertebrates Mollusc Invertebrates Insect Invertebrates Arachnid Invertebrates Crustacean Vertebrates Birds Mammals Bats Amphibian Fish
Site Rare Species		Reptile Sub database holding a list of

Database name	Field name *	Comment
(sub database names are italicised)		
Publications		reports and publications which
		refer to rare species on a site; sub database uses Wetland
		Bibliography database to get full
		citation.
	Reference Code (Reference Code)	Unique bibliography reference code.
	Amalgamated Reference	Full report or publication citation;
	(Amalgamated ref)	lookup from Wetland Bibliography database.
Site Rare Flora Data		Sub database holding information
		as reported from literature on rare flora recorded on site.
	Rare flora name Latin (Rare flora	Drop down list of Latin wetland
	Latin site list MACC)	plant species names.
	Rare flora name English (Rare flora name English)	Sub database uses Irish Species database to get related English
Site Rare Fauna Vertebrate		name. Sub database holding information
		as reported from literature on rare
		vertebrate fauna recorded on site
	Rare vertebrate fauna English name (Rare vertebrate fauna	Drop down list of English wetland invertebrate fauna species names.
	English site list MACC)	invertebrate fauria species fiames.
	Latin Name (Rare vertebrate	Sub database uses Irish Species
	fauna Latin site list MACC)	database to get related latin
Site Rare Fauna Invertebrate		name. Sub database holding information
Site Nate Faula Investebrate		as reported from literature on rare
		vertebrate fauna recorded on site.
	Rare invertebrate fauna Latin name (Rare invertebrate fauna	Drop down list of English wetland Invertebrate fauna species
	site list MACC)	names.
	,	
	English name (Rare invertebrate	Sub database holding information
	fauna English site list MACC)	as reported from literature on rare invertebrate fauna recorded on
		site.
Site Landuse Management		Sub database holding a list of
		landuse management options occurring on site.
	Landuse Management on site	NPWS list of landuse options.
	(Landuse Management on site	Drop down options list.
	MACC)	Dran davin artists list Cools
	Frequency Landuse Management (Frequency	Drop down options list. Scale: 1 Rare (<5%)
	Landuse Management on site	2 Occasional (5-20%)
	MACC)	3 Frequent (21-50%)
Sito Importo Activitica		4 Dominant (>50%)
Site Impacts Activities		Sub database holding a list of impacts and activities influencing
		the conservation status of the site
		and the intensity and impact these
	Impact & Activities Influencing	are having on the site. List of EU Natura 2000 site
	Conservation Status of site	impacts and activities updated by
	(<u>Damaging operations on site</u>	NPWS in 2009. Drop down
	MACC)	options list.
	Intensity (Damage intensity on	Drop down options list. Intensity

Database name (sub database names are	Field name *	Comment
italicised)	site MACC)	of the influence of an activity is rated as J A = high, J B = medium, J C = low influence
	Impact (Damage Impact on site MACC)	D = unknown Drop down options list. Impact rating scale: Impact is rated as -2 = irreparable negative influence -1 = reparable negative influence 0 = neutral +1= natural positive influence +2 = strongly managed positive influence Unknown
Site Threats	Threats on site (Threats on site MACC)	Sub database holding a list of threats to site. List of EU Natura 2000 site impacts and activities undated by
Site Indicative Fossitt Habitats	Habitats Present on site full Fossitt name (Habitats present on site full Fossitt name MACC)	impacts and activities updated by NPWS in 2017. Drop down options list. Sub database holding a list of Fossitt habitats reported in published sources as occurring on the site. List of Fossitt (2000) Irish habitat types. Drop down options list.
Site Indicative EU Habitats	Habitats Present on site Fossitt code only (Habitats Present on site Fossitt code only MACC)	Calculation results the Fossitt habitat code entered into data field is based on full Fossitt habitat name entered in field above. Sub database holding a list of EU
Site indicative EU Habitats	EU Directive Habitats on site (Habitats EU Directive Habitats on site MACC)	habitats reported in published sources as occurring on the site. List of EU Habitats Directive habitat types. Drop down options list.
Site Townlands		Sub database holding a list of townlands occurring on the site.
	Site Townland (Site Townlands MACC)	Data imported from GIS. (In the case of a main site (see definition below), all townland(s) recorded within the site polygon mapped are provided. For subsites only the townland directly at the grid reference point location is provided. Similar rules apply to information provided for site Solid Geology, Subsoil Type, River Catchment & Corine Landuse).
Site Solid Geology	Site Solid Geology (Site Solid	Sub database holding a list of rock types occurring on the site. Data imported from GIS.
	Geology MACC)	Data importou from Oro.

Counties Longford & Roscommon Wetland Study

Database name (sub database names are italicised)	Field name *	Comment
Site Subsoils		Sub database holding a list of Sub-soil types occurring on the site.
	Site Subsoils (Site Subsoils MACC)	Subsoil (quaternary deposit) underlying the site. Obtained from the GIS. Key to soil types is provided below.
Site River Catchment		Sub database holding a list of River Catchments occurring on the site.
	Site River Catchment (Site River Catchment MACC)	Data imported from GIS.
Site Corine Habitats		Sub database holding information on Corine habitats recording on a site.
	Site Corine Landuse (Site Corine Landuse MACC)	Data imported from GIS.

Table of Subsoil (quaternary deposit) recognised in the present project.

IFS soil	Included Great Soil Groups	IFS Soil Description	IFS
abbreviation		·	Code
AminDW	Acid Brown Earths	Deep well drained mineral Derived from mainly non-calcareous	1 11
AIIIIIDVV	Brown Podzolics	parent materials	11
BminDW	Grey Brown Podzolics	Derived from mainly calcareous parent	12
אטוווווס	Brown Earths(medium-high base	materials	12
	status)	materials	
	Status)		
		Shallow well drained mineral	2
AminSW	Lithosols	Derived from mainly non-calcareous	21
	Regosols	parent materials	
BminSW	Renzinas	Derived from mainly calcareous parent	22
	Lithosols	materials	
		Deep poorly drained mineral	3
AminPD	Surface water Gleys	Derived from mainly non-calcareous	31
	Ground water Gleys	parent materials	
BminPD	Surface water Gleys	Derived from mainly calcareous parent	32
	Ground water Gleys	materials	
		Shallow poorly drained mineral	
AminSP	Surface water Gleys (Shallow)	Derived from mainly non-calcareous	33
	Ground water Gleys	parent materials	
Dan in OD	(Shallow)	Davis ad from mainly advances mount	0.4
BminSP	Surface water Gleys (Shallow)	Derived from mainly calcareous parent	34
	Ground water Gleys (Shallow)	materials	
	(Onanow)		
		Poorly drained mineral soils with	4
		peaty topsoil	
AminPDPT	Peaty Gleys	Derived from mainly non-calcareous	41
		parent materials	
BminPDPT	Peaty Gleys	Derived from mainly calcareous parent	42
		materials	
AminSPPT	Peaty Gleys (Shallow)	Derived from mainly non-calcareous	45
		parent materials	
BminSPPT	Peaty Gleys (Shallow)	Derived from mainly calcareous parent	44
		materials	
		Shallow, lithosolic-podzolic type soils	
AminSRPT	Podzelo (Poety)	potentially with peaty topsoil Predominantly shallow soils derived	43
AminoRPT	Podzols (Peaty) Lithosols		43
	Peats	from non-calcareous rock or gravels with/without peaty surface horizon	
BminSRPT	Lithosols	Predominantly shallow soils derived	46
DIIIIIONEI	Peats	from calcareous rock or gravels	40
	1 eats	with/without peaty surface horizon	
		Alluviums	5
AlluvMIN	Variable	Mineral alluvium	51
AlluvMRL	Variable	Marl type soils	53
Lac	Variable	Lacustrine-type soils	56
		7,75	
		Peats	6
RsPt	Basin Peats	Raised bog	61
BktPt	Blanket Peats	Blanket peat	63
Cut	Basin Peats	Cutaway/cutover peat	65
	Blanket Peats (some)	<u> </u>	
FenPt	Basin Peats	Fen peat	66
		Miscellaneous	7

IFS soil abbreviation	Included Great Soil Groups	IFS Soil Description	IFS Code
Scree		Scree	70
AeoUND		Aeolian undifferentiated	71
MarSands		Beach sand and gravels	72
MarSed		Marine/ Estuarine sediments	73
Swamp		Reed Swamp/Marsh	75
Made		Made/Built land	74
Water		Lake (including reservoirs)	76
Unclass		Unclassified	77

3 Wetland Survey - Survey database suite

To hold data for future field surveys of wetland sites in each countythe Survey database was designed. This **Counties Longford & Rosacommon Wetland Study – Survey Database** (version 1.0) was linked to the Core Site database via the unique **site record number** assigned to each site.

Details of the data fields (name as it appears in operational mode within various database layouts; and in brackets the field name within database) in the Wetland Survey database are provided below.

Once survey information has been incorporated into the survey database, and by selecting the "Show complete site report" button, a full survey report for the site can be viewed on screen. By selecting the "Create final PDF of complete site report - description, maps and habitat map" button a PDF of the complete site report is created and can be saved to a PDF file.

A series of database layouts, containing site survey information, form the main site database and content of the survey database. These layouts were used when adding or reviewing survey data on a site. These layouts are accessed via the green or yellow link buttons along the top of the survey database window.

An explanation of the data fields used in the survey database is provided below.

3.1 Data fields held in the Survey database suite (version 1.0)

* Name in bold is the name applied to database fields as seen when accessing the database in browse/operating mode; the underlined name is the actual field name assigned within the database (used when exporting data, performing calculations etc.).

Database name	Field name *	Comment
(sub database names are italicised)	rieid name "	Comment
Database Fields Common to the Core Site Survey Database and all associated sub-databases listed here		
	Site Code (Site Code UACC)	Unique site code for the site as assigned in Core Site database and used by the Core Site Survey database in each of the subdatabases to relate site records.
	Database Record number (Database Record number) Survey Code Number (Survey Code number)	Unique record number for each record entry within each database and sub-database. Unique survey code number as assigned in Core Site database and used by the Core Site Survey database each of the sub-databases to relate site records for a particular survey.
	Created by (Created by) Date Created (Date Created)	Name of person who created record within each database and sub-database. Date record was created within
	Modified by (Modified by)	each database and sub-database. Name of person who last modified record within each database and sub-database.
	Date modified (Date modified)	Date record was last modified within each database and subdatabase
	Time modified (Time modified)	Time record was last modified within each database and subdatabase.
Core Site Survey Database (KYWS)		Site Survey database holding information on wetlands where a detailed field survey has been undertaken. Only data fields held within the database are described here, lookups of fields from related databases or subdatabases are described elsewhere.
	Site Name (Site Name UACC)	Name as provided in the Core Site database.
	Survey full title (Survey full title UACC)	Full title of survey (with year). Drop down menu selection.
	Survey code (Survey code UACC)	Abbreviated code for field survey (includes the year survey was undertaken). Drop down menu selection.

Database name (sub database names are italicised)	Field name *	Comment
	Date of wetland survey (Date of Field Survey UACC)	Date detailed field survey undertaken. Format dd/mm/yyyy.
	Name of Wetland Surveyors (Name of Wetland Surveyors UACC) Survey photographic no. (Survey Photographic Numbers	Name of field surveyors who surveyed site. Drop down menu selection. Photographic image code from survey together with initials of
	Conservation Ranking following Survey (Conservation Ranking after survey UACC)	photographer. Conservation ranking for site based on results of field survey and subsequent conservation assessment. One check box option to be selected following survey. A Rating: Internationally Important B Rating: Nationally Important C+ Rating: County Conservation value C Rating: Local conservation value (high value) D Rating: Local conservation value (moderate value)
	Altitude (Site altitude mOD UACC) Water table (cm) (Water table	E Rating: Local conservation value (low value) F Rating: Unknown value - survey required Altitude of site meters above Ordnance datum. Water table depth within wetland
	depth cm UACC) Substrate depth (cm) (Site	site. Recorded in cm. Substrate depth under wetland
	substrate depth UACC) Damaging Operations/ Threats on site comments (Damaging operations comments UACC)	area recorded in cm. Comment box.
	Site location (Report Survey Site location UACC)	In this field include information on the location of the site relative to nearest town etc. Text field with maximum character allowance of 250.
	Survey site description with reference to wetlands present (Report Site description UACC)	In this field include general site description, and/or comment on habitats present, substrate type, stability, depth and water table. Text field with maximum character allowance of 250.
	Comments on potential occurrence of EU habitats on site (Report Survey Site EU habitats comments UACC)	EU Habitats Directive habitats recorded for the site; EU rare species information etc. Text field with maximum character allowance of 250.
	Management recommendations following survey (Report Management recommendations UACC)	Wetland enhancement or management recommendations for site following survey. Text field with maximum character allowance of 250.
	Future survey	Additional survey

Database name (sub database names are italicised)	Field name *	Comment
- Tameroccy	recommendations (Report Future Survey recommendations UACC)	recommendations for site following survey. Text field with maximum character allowance of 250.
	Landowner information comments (Report Landowner information comments UACC)	Comments provided by landowners on site history, ownership, management etc. Text field with maximum character allowance of 250.
Survey Substrate Type		Sub database holding a list of soil types on the site observed during survey.
	Site Substrate Type (Site substrate type MACC)	Drop down list options: Mineral Soil Clay Silt Alluvial deposit Bedrock Loose Rock Rocky Till Peat Tufa Made Ground Other
Survey Substrate Stability		Sub database holding a list of substrate stability options observed during survey.
	Site Substrate Stability (Site substrate stability MACC)	Drop down list options: J Very firm J Firm J Some quaking J Quaking J Floating mat
Survey Fossitt Habitats		Sub database holding a list of Fossitt habitats as occurring on the site following survey.
Survey Fossitt Habitats	Habitats Present on site full Fossitt name (Habitats present on site full Fossitt name MACC) Fossitt code (Habitats Present on site Fossitt code only MACC)	List of Fossitt (2000) Irish habitat types. Drop down menu list. Calculation results the Fossitt habitat code entered into data field is based on full Fossitt habitat name entered in field above. Sub database holding a list of
Surrounding		Fossitt habitats as occur surrounding the site following survey.
	Habitats Present surrounding site full Fossitt name (Habitats present surrounding site full Fossitt name MACC) Fossitt code (Habitats Present	List of Fossitt (2000) Irish habitat types. Drop down menu list. Calculation which results in Fossitt
	surounding site Fossitt code only MACC)	habitat code being entered into data field based on full habitat name.
Survey Flora Data		Sub database holding a list of flora species recorded during the survey.

Database name (sub database names are italicised)	Field name *	Comment
Train of the state	Species Flora (Latin name) (Species Flora site list MACC)	List of flora recorded on site. Higher and lower plants, mosses and lichens. Drop down menu list.
	English name (English Flora species name)	Sub database uses Irish Species database to get related English name.
	Species temporary survey comment box (Species temporary survey comment box)	Comment box for use on field survey or to allow recording of DAFOR species abundance.
Survey Fauna Data		Sub database holding a list of flora species recorded during the survey.
	Species Fauna site list (Species Fauna English name site list MACC) Species Fauna latin name (Species Fauna latin name site list MACC)	List of fauna (vertebrates and invertebrates) recorded on site. Drop down menu list. Sub database uses Irish Species database to get related Latin name.
Survey Note Numbers	Species temporary survey comment box (Species temporary survey comment box)	Comment box for use on field survey or to allow recording of species abundance information. Sub database holding survey note number, note type and descriptive data.
	Note Number (Report target notes numbers MACC)	Drop down menu selection. N1, N2 etc.
	Note Category (Report target notes category MACC)	Drop down menu selection: Habitat
	Note (Report target notes MACC)	Text field with maximum character allowance of 250.
Survey Landuse Management		Sub database holding a list of landuse management options occurring on site as observed during survey
	Landuse Management on site (Landuse Management on site MACC)	NPWS list of landuse options. Drop down list.
	Frequency Landuse Management (Frequency Landuse Management on site MACC)	Drop down list options. Scale: 1 Rare (<5%) 2 Occasional (5-20%) 3 Frequent (21-50%) 4 Dominant (>50%)
Survey Impacts Activities		Sub database holding a list of impacts and activities influencing the conservation status of the site and the intensity and impact these are having on the site, as observed during survey.

Database name (sub database names are italicised)	Field name *	Comment
·	Impact & Activities Influencing Conservation Status of site (Damaging operations on site MACC)	List of EU Natura 2000 site impacts and activities updated by NPWS in 2009. Drop down list.
	Intensity (Damage intensity on site MACC)	Intensity of the influence of an activity is rated as: A = high, B = medium, C = low influence D = unknown
	Impact (Damage Impact on site MACC)	Impact rating scale:
Survey Threats		Sub database holding a list of threats to site, as observed during the survey.
	Threats on site (Threats on site MACC)	List of EU Natura 2000 site impacts and activities updated by NPWS in 2009. Drop down list.
Survey Information	Site survey information (Site field survey information MACC)	Sub database holding a list of information categories for the site. Editable drop down list options: Detailed site survey undertaken Limited site inspection only No survey yet undertaken Additional Survey may be required NHA Ranger Survey exists NHA Ecologists Survey exists Site boundary defined Releve data collected Water chemistry samples collected Etc.

4 Other related databases used by the wetland study database suite

In addition to the two main databases (Core and Survey databases) used to hold site related data, a number of secondary databases, holding a list of publications and references, Irish flora and fauna species names, Site Photographs and Site Maps (habitat, aerial photographs etc.) complete the suite of databases used in the preparation of site reports and data storage for the database suites. These are explained in more detail below.

Database name	Comment	
Wetland Bibliography	Secondary database containing a list of publication and report citations.	
	Linked to Site Rare Species Publications and Site Specific Reports and Publications sub-database (inter alia) via the unique bibliography code number.	
Site Photography	Secondary database containing a maximum of 3 site photographs from the field survey and associated photograph captions. Linked to Core and Survey database via the unique site code number and unique site survey code number.	
	Site Photographs 1, 2 & 3 (Survey Site Photograph 1, 2 & 3) Layout allows 3 site photographs to be imported to represent wetlands on site.	
	Site Photograph Captions 1, 2 & 3 (Survey Site Photograph Caption 1, 2 & 3 UACC). Layout allows 3 site photograph captions to be recorded.	
Site Maps and Airphoto	Secondary database containing 3 site maps produced and exported from the KYWS GIS dataset after survey was completed (Locations map showing site on OS Discovery Map; Aerial photograph showing site boundary and Habitat Map of the site). Linked to Core and Survey database via the unique site code number and unique site survey code number.	
	Site location Discovery Map (Survey Site locations map image) Layout allows image of wetland site location map based on OS Discovery map to be imported. A caption field for the map is also included (Site Discovery Map Caption UACC).	
	Air photograph site location (Air aerial photograph image) Layout allows image of wetland site location map based on Aerial photograph to be imported. A caption field for the photograph is also included (Site Aerial Photograph Caption UACC).	
	Site Habitat Map (Site habitat map image) Layout allows image of wetland habitat map to be imported. A caption field for the habitat map is also included (Site habitat map image caption UACC).	
	All three of the above can be viewed as enlarged images by selecting the appropriate "Go to enlarged layout" button.	
Site Maps Key and Airphoto Copyright	Secondary database with key to habitat maps; OS copyright permission for use of aerial photographs and maps on project and overall site locations map for the survey. Linked to Core and Survey database via the unique site survey code number.	
Irish Species Names	Secondary database holding a list of Irish Flora and Fauna names, in English and Latin, used in the compilation of species records from sites and in the compilation of final site reports. Linked to Site Rare Flora, Site Rare Fauna Vertebrate and Site Rare Fauna Invertebrate sub-databases (used by core database) and the Survey Fauna and Survey Flora sub-databases (used by KYWS survey database).	

5 Wetland Study 2017 GIS Dataset

The *LFROWS 2017 GIS Datasets* (ArcView 10.3 GIS software package) hold site related information on each polygon and point feature mapped. Data held in this dataset were converted into MapInfo format at the end of the project period for use by Longford or Roscommon County Councils.

A detailed explanation of the various GIS files and associated attribute fields is presented in the following sections.

The folder titled '*LFROWS 2017 GIS Datasets*' included on the final CD accompanying this report contains the final GIS outputs from the Counties Longford & Roscommon Wetland Study 2017 (LFROWS 2017).

Both ArcGIS and MapInfo versions of the final GIS files are included on the CD submitted with the final report. A description of the various files that make up the GIS is presented below along with a description of the various data fields attached to each file.

In general, the methodology used in the preparation of the GIS datasets follows those outlined by Smith et al. (2011). See Appendix 1 for information on the various spatial datasets used during the project.

All mapping was carried out using Irish National Grid co-ordinate system on ArcView 10.3.

- All features were attributed with the standard field names for the project.
- Clipping was carried out to ensure that there were no overlapping polygons.
- Expert opinion was used to resolve problem areas.

Most boundary features were obtained from third party datasets (such as subsoil dataset, NPWS survey datasets, and Teagasc habitat mapping etc) and are referenced as such in the relevant attribute field. In some instances digitising of boundaries was carried out by tracing over raster images (aerial photography).

5.1 GIS dataset– files and associated data fields

In all, two different GIS shape-files relating to the distribution and extent of freshwater wetland habitats in Counties Longford and Roscmmon were produced as summarised in Table 5.1 below. Further details of attributes and data associated with each of the five GIS files are presented below.

Table 5.1: LFWS or ROWS 2017 GIS shapefiles produced during the current study.

Take the second period product and the second period period and the second period peri				
GIS File Name	File Description			
LFWS or ROWS 2017	This file shows point locations of all sites identified during the 2017 project.			
Site Locations				
LFWS or ROWS 2017	This file shows the boundaries of all sites identified during the 2017 project. In			
Site Boundaries	some cases where boundaries were not available, provisional boundaries were			
	drawn (only where the wetland was easily identifiable)			

5.1.1 Site Locations

This file shows point locations of all LFWS or ROWS sites identified during the 2017 project. Some of the fields have not been populated but may be of use following any future updates or field surveys. The various attribute fields associated with this file include:

Attribute	Description		
OBJECTID	Unique numeric identifier for each point in the dataset.		
Site_Code	A number field containing a unique numeric site code according to that recorded in		
	the site database.		
Site_Name	This contains the site name as recorded in the site database.		
Site_Type	This is a text field (Main site or Sub-site) indicating whether the record relates to a		
	Main site or Sub-site site. Sub-sites refer to areas that occur within larger main sites		
	and are not indicated by a separate boundary in the site boundary file.		
Easting	X coordinate (Easting) of the point location (Irish National Grid).		
Northing	Y coordinate (Northing) of the point location (Irish National Grid).		
ConsEvalua	Site conservation evaluation according to NRA (2009) guidelines where possible		
	(based on available information. Not populated.		
SiteDescri	Site description written following the completion of field survey. Not populated.		
SurveyMet	An indication of field data quality or survey method. Coded according to Smith et al		
	(2011). Not populated.		
SurveyYear	Year that field survey was undertaken. Not populated.		
PhotoRef	Reference to the name of site photograph taken during field survey reports. Not		
	populated.		

5.1.2 Site Boundaries

This file shows the boundaries of all sites identified during the LFWS and ROWS 2017, where such boundaries were available in digital format or could be drawn with confidence. Some of the fields have not been populated but may be of use following any future updates or field surveys. The various attribute fields associated with this file are as follows:

Attribute	Description		
OBJECTID	Unique numeric identifier for each polygon in the dataset.		
SiteName	This contains the site name as recorded in the site database.		
SiteCode	The site code according to that recorded in the site database.		
Shape_Area	A calculation field which automatically calculates the area covered by the site polygon.		
ConsEvalua	Site conservation evaluation according to NRA (2009) guidelines. Not populated.		
SurveyDate	Date on which field survey was undertaken. Not populated.		
PolygSourc	This refers to the source dataset of the polygon. In some cases site boundaries were drawn during the LFROWS 2017 although most polygons originated from third party sources.		
SiteDescri	Site description written following the completion of field survey. Mostly not populated.		
SurveyYear	Year that field survey was undertaken. Not populated.		
Shape_Length	Measure of the length of the sites perimeter.		

Appendix 4

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.
В	Major salmonid (salmon, trout or char) lake fisheries.
Б	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 fulfil 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
С	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. 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.

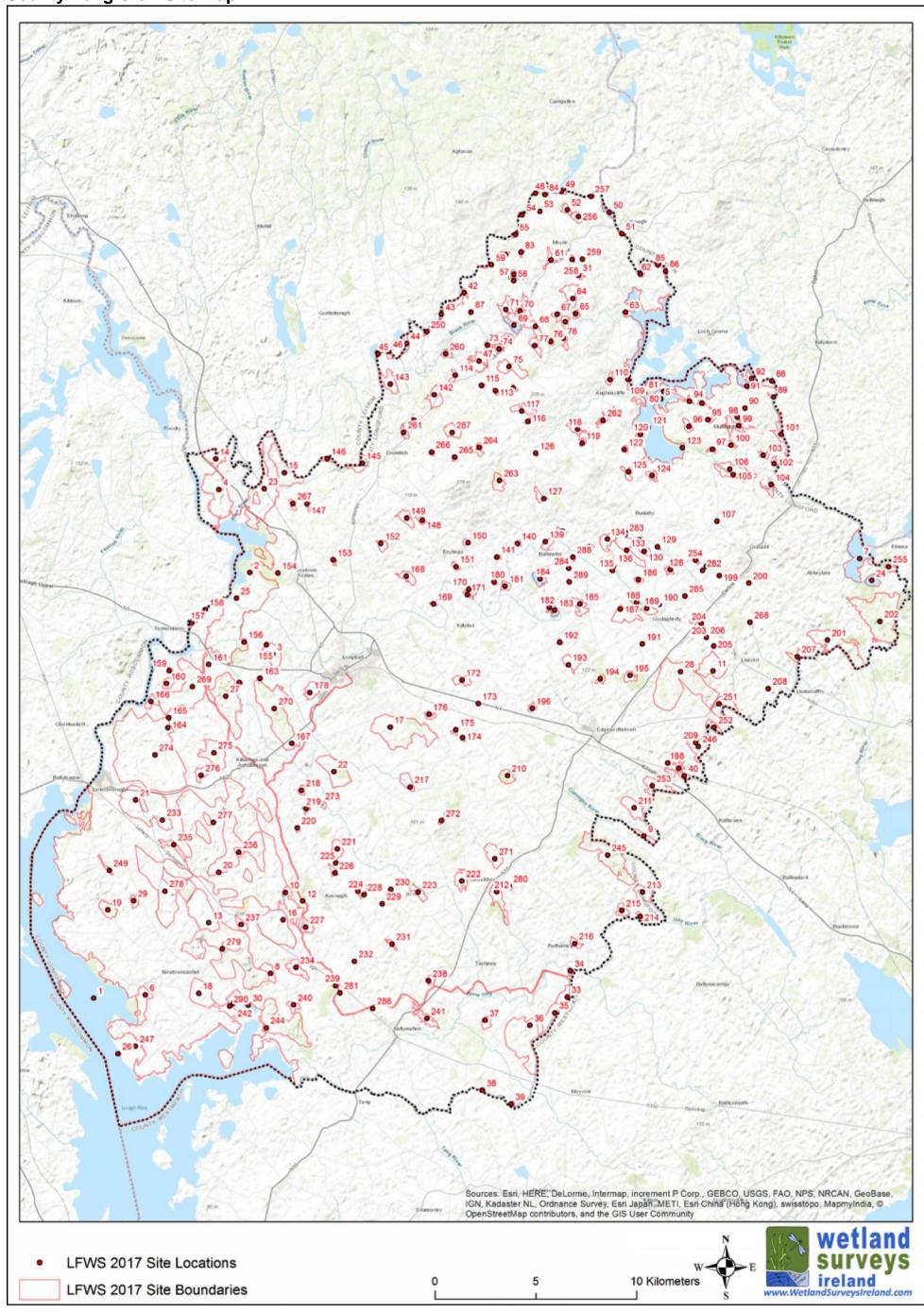
^{*} SAC = Special Area of Conservation, SPA = Special Protection Area, NHA = Natural Heritage Area

Appendix 3

Counties Longford and Roscommon Wetland Study

Map of potential wetland sites held within the GIS & Site Database and associated site lists

County Longford - Site Map



County Longford Site List

Data presented for each site includes: Site code, Site name, Grid reference (Irish Grid Easting and Northing), Site Type, Designation and Designated Site Code. (An Excel file version of this table is included on the final project disk with this report).

For a complete export of all data held on each site within the LFWS or ROWS site database see the Excel file (LFWS or ROWS_Site_List_Summary.xlsx) For an explanation of the data columns in the Excel file see report Appendix 2.

LFWS Site	LFWS Site Name	Centre Easting	Centre Northing	Site Type	Designation	Designated Site Code
Code		Lasting	Northing			Oout
LF1	LOUGH REE SAC SPA (LONGFORD)	200800	258764	Main Site	SPA, ASI, SAC	000440 / 004064
LF2	LOUGH FORBES COMPLEX SAC SPA (LONGFORD)	208539	279878	Main Site	SPA, SAC, ASI	001818 004101
LF3	BROWN BOG SAC	209677	275823	Main Site	SAC, pNHA	002346 000442
LF4	CLOONEEN BOG SAC	207000	284000	Main Site	SAC, pNHA	002348 / 000445
LF5	LOUGH GOWNA pNHA (LONGFORD)	228912	288490	Main Site	ASI, pNHA, cNHA	000992
LF6	LOUGH SLAWN pNHA	203352	258921	Main Site	pNHA, ASI	001443
LF7	LOUGH KINALE AND DERRAGH LOUGH NHA SPA (LONGFORD)	238765	280575	Main Site	NHA , SPA, ASI, SGI	000985 / 004061
LF8	DERRY LOUGH pNHA	209558	259984	Main Site	ASI, pNHA	001444
LF9	GLEN LOUGH SPA (LONGFORD)	228069	266803	Main Site	SPA, ASI, pNHA, RAM , cNHA	004045 / 001687
LF10	LOUGH BAWN pNHA	210300	264000	Main Site	pNHA, ASI	001819
LF11	ARDAGULLION BOG SAC	231500	275000	Main Site	SAC, pNHA	002341 / 002069
LF12	ROYAL CANAL (LONGFORD)	211158	263579	Main Site	ASI	002103
LF13	DERRAGHAN FEN cNHA	206500	262500	Main Site	Undesignated site, cNHA	002945
LF14	AGHNAMONA BOG NHA (LONGFORD)	206846	285513	Main Site	NHA	000422
LF15	CLOONAGEEHER BOG NHA (LONGFORD)	210252	284832	Main Site	NHA , De- designated NHA	Former site code: 001423
LF16	CORLEA BOG	210179	262643	Main Site	Undesignated site, SGI, PNR	
LF17	DERRYMORE BOG pNHA	215500	272200	Main Site	pNHA	000447
LF18	FORTHILL BOG NHA	206000	259000	Main Site	NHA , De- designated NHA	Former site code: 001423001448
LF19	FORTWILLIAM TURLOUGH FEN SAC	201498	263146	Main Site	SAC, ASI	000448 005104
LF20	LEHERY BOG	207000	265000	Main Site	Undesignated site	
LF21	LOUGH BANNOW pNHA	202878	268596	Main Site	ASI, pNHA	000449
LF22	MOUNT JESSOP BOG NHA	212700	270000	Main Site	NHA , ASI	001450
LF23	RINN RIVER NHA (LONGFORD)	209247	284038	Main Site	NHA	000691
LF24	DERRAGH LOUGH - LOUGH KINALE AND DERRAGH LOUGH NHA (LONGFORD)	239374	279490	Sub-site	NHA	00985
LF25	BALLYKENNY FISHERSTOWN BOG SAC - LOUGH FORBES COMPLEX SAC SPA (LONGFORD)	207877	278603	Sub-site	SPA, SAC	004101 001818
LF26	BARLEY HARBOUR / PORTANURE LODGE - LOUGH REE SAC SPA	202000	256000	Sub-site	ASI	000440 / 004064
LF27	(LONGFORD) CLOONDARA BOG CUTAWAY	207346	273741	Main Site	ASI	NPWS non_NHA 001441
LF28	CLOONSHANNAGH MOSTRIM BOG	229885	274963	Main Site	ASI	NPWS non-NHA 001442
LF29	CORDARA TURLOUGH pNHA	202782	263591	Main Site	ASI, pNHA	001821
LF30	DERRYMACAR LOUGH - LOUGH REE SAC SPA	208464	258409	Sub-site	ASI, SAC, SAC	001445 000440 004064
LF31	LOUGH NABACK pNHA	224832	294638	Main Site	ASI, pNHA	001449
LF33	CLOONBRIN ABBEYSHRULE BOG NORTH	224272	258820	Main Site	Undesignated site	
LF34	CLOONBRIN BOG	224435	260114	Main Site	Undesignated site	
LF35	ABBEYSHRULE BOG	223657	258029	Main Site	Undesignated site	
LF36	CLOONEEN BOG (LONGFORD)	222424	257407	Main Site	Undesignated site	
LF37	PALLAS BEG	220204	257658	Main Site	Undesignated site	
LF38	FORGNEY BOG WOODLAND	220060	254188	Main Site	Undesignated site	
LF39	BALLYCLAMAY BOG (LONGFORD)	221489	253505	Main Site	Undesignated site	
LF40	CLONWHELAN BOG SOUTH	230073	269792	Main Site	Undesignated site	
					ŭ	
LF42	LOUGH NABELWY (LONGFORD)	219160	293766	Main Site	Undesignated site	

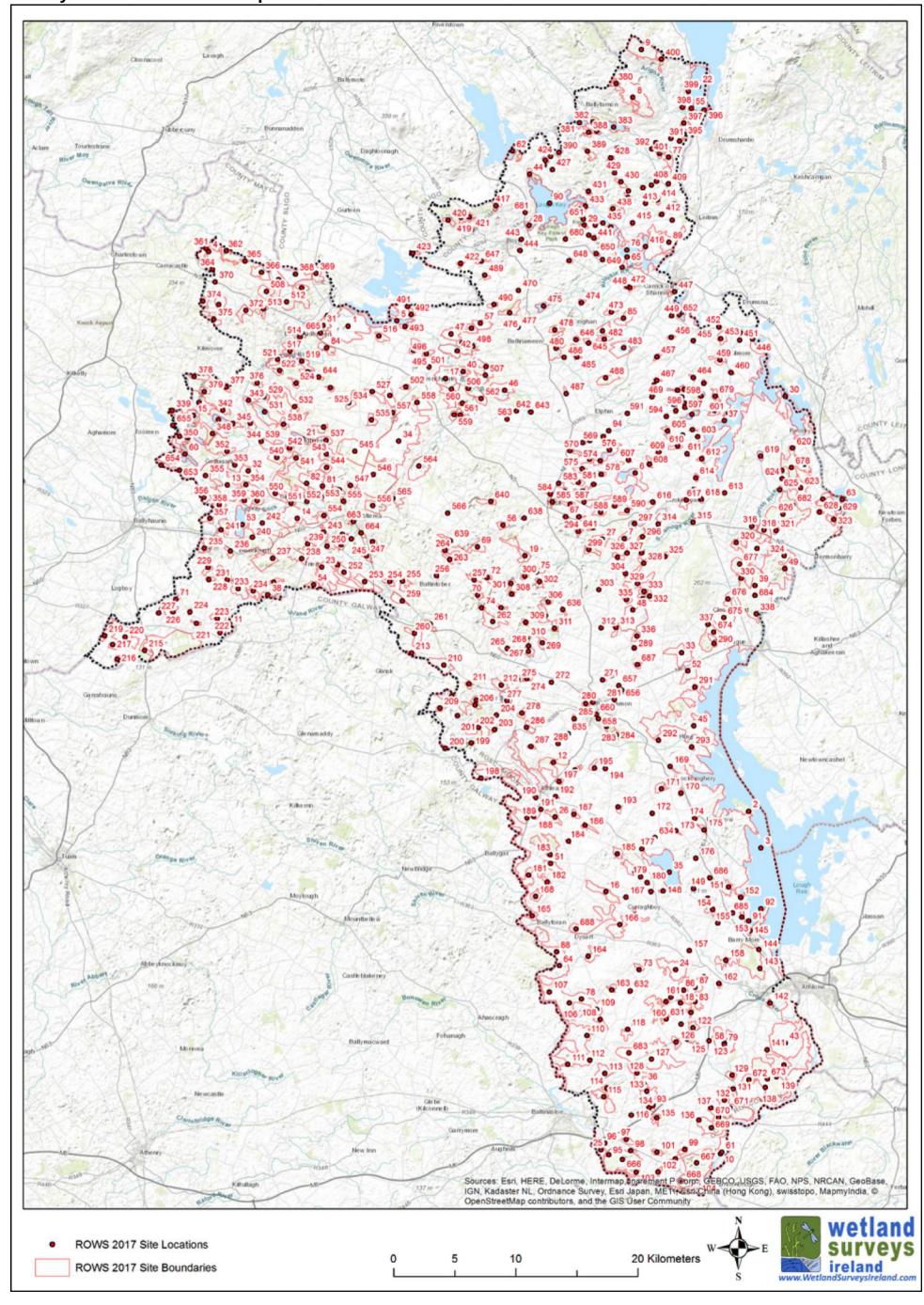
LFWS	LFWS Site Name	Centre	Centre	Site Type	Designation	Designated Site
Site Code		Easting	Northing			Code
LF44	LOUGH SALLAGH (LONGFORD)	216297	291248	Main Site	Undesignated site	
LF45	DRUMSHANBO LOUGH (LONGFORD)	214901	290719	Main Site	Undesignated site	
LF46	DRUMHASS (LONGFORD)	215424	290856	Main Site	Undesignated site	
LF47	SHANMULLAGH TAWNAGH BOG	219903	290380	Main Site	Undesignated site	
LF48	BEAGHMORE LOUGH (LONGFORD)	222692	298697	Main Site	Undesignated site	
LF49	GULLADOO LOUGH (LONGFORD)	223973	298795	Main Site	Undesignated site	
LF50	LOWER LOUGH (LONGFORD)	226349	297757	Main Site	Undesignated site	
LF51	GUINIKIN LOUGH (LONGFORD)	226972	296689	Main Site	Undesignated site	
LF52	FIHORAGH WEST (224277	297887	Main Site	Undesignated site	
LF53	BLACK LOUGH	222908	297809	Main Site	Undesignated site	
LF54	TULLY SOUTH LOUGH (LONGFORD)	222036	297636	Main Site	Undesignated site	
LF55	GORTERMONE LOUGH (LONGFORD)	221704	296653	Main Site	Undesignated site	
LF56	CORGLASS NORTH	221209	295645	Main Site	Undesignated site	
LF57	CORGLASS LOUGH	221622	294687	Main Site	Undesignated site	
LF58	KILTYCON	221612	294363	Main Site	Undesignated site	
LF59	DOOGARY LOUGH (LONGFORD)	220514	295149	Main Site	Undesignated site	
LF61	LEGGAGH	223458	295382	Main Site	Undesignated site	
LF62	ENAGHAN LOUGH (LONGFORD)	227906	294700	Main Site	Undesignated site	
LF62 LF63	ROSSDUFF - LOUGH GOWNA pNHA	227158	292799	Sub-site	pNHA	000992
	(LONGFORD)				'	000332
LF64	CROTT NORTH	224550	293482	Main Site	Undesignated site	
LF65	CROTT SOUTH	224692	292728	Main Site	Undesignated site	
LF66	SMEAR NORTH	224171	292329	Main Site	Undesignated site	
LF67	CARRICKMAGUIRK	223768	292694	Main Site	Undesignated site	
LF68	ANNAGH	222689	292090	Main Site	Undesignated site	
LF69	ANNAGH LOUGH	221631	292148	Main Site	Undesignated site	
LF70	ANNAGH NORTH	221927	292854	Main Site	Undesignated site	
LF71	CLOONELLY BOG	221223	292934	Main Site	Undesignated site	
LF72	GARVARY BOG	221332	291474	Main Site	Undesignated site	
LF73	SHANMULLAGH BOG	220319	291161	Main Site	Undesignated site	
LF74	CAMAGH BOG NORTH	220883	290989	Main Site	Undesignated site	
LF75	CAMAGH EDENMORE BOG	221385	290103	Main Site	Undesignated site	
LF76	CLOONBACK ANNAGHDANIEL	223441	291352	Main Site	Undesignated site	
LF77	ANNAGH SOUTH	222658	291135	Main Site	Undesignated site	
LF78	SMEAR MOLLYGLASS	224081	291500	Main Site	Undesignated site	
LF80	LARKFIELD EAST WET WOODLAND - LOUGH GOWNA pNHA (LONGFORD)	229050	288862	Sub-site	pNHA	000992
LF81	LARKFIELD WEST WET WOODLAND - LOUGH GOWNA pNHA (LONGFORD)	228101	288846	Sub-site	pNHA	000992
LF83	DRUMMARD BOG WOODLAND	221979	295776	Main Site	Undesignated site	
LF84	DRUMURY BOG WOODLAND	223174	298634	Main Site	Undesignated site	
LF85	LISRAHERTY BOG WOODLAND	228758	295150	Main Site	Undesignated site	
LF86	LISRAHERTY RIPARIAN WOODLAND	229144	294832	Main Site	Undesignated site	
LF87	KILTYCREEVAGH BOG WOODLAND	219500	292808	Main Site	Undesignated site	
LF88	TOOME WETLAND NORTH - LOUGH GOWNA pNHA (LONGFORD)	234420	289393	Sub-site	pNHA	000992
LF89	TOOME WETLAND SOUTH	234507	288593	Main Site	Undesignated site	
LF90	KILMORE	233081	288042	Main Site	Undesignated site	
LF91	KILMORE NORTH - LOUGH GOWNA pNHA (LONGFORD)	233174	289123	Sub-site	pNHA	000992
LF92	TOOME WETLAND WEST - LOUGH GOWNA pNHA (LONGFORD)	233413	289500	Sub-site	pNHA	000992
LF93	AGHANORAN NORTH	230955	288285	Main Site	Undesignated site	
LF94	LARKFIELD WETLAND	230333	288378	Main Site	Undesignated site	
LF95	AGHANORAN SOUTH	231246	287468	Main Site	Undesignated site	
LF96	DURRACAUN LOUGH - LOUGH GOWNA pNHA (LONGFORD)	230301	287134	Sub-site	pNHA	000992
LF97	DERRYCASSAN	231474	286002	Main Site	Undesignated site	
LF98	KILMORE	232709	287580	Main Site	Undesignated site	
LF99	CLOONAGH KILMORE	232767	287162	Main Site	Undesignated site	
1.5400	CULLEENMORE MULLINDOE LOUGH	222200	206000	Main Cita	Undocionata di aita	
LF100 LF101	MULLINROE LOUGH CORBAUN DRUMINACREHIR	232392 234863	286202 286739	Main Site Main Site	Undesignated site Undesignated site	
1.5400	(LONGFORD)	004507	205205	Main Cita	Lindoniar et e d'air e	
LF102 LF103	CLOONEEN EAST CLOONEEN WEST	234527 233995	285285 285695	Main Site Main Site	Undesignated site Undesignated site	

LFWS Site Code	LFWS Site Name	Centre Easting	Centre Northing	Site Type	Designation	Designated Site Code
LF104	CLOGHCHURNEL	234381	284240	Main Site	Undesignated site	
LF105	DALYSTOWN	232503	284737	Main Site	Undesignated site	
LF106	MULLINROE	232333	285015	Main Site	Undesignated site	
LF107	GALLID	231693	282425	Main Site	Undesignated site	
LF108	BALLYBRIN	231160	280183	Main Site	Undesignated site	
LF109	DUNBEGGAN BOG AND	227280	289467	Sub-site	Undesignated site	000992
21 100	WOODLAND - LOUGH GOWNA pNHA (LONGFORD)	227200	200 101	Cub one	onacoignated one	33332
LF110	LEEBEEN LOUGH	226399	289455	Main Site	Undesignated site	
LF112	EDENMORE CUTOVER	221589	289021	Main Site	Undesignated site	
LF113	TAWNAGH	220716	288894	Main Site	Undesignated site	
LF114	CREELAGHTA GAIGUE	218718	289667	Main Site	Undesignated site	
LF115	TAWNAGH GAIGUE	220014	289167	Main Site	Undesignated site	
LF116	AGHADOWRY	222326	287375	Main Site	Undesignated site	
LF117	AGHADOWRY NORTH	222021	287889	Main Site	Undesignated site	
LF118	AGHAMORE UPPER CARRICKADORRISH	224778	286996	Main Site	Undesignated site	
LF119	AGHACORDRINAN	225014	286303	Main Site	Undesignated site	
LF120	CULRAY NORTH BOG - LOUGH GOWNA pNHA (LONGFORD)	227895	286734	Sub-site	pNHA	000992
LF121	CULRAY WET WOODLAND - LOUGH GOWNA pNHA (LONGFORD)	228287	287080	Sub-site	pNHA	000992
LF122	SONNAGH CULRAY	227099	285982	Main Site	Undesignated site	
LF123	DERRYCASSAN WET WOODLAND - LOUGH GOWNA pNHA (LONGFORD)	229983	286075	Sub-site	Undesignated site	000992
LF124	BALLINROOÉY	228473	284701	Main Site	Undesignated site	
LF125	AGHAKEERAN CULRAY	227298	284875	Main Site	Undesignated site	
LF126	DRUMDERG	222708	285802	Main Site	Undesignated site	
LF127	AGHAWARD	223101	283546	Main Site	Undesignated site	
LF128	KILLEEN SOUTH	229381	280021	Main Site	Undesignated site	
LF129	KILLEEN BALLYMORE	228748	281159	Main Site	Undesignated site	
LF130	KILLEEN PONDS	228082	280932	Main Site	Undesignated site	
LF131	KILLEEN LOUGH	227833	281503	Main Site	Undesignated site	
LF132	BALLIN LOUGH	227132	281887	Main Site	Undesignated site	
LF133	KILLEEN BOG	227208	280982	Main Site	Undesignated site	
LF134	AGHAGREAGH BOG	226269	281537	Main Site	Undesignated site	
LF135	CLONBRONEY BOG WOODLAND	226505	279982	Main Site	Undesignated site	
LF136	CLOONFIN LOUGH	226581	280222	Main Site	Undesignated site	
LF137	KNOCKMOODY BOG	225372	281139	Main Site	Undesignated site	
LF138	DRUMNAHARA	224024	281928	Main Site	Undesignated site	
LF139	AGHNASHANNAGH LEITRIM	223180	281412	Main Site	Undesignated site	
LF140	SORAN BOG	221798	281315	Main Site	Undesignated site	
LF141 LF142	ESKER SOUTH BROCKLAGH CROWDRUMMAN	220782 217682	280651 288702	Main Site Main Site	Undesignated site Undesignated site	
LF143	BOG BREANRISKCULLEW BOG	215502	289229	Main Site	Undesignated site	
LF144	MELKAGH MONADUFF	216667	287445	Main Site	Undesignated site	
LF145	CORRABAUN BOG (LONGFORD)	214118	285303	Main Site	Undesignated site	
LF146	DERRYNACRIT BOG (LONGFORD)	212375	285528	Main Site	Undesignated site	
LF147	BRISKIL	211368	283302	Main Site	Undesignated site	
LF148	OGHIL EAST	217084	282462	Main Site	Undesignated site	
LF149	OGHIL WEST	216309	282578	Main Site	Undesignated site	
LF150	CLONTUMPHER	219350	281357	Main Site	Undesignated site	
LF151	AGHABOY KILLETER CUTOVER	218752	280169	Main Site	Undesignated site	
LF152	AGHNAMADDOO	215035	281317	Main Site	Undesignated site	
LF153 LF154	LISMOY CUTOVER CASTLEFORBES DEMESNE LAKE	212678 209930	280503	Main Site Main Site	Undesignated site Undesignated site	
LF154	TULLY BOG WOODLAND - BROWN BOG SAC	209350	279853 276299	Sub-site	SAC SAC	
LF156	BRIANSTOWN BOG WOODLAND - LOUGH FORBES COMPLEX SAC SPA	208252	276432	Sub-site	SAC, SPA, pNHA	001818 004101
LF157	CLOONDARA SOUTH	205650	277387	Sub-site	Undesignated site	
LF158	CLOONDARA NORTH	206325	278032	Sub-site	Undesignated site	
LF159	KNAPPOGE CLOONARD NORTH	204534	275014	Main Site	Undesignated site	
LF160	KNAPPOGE CLOONARD SOUTH	204412	274371	Main Site	Undesignated site	
LF161	AGHNAGORE LAKE	206502	275323	Main Site	Undesignated site	
LF162	KILMORE UPPER	208022	274431	Main Site	Undesignated site	
LF163	CARTRONLEBAGH	209042	274630	Sub-site	Undesignated site	
LF164	BALLYNAKILL SOUTH	204473	272178	Sub-site	Undesignated site	
LF165	BALLYNAKILL NORTH	204510	272668	Sub-site	Undesignated site	

LFWS Site	LFWS Site Name	Centre Easting	Centre Northing	Site Type	Designation	Designated Site Code
Code LF166	CLOONKEEL KNAPPOGE BOG	203637	273478	Main Site	Undesignated site	
LF166	GOWLAN CLOONTURK BOG	210608	271398	Sub-site	Undesignated site	
LF168	DRUMURE BOG	216285	279696	Main Site	Undesignated site	
LF169	KILTYREHER WET WOODLAND	217634	278322	Main Site	Undesignated site	
LF170	RHINE	219394	279049	Main Site	Undesignated site	
LF171	MUCKNAGH	219310	278783	Main Site	Undesignated site	
LF172	TOORFIN	219050	274545	Main Site	Undesignated site	
LF173 LF174	LISFARELL RESERVOIR DRUMBAUN BOG WOODLAND	219855 219085	273371 271680	Main Site Main Site	Undesignated site Undesignated site	
LF175	CARTRONAWAR EAST	218741	272077	Main Site	Undesignated site	
LF176	CARTRONAWAR WEST	217418	272839	Main Site	Undesignated site	
LF178	CLOONTIRM	211512	273924	Main Site	Undesignated site	
LF179	KILNACARROW	220864	279719	Main Site	Undesignated site	
LF180	RHINE EAST	220636	279418	Main Site	Undesignated site	
LF181	GARVAGH	221189	279201	Main Site	Undesignated site	
LF182 LF183	CURRYGRANGE WET WOODLAND CURRYGRANE LOUGH	223380 223645	278150 278005	Main Site Main Site	Undesignated site Undesignated site	
LF184	GORTEEN LOUGH CNHA	222921	279571	Main Site	Undesignated site	002854
LF185	DRUMMEEL	224904	278317	Main Site	Undesignated site	002034
LF186	CLOONFIN SOUTH	227799	279526	Main Site	Undesignated site	
LF187	ROOS BALLYNASCRAW	226903	278068	Main Site	Undesignated site	
LF188	LAUGHIL (EDGEWORTH)	227701	278395	Main Site	Undesignated site	
LF189	COOLAGHERTY	228209	278107	Main Site	Undesignated site	
LF190	COOLAGHERTY LAKE	228833	278292	Main Site	Undesignated site	
LF191	TULLY FARM POND	227997	276335	Main Site	Undesignated site	
LF192 LF193	MOATFARRELL NORTH MOATFARRELL SOUTH	223899 224322	276411 275300	Main Site Main Site	Undesignated site	
LF193	CARTRONREAGH	225915	274609	Main Site	Undesignated site Undesignated site	
LF195	RINVANNY	227386	274773	Main Site	Undesignated site	
LF196	LISNANAGH	222535	273137	Main Site	Undesignated site	
LF197	CLONWHELAN BOG NORTH	229812	270169	Main Site	Undesignated site	
LF198	CAM BOG	229251	270423	Main Site	Undesignated site	
LF199	CARTRON FARM POND	231804	279722	Main Site	Undesignated site	
LF200	CARTRON EAST POND	233273	279357	Main Site	Undesignated site	
LF201 LF202	RINCOOLAGH BOG (LONGFORD)	237179 239773	276532	Main Site Main Site	Undesignated site	
LF202 LF203	COOLCRAFF BOG TONYWARDEN FARM POND WEST	239773	277458 277559	Main Site	Undesignated site Undesignated site	
LF204	TONYWARDEN FARM POND EAST	230911	277345	Main Site	Undesignated site	
LF205	ARDAGULLION FARM POND EAST	231536	276228	Main Site	Undesignated site	
LF206	ARDAGULLION FARM POND WEST	231168	276655	Main Site	Undesignated site	
LF207	ROSSAN BOG (LONGFORD)	235683	275702	Main Site	Undesignated site	
LF208	MONEYHOOLAGHAN BOG	234240	274119	Main Site	Undesignated site	
1 5000	WOODLAND	000044	074.440	Main Cita	I la de si mante d'aite	
LF209 LF210	CORCLARAGH LOUGH	230641 221314	271442 269797	Main Site Main Site	Undesignated site Undesignated site	
LF210	BALLINROODY LISSANURE BOG	227589	268205	Main Site	Undesignated site	
LF212	TENNALOUGH	220774	264036	Main Site	Undesignated site	
LF213	CLONTYMULLAN NEWPORT BOG	228010	264023	Main Site	Undesignated site	NPWS non-NHA
					ŭ	000444
LF214	NEWPORT	227891	262811	Main Site	Undesignated site	
LF215	AGHNAVEALOGE KINARD	226981	263113	Main Site	Undesignated site	
LF216	AGHARRA CUTOVER BOG	224645	261470	Main Site	Undesignated site	
LF217	LISDUFF (MORTGOMERY)	216485	269237	Main Site	Undesignated site	
LF218 LF219	CARROWMANAGH CORLAGAN	211095 211331	269067 268160	Main Site Main Site	Undesignated site Undesignated site	
LF219	KNOCKATARRY	210884	267202	Main Site	Undesignated site	
LF221	ABBEYDERG BOG	212879	266162	Main Site	Undesignated site	
LF222	KEEL BALLYBEG	219043	264563	Main Site	Undesignated site	
LF223	MORNIN	216879	264023	Main Site	Undesignated site	
LF224	GLENMORE BOG AND CUTOVER	213900	264057	Main Site	Undesignated site	
LF225	ABBEYDERG BOG WOODLAND	212797	265473	Main Site	Undesignated site	
LF226	CORNAHOO	212757	264970	Main Site	Undesignated site	
LF227	CLOONBREANY BOG	211303	262281	Main Site	Undesignated site	
LF228 LF229	GLENMORE BOG WOODLAND LOUGHAN LAKE	214192 215100	263897 263445	Main Site Main Site	Undesignated site Undesignated site	
LF230	TORBOY FARM POND	215528	264157	Main Site	Undesignated site	
LF231	LISGLASSOCK LISLEA BOG	215585	261443	Main Site	Undesignated site	
	WOODLAND				Ŭ	
LF232	CORRYENA LAKE	213720	260586	Main Site	Undesignated site	
LF233	MAGHERAVEEN BOG - LOUGH	204200	267601	Sub-site	pNHA	
1 500 4	BANNOW pNHA	040004	200000	Main Cita	Lindosianata di ali	
LF234	LEDWITHSTOWN BOG	210821	260280	Main Site	Undesignated site	

		T -	_			
LFWS Site	LFWS Site Name	Centre Easting	Centre Northing	Site Type	Designation	Designated Site Code
Code		J				
LF235	DERRYGEEL CORRALOUGH	204768	266379	Main Site	Undesignated site	
LF236	CLOONTAMORE BOG	207996	266000	Main Site	Undesignated site	
LF237	DERRAGHAN BEG	208113	262407	Main Site	Undesignated site	
LF238	LISTOBIT BOG	217388	259617	Main Site	Undesignated site	
LF239	DRUM LOUGH	212783	259378	Main Site	Undesignated site	
LF240	LEDWITHSTOWN SOUTH	210700	258420	Main Site	Undesignated site	
LF241	BALLYMULVEY BOG	217309	257748	Main Site	Undesignated site	
LF242	FORTHILL BOG EAST - LOUGH REE	207713	258509	Sub-site	SAC, SPA, cNHA	000440 / 004064
	SAC SPA					0004407 004004
LF244	DERRYNAGALLIAGH BOG AND CUTAWAY	209350	257287	Main Site	Undesignated site	
LF245	KILLINAGH BOG (LONGFORD)	226274	265859	Main Site	NHA, cNHA,	000895
					Undesignated site	
LF246	CORCLARAGH BOG (LONGFORD)	230766	271249	Main Site	NHA, cNHA,	000820
					Undesignated site	
LF247	CLERAUN BOG - LOUGH REE SAC	202863	256371	Sub-site	SAC, pNHA	000440 / 004064
LF249	CARRIGEENS TURLOUGH cNHA	201570	265100	Main Site	cNHA	002468
LF250	FEARGLASS LOUGH (LONGFORD)	217297	291825	Main Site	Undesignated site	
LF251	CLONCA CUTOVER (LONGFORD)	231793	273356	Main Site	Undesignated site	
LF252	TINODE NORTH BOG (LONGFORD)	231551	272207	Main Site	Undesignated site	
LF253	DERRYDOOAN LOWER BOG AND	228485	269296	Main Site	Undesignated site	
	CUTOVER (LONGFORD)				3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	
LF254	BALLYBRIEN WETLAND	230638	280490	Main Site	Undesignated site	
LF255	DERRAGH BOG	240205	280173	Main Site	Undesignated site	
LF256	FIHORAGH EAST	224828	297544	Main Site	Undesignated site	
LF257	FIHORAGH NORTH	225441	298546	Main Site	Undesignated site	
LF258	MOYNE WEST	224516	295417	Main Site	Undesignated site	
LF259	MOYNE EAST	225029	295430	Main Site	Undesignated site	
					Undesignated site	
LF260	KILTYCREEYAGH BOG	218245	290737	Main Site		
LF261	BARRAGHMORE CUTOVER	216159	286833	Main Site	Undesignated site	
LF262	SONNAGH NORTH	226043	287429	Main Site	Undesignated site	
LF263	AGHNASKEA CORNAFUNSHION CUTOVER	220916	284448	Main Site	Undesignated site	
LF264	KILMANON CUTOVER	219900	286085	Main Site	Undesignated site	
LF265	DERRYHEELAN DERRYNACROSS	218687	285603	Main Site	Undesignated site	
	CUTOVER				ŭ	
LF266	DERAWLEY	217547	285861	Main Site	Undesignated site	
LF267	CURRYGRANNY	210671	283302	Main Site	Undesignated site	
LF268	CASTLENUGENT CUTOVER	233332	277409	Main Site	Undesignated site	
LF269	CLOGHER AND RINN CUTAWAY	205696	274224	Main Site	Undesignated site	
LF270	CLOONEENY CUTAWAY	209750	273129	Main Site	Undesignated site	
LF271	CARN CUTOVER	220679	265667	Main Site	Undesignated site	
LF272	GARRYCAM CUTOVER	218033	267567	Main Site	Undesignated site	
LF273	CLOONANNY CUTOVER	212061	268416	Main Site	Undesignated site	
LF274	DERRYAROGE CUTAWAY	203829	270830	Main Site	Undesignated site	
	COMPLEX				3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	
LF275	CLOONSELLAN CUTAWAY	206755	270935	Main Site	Undesignated site	
LF276	CLOONSELLAN BOG SOUTH	206121	269814	Main Site	Undesignated site	
LF277	ANNAGHBEG CUTAWAY COMPLEX	206737	267483	Main Site	Undesignated site	
LF278	DERRYSHANNAGE CUTAWAY	204334	264066	Main Site	Undesignated site	
LF279	COMPLEX DERRYMANY DERRINDIFF	207172	261202	Main Site	Undesignated site	
	CUTAWAY COMPLEX				<u> </u>	
LF280	CARRICKBOY QUARRY LAKE	221389	264320	Main Site	Undesignated site, SGI	
LF281	MULLAWORNIA QUARRY LAKE	213003	259019	Main Site	Undesignated	
LEGGG	DALL VIDIEN DOND (COLITY)	220000	270004	Main Cita	site, SGI	
LF282	BALLYBRIEN POND (SOUTH)	230982	279984	Main Site	Undesignated site	
LF283	KILLEEN POND (NORTH)	227138	281745	Main Site	Undesignated site	
LF284	LISTRAGHEE LOUGH	224340	280084	Main Site	Undesignated site	
LF285	LEITRIM POND	230104	278708	Main Site	Undesignated site	
LF286	DRINAN POND	214632	258250	Main Site	Undesignated site	
LF287	KILMAHON	218564	286833	Main Site	Undesignated site	
LF288	BALLYREAGHAN QUARRY POND	224544	280641	Main Site	Undesignated site	
LF289	DRUMMEEL FARM POND NORTH	224369	279415	Main Site	Undesignated site	
LF290	FORTHILL BOG AND CUTAWAY	207541	258358	Main Site	Undesignated site	NA
	EAST					

County Roscommon - Site Map



County Roscommon - Site List

Data presented for each site includes: Site code, Site name, Grid reference (Irish Grid Easting and Northing), Site Type, Designation and Designated Site Code. (An Excel file version of this table is included on the final project disk with this report).

For a complete export of all data held on each site within the LFWS or ROWS site database see the Excel file (LFWS or ROWS_Site_List_Summary.xlsx) For an explanation of the data columns in the Excel file see report Appendix 2.

ROWS Site Code	ROWS Site Name	Centre Easting	Centre Northing	Site Type	Designation	Designated Site Code
RO1	CALLOW BOG SAC	167165	295746	Main Site	SAC	000595
RO2	ST JOHNS WOOD - LOUGH REE SAC SPA	200000	256000	Sub-site	ASI, SAC, SPA	000440 / 004064
RO3	LOUGH REE SAC SPA (ROSCOMMON)	201000	253000	Main Site	SAC, SPA, ASI, pNHA, SGI	000440 / 004064 / 002310
RO4	RIVER MOY SAC (ROSCOMMON)	155735	301871	Main Site	SAC	002298
RO5	LOUGH GARA SPA (ROSCOMMON)	171155	296191	Main Site	SPA, pNHA, ASI	004048 / 000587
RO6	ANNAGHMORE LOUGH (ROSCOMMON) SAC	190690	283708	Main Site	SAC, ASI	001626
RO7	CLOONFINLOUGH cNHA	189795	278349	Main Site	cNHA	002624
RO8	KILRONAN MOUNTAIN BOG NHA	190500	314500	Main Site	NHA , pNHA	000617
RO9	CORRY MOUNTAIN BOG NHA (ROSCOMMON)	191189	318421	Main Site	NHA , pNHA, SGI	002321
RO10	RIVER SHANNON CALLOWS SAC (ROSCOMMON)	197671	227933	Main Site	SAC, ASI, SGI	000216
RO11	COOLCAM TURLOUGH SAC (ROSCOMMON)	157441	271179	Main Site	SAC, pNHA	000218
RO12	BALLINTURLY TURLOUGH SAC	184000	260000	Main Site	SAC, pNHA	000588
RO13	CARROWBEHY / CAHER BOG SAC	157269	282742	Main Site	SAC, ASI	000597
RO14	CLOONCHAMBERS BOG SAC	163000	280000	Main Site	SAC	000600
RO15	DERRINEA BOG SAC	154491	288430	Main Site	SAC	000604
RO16	LOUGH CROAN TURLOUGH SAC SPA	188286	249395	Main Site	SAC, SPA, ASI, WS	000610 / 004139
RO17	CLOONSHANVILLE BOG SAC	175162	291446	Main Site	SAC, pNHA	000614
RO18	CASTLESAMPSON ESKER SAC	194400	240300	Main Site	SAC, ASI, SGI	001625
RO19	BRIERFIELD TURLOUGH pNHA	181660	276937	Main Site	ASI, pNHA, SGI	000594
RO21	LOUGH GLINN pNHA	163428	286496	Main Site	pNHA, ASI	001644
RO22	LOUGH ALLEN pNHA (ROSCOMMON)	195898	315405	Main Site	ASI, pNHA	002109
RO23	CORLISKEA / TRIEN / CLOONFELLIV BOG SAC (ROSCOMMON)	165000	276000	Main Site	SAC	002110
RO24	BALLYNAMONA BOG AND CORKIP LOUGH SAC	194000	243000	Main Site	SAC, pNHA, ASI, pNHA	002339 (CORKIP 001628/ BALLYNAMONA 000590) 002302
RO25	SUCK RIVER CALLOWS NHA (ROSCOMMON)	187882	228251	Main Site	NHA , ASI, De- designated NHA, SGI	000222
RO26	LISDUFF TURLOUGH SAC	184126	255523	Main Site	SAC, ASI	000609
RO27	ARDAKILLIN LOUGH pNHA	188000	278300	Main Site	pNHA, ASI	001617
RO28	DRUM BRIDGE (LOUGH KEY) pNHA	182000	304000	Main Site	pNHA, ASI	001631
RO29	FIN LOUGH (ROSCOMMON) pNHA	186500	304000	Main Site	pNHA, ASI	001636
RO30	LOUGH BODERG AND LOUGH BOFIN (ROSCOMMON) pNHA	203000	290000	Main Site	pNHA	001642
RO31	TULLAGHANROCK BOG SAC	165101	295799	Main Site	SAC, pNHA	002354 / 2013
RO32	DRUMALOUGH BOG SAC	158989	283893	Main Site	SAC, pNHA	002338 / 001632
RO33	CORBO BOG SAC	194500	269000	Main Site	SAC, pNHA	002349 / 000602
RO34	BELLANAGARE BOG SAC SPA	171319	286327	Main Site	SAC, SPA	000592 / 004105
RO35	LOUGH FUNSHINAGH SAC	193500	251000	Main Site	SAC, ASI, SGI	000611
RO36	CRANBERRY LOUGH pNHA - CLOONBOLEY BOG COMPLEX	191400	233700	Sub-site	pNHA, ASI, SAC	001630 002191
RO37	KILGLASS AND GRANGE LOUGHS pNHA	198000	288000	Main Site	ASI, pNHA	000608
RO38	LOUGH NAMUCKA BOG NHA (ROSCOMMON)	160590	273733	Main Site	NHA , De- designated NHA	Former site code: 000220
RO39	MOUNTDILLON FEN cNHA - MOUNTDILLON EAST CUTAWAY BOG COMPLEX	200500	274500	Sub-site	cNHA	002944
	ARDAGH BOG pNHA	176580	292033	Main Site	pNHA, cNHA	001222
RO40 RO42	7 IND NOTE BOO PINET	176109	293725	Main Site	NHA, De-	Former site code:

ROWS Site Code	ROWS Site Name	Centre Easting	Centre Northing	Site Type	Designation	Designated Site Code
RO43	CARRICKYNAGHTAN BOG NHA	203000	237000	Main Site	NHA	001623
RO44	CARRIGEENROE MARSH pNHA	182039	308216	Main Site	pNHA, ASI	000596
RO45	CLOONCRAFF / CLOONLARGE BOG pNHA - LOUGH REE SAC	195500	263000	Sub-site	pNHA, SAC	000599
RO46	CLOONKIERAN BOG AND CUTOVER	180000	290500	Main Site	Undesignated site	
RO47	CORNAVEAGH BOG NHA	175599	295112	Main Site	NHA , De- designated NHA	Former site code: 000603
RO48	DERRYCANAN BOG NHA	190500	272500	Main Site	NHA , De- designated NHA	Former site code: 000605
RO49	DERRYCASHEL / TERMONBARRY - DERRYCASHEL BOG NORTH CUTOVER COMPLEX	202942	275872	Sub-site	Undesignated site	
RO50	DERRYNABROCK BOG - RIVER MOY SAC (ROSCOMMON)	156211	302625	Sub-site	pNHA, SAC	000457 / 002298
RO51	FOUR ROAD TURLOUGH FEN SAC SPA	183756	251715	Main Site	SAC, SPA	001637 / 004140
RO52	LISNANARRIAGH BOG NHA	195000	267500	Main Site	NHA , De- designated NHA	Former site code: 002072
RO53	LOUGH O FLYNN pNHA	158500	279500	Main Site	pNHA	001645
RO54	MOORFIELD BOG / FARM COTTAGE NHA (ROSCOMMON)	164334	274566	Main Site	NHA	000221
RO55	MOUNTALLEN cNHA	195300	313600	Main Site	cNHA	002747
RO56	MULLYGOLLAN TURLOUGH FEN SAC	179845	279447	Main Site	SAC, SGI	000612
RO57	TULLAGHAN BOG NHA (ROSCOMMON)	178000	296000	Main Site	NHA , De- designated NHA	Former site code: 001652
RO58	CLERA ISLAND BOG - CLOONBOLEY BOG COMPLEX	198000	237000	Sub-site	SAC, cNHA, Undesignated site	002191
RO60 RO61	ERRIT LOUGH SAC MIDDLE SHANNON CALLOWS SPA (ROSCOMMON)	153803 197777	285269 228052	Main Site Main Site	SAC, SGI SPA	000607 004096
RO62	LOUGH ARROW SAC SPA (ROSCOMMON)	180639	310106	Main Site	SAC, SPA, pNHA	001673 / 004050
RO63	LOUGH FORBES COMPLEX SAC (ROSCOMMON)	207666	281545	Main Site	SAC	001818
RO64	RIVER SUCK CALLOWS SPA (ROSCOMMON)	184488	243339	Main Site	SPA, ASI	004097
RO65	HUGHESTOWN WOOD - LOUGH DRUMHARLOW pNHA	190037	301426	Sub-site	ASI, pNHA	001643
RO67 RO69	CORBALLY WETLAND pNHA CASTLEPLUNKETT TURLOUGH	184986 177764	280133 277661	Main Site Main Site	ASI, pNHA pNHA, ASI, SGI	001627 000598
RO70	PNHA RATHNALULLEAGH TURLOUGH	177798	273705	Main Site	pNHA	000613
50=1	pNHA	.====				
RO71	ATTISHANE TURLOUGH pNHA	153054	273367	Main Site	pNHA	001618
RO72	CARROWREAGH TURLOUGH pNHA	178546	275161	Main Site	pNHA	001624
RO73	FEACLE TURLOUGH PNHA	191000	243000	Main Site	pNHA	001634
RO74	NEWTOWN TURLOUGH pNHA	178118	272668	Main Site	pNHA	001646
RO75 RO76	SHAD LOUGH pNHA LOUGH DRUMHARLOW (ROSCOMMON) pNHA	182600 190000	275600 302000	Main Site Main Site	pNHA, ASI pNHA	001648 001643
RO77	DERREENASOO BOG	193420	309600	Main Site	NHA , cNHA, Undesignated site	000870
RO78	KILLEGLAN BOG COMPLEX	186300	240600	Main Site	SAC, Undesignated site	002192
RO79	CLOONBOLEY BOG COMPLEX	198000	236900	Main Site	SAC, Undesignated site	002191
RO80	ANNAGHMAGHERA BOG	164448	283628	Main Site	cNHA, NHA , Undesignated site	000763
RO81	CLOONCOOSE BOG EAST	165071	282625	Main Site	Undesignated site	
RO82	CLOONCOOSE BOG WEST	163767	282858	Main Site	Undesignated site	
RO83	CURRAGHALEEN BOG	195602	240393	Main Site	NHA , cNHA, Undesignated site	000866
RO84	BALLINAPHUILL BELLAGHADREEN BOG	165413	293979	Main Site	Undesignated site	
RO85	DRUMEER BOG	189726	296401	Main Site	Undesignated site	
RO86	CASTLESAMPSON BOG	194670	241336	Main Site	Undesignated site	
RO87	ROOSKAGH BOG	195606	241569	Main Site	Undesignated site	
RO88	BALLYFORAN BOG - SUCK RIVER	184253	244472	Sub-site	NHA	000222
RO89	CALLOWS NHA (ROSCOMMON) CLEAHEEN BOG - LOUGH DRUMHARLOW (ROSCOMMON)	193443	302629	Sub-site	pNHA	001643

ROWS Site Code	ROWS Site Name	Centre Easting	Centre Northing	Site Type	Designation	Designated Site Code
	pNHA					
RO90	LOUGH KEY	183673	305809	Main Site	pNHA	
RO91	BALLY BAY - LOUGH REE SAC SPA	200000	247000	Sub-site	ASI	000440 / 004064
RO92	YEW POINT - LOUGH REE SAC SPA	201000	248000	Sub-site	ASI	000440 / 004064
RO93	MARSH WEST OF BALLYDANGAN	192130	231846	Main Site	ASI	
RO94	OWENUR RIVER	188512	287190	Main Site	Undesignated site	
RO95	CULLIAGHMORE CUTOVER -	188530	227848	Sub-site	Undesignated site	
	CULLIAGHMORE CUTAWAY BOG COMPLEX					
RO96	ARDCARN CUTOVER	188200	228797	Main Site	Undesignated site	
RO97	CULLIAGHMORE NORTH BOG AND CUTOVER	189972	229122	Main Site	Undesignated site	
RO98	CULLIAGHMORE QUARRY PONDS	190334	228178	Main Site	Undesignated site, SGI	
RO99	FALTIA CAPPANTOGHER CUTOVER	194748	228278	Main Site	Undesignated site	
RO100	CORNAVEAGH WEST BOGS	193978	227501	Main Site	Undesignated site	
RO101	CURRAGHAGOWER BOG	192470	228048	Main Site	Undesignated site	
RO102	CORREEN BOG	192557	226429	Main Site	Undesignated site	
RO103	CORREENBEG CUTOVER - CULLIAGHMORE CUTAWAY BOG COMPLEX	190779	226421	Sub-site	Undesignated site	
RO104	RAGHRABEG CUTOVER - CORNAVEAGH CUTAWAY BOG COMPLEX	195793	225955	Sub-site	Undesignated site	
RO105	CREGGANYCARNA BOG -	185771	239316	Sub-site	SAC,	002192
	KILLEGLAN BOG COMPLEX				Undesignated site	
RO106	LOUGH NACREEVA AND GOAT LOUGH BOG SOUTH - KILLEGLAN BOG COMPLEX	185286	240295	Sub-site	SAC, Undesignated site	002192
RO107	GOAT LOUGH BOG NORTH - KILLEGLAN BOG COMPLEX	183649	241189	Sub-site	SAC, Undesignated site	002192
RO108	GLENMORE CLOONBIGNY CUTOVER	187816	238925	Main Site	Undesignated site	
RO109	CUCKOO HILL AND CAMLAGH BOGS - KILLEGLAN BOG COMPLEX	187520	239761	Sub-site	SAC, Undesignated site	002192
RO110	LOUGH GORE AND CUTOVER COMPLEX	186728	237608	Main Site	Undesignated site	
RO111	CLOONCORAN - LOUGH GORE AND CUTOVER COMPLEX	185165	235248	Sub-site	Undesignated site	
RO112	TOGHER CUTOVER - LOUGH GORE AND CUTOVER COMPLEX	186961	235597	Sub-site	Undesignated site	
RO113	TONLEMONE CULLIAGHHARNEY CUTOVER COMPLEX	188205	234510	Main Site	Undesignated site	
RO114	CUILLEEN CUTOVER	188379	233303	Main Site	Undesignated site	
RO115	ATTICORRA TONALIG CUTOVER NORTH AND SOUTH	188118	232599	Main Site	Undesignated site	
RO116	BEAGH (TRENCH) FARM POND	190372	231082	Main Site	Undesignated site	
RO117	TURLOUGHMORE	190996	238688	Main Site	Undesignated site	
RO118	GLENNANEA TURLOUGH	190075	238115	Main Site	Undesignated site	
RO119	CUILMORE BOG AND CUTOVER	195251	239493	Main Site	Undesignated site	
RO120	ESKER CUILMORE BOG AND CUTOVER	194404	239596	Main Site	Undesignated site	
RO121 RO122	CORRAREE AND BALLYGATTA CUTOVER CUILFADDA CUILMORE BOG AND	194444	238549	Main Site Main Site	Undesignated site Undesignated site	
RO122	CUTOVER ARDKEENAN LAKE	195431	238258	Main Site	Undesignated site	
RO124	ARDKEENAN CLOONILLAN BOG AND CUTOVER	195754	236739	Main Site	Undesignated site	
RO125	CUILFADDA SOUTH BOG AND CUTOVER	194931	237337	Main Site	Undesignated site	
RO126	CLOONOGHIL CUILFADDA BOG AND CUTOVER	194047	237075	Main Site	Undesignated site	
RO127	BALLYDANGAN BOG SOUTH - CLOONBOLEY BOG COMPLEX	192020	235682	Sub-site	SAC, Undesignated site	002191
RO128	ATTIRORY BOG - CLOONBOLEY BOG COMPLEX	190847	234545	Sub-site	SAC, Undesignated site	002191
RO129	CLOONARK JOHNSTOWN DEMESNE CUTOVER	198625	234357	Main Site	Undesignated site	
RO130	DRUMLOSH WEST - DRUMLOSH CUTAWAY BOG COMPLEX	199456	233447	Sub-site	Undesignated site	
RO131	DERRLAHAN CUTOVER	198718	233230	Main Site	Undesignated site	

ROWS Site Code	ROWS Site Name	Centre Easting	Centre Northing	Site Type	Designation	Designated Site Code
RO132	DERRINEEL BOG - DERRINEEL BOG AND CUTAWAY COMPLEX	198001	232312	Sub-site	Undesignated site	
RO133	ATTIRORY SOUTH BOG AND CUTOVER	191651	233047	Main Site	Undesignated site	
RO134	RATHPEEK NORTH BOG	191842	231716	Main Site	Undesignated site	
RO135	RATHPEEK SOUTH BOG	192442	230872	Main Site	Undesignated site	
RO136	MOORE CLOONIFF BOG - CLONBURREN CUTAWAY BOG COMPLEX	195916	230690	Sub-site	Undesignated site	
RO137	CAPPAYUSE BOG - CAPPAYUSE CUTAWAY BOG COMPLEX	196890	231679	Sub-site	Undesignated site	
RO138	DRUMLOSH CUTOVER - CREAGGAN CALLOWBEG CUTAWAY BOG COMPLEX	201355	233355	Sub-site	Undesignated site	
RO139	CREGGAN CUTOVER - CREAGGAN CALLOWBEG CUTAWAY BOG COMPLEX	202275	234228	Sub-site	Undesignated site	
RO140	CLOONOWN BOG	202879	235194	Main Site	Undesignated site	
RO141	TAYLORSTOWN WET WOODLAND	201508	236448	Main Site	Undesignated site	
RO142	MONKSISLAND KILNAMANAGH BOG	201735	240275	Main Site	Undesignated site	
RO143	BARRYBEG BOG COMPLEX	200907	243125	Main Site	Undesignated site	
RO144	BARRY MORE WET WOODLAND	200824	244673	Main Site	Undesignated site	
RO145	BARRY MORE BOG NORTH	200097	246202	Main Site	Undesignated site	
RO146	BARRY MORE GOLF COURSE PONDS	200991	247276	Main Site	Undesignated site	
RO147	COOLNAGEER PONDS	191982	249410	Main Site	Undesignated site	
RO148	CARRICK POND	192974	249474	Main Site	Undesignated site	
RO149	LOUGH CUP	195467	249664	Main Site	Undesignated site	
RO150 RO151	PART OF CARRICK LAKE CARROWNDERRY CARNAGH EAST BOG	196633 198339	248869 249787	Main Site Main Site	Undesignated site Undesignated site	
RO152	CARROWMURRAGH BOG EAST	199329	248935	Main Site	Undesignated site	
RO153	MOYVANNAN CORNSEER BOG	199411	247326	Main Site	Undesignated site	
RO154	CARROWNOLAN MOYVANNEAN TURLOUGHS	197040	247938	Main Site	Undesignated site	
RO155	LISBAUN TURLOUGH	197466	246825	Main Site	Undesignated site	
RO156	DOOLOUGHAN LOUGH COMPLEX	190690	247514	Main Site	Undesignated site	
RO157	RATAWRAGH LAKE	195135	244585	Main Site	Undesignated site	
RO158	CORRAMORE BOG COMPLEX	198120	243781	Main Site	Undesignated site	
RO159	ROOSKAGH NORTH CUTOBER	196323	242440	Main Site	Undesignated site	
RO160	CASTLESAMPSON QUARRY LAKES	193222	240392	Main Site	Undesignated site	
RO161	CASTLESAMPSON LAKE	193630	240754	Main Site Main Site	Undesignated site	
RO162 RO163	BELLANAMULLIA LUGBOY WETLAND	197561	241877 241345		Undesignated site	
RO163	BALLYMINTAN MILLTOWN LAKES AND WETLAND	188773 186834	244117	Main Site Main Site	Undesignated site Undesignated site	
RO165	BALLYFORAN BOG NORTH	182259	247429	Main Site	Undesignated site	
RO166	CUILLEENIRWAN LOUGH AND COOLAGARRY LOUGH CNHA	189437	246707	Main Site	cNHA	002950
RO167	COOLAGARRY PONDS	189937	248948	Main Site	Undesignated site	
RO168	TORPAN BEG BOG	182526	249020	Main Site	Undesignated site	
RO169	TOBERREEOGE	193564	259659	Main Site	Undesignated site	
RO170	GALEY CORNAMART BOG	194440	257476	Main Site	Undesignated site	
RO171	CORBOLEY NORTH	192844	257836	Main Site	Undesignated site	
RO172	SCREGG BALLYGLASS LAKE	192089	255825	Main Site	Undesignated site	
RO173	KELLYBROOK	194028	254391	Main Site	Undesignated site	
RO174	GALEYBEG QUARRY LAKES	195555	255422	Main Site	Undesignated site	
RO175	TOBERDAN	196336	254465	Main Site	Undesignated site	
RO176	CARRIGAN MORE LAKE	195665	252139	Main Site	Undesignated site	
RO177	CARROWKEEL	191244	252919	Main Site	Undesignated site	
RO178	CORRALEA LAKE NORTH	190674	251011	Main Site	Undesignated site	
RO179 RO180	CORRALEA LAKE NORTH CORRALEA LAKES SOUTH	191130 191672	250626 250139	Main Site Main Site	Undesignated site Undesignated site	
RO181	TAGHBOY BOG	181950	250762	Main Site	Undesignated site	
RO182	TAGHBOY CLOGHAN BOG SOUTH	183490	250702	Main Site	Undesignated site	
		183724	252453	Main Site	Undesignated site	
	CARTRON CUTOVER COMPLEX				J	
RO183	CARTRON CUTOVER COMPLEX CLOGHNASHADE TURLOUGH		253538	Main Site	Undesignated site	
RO183 RO184	CARTRON CUTOVER COMPLEX CLOGHNASHADE TURLOUGH LACKAN LONGFIELD	185232	253538 252496	Main Site Main Site	Undesignated site Undesignated site	
RO183 RO184 RO185	CLOGHNASHADE TURLOUGH LACKAN LONGFIELD	185232 189212	252496	Main Site Main Site Main Site	Undesignated site Undesignated site Undesignated site	
RO183 RO184	CLOGHNASHADE TURLOUGH	185232		Main Site	Undesignated site	

ROWS Site Code	ROWS Site Name	Centre Easting	Centre Northing	Site Type	Designation	Designated Site Code
RO189	CLOONDARAH BOG	181830	255460	Main Site	Undesignated site	
RO190	ARAGHTY ATHLEAGUE TURLOUGH	182557	257124	Main Site	Undesignated site	
RO191	KEENAGH (CLANRICKARD)	182968	256153	Main Site	Undesignated site	
RO192	COOLLUSTY	184161	257195	Main Site	Undesignated site	
RO193	SKRINE	189291	256345	Main Site	Undesignated site	
RO194	TROMAUN EAST	188243	259503	Main Site	Undesignated site	
RO195	TROMAUN WEST	187346	259535	Main Site	Undesignated site	
RO196	BALLYGALDA OR TRUST TURLOUGH	185767	259363	Main Site	Undesignated site	
RO197	CARROWREAGH BOG	184457	258442	Main Site	Undesignated site	
RO198	FARRANYKELLY	178042	258720	Main Site	Undesignated site	
RO199	DEWRRYHIPPOO	177257	261601	Main Site	Undesignated site	
RO200	GARRAUN SOUTH	175142	261154	Main Site	Undesignated site	
RO201	CARROWNAGLOGH	176137	263827	Main Site	Undesignated site	
RO202	ACRE LOUGH BOG	177860	262877	Main Site	Undesignated site	
RO203	LOUGH NASAGGART LAKES	179162	262681	Main Site	Undesignated site	
RO204	LINBAUN LOUGH	179328	263866	Main Site	Undesignated site	
RO205	CLOONAMUINIA BOG	177664	265111	Main Site	Undesignated site	
RO206	CORNAVEAGH CUTOVER	177582	264709	Main Site	Undesignated site	
RO207	LOUGH GORMLY - PETERS LOUGH BOG COMPLEX	176090	264894	Sub-site	Undesignated site	
RO208	PETERS LOUGH BOG COMPLEX	175669	265442	Main Site	Undesignated site	
RO209	ROSSMOYLAN BOG	174697	264439	Main Site	Undesignated site	
RO210	SLIEVE OR CORBALLY BOG	175004	267984	Main Site	Undesignated site	
RO211	EMLAGHYROYIN BOG	177071	266431	Main Site	Undesignated site	
RO212	CARRIGANS PARK EMLAGH BEG	179719	266331	Main Site	Undesignated site	
RO213	LEAMORE BOG	172372	268963	Main Site	Undesignated site	
RO214	CLONFAD EAST BOG NORTH	151615	269659	Main Site	Undesignated site	
RO215	CLONFAD EAST BOG SOUTH	150493	269186	Main Site	Undesignated site	
RO216	BALLINROSS LAKE AND BOG	148268	268453	Main Site	Undesignated site	
RO217 RO218	BALLINROSS NORTH POLLANALTY EAST CUTOVER	147877 147722	269643 271251	Main Site Main Site	Undesignated site	
RO218	POLLANALTY WEST CUTOVER	147722	270375	Main Site	Undesignated site Undesignated site	
RO219	POLLANALTY EAST FIDDAUN	148899	270269	Main Site	Undesignated site	
RO221	CUTOVER COMPLEX POLLANARROO	154748	271388	Main Site	Undesignated site	
RO221	RATHLENA SOUTH LAKE	156682	271300	Main Site	Undesignated site	
RO223	RATHLENA NORTH PONDS	156438	271796	Main Site	Undesignated site	
RO224	CASTLEQUARTER	154200	272333	Main Site	Undesignated site	
RO225	MOIGH LOWER	152803	272343	Main Site	Undesignated site	
RO226	GORTEENACAMMADIL NORTH	151909	272605	Main Site	Undesignated site	
RO227	GORTEENACAMMADIL SOUTH	151644	272251	Main Site	Undesignated site	
RO228	POLLANEA UPPER BOG	155749	274989	Main Site	Undesignated site	
RO229	CLOONKEEHAN WEST BOG	155691	275979	Main Site	Undesignated site	
RO230	CLOONKEEHAN EAST BOG	156659	275547	Main Site	Undesignated site	
RO231	COOSAUN BOG	157271	274976	Main Site	Undesignated site	
RO232	CLOONCALGY BOG	157924	274944	Main Site	Undesignated site	
RO233	DERRYVUNG CUTOVER	158160	274248	Main Site	Undesignated site	
RO234	CLOONCALGY MORE CUTOVER	159382	274053	Main Site	Undesignated site	
RO235	CLYDAGH UPPER LAKE AND HEATH	155377	277557	Main Site	Undesignated site	
RO236	CLOONINISCLIN BOG	157526	277325	Main Site	Undesignated site	
RO237	CASHLIEVE BOG	160976	276734	Main Site	Undesignated site	
RO238	FOUGHIL NORTH	163366	276705	Main Site	Undesignated site	
RO239	CLOONCRAN CUTOVER	163864	277912	Main Site	Undesignated site	
RO240	MOUNTAIN UPPER	159319	278453	Main Site	Undesignated site	
RO241	CLOONCRIM CLOONALOUGH BOG COMPLEX	156764	279075	Main Site	Undesignated site	
RO242	MOUNTAIN LOWER AND CLOONCONRA BOG COMPLEX	160130	279616	Main Site	Undesignated site	
RO243	CLOONKEEN CREGGASLIN	165154	278873	Main Site	Undesignated site	
RO244	CLOONTRASK NORTH	166710	278690	Main Site	Undesignated site	
RO245	HARRISTOWN BOG WOODLAND	167417	278312	Main Site	Undesignated site	
RO246	LONGFORD	169155	278087	Main Site	Undesignated site	
RO247	BEAGH CUTOVER	168676	276936	Main Site	Undesignated site	
RO248	CLOONTRASK SOUTH	166604	277837	Main Site	Undesignated site	
RO249	CREGGANCOR AND CLOONROUGHAN BOGS	166289	276191	Main Site	Undesignated site	
RO250	CAHER CUTOVER	165456	277720	Main Site	Undesignated site	
RO251	CLOONRELIAGH BOG	161074	274776	Main Site	Undesignated site	
RO252	CLOONROUGHAN BOG AND CUTOVER	166834	275575	Main Site	Undesignated site	

ROWS Site Code	ROWS Site Name	Centre Easting	Centre Northing	Site Type	Designation	Designated Site Code
RO253	CLOONFAD WILLSBROOK CUTOVER	168533	274826	Main Site	Undesignated site	
RO254	FRENCHLAWN BOG	170584	274836	Main Site	Undesignated site	
RO255	FRENCHLAWN ROSMEEN	171629	274866	Main Site	Undesignated site	
RO256	KNOCKALAGHTA (WILLS) BOG WOODLAND	174413	275301	Main Site	Undesignated site	
RO257	CARROWREAGH RATHNALULLEAGH	177498	274973	Main Site	Undesignated site	
RO258	ARDLAGHEEN MORE OR HIGHLAKE	179709	272671	Main Site	Undesignated site	
RO259	LARAGH CLEABOY	171604	273253	Main Site	Undesignated site	
RO260	LEABEG BOG	172602	270578	Main Site	Undesignated site	
RO261	CLOONAGRASSAN CUTOVER	173874	271359	Main Site	Undesignated site	
RO262	RUNNAMOAT BOG AND WETLAND	179021	271546	Main Site	Undesignated site	
RO263	KNOCKALAGHTA (SANDFORD)	175494	276621	Main Site	Undesignated site	
RO264	EMLAGH WEST	175115	277388	Main Site	Undesignated site	
RO265	BALLYGLASS UPPER BOG	180203	269330 268968	Main Site Main Site	Undesignated site	
RO266 RO267	LOUGH FERGUS CLOONEENBAUN BOG	180943 181930	269103	Main Site	Undesignated site	
RO267	LOUGH CREEVIN	181946	269540	Main Site	Undesignated site Undesignated site	
RO269	TONLEGEE BOG	183079	269794	Main Site	Undesignated site	
RO209	ROXBOROUGH	188708	267108	Main Site	Undesignated site	
RO271	BARNHILL ROXBOROUGH	188004	266769	Main Site	Undesignated site	
RO272	BALLINDALL POND	183825	266576	Main Site	Undesignated site	
RO273	LOUGH SLYE	181547	267198	Main Site	Undesignated site	
RO274	CAMS NORTH	181827	266875	Main Site	Undesignated site	
RO275	EMLAGH MORE CUTOVER	181084	266798	Main Site	Undesignated site	
RO276	EMLAGHNAGREE CUTOVER	180864	265759	Main Site	Undesignated site	
RO277	ARDMORE CUTOVER	180195	265042	Main Site	Undesignated site	
RO278	EMLAGHKEADEW LISSANEAVILLE CUTOVER	181409	264052	Main Site	Undesignated site	
RO279	LOUGHNANEANE TURLOUGH	186642	264813	Main Site	Undesignated site, SGI	
RO280	LOUGHNANEANE POND	187219	264913	Main Site	Undesignated site	
RO281	CLOONYBREIRNE	188989	265140	Main Site	Undesignated site	
RO282	CARROWROE WET WOODLAND	188930	263579	Main Site	Undesignated site	
RO283	CARROWROE GOLF COURSE PONDS	188348	262960	Main Site	Undesignated site	
RO284	CARROWROE BOG	189142	262243	Main Site	Undesignated site	
RO285	ARDKEEL LISNAMULT	185701	263580	Main Site	Undesignated site	
RO286	LISSANEAVILLE COOLY	181779	262878	Main Site	Undesignated site	
RO287	BALLINLIG COOLMEEN TURLOUGH	182149	261296	Main Site	Undesignated site	
RO288	CARROWSTELLAN TURLOUGH	184388	261529	Main Site	Undesignated site	
RO289	CLOONARRAGH NORTH	190608	269376	Main Site	Undesignated site	
RO290	CLOONADDRA SOUTH - CLOONADRA CUTAWAY BOG COMPLEX	197150	269731	Sub-site	Undesignated site	
RO291	DERRYCARBRY GALLAGH CUTOVER	195565	266177	Main Site	Undesignated site	
RO292	CLOONCONRA BOG	192604	261822	Main Site	Undesignated site	
RO293	FEARAGH CUTOVER	195319	261251	Main Site	Undesignated site	
RO294	CORKER CLOONCULLAAN	186027	278941	Main Site	Undesignated site	
RO295	CLOONCULLAAN ARDAKILLIN TURLOUGH	187215	279230	Main Site	Undesignated site	
RO296	CLOONFINLOUGH EAST	191290	278491	Main Site	Undesignated site	
RO297	CLOONFREE LOUGHS TURLOUGH	190618	279568	Main Site	Undesignated site	
RO298	CLOONELLY	189253	276821	Main Site	Undesignated site	
RO299	LOUGHANDOUGHIL LAKE AND WETLAND	186888	277445	Main Site	Undesignated site	
RO300	CARROWNDANGAN	181636	275267	Main Site	Undesignated site	
RO301	BUSHFIELD	180514	274677	Main Site	Undesignated site	
RO302	LOUGHANNASOOL	182858	274826	Main Site	Undesignated site	
RO303	LOUGHANNATRYNA	187720	274151	Main Site	Undesignated site	
RO304	COGGAL LOUGH	189895	275482	Main Site	Undesignated site	
RO306	KINNITTY NORTH	183569	273167	Main Site	Undesignated site	
RO307	KINNITTY KILTULTOGE WETLAND	183344	272037	Main Site	Undesignated site	
RO308	ARDLAGHEEN MORE CUTOVER	180567	273797	Main Site	Undesignated site	
RO309	BALLYMACURLY SOUTH KILTULOGE TURLOUGH	181730	271485	Main Site	Undesignated site	
RO310	BALLYGLASS LOWER NORTH	181812	270159	Main Site	Undesignated site	
RO311	RATHCONOR WEST	184082	270985	Main Site	Undesignated site	
RO312	CASHELMEEHAN QUARRY PONDS	187905	271035	Main Site	Undesignated	

ROWS Site	ROWS Site Name	Centre Easting	Centre Northing	Site Type	Designation	Designated Site Code
Code					site, SGI	
RO313	CASHELMEEHAN EAST	189117	271056	Main Site	Undesignated site	
RO313	CLOONSLANOR	192572	279543	Main Site	Undesignated site	
RO314	BUMLIN SCRAMOGE	195435	279685	Main Site	Undesignated site	
RO316	GRAFFOGE BOG	200255	279348	Main Site		
	CLOONSHANNAGH BOG AND	200255	279348	Main Site	Undesignated site	
RO317	CUTOVER WEST				Undesignated site	
RO318	CLOONSHANNAGH BOG AND CUTOVER EAST	201240	279043	Main Site	Undesignated site	
RO319	DRINNAGH BOG COMPLEX	200679	277533	Main Site	Undesignated site	
RO320	CULLIAGH LOWER BOG - DRINAGH BOG COMPLEX	198968	278021	Sub-site	Undesignated site	
RO321	CLOONMORE	202256	279000	Main Site	Undesignated site	
RO323	KILBARRY BOG	206963	279923	Main Site	Undesignated site	
RO324	DERRYCASHEL BOG NORTH CUTOVER COMPLEX	202912	276939	Main Site	Undesignated site	
RO325	LISSONUFFY TURLOUGH	193130	276874	Main Site	Undesignated site	
RO325	LOUGHANRAGH	193130	277152	Main Site		
RO326 RO327	CLOONCONNY CUTOVER	190029	277165	Main Site	Undesignated site	
RO328			276322	Main Site	Undesignated site	
RO328 RO329	CURRY CLOONEARAGH	191381 190886	276322	Main Site	Undesignated site	
RO329 RO330	COCCALBEG CORRADREHID BOG MOUNTDILLONN WEST BOG -	190886	274659	Sub-site	Undesignated site	
	MOUNTDILLON EAST CUTAWAY BOG COMPLEX	199374			Undesignated site	
RO331	CLOONTUSKERT BOG - MOUNTDILLON EAST CUTAWAY BOG COMPLEX	201110	272675	Sub-site	Undesignated site	
RO332	TUAM BOG	191852	273635	Main Site	Undesignated site	
RO333	DERREEN SOUTH BOG	191418	274006	Main Site	Undesignated site	
RO334	CLOONBONNY NORTH CUTOVER	191299	273418	Main Site	Undesignated site	
RO335	CORNASHINNAGH CORRADREHID	189997	273347	Main Site	Undesignated site	
110000	CUTOVER	100001	270011	man one	ondoorgnated one	
RO336	DRUMDAFF CUTOVER	190841	270354	Main Site	Undesignated site	
RO337	SHEEHAUN (MORTON) - CLOONADRA CUTAWAY BOG COMPLEX	196654	271320	Sub-site	Undesignated site	
RO338	CLOONTUSKERT BALLYGLASS - MOUNTDILLON EAST CUTAWAY BOG COMPLEX	200605	272180	Sub-site	Undesignated site	
RO339	ERRIT BOG	152746	288835	Main Site	Undesignated site	
RO340	CLOONACOLLY CLOONARGID BOG COMPLEX (ROSCOMMON)	154960	289502	Main Site	Undesignated site	
RO341	CLOONACOLLY LOUGH (156548	288102	Main Site	Undesignated site	
RO342	CLOONACOLLY BOG NORTH	156913	288882	Main Site	Undesignated site	
RO343	CORRACOGGIL NORTH	159003	289684	Main Site	Undesignated site	
RO344	CORRACOGGIL SOUTH CUTOVER	159162	287794	Main Site	Undesignated site	
RO345	CLOONTOWART BOG	157704	287746	Main Site	Undesignated site	
RO346	CLOONCAH BOG	156889	287450	Main Site	Undesignated site	
RO347	CLOONAGH LOUGH	154616	286907	Main Site	Undesignated	
					site, SGI	
RO348	CLOONAGH CUTOVER EAST	156053	286947	Main Site	Undesignated site	
RO349	ERRIT PONDS	154042	286603	Main Site	Undesignated site, SGI	
RO350	ERRIT BOG WEST	153351	286719	Main Site	Undesignated site	
RO351	LOUGHANLEA LAKE AND CUTOVER COMPLEX	152571	285225	Main Site	Undesignated site	
RO352	(ROSCOMMON) DRUMMAD BOG	157243	285505	Main Site	Undecignated site	
RO352 RO353	URRASAUN BOG	157243	284383	Main Site	Undesignated site Undesignated site	
RO353	TAGHNARRA BOG NORTH	158807	282764	Main Site	Undesignated site	
RO354 RO355	LECARROW CLOONCAN BOG COMPLEX	155484	283499	Main Site	Undesignated site	
RO356	CLOONCAN BOG WEST	155354	281716	Main Site	Undesignated site	
RO357	CLOONCRIM BOG	155841	280004	Main Site	Undesignated site	
RO358	CLOONCAN CLOONCRIM BOG	156616	281105	Main Site	Undesignated site	
RO359	TAGHNARRA BOG SOUTH	158667	281467	Main Site	Undesignated site	
RO360	CLOONELT BOG	159704	281444	Main Site	Undesignated site	
RO361	CALVEAGH LOWER CUTOVER	155525	302112	Main Site	Undesignated site	
RO362	CLOONLUMNEY CUTOVER	157183	301919	Main Site	Undesignated site	
RO363	CALVEAGH UPPER BOG	155377	301163	Main Site	Undesignated site	
RO364	CALVEAGH UPPER DERRYNANAFF BOG	156049	300416	Main Site	Undesignated site	
RO365	CLOONLUMNEY EAST CUTOVER	158716	301081	Main Site	Undesignated site	

ROWS Site Code	ROWS Site Name	Centre Easting	Centre Northing	Site Type	Designation	Designated Site Code
RO366	CLOONLUMNEY EAST CUTOVER BOG COMPLEX	160067	300165	Main Site	Undesignated site	
RO367	ISLANDMORE BOLEYSILLAGH BOG COMPLEX	161477	299566	Main Site	Undesignated site	
RO368	LARGAN BOG COMPLEX	162851	300009	Main Site	Undesignated site	
RO369 RO370	DRUMACOO BOG COMPLEX GORTANURE LAKE	164537 156263	300069 299373	Main Site Main Site	Undesignated site Undesignated site	
RO371	BOHALAS	159681	297755	Main Site	Undesignated site	
RO372	CASHELARD BOHALAS	158803	297048	Main Site	Undesignated site	
RO373	BOGHTADUFF	156565	297519	Main Site	Undesignated site	
RO374	BOGHTADUFF CUTOVER WEST (ROSCOMMON)	155260	297797	Main Site	Undesignated site	
RO375	ARDKILL CUTOVER	156170	296310	Main Site	Undesignated site	
RO376	KILTYBRANKS CUTOVER	159714	291098	Main Site	Undesignated site	
RO377 RO378	LISSYDALY CUTOVER CURRAGHSALLAGH CUTOVER	157180 154550	290746 291616	Main Site Main Site	Undesignated site Undesignated site	
RO379	NORTH (ROSCOMMON) CURRAGHSALLAGH CUTOVER	155383	290397	Main Site	Undesignated site	
	SOUTH				ŭ	
RO380 RO381	GUBBARUDDA LOUGH SKEAN (ROSCOMMON)	189130 186124	315627 312415	Main Site Main Site	Undesignated site Undesignated site	
RO382	CASTLETENISON DEMESNE BOG	187243	312413	Main Site	Undesignated site	
RO383	LOUGH MEELAGH	188933	312055	Main Site	Undesignated site	
RO384	LEITERRA BOG	189924	310075	Main Site	Undesignated site	
RO385	DERREENACOOSAN BOG	189295	310335	Main Site	Undesignated site	
RO386	BRIDGECARTON OR DERRYCASHEL BOG	187855	310568	Main Site	Undesignated site	
RO387	CLOONCRUFFER BOG	187548	311748	Main Site	Undesignated site	
RO388	LYONSTOWN BOG	186892	311629	Main Site	Undesignated site	
RO389	CORRATRENCH DERREENASEER BOG	186781	310089	Main Site	Undesignated site	
RO390	DERRYNASALLAGH LOUGH (ROSCOMMON)	184437	310003	Main Site	Undesignated site	
RO391 RO392	CUILLARD LAKE KEADEW EAST	193628 192044	311128 310285	Main Site Main Site	Undesignated site Undesignated site	
RO393	CORGLASS NORTH	192396	310283	Main Site	Undesignated site	
RO394	CUILLARD BOG	194319	310916	Main Site	Undesignated site	
RO395	AGHAFIN CUILLARD LAKE	194671	311493	Main Site	Undesignated site	
RO396	DERRYNADOOEY WET WOODLAND	196350	313451	Main Site	Undesignated site	
RO397	BODORRAGHA BOG	194688	312380	Main Site	Undesignated site	
RO398	DERRYNAGALLION BOG	194564	313703	Main Site	Undesignated site	
RO399	SRABRAGAN WET WOODLAND	195048	314991	Main Site	Undesignated site	
RO400 RO401	GREAGFHNAFARNA BOG CORGLASS BOG	192836 192681	317632 309889	Main Site Main Site	Undesignated site Undesignated site	
RO401	DROMORE BOG	193316	308275	Main Site	Undesignated site	
RO403	BALLYFORMOYLE	190161	308129	Main Site	Undesignated site	
RO404	DRUMCUNNY LOUGH	191336	307092	Main Site	Undesignated site	
RO405	DERRYGIRRAUN BOG AND CUTOVER	190100	306280	Main Site	Undesignated site	
RO406	DOOGARY LAKE	190132	306828	Main Site	Undesignated site	
RO407	DRUMLAHARD LAKE	192034	307312	Main Site	Undesignated site	
RO408	BREANLETTER BOG	192421	307619	Main Site	Undesignated site	
RO409 RO410	MOYORAN BOG LURGA BOG	193407 193892	307399 305729	Main Site Main Site	Undesignated site Undesignated site	
RO410	CLOONFAD WEST	193892	305729	Main Site	Undesignated site	
RO411	SHANBALLYBAUN LOUGH	192857	304912	Main Site	Undesignated site	
RO413	DRUMDOO LOUGH	191532	305806	Main Site	Undesignated site	
RO414	DRUMLAHARD DRUMANILRA BOG	192504	306088	Main Site	Undesignated site	
RO415	COOTEHALL COOLADYE CUTOVER	190486	304231	Main Site	Undesignated site	
RO416	KILMACARRIL LAKE	191547	302265	Main Site	Undesignated site	
RO417	GARROW	179281	305619	Main Site	Undesignated site	
RO418 RO419	CORNAMEELTA SOUTH CORNAGLIA POND	177091 176403	304679 304666	Main Site Main Site	Undesignated site Undesignated site	
RO419	BRISLAGH	175364	304440	Main Site	Undesignated site	
RO421	KILTYCREAGHTAN	177272	303641	Main Site	Undesignated site	
RO422	ARDMORE TURLOUGH	176394	300889	Main Site	Undesignated site	
RO423	KILTYBRANNOCK	172455	301705	Main Site	Undesignated site	
RO424	DERRYWANA LOUGH	183761	309651	Main Site	Undesignated site	
RO425	CORNACARTA LOUGH	183345	309342	Main Site	Undesignated site	
RO426	BLACK LOUGH	183256	308948	Main Site	Undesignated site	
RO427	DERREENAGAN LAKE	183904	308588	Main Site	Undesignated site	

ROWS Site Code	ROWS Site Name	Centre Easting	Centre Northing	Site Type	Designation	Designated Site Code
RO428	DERREENINE BOG	188693	309543	Main Site	Undesignated site	
RO429	FOSTRAGH BOG	189013	308331	Main Site	Undesignated site	
RO430	BEHY LOUGHS	189513	307580	Main Site	Undesignated site	
RO431	KILTEASHEEN	186854	306785	Main Site	Undesignated site	
RO432	ERRIRONAGH BOG AND CUTOVER	186129	305348	Main Site	Undesignated site	
RO433	KNOCKVICAR WET WOODLAND	186616	305583	Main Site	Undesignated site	
RO434	DERRYEEN LOUGH	187510	304406	Main Site	Undesignated site	
RO435	LAUNDRY LOUGH	188058	304197	Main Site	Undesignated site	
RO436	BLACK LOUGH (OAKPORT DEMESNE)	187415	304038	Main Site	Undesignated site	
RO437	DRUMSILLAGH BOG	189561	305798	Main Site	Undesignated site	
RO438	DRUMSILLAGH CUTOVER WEST	188862	305372	Main Site	Undesignated site	
RO439	OAKPORT LOUGH	188687	303858	Main Site	Undesignated site	
RO440	BALLYARDAN LAKE	186894	303205	Main Site	Undesignated site	
RO441	OAKPORT DEMESNE QUARRY PONDS	187301	302978	Main Site	Undesignated site	
RO442	LOUGH KEEL	185814	303345	Main Site	Undesignated site	
RO443	WARREN OR DRUM POND	181354	302858	Main Site	Undesignated site	
RO444	LETFORDSPARK QUARRY PONDS	181251	301942	Main Site	Undesignated site	
RO445	DRUMHARLOW POND	189629	300582	Main Site	Undesignated site	
RO446	MOYGLASS TOOLSCAN SKEAGH LAKESHORE	200310	294701	Main Site	Undesignated site	
RO447	CORTOBER CORDREHID	193908	298560	Main Site	Undesignated site	
RO448	ARDCHAMOYLE	190243	298904	Main Site	Undesignated site	
RO449	DANESFORT BOG WOODLAND	193688	296622	Main Site	Undesignated site	
RO450	CARTRON LOUGH	199310	295217	Main Site	Undesignated site	
RO451	LOWFIELD LOUGH	199252	294590	Main Site	Undesignated site	
RO452	CORRALARA	197559	295707	Main Site	Undesignated site	
RO453	DANGAN (NUGENT)	197699	294731	Main Site	Undesignated site	
RO454	CORRY EAST	194490	295265	Main Site	Undesignated site	
RO455	BALLAGH LOUGH	195458	294545	Main Site	Undesignated site	
RO456	CORRY WEST	193648	294831	Main Site	Undesignated site	
RO457	CORLIS CUTOVER	192476	293236	Main Site	Undesignated site	
RO458	KNOCKNAGOWNA CLOONSILLAGH BOG WOODLAND	196487	292233	Main Site	Undesignated site	
RO459	RATHEVIN CUTOVER	197640	292979	Main Site	Undesignated site	
RO460	TULLY LOUGH	198542	291947	Main Site	Undesignated site	
RO461	CLOONCOOSE FEARAGH CUTOVER	196322	291079	Main Site	Undesignated site	
RO462	LOUGH NABLAHY NORTH cNHA	196095	290021	Main Site	Undesignated site	002769
RO463	DOONEEN LOUGHS	195645	290696	Main Site	Undesignated site	
RO464	TOOMORE LOUGHS	195444	291548	Main Site	Undesignated site	
RO465	DOONEEN BOG WOODLAND AND CUTOVER	194735	290579	Main Site	Undesignated site	
RO466	LOUGHS NAHINCHA	194142	290497	Main Site	Undesignated site	
RO467	RODEEN LOUGHS	192459	291307	Main Site	Undesignated site	
RO468	LOUGH BRACKAN	192242	290942	Main Site	Undesignated site	
RO469	LOUGH LAURE	192075	289971	Main Site	Undesignated site	
RO470	KNOCKARUSH LAKE	181133	298687	Main Site	Undesignated site	
RO471	CLOGHER LOUGH	184212	298226	Main Site	Undesignated site	
RO472	CARROWARD	190019	299040	Main Site	Undesignated site	
RO473	BALLINVILLA BOG	188726	296913	Main Site	Undesignated site	
RO474	FAWS BOG AND BOG WOODLAND	186295	297675	Main Site	Undesignated site	
RO475	CAVETOWN LOUGH	183186	297408	Main Site	Undesignated site	
RO476	GRANNY BOG	180408	296847	Main Site	Undesignated site	
RO477	TREANAMARLY CARRIGEENCARRAGH LAKE	181086	295660	Main Site	Undesignated site	
RO478	CROGHAN RATHLEEN CUTOVER	184111	295456	Main Site	Undesignated site	
RO479	RATHLEEN KILCOLAGH CUTOVER	184396	294731	Main Site	Undesignated site	
RO480	PORTOBELLO MARTRY CUTOVER	184209	293937	Main Site	Undesignated site	
RO481	LISDALY LOUGH AND CUTOVER COMPLEX	188019	295355	Main Site	Undesignated site	
RO482	CANBO LOUGHS	188151	294681	Main Site	Undesignated site	
RO483	CORBALLY LOUGH & CUTOVER	189746	293977	Main Site	Undesignated site	
RO484	ASSAUN CUTOVER	185669	293816	Main Site	Undesignated site	
RO485	ASSAUN ATTIAGHYGRANA CUTOVER	185931	293236	Main Site	Undesignated site	
RO486	PORTOBELLO POND	184857	293194	Main Site	Undesignated site	
RO487	LISNABOLL TURLOUGH	185034	290228	Main Site	Undesignated site	
RO488	CARROWREAGH CUTOVER	188257	291519	Main Site	Undesignated site	
RO489	LISSERDREA PONDS	178369	299926	Main Site	Undesignated site	
RO490	BEHY CUTOVER	179136	297529	Main Site	Undesignated site	

RO492 TOU POR RO493 SRA RO494 RUN RO495 RUN DEM RO496 FRE RO509 RO500 DOC COM RO501 FRE EAS: RO502 MUL RO503 MUL RO503 MUL RO504 CLO SOU RO507 ARD ARD RO506 LOU RO507 ARD RO510 CLO RO511 CRE RO512 BOL RO513 KILK RO514 KILC RO515 BAN RO506 RO519 RO517 LUN RO516 SLISS COM RO520 AGH RO521 CLO RO521 CLO RO522 ROC RO523 AGH RO524 AGH RO524 AGH RO525 CLO RO527 CLO RO529 CRE RO530 FIGH RO531 FIGH RO531 FIGH RO531 FIGH RO532 AGH RO531 FIGH RO532 AGH RO531 FIGH RO532 AGH RO531 FIGH RO531 FIGH RO532 AGH RO531 FIGH RO531 FIGH RO532 AGH RO531 FIGH RO532 AGH RO531 FIGH RO532 AGH RO532 AGH RO531 FIGH RO532 AGH RO531 FIGH RO532 AGH RO532 AGH RO531 FIGH RO532 AGH RO532 AGH RO531 FIGH RO532 AGH RO531 FIGH RO532 AGH RO532 AGH RO533 FIGH RO533 FIGH RO533 FIGH RO533 AGH RO534 AGH RO53	IROE OR CREEN CUTOVER CKGLASS CUTOVER SCLIN CUTOVER DNEEN ARDAGH CUTOVER MPLEX INCHPARK DEMESNE LAKE IT LEN BOG EAST LLEN BOG WEST JONSHANVILLE CUTOVER JONSHAND JONSHAN	172056 172331 171852 172948 172522 173577 177284 177379 176527 178477 173797 171903 170588 175644 175707 177028 178432 160467 163364 163364 163364 163215 164900 169692 162408	297367 296692 295729 294269 293763 293502 295567 294114 294395 292421 292411 290763 290070 290581 289890 290639 291720 298597 298886 298330 29605 297745 297163 294862 295192	Main Site	Undesignated site	
RO492 TOU POR RO493 SRA RO494 RUN RO495 RUN DEM RO496 FRE BOG RO497 TON RO498 KNO RO499 FINIS RO500 DOC COM RO501 FRE EAS' RO502 MUL RO503 MUL RO504 CLO SOU RO505 BALI RO506 LOU RO507 ARD RO507 ARD RO508 BRO RO509 CLO RO511 CRE RO512 BOL RO511 CRE RO512 BOL RO513 KILK RO514 KILC RO515 BAN CUT RO516 SUN RO518 LISS COM RO520 AGH RO521 CLO RO521 CLO RO522 RO523 AGH RO524 AGH RO524 AGH RO525 CLO RO527 CLO RO529 CRE RO530 FIGH RO531 FIGH RO532 AGH RO532 AGH RO533 FIGH RO532 AGH RO533 FIGH RO532 AGH RO532 AGH RO531 FIGH RO532 AGH RO532 AGH RO532 AGH RO532 AGH RO533 FIGH RO532 AGH RO532 AGH RO532 AGH RO533 FIGH RO532 AGH RO533 FIGH RO533 FIGH RO532 AGH RO532 AGH RO533 AGH RO532 AGH RO533 AGH RO532 AGH RO533 AG	JRNAGEE RTNACCRINNAGHT CUTOVER LCOCKA CUTOVER JINABEHY CUTOVERS JINABEHY FRENCHPARK JINABEHY FRENCHPARK JINABEHY FRENCHPARK JINABEHY FRENCHPARK JINABEHY FRENCHPARK JINABEHY FRENCHPARK JINABENE BOG JINCHPARK DEMESNE EAST JINABEN ARDAGH CUTOVER JINABEN ARDAGH CUTOVER JINABEN BOG EAST JILEN BOG EAST JILEN BOG WEST JONSHANVILLE CUTOVER JITH JYNAHOWNA BOG JIGHBALLY BOG JOAGH BOG SOUTH - DOONEEN JOAGH BOG SOUTH - DOONEEN JOAGH CUTOVER COMPLEX JOHNEN FALLSOLLUS JONMEEN BOG JON	172331 171852 172948 172522 173577 177284 177379 176527 178477 173797 171903 170588 175644 175707 177028 178432 160467 163364 163366 165470 162143 160241 163215 164900 169692 162408	296692 295729 294269 293763 293502 295567 294114 294395 292421 292411 290763 290070 290581 289890 290639 291720 298597 298886 298330 296005 297745 297163 294862 295192	Main Site	Undesignated site	
RO493 SRA RO494 RUN RO495 RUN RO496 FRE BOG BOG RO497 TON RO498 KNO RO499 FINIS RO500 DOC COM EAS RO501 FRE EAS MUL RO503 MUL RO504 CLO SOU RO505 RO505 BALI RO506 LOU RO507 ARD ARD ARD RO508 BRO RO509 CLO RO511 CRE RO512 BOL RO513 KILK RO514 KILC RO515 BAN CUT RO516 RO517 LUN RO518 LISS COM RO521 CLO RO522 RO RO523 AGH	ICOCKA CUTOVER INABEHY CUTOVERS INABEHY FRENCHPARK IESNE BOG INCHPARK DEMESNE EAST IROE OR CREEN CUTOVER IROE OR ARDAGH CUTOVER INCHPARK DEMESNE LAKE IT ILEN BOG EAST ILEN BOG WEST IRONSHANVILLE CUTOVER ITH ILYNAHOWNA BOG IGHBALLY B	172948 172522 173577 177284 177379 176527 178477 173797 171903 170588 175644 175707 177028 178432 160467 163364 163306 165470 162143 160241 163215 164900	294269 293763 293763 293502 295567 294114 294395 292421 292411 290763 290070 290581 289890 290639 291720 298597 298886 298330 29605 297745 297163 294862 295192	Main Site	Undesignated site	
RO494 RUN RO495 RUN DEM DEM RO496 FRE BOG RO497 RO498 KNO RO499 FINIS RO500 DOC COM EAS RO501 FRE EAS RO502 MUL RO503 MUL RO504 CLO SOU SOU RO505 BALI RO506 LOU RO507 ARD ARD ARD RO508 BRO RO509 CLO RO510 CLO RO511 CRE RO512 BOL RO513 KILK RO514 KILC RO515 BAN COM CUT RO516 SLIE RO517 LUN RO518 LISS COM RO521 CLO RO522 RO	INABEHY CUTOVERS INABEHY FRENCHPARK JESNE BOG INCHPARK DEMESNE EAST IROE OR CREEN CUTOVER OCKGLASS CUTOVER SCLIN CUTOVER ONEEN ARDAGH CUTOVER JULIEN BOG EAST LLEN BOG EAST LLEN BOG WEST ONSHANVILLE CUTOVER JULIEN BOG SOUTH - DOONEEN JULI	172948 172522 173577 177284 177379 176527 178477 173797 171903 170588 175644 175707 177028 178432 160467 163364 163306 165470 162143 160241 163215 164900	294269 293763 293763 293502 295567 294114 294395 292421 292411 290763 290070 290581 289890 290639 291720 298597 298886 298330 29605 297745 297163 294862 295192	Main Site	Undesignated site	
RO495 RUN DEM DEM RO496 FRE BOG RO497 RO498 KNO RO499 FINIS RO500 DOC COM COM RO501 FRE EAS RO502 RO503 MUL RO504 CLO SOU ARD RO505 BALI RO506 LOU RO507 ARD RO508 BRO RO509 CLO RO510 CLO RO511 CRE RO512 BOL RO513 KILK RO514 KILK RO515 BAN CUT RO514 KILS COM RO515 BAN RO516 SLIE RO517 RO518 LISS COM RO521 CLO RO522 RO522 ROC ROC R	INABEHY FRENCHPARK MESNE BOG INCHPARK DEMESNE EAST INCHER OR CREEN CUTOVER DICKGLASS CUTOVER SCLIN CUTOVER DNEEN ARDAGH CUTOVER MPLEX INCHPARK DEMESNE LAKE IT LLEN BOG EAST LLEN BOG WEST DONSHANVILLE CUTOVER JTH LYNAHOWNA BOG JGHBALLY BOG DAGH BOG SOUTH - DOONEEN DAGH CUTOVER COMPLEX DONMEEN FALLSOLLUS DONMEEN FALLSOLLUS DONMEEN BOG EGGAN CUTOVER EYSILLAGH TOOBACKAN BOG ICEERAN NORTH COLMAN LADA KEELBANADA BOG AND TOVER EVEROE BOG IG CUTOVER WEST EVEROED	172522 173577 177284 177379 176527 178477 173797 171903 170588 175644 175707 177028 178432 160467 163364 163364 163306 165470 162143 160241 163215 164900 169692 162408	293763 293763 293502 295567 294114 294395 292421 292411 290763 290070 290581 289890 290639 291720 298597 298886 298330 296605 297745 297163 294862 295192	Main Site	Undesignated site	
RO496 FRE BOG RO497 TON RO498 KNO RO499 FINIS RO500 DOC COM RO501 FRE EAS: RO502 MUL RO503 MUL RO504 CLO SOU RO507 ARD ARD RO508 BRO RO509 CLO RO511 CRE RO512 BOL RO513 KILK RO514 KILC RO515 BAL RO515 BAL RO516 SLIE RO517 LUN RO518 LISS COM RO520 AGH RO521 CLO RO521 CLO RO522 ROC RO523 AGH RO524 AGH RO525 LISS RO526 CLO RO527 CLO RO529 CRE RO530 FIGH RO531 FIGH RO532 AGH RO532 AGH RO532 AGH RO532 AGH RO533 FIGH RO532 AGH RO533 FIGH RO532 AGH RO532 AGH RO533 FIGH RO532 AGH RO533 AGH RO533 FIGH RO533 AGH RO534 AGH RO534 AGH RO535 CRE RO530 FIGH RO531 FIGH RO532 AGH RO531 FIGH RO532 AGH RO532 AGH RO533	MESNE BOG ENCHPARK DEMESNE EAST BIROE OR CREEN CUTOVER DCKGLASS CUTOVER SCLIN CUTOVER DNEEN ARDAGH CUTOVER MPLEX ENCHPARK DEMESNE LAKE ST LLEN BOG EAST LLEN BOG WEST DONSHANVILLE CUTOVER JTH LYNAHOWNA BOG JGHBALLY BOG DAGH BOG SOUTH - DOONEEN DAGH CUTOVER COMPLEX DONMEEN FALLSOLLUS DONMEEN FALLSOLLUS DONMEEN BOG EGGAN CUTOVER EYSILLAGH TOOBACKAN BOG GERAN NORTH COLMAN LADA KEELBANADA BOG AND TOVER EVEROE BOG IG CUTOVER WEST	173577 177284 177379 176527 178477 173797 171903 170588 175644 175707 177028 178432 160467 163364 163306 165470 162143 160241 163215 164900 169692 162408	293502 295567 294114 294395 292421 292411 290763 290070 290581 289890 290639 291720 298597 298886 298330 296605 297745 297163 294862 295192	Main Site	Undesignated site	
RO497 TON RO498 KNO RO499 FINIS RO500 DOC COM RO501 FRE EAS: RO502 MUL RO503 MUL RO504 CLO RO505 BALI RO506 LOU RO507 ARD ARD RO508 BRO RO509 CLO RO511 CRE RO512 BOL RO513 KILK RO514 KILC RO515 BAN CUT RO516 SLIE RO517 LUN RO518 LISS COM RO519 AGH RO519 AGH RO519 AGH RO519 AGH RO519 AGH RO510 CLO RO511 CUN RO511 CRE RO512 BOL RO513 KILK RO514 KILC RO515 BAN CUT RO515 BAN CUT RO516 SLIE RO517 LUN RO518 LISS COM RO520 AGH RO521 CLO RO521 CLO RO522 ROC RO523 AGH RO524 AGH RO524 AGH RO525 LISS RO526 CLO RO527 CLO RO529 CRE RO530 FIGH RO531 FIGH RO531 FIGH	IROE OR CREEN CUTOVER DICKGLASS CUTOVER SCLIN CUTOVER DNEEN ARDAGH CUTOVER MPLEX INCHPARK DEMESNE LAKE IT LEN BOG EAST LLEN BOG WEST DONSHANVILLE CUTOVER JITH LYNAHOWNA BOG JIGHBALLY BOG DAGH BOG SOUTH - DOONEEN DAGH CUTOVER COMPLEX DONMEEN FALLSOLLUS DONMEEN FALLSOLLUS DONMEEN BOG EGGAN CUTOVER EYSILLAGH TOOBACKAN BOG GEERAN NORTH COLMAN LADA KEELBANADA BOG AND TOVER EVEROE BOG EG CUTOVER WEST	177284 177379 176527 178477 173797 171903 170588 175644 175707 177028 178432 160467 163364 163366 165470 162143 160241 163215 164900	295567 294114 294395 292421 292411 290763 290070 290581 289890 290639 291720 298597 298886 298330 296605 297745 297745 297163 294862 295192	Main Site	Undesignated site	
RO498 KNO RO499 FINIS RO500 DOC COM RO501 FRE EAS' RO502 MUL RO503 MUL RO504 CLO RO505 BALI RO506 LOU RO507 ARD ARD RO508 BRO RO509 CLO RO510 CLO RO511 CRE RO512 BOL RO513 KILK RO514 KILC RO515 BAN CUT RO516 SLIE RO517 LUN RO518 LISS COM RO519 AGH LISS COM RO520 AGH RO521 CLO RO521 CLO RO522 ROC RO523 AGH RO524 AGH RO525 LISS RO526 CLO RO527 CLO RO529 CRE RO530 FIGH RO531 FIGH RO531 FIGH RO531 FIGH RO532 AGH	CCKGLASS CUTOVER SCLIN CUTOVER DNEEN ARDAGH CUTOVER MPLEX INCHPARK DEMESNE LAKE IT LEN BOG EAST LLEN BOG WEST JONSHANVILLE CUTOVER JONSHANVILLE CUTOVER JONSHANVILLE CUTOVER JOHN BOG J	177379 176527 178477 178477 173797 171903 170588 175644 175707 177028 178432 160467 163364 163366 165470 162143 160241 163215 164900	294114 294395 292421 292411 290763 290070 290581 289890 290639 291720 298597 298886 298330 296605 297745 297163 294862 295192	Main Site	Undesignated site	
RO499 FINIS RO500 DOC COM COM RO501 FRE EAS RO502 MUL RO503 MUL SOU RO504 CLO SOU RO505 BALI RO506 LOU RO506 LOU RO507 ARD RO508 BRO RO509 CLO RO510 CLO RO511 CRE RO511 CRE RO512 BOL RO513 KILK RO514 KILC RO514 KILC ROT ROT RO515 BAN CUT ROT RO516 SLIE ROT ROT RO517 LUN ROT ROT RO518 LISS COM RO519 AGH LISS COM RO520 AGH RO521 CLO RO522 RO523 AGH RO524 AGH <tr< td=""><td>SCLIN CUTOVER DNEEN ARDAGH CUTOVER MPLEX INCHPARK DEMESNE LAKE IT LEN BOG EAST LEN BOG WEST DONSHANVILLE CUTOVER JTH LYNAHOWNA BOG JGHBALLY BOG DAGH BOG SOUTH - DOONEEN DAGH CUTOVER COMPLEX DONMEEN FALLSOLLUS JONMEEN BOG EGGAN CUTOVER LEYSILLAGH TOOBACKAN BOG (EERAN NORTH COLMAN JADA KEELBANADA BOG AND TOVER EVEROE BOG JG CUTOVER WEST EERGOOL AGHALUSTA BOG</td><td>176527 178477 173797 171903 170588 175644 175707 177028 178432 160467 163364 163366 165470 162143 160241 163215 164900</td><td>294395 292421 292411 290763 290070 290581 289890 290639 291720 298597 298886 298330 296605 297745 297163 294862 295192</td><td>Main Site Main Site</td><td>Undesignated site Undesignated site</td><td></td></tr<>	SCLIN CUTOVER DNEEN ARDAGH CUTOVER MPLEX INCHPARK DEMESNE LAKE IT LEN BOG EAST LEN BOG WEST DONSHANVILLE CUTOVER JTH LYNAHOWNA BOG JGHBALLY BOG DAGH BOG SOUTH - DOONEEN DAGH CUTOVER COMPLEX DONMEEN FALLSOLLUS JONMEEN BOG EGGAN CUTOVER LEYSILLAGH TOOBACKAN BOG (EERAN NORTH COLMAN JADA KEELBANADA BOG AND TOVER EVEROE BOG JG CUTOVER WEST EERGOOL AGHALUSTA BOG	176527 178477 173797 171903 170588 175644 175707 177028 178432 160467 163364 163366 165470 162143 160241 163215 164900	294395 292421 292411 290763 290070 290581 289890 290639 291720 298597 298886 298330 296605 297745 297163 294862 295192	Main Site	Undesignated site	
RO499 FINIS RO500 DOC COM COM RO501 FRE EAS MUL RO503 MUL RO504 CLO SOU RO505 BALI RO506 LOU RO507 ARD ARD RO508 BRO RO509 CLO RO510 CLO RO511 CRE RO512 BOL RO513 KILK RO514 KILC RO515 BAN CUT RO515 BAN CUT RO516 SLIE RO517 LUN RO518 LISS COM RO519 AGH LISS COM RO520 RO521 CLO RO522 ROC RO523 AGH RO524 AGH RO525 LISS RO526 <td>SCLIN CUTOVER DNEEN ARDAGH CUTOVER MPLEX INCHPARK DEMESNE LAKE IT LEN BOG EAST LEN BOG WEST DONSHANVILLE CUTOVER JTH LYNAHOWNA BOG JGHBALLY BOG DAGH BOG SOUTH - DOONEEN DAGH CUTOVER COMPLEX DONMEEN FALLSOLLUS JONMEEN BOG EGGAN CUTOVER LEYSILLAGH TOOBACKAN BOG (EERAN NORTH COLMAN JADA KEELBANADA BOG AND TOVER EVEROE BOG JG CUTOVER WEST EERGOOL AGHALUSTA BOG</td> <td>176527 178477 173797 171903 170588 175644 175707 177028 178432 160467 163364 163366 165470 162143 160241 163215 164900</td> <td>292421 292411 290763 290070 290581 289890 290639 291720 298597 298886 298330 296605 297745 297163 294862 295192</td> <td>Main Site Main Site</td> <td>Undesignated site Undesignated site</td> <td></td>	SCLIN CUTOVER DNEEN ARDAGH CUTOVER MPLEX INCHPARK DEMESNE LAKE IT LEN BOG EAST LEN BOG WEST DONSHANVILLE CUTOVER JTH LYNAHOWNA BOG JGHBALLY BOG DAGH BOG SOUTH - DOONEEN DAGH CUTOVER COMPLEX DONMEEN FALLSOLLUS JONMEEN BOG EGGAN CUTOVER LEYSILLAGH TOOBACKAN BOG (EERAN NORTH COLMAN JADA KEELBANADA BOG AND TOVER EVEROE BOG JG CUTOVER WEST EERGOOL AGHALUSTA BOG	176527 178477 173797 171903 170588 175644 175707 177028 178432 160467 163364 163366 165470 162143 160241 163215 164900	292421 292411 290763 290070 290581 289890 290639 291720 298597 298886 298330 296605 297745 297163 294862 295192	Main Site	Undesignated site	
RO500 DOC COM COM RO501 FRE EAS RO502 MUL RO503 RO504 CLO SOU RO505 RO506 LOU RO507 ARD RO508 BRO RO509 CLO RO510 CLO RO511 CRE RO512 BOL RO513 KILK RO514 KILC RO515 BAN CUT RO516 SLIE RO517 LUN RO518 LISS COM RO518 LISS COM RO519 AGH RO520 AGH RO521 CLO RO522 ROC RO523 AGH RO524 AGH RO525 LISS RO526 CLO RO527 CLO RO529 CRE RO5	DNEEN ARDAGH CUTOVER MPLEX ENCHPARK DEMESNE LAKE ET LEN BOG EAST LLEN BOG WEST DONSHANVILLE CUTOVER JITH LYNAHOWNA BOG JOHN BOG SOUTH - DOONEEN DAGH CUTOVER COMPLEX DONMEEN FALLSOLLUS DONMEEN FALLSOLLUS DONMEEN BOG GGAN CUTOVER LEYSILLAGH TOOBACKAN BOG GEERAN NORTH COLMAN JADA KEELBANADA BOG AND TOVER EVEROE BOG JOYER EVEROE BOG JOYER GUTOVER WEST JOYER BOG JOYER	178477 173797 171903 170588 175644 175707 177028 178432 160467 163364 163306 165470 162143 160241 163215 164900 169692 162408	292421 292411 290763 290070 290581 289890 290639 291720 298597 298886 298330 296605 297745 297163 294862 295192	Main Site	Undesignated site	
EAS' RO502 MUL RO503 MUL RO504 CLO SOU RO505 BALI RO506 LOU RO507 ARD RO509 CLO RO511 CRE RO512 BOLI RO513 KILK RO514 KILC RO515 BAN CUT RO516 SLIE RO517 LUN RO518 LISS COM RO520 AGH RO521 CLO RO522 RO523 AGH RO524 AGH RO524 AGH RO525 LISS RO526 CLO RO527 CLO RO527 CLO RO529 CRE RO530 FIGH RO531 FIGH RO532 AGH RO532 AGH RO532 AGH RO5331 FIGH RO532 AGH RO5331 FIGH RO532 AGH RO532	ET LEN BOG EAST LEN BOG WEST DONSHANVILLE CUTOVER JTH LYNAHOWNA BOG JGHBALLY BOG JAGH BOG SOUTH - DOONEEN JAGH CUTOVER COMPLEX JOHER BOCKAGH JOHNEEN FALLSOLLUS JOHNEEN FALLSOLLUS JOHNEEN BOG JOHNEEN FALLSOLLUS JOHNEEN BOG JO	171903 170588 175644 175707 177028 178432 160467 163364 163306 165470 162143 160241 163215 164900	290763 290070 290581 289890 290639 291720 298597 298886 298330 296605 297745 297163 294862 295192	Main Site Main Site Main Site Main Site Main Site Main Site Sub-site Main Site	Undesignated site	
RO503 MUL RO504 CLO SOU SOU RO505 BALI RO506 LOU RO507 ARD ARD ARD RO508 BRO RO509 CLO RO510 CLO RO511 CRE RO512 BOL RO513 KILK RO514 KILC RO515 BAN CUT RO516 RO517 LUN RO518 LISS COM COM RO519 AGH LISS COM RO520 AGH RO521 CLO RO522 ROC RO523 AGH RO525 LISS RO526 CLO RO527 CLO RO529 CRE RO530 FIGH RO531 FIGH RO532 AGH	LEN BOG WEST DONSHANVILLE CUTOVER JTH LYNAHOWNA BOG JIGHBALLY BOG DAGH BOG SOUTH - DOONEEN DAGH CUTOVER COMPLEX DIGHER BOCKAGH DONMEEN FALLSOLLUS DONMEEN BOG EGGAN CUTOVER LEYSILLAGH TOOBACKAN BOG KEERAN NORTH COLMAN JADA KEELBANADA BOG AND TOVER EVEROE BOG IG CUTOVER WEST EERGOOL AGHALUSTA BOG	170588 175644 175707 177028 178432 160467 163364 163306 165470 162143 160241 163215 164900	290070 290581 289890 290639 291720 298597 298886 298330 296605 297745 297163 294862 295192	Main Site Main Site Main Site Main Site Sub-site Main Site	Undesignated site	
RO503 MUL RO504 CLO SOU SOU RO505 BALI RO506 LOU RO507 ARD ARD ARD RO508 BRO RO509 CLO RO510 CLO RO511 CRE RO512 BOL RO513 KILK RO514 KILC RO515 BAN CUT RO516 SLIE RO517 LUN RO518 LISS COM RO519 AGH LISS COM RO520 AGH RO521 CLO RO522 ROC RO523 AGH RO525 LISS RO526 CLO RO527 CLO RO529 CRE RO531 FIGH RO532 AGH	LEN BOG WEST DONSHANVILLE CUTOVER JTH LYNAHOWNA BOG JIGHBALLY BOG DAGH BOG SOUTH - DOONEEN DAGH CUTOVER COMPLEX DIGHER BOCKAGH DONMEEN FALLSOLLUS DONMEEN BOG EGGAN CUTOVER LEYSILLAGH TOOBACKAN BOG KEERAN NORTH COLMAN JADA KEELBANADA BOG AND TOVER EVEROE BOG IG CUTOVER WEST EERGOOL AGHALUSTA BOG	175644 175707 177028 178432 160467 163364 163306 165470 162143 160241 163215 164900 169692 162408	290070 290581 289890 290639 291720 298597 298886 298330 296605 297745 297163 294862 295192	Main Site Main Site Main Site Main Site Sub-site Main Site	Undesignated site	
RO504 CLO SOU RO505 BALI RO506 LOU RO507 ARD ARD RO508 BRO RO509 CLO RO510 CLO RO511 CRE RO512 BOL RO513 KILK RO514 KILC RO515 BALN RO515 BALN RO516 SLIE RO517 LUN RO518 LISS COM RO519 AGH LISS COM RO520 AGH RO521 CLO RO521 CLO RO522 ROC RO523 AGH RO524 AGH RO525 LISS RO526 CLO RO527 CLO RO529 CRE RO530 FIGH RO531 FIGH RO531 FIGH RO531 FIGH	OONSHANVILLE CUTOVER JTH LYNAHOWNA BOG JGHBALLY BOG DAGH BOG SOUTH - DOONEEN DAGH CUTOVER COMPLEX DGHER BOCKAGH OONMEEN FALLSOLLUS OONMEEN BOG EGGAN CUTOVER EYSILLAGH TOOBACKAN BOG KEERAN NORTH COLMAN JADA KEELBANADA BOG AND TOVER EVEROE BOG IG CUTOVER WEST EERGOOL AGHALUSTA BOG	175644 175707 177028 178432 160467 163364 163306 165470 162143 160241 163215 164900 169692 162408	290581 289890 290639 291720 298597 298886 298330 296605 297745 297163 294862 295192	Main Site Main Site Sub-site Main Site	Undesignated site	
RO505 BALI RO506 LOU RO507 ARD ARD RO508 BRO RO509 CLO RO510 CLO RO511 CRE RO512 BOL RO513 KILK RO514 KILC RO515 BAN CUT RO516 SLIE RO517 LUN RO518 LISS COM RO520 AGH RO521 CLO RO521 CLO RO523 AGH RO524 AGH RO525 LISS RO526 CLO RO527 CLO RO529 CRE RO530 FIGH RO531 FIGH RO531 FIGH RO532 AGH	JTH LYNAHOWNA BOG JIGHBALLY BOG JIGHBALLY BOG JAGH BOG SOUTH - DOONEEN JAGH CUTOVER COMPLEX JOHER BOCKAGH JONMEEN FALLSOLLUS JONMEEN BOG JEGGAN CUTOVER JEYSILLAGH TOOBACKAN BOG JEYSILLAGH TOOBACKAN BOG JADA KEELBANADA BOG AND JOVER JEVEROE BOG JEG CUTOVER WEST JEERGOOL AGHALUSTA BOG	175707 177028 178432 160467 163364 163306 165470 162143 160241 163215 164900	290639 291720 298597 298886 298330 296605 297745 297163 294862 295192	Main Site Sub-site Main Site	Undesignated site	
RO506 LOU RO507 ARD ARD ARD RO508 BRO RO509 CLO RO510 CLO RO511 CRE RO512 BOL RO513 KILK RO514 KILC RO515 BAN CUT RO516 SLIE RO517 LUN RO518 LISS COM RO519 AGH LISS COM RO520 AGH RO521 CLO RO522 ROC RO523 AGH RO524 AGH RO525 LISS RO526 CLO RO527 CLO RO529 CRE RO531 FIGH RO532 AGH	IGHBALLY BOG DAGH BOG SOUTH - DOONEEN DAGH CUTOVER COMPLEX DGHER BOCKAGH DONMEEN FALLSOLLUS DONMEEN BOG EGGAN CUTOVER EYSILLAGH TOOBACKAN BOG EERAN NORTH COLMAN IADA KEELBANADA BOG AND OVER EVEROE BOG IG CUTOVER WEST EERGOOL AGHALUSTA BOG	177028 178432 160467 163364 163306 165470 162143 160241 163215 164900 169692 162408	290639 291720 298597 298886 298330 296605 297745 297163 294862 295192	Main Site Sub-site Main Site	Undesignated site	
RO507 ARD ARD RO508 BRO RO509 CLO RO510 CLO RO511 CRE RO512 BOL RO513 KILK RO514 KILC RO515 BAN CUT RO516 SLIE RO517 LUN RO518 LISS COM RO519 AGH LISS COM RO520 AGH RO521 CLO RO522 ROC RO523 AGH RO524 AGH RO525 LISS RO525 LISS RO526 CLO RO527 CLO RO529 CRE RO530 FIGH RO531 FIGH RO531 FIGH	DAGH BOG SOUTH - DOONEEN DAGH CUTOVER COMPLEX DGHER BOCKAGH DONMEEN FALLSOLLUS DONMEEN BOG EGGAN CUTOVER LEYSILLAGH TOOBACKAN BOG KEERAN NORTH COLMAN IADA KEELBANADA BOG AND TOVER EVEROE BOG IG CUTOVER WEST EERGOOL AGHALUSTA BOG	178432 160467 163364 163306 165470 162143 160241 163215 164900 169692 162408	291720 298597 298886 298330 296605 297745 297163 294862 295192 294946	Sub-site Main Site	Undesignated site	
RO508 BRO RO509 CLO RO510 CLO RO511 CRE RO512 BOL RO513 KILK RO514 KILC RO515 BAN CUT RO516 SLIE RO517 LUN RO518 LISS COM RO519 AGH LISS COM RO520 AGH RO521 CLO RO522 ROC RO523 AGH RO524 AGH RO524 AGH RO525 LISS RO525 CLO RO527 CLO RO529 CRE RO530 FIGH RO531 FIGH RO531 FIGH RO532 AGH	DAGH CUTOVER COMPLEX DGHER BOCKAGH DONMEEN FALLSOLLUS DONMEEN BOG EGGAN CUTOVER LEYSILLAGH TOOBACKAN BOG EERAN NORTH COLMAN IADA KEELBANADA BOG AND TOVER EVEROE BOG IG CUTOVER WEST EERGOOL AGHALUSTA BOG	160467 163364 163306 165470 162143 160241 163215 164900 169692 162408	298597 298886 298330 296605 297745 297163 294862 295192 294946	Main Site	Undesignated site	
RO509 CLO RO510 CLO RO511 CRE RO512 BOL RO513 KILK RO514 KILC RO515 BAN CUT RO516 SLIE RO517 LUN RO518 LISS COM RO519 AGH LISS COM RO520 AGH RO521 CLO RO522 ROC RO523 AGH RO524 AGH RO524 AGH RO525 LISS RO526 CLO RO527 CLO RO529 CRE RO530 FIGH RO531 FIGH	OONMEEN FALLSOLLUS OONMEEN BOG EGGAN CUTOVER LEYSILLAGH TOOBACKAN BOG KEERAN NORTH COLMAN IADA KEELBANADA BOG AND OVER EVEROE BOG IG CUTOVER WEST SERGOOL AGHALUSTA BOG	163364 163306 165470 162143 160241 163215 164900 169692 162408	298886 298330 296605 297745 297163 294862 295192 294946	Main Site	Undesignated site	
RO510 CLO RO511 CRE RO512 BOL RO513 KILK RO514 KILC RO515 BAN CUT RO516 SLIE RO517 LUN RO518 LISS COM RO519 AGH RO520 AGH RO521 CLO RO522 ROC RO523 AGH RO524 AGH RO525 LISS RO526 CLO RO527 CLO RO529 CRE RO530 FIGH RO531 FIGH RO531 FIGH RO532 AGH	CONMEEN BOG EGGAN CUTOVER LEYSILLAGH TOOBACKAN BOG KEERAN NORTH COLMAN IADA KEELBANADA BOG AND OVER EVEROE BOG IG CUTOVER WEST SERGOOL AGHALUSTA BOG	163306 165470 162143 160241 163215 164900 169692 162408	298330 296605 297745 297163 294862 295192 294946	Main Site	Undesignated site	
RO511 CRE RO512 BOL RO513 KILK RO514 KILC RO515 BAN CUT RO516 SLIE RO517 LUN RO518 LISS COM RO519 AGH LISS COM RO520 AGH RO521 CLO RO522 ROC RO523 AGH RO524 AGH RO525 LISS RO526 CLO RO527 CLO RO529 CRE RO530 FIGH RO531 FIGH RO531 FIGH RO532 AGH	EGGAN CUTOVER EYSILLAGH TOOBACKAN BOG KEERAN NORTH COLMAN IADA KEELBANADA BOG AND OVER EVEROE BOG IG CUTOVER WEST SERGOOL AGHALUSTA BOG	165470 162143 160241 163215 164900 169692 162408	296605 297745 297163 294862 295192	Main Site Main Site Main Site Main Site Main Site Main Site	Undesignated site Undesignated site Undesignated site Undesignated site Undesignated site Undesignated site	
RO512 BOL RO513 KILK RO514 KILC RO515 BAN CUT RO516 SLIE RO517 LUN RO518 LISS COM RO519 AGH LISS COM RO520 AGH RO521 CLO RO522 ROC RO523 AGH RO524 AGH RO525 LISS RO526 CLO RO527 CLO RO529 CRE RO530 FIGH RO531 FIGH RO532 AGH	EYSILLAGH TOOBACKAN BOG KEERAN NORTH COLMAN IADA KEELBANADA BOG AND OVER EVEROE BOG IG CUTOVER WEST SERGOOL AGHALUSTA BOG	162143 160241 163215 164900 169692 162408	297745 297163 294862 295192 294946	Main Site Main Site Main Site Main Site	Undesignated site Undesignated site Undesignated site Undesignated site Undesignated site	
RO513 KILK RO514 KILC RO515 BAN CUT RO516 SLIE RO517 LUN RO518 LISS COM RO519 AGH LISS COM RO520 AGH RO521 CLO RO522 ROC RO522 ROC RO523 AGH RO524 AGH RO525 LISS RO526 CLO RO527 CLO RO529 CRE RO530 FIGH RO531 FIGH RO532 AGH	KEERAN NORTH COLMAN IADA KEELBANADA BOG AND OVER EVEROE BOG IG CUTOVER WEST SERGOOL AGHALUSTA BOG	160241 163215 164900 169692 162408	297163 294862 295192 294946	Main Site Main Site Main Site	Undesignated site Undesignated site Undesignated site	
RO514 KILC RO515 BAN CUT RO516 SLIE RO517 LUN RO518 LISS COM RO519 AGH LISS COM RO520 AGH RO521 CLO RO522 ROC RO523 AGH RO524 AGH RO525 LISS RO526 CLO RO527 CLO RO529 CRE RO530 FIGH RO531 FIGH RO532 AGH	COLMAN IADA KEELBANADA BOG AND OVER EVEROE BOG IG CUTOVER WEST SERGOOL AGHALUSTA BOG	163215 164900 169692 162408	294862 295192 294946	Main Site Main Site	Undesignated site Undesignated site	
RO515 BAN CUT RO516 SLIE RO517 LUN RO518 LISS COM RO519 AGH LISS COM RO520 AGH RO521 CLO RO522 ROC2 RO523 AGH RO524 AGH RO524 AGH RO524 AGH RO525 LISS RO526 CLO RO527 CLO RO529 CRE RO530 FIGH RO531 FIGH RO531 AGH	IADA KEELBANADA BOG AND OVER EVEROE BOG IG CUTOVER WEST BERGOOL AGHALUSTA BOG	163215 164900 169692 162408	294862 295192 294946	Main Site	Undesignated site	
RO516 SLIE RO517 LUN RO518 LISS COM RO519 AGH LISS COM RO520 AGH RO521 CLO RO522 ROC RO523 AGH RO524 AGH RO524 AGH RO524 AGH RO525 LISS RO526 CLO RO527 CLO RO529 CRE RO530 FIGH RO531 FIGH RO532 AGH	OVER EVEROE BOG IG CUTOVER WEST SERGOOL AGHALUSTA BOG	164900 169692 162408	295192 294946		Undesignated site	
RO517 LUN RO518 LISS COM RO519 AGH LISS COM RO520 AGH RO521 CLO RO522 ROC RO523 AGH RO524 AGH RO525 LISS RO526 CLO RO527 CLO RO529 CRE RO530 FIGH RO531 FIGH RO532 AGH	IG CUTOVER WEST SERGOOL AGHALUSTA BOG	162408		Main Site	Undesignated site	
RO517 LUN RO518 LISS COM RO519 AGH LISS COM RO520 AGH RO521 CLO RO522 ROC RO523 AGH RO524 AGH RO524 LISS RO526 CLO RO527 CLO RO529 CRE RO530 FIGH RO531 FIGH RO532 AGH	IG CUTOVER WEST SERGOOL AGHALUSTA BOG	162408				
RO518 LISS COM RO519 AGH LISS COM RO520 AGH RO521 CLO RO522 ROC RO523 AGH RO524 AGH RO525 LISS RO526 CLO RO527 CLO RO529 CRE RO530 FIGH RO531 FIGH RO532 AGH	SERGOOL AGHALUSTA BOG		293707	Main Site	Undesignated site	
RO519 AGH LISS COM RO520 AGH RO521 CLO RO522 ROC RO523 AGH RO524 AGH RO525 LISS RO526 CLO RO527 CLO RO529 CRE RO530 FIGH RO531 FIGH RO532 AGH	/IPI F X	163853	292011	Main Site	Undesignated site	
RO521 CLO RO522 ROC RO523 AGH RO524 AGH RO525 LISS RO526 CLO RO527 CLO RO529 CRE RO530 FIGH RO531 FIGH RO532 AGH	HALUSTA CUTOVER NORTH - SERGOOL AGHALUSTA BOG MPLEX	163361	292874	Sub-site	Undesignated site	
RO521 CLO RO522 ROC RO523 AGH RO524 AGH RO525 LISS RO526 CLO RO527 CLO RO529 CRE RO530 FIGH RO531 FIGH RO532 AGH	ALUSTA BOG WEST	162223	292744	Main Site	Undesignated site	
RO522 ROC RO523 AGH RO524 AGH RO525 LISS RO526 CLO RO527 CLO RO529 CRE RO530 FIGH RO531 FIGH RO532 AGH	ONAVULLAUN CUTOVER	161382	293019	Main Site	Undesignated site	
RO523 AGH RO524 AGH RO525 LISS RO526 CLO RO527 CLO RO529 CRE RO530 FIGH RO531 FIGH RO532 AGH	OSKY CUTOVER NORTH	161559	292109	Main Site	Undesignated site	
RO524 AGH RO525 LISS RO526 CLO RO527 CLO RO529 CRE RO530 FIGH RO531 FIGH RO532 AGH	HADRESTAN BOG	161361	290538	Main Site	Undesignated site	
RO525 LISS RO526 CLO RO527 CLO RO529 CRE RO530 FIGH RO531 FIGH RO532 AGH	HALUSTA BOG SOUTH	162895	291064	Main Site	Undesignated site	
RO526 CLO RO527 CLO RO529 CRE RO530 FIGH RO531 FIGH RO532 AGH	SERGOOL BOG SOUTH	165729	290704	Main Site	Undesignated site	
RO527 CLO RO529 CRE RO530 FIGH RO531 FIGH RO532 AGH	ONFAD CUTOVER		290231	Main Site	Undesignated site	
RO529 CRE RO530 FIGH RO531 FIGH RO532 AGH		167793 169142			ŭ	
RO530 FIGH RO531 FIGH RO532 AGH	OGGARNAGH		290384	Main Site	Undesignated site	
RO531 FIGH RO532 AGH	EEVY FIGH CUTOVER	160285	289988	Main Site	Undesignated site	
RO532 AGH	H AGHADESTAN CUTOVER	161140	289359	Main Site	Undesignated site	
	H LAKES SOUTH HADESTAN AGHACURREEN	160330 162784	288734 289156	Main Site Main Site	Undesignated site Undesignated site	
	OVER COMPLEX HADERRY BOG	163291	288271	Main Site	Undesignated site	
	KILL LISDRUMNEILL BOG	167238	289486	Main Site	Undesignated site	
	ALLAGH LEITRIM CUTOVER	169080	288070	Main Site	Undesignated site	
RO536 LOU NOR	IGHGLINN DEMESNE CUTOVER	165172	287471	Main Site	Undesignated site	
	JMINAGH BOG	165370	286406	Main Site	Undesignated site	
RO538 DRIN	NEY FIGH CUTOVER	161875	287712	Main Site	Undesignated site	
RO539 BALI	LYGLASS WEST CUTOVER	160047	286321	Main Site	Undesignated site	
	RODDEN BREANAMORE BOG	161330	284985	Main Site	Undesignated site	
	ONBUNNY AGHALOUR BOG	162899	284947	Main Site	Undesignated site	
		162375	285760	Main Site	Undesignated site	
	ONBUNNY CUITYBOE BOG	165391	285260	Main Site	Undesignated site	
		165399	284172	Main Site	Undesignated site	
	ONBUNNY CUITYBOE BOG LYGLASS EAST BOG	. 20000	285500	Main Site	Undesignated site	
RO546 LISS	OONBUNNY CUITYBOE BOG LYGLASS EAST BOG HALOUR CLOONARD BOG	167730	283590	Main Site	Undesignated site	
RO547 CLO RO548 CLO	ONBUNNY CUITYBOE BOG LYGLASS EAST BOG	167730 169220	200000			

ROWS Site Code	ROWS Site Name	Centre Easting	Centre Northing	Site Type	Designation	Designated Site Code
RO550	DERREEN CLOONBONNIFF BOG	161190	282044	Main Site	Undesignated site	
RO551				Main Site		
	LEVEELICK CUTOVER NORTH	162489	281255	Main Site	Undesignated site	
RO552	CREGLAHAN CUTOVER SOUTH	163791	281374		Undesignated site	
RO553	CREGLAHAN CLOONCOOSE	164952	281745	Main Site	Undesignated site	
	NORTH BOG					
RO554	CLOONCHAMBERS ARM BOG	165185	280239	Main Site	Undesignated site	
RO555	BALLINDRUMLEA BOG WEST	166780	281393	Main Site	Undesignated site	
RO556	TERMON MORE BOG	169196	281049	Main Site	Undesignated site	
RO557	LEITRIM CUTOVER	170802	288672	Main Site	Undesignated site	
RO558	MULLEN LEGGATINTY CUTOVER	172821	289500	Main Site	Undesignated site	
RO559	BALLAGHCULLIA BOG EAST	175850	288508	Main Site	Undesignated site	
RO560	CARRIGEENYNAGHTAN CUTOVER	176543	289429	Main Site	Undesignated site	
RO561	DRUMMIN CUTOVER	176364	288481	Main Site	Undesignated site	
RO562	LOUGHBALLY BRACKLOON BOG	178070	289812	Main Site	Undesignated site	
RO563	CORRY EAST POND	180184	288143	Main Site		
					Undesignated site	
RO564	TULLY BALLYGLASS BOG AND	172969	284283	Main Site	Undesignated site	
	CUTOVER	.=				
RO565	TERMON BEG BASLICK	170851	281635	Main Site	Undesignated site	
RO566	KILMURRY POND	175334	280434	Main Site	Undesignated site	
RO567	LOUGH O MORAN	188079	286702	Main Site	Undesignated site	
RO568	LURGAN CLOONBOYOGE	186975	286366	Main Site	Undesignated site	
RO569	KILLEEN WEST	186372	286212	Main Site	Undesignated site	
RO570	ROSS MORE EAST	185357	285540	Main Site	Undesignated site	
RO571	ROSS MORE WEST	185024	284596	Main Site	Undesignated site	
RO572	CLOONROUGHAN NORTH BOG	186812	285331	Main Site	Undesignated site	
KU3/2		100012	200001	Main Site	Oridesignated site	
RO573	AND LAKE COMPLEX LOUGHANAMMER BOG AND LAKE	186939	284844	Main Site	Undesignated site	
110070	COMPLEX	100000	201011	Wall Oile	Orideoignated oile	
RO574	LOUGH FEENY BOG AND LAKE	187818	284710	Main Site	Undesignated site	
	COMPLEX					
RO575	LOUGH EAN LAKE COMPLEX	186355	284056	Main Site	Undesignated site	
RO576	CLOONCULLAAN LOUGH	188588	285609	Main Site	cNHA	002770
	COMPLEX cNHA					
RO577	CLOONCULLAAN DRINAUN	189191	284416	Main Site	Undesignated site	
RO578	LOUGH ANEEG	187913	283622	Main Site	Undesignated site	
RO579	LOUGH GALL & LOUGH CONNY	187289	282786	Main Site	Undesignated site	
	BEG					
RO580	LOUGH CONNY BEG LAKE COMPLEX	186384	282222	Main Site	Undesignated site	
RO581	LOUGH PATRICK	186027	282961	Main Site	Undesignated site	
RO582	LOUGH NAFULLA	184900	282209	Main Site	Undesignated site	
RO583	FOXBOROUGH WEST	184426	282871	Main Site	Undesignated site	
RO584	CASTLEISLAND NORTH	183741	282000	Main Site	ŭ	
					Undesignated site	
RO585	CARROWNAGEELAUN	183907	281354	Main Site	Undesignated site	
RO586	ARDKEENAGH LISANEANE	185357	281139	Main Site	Undesignated site	
RO587	LOUGH ACRANN LAKE AND	186511	281346	Main Site	Undesignated site	
	WETLAND COMPLEX					
RO588	LOUGH CAUDAGH AND SAGGERT	187866	280483	Main Site	Undesignated site	
	LAKE AND WETLAND COMPLEX					
RO589	LOUGH DUFF AND WETLAND	189003	281023	Main Site	Undesignated site	
RO590	LOUGH FLASKY AND	190021	280642	Main Site	Undesignated site	
	CLOONSREANE WETLAND	. 30021		5.1.5	2acoignated oite	
RO591	CUNNY LOUGHS	190057	288611	Main Site	Undesignated site	
RO592	CLOONAHEE LOUGH AND BOG	193835	289359	Main Site	Undesignated site	
DOCCO	WOODLAND	104000	200004	Main Cita	I looka shoot to die!!	
RO593	LOUGH NAMWEELIA	194020	288821	Main Site	Undesignated site	
RO594	LOUGH NAHINCHA	193245	288341	Main Site	Undesignated site	
RO595	LOUGH NABLAHY SOUTH cNHA	195346	288529	Main Site	Undesignated site	002769
RO596	LOUGH INCHA	194777	289103	Main Site	Undesignated site	
RO597	KILCLOGHAN BOG WOODLAND	194700	289465	Main Site	Undesignated site	
DOTOS	AND LAKE	404540	000044	Main O't -	I had a day of the first	
RO598	LOUGHADUFF	194518	289944	Main Site	Undesignated site	
RO599	LOUGH ELIA AND BOG	197190	288841	Main Site	Undesignated site	
RO600	CLOONGLASNY BEG - CLOONCRAFF CLOONGLASNEY	197849	289270	Sub-site	Undesignated site	
	CUTAWAY BOG COMPLEX					
RO601	LECARROW BOG AND	198346	288619	Main Site	Undesignated site	
1.0001	WETWOODLAND	130340	200019	IVIAII I SILE	Unidesignated site	
RO602	LOUGH O DONRA	195394	287269	Main Site	Undesignated site	
RO603	BLACK LOUGH	195801	286703	Main Site	Undesignated site	
RO604	RATHMORE LOUGH	194581	286830	Main Site	Undesignated site	
		193351	287163	Main Site	Undesignated site	+

ROWS Site Code	ROWS Site Name	Centre Easting	Centre Northing	Site Type	Designation	Designated Site Code
RO606	CLOONCULLAAN CALDRAGH	190308	285249	Main Site	Undesignated site	
RO607	CALDRAGH WEST	190146	284788	Main Site	Undesignated site	
RO608	CREGGA CUILREVAGH TURLOUGH	191850	284445	Main Site	Undesignated site	
RO609	CUILREVAGH QUARRY PONDS	192621	285409	Main Site	Undesignated	
RO610	GRANGE AND BELLAVAHAN LOUGHS	194181	285928	Main Site	site, SGI Undesignated site	
RO611	GRANGE CUTOVER EAST	194943	285300	Main Site	Undesignated site	
RO612	TOBERPATRICK DRUMAGISSAUN	196152	284890	Main Site	Undesignated site	
	BOG AND WETLAND COMPLEX	190152	204090		Oridesignated site	
RO613	BALLYFEENY LAKE	198018	282073	Main Site	Undesignated site	
RO614	CORGOWAN CUTOVER	195655	283321	Main Site	Undesignated site	
RO615	KILMORE CUTOVER NORTH	195475	282361	Main Site	Undesignated site	
RO616	LOUGH LEA WETLAND	192134	281334	Main Site	Undesignated site	
RO617	CLOONRADOON CUTOVER	194870	281499	Main Site	Undesignated site	
RO618	CLOONRABRACKAN CLOONEEN	196116	281562	Main Site	Undesignated site	
110010	(HARTLAND) CUTOVER	100110	201002	Main Oilo	oriacoignatea ette	
RO619	LOUGH ACRICK	200978	285099	Main Site	Undesignated site	
RO620	DRUMMAN MORE - SLATTAGH	203587	285758	Sub-site	Undesignated site	
KO620	CUTAWAY BOG COMPLEX	203367	203730	Sub-site	Undesignated site	
RO621	SLATTAGH MORE NORTH - SLATTAGH CUTAWAY BOG COMPLEX	202711	283930	Sub-site	Undesignated site	
RO622	CLOONAUFILL DERRYMOYLIN BOGS	204563	284435	Main Site	Undesignated site	
RO623	DERRYMOYLIN CLOONFOWER BOG	204254	282498	Main Site	Undesignated site	
RO624	SLATTAGH MORE BOG SOUTH	202732	283258	Main Site	Undesignated site	
RO625	DOOSLATTAGH BOG EAST	202536	282348	Main Site	Undesignated site	
RO626	CAUL CLOONMORE CUTOVER	202804	280334	Main Site	Undesignated site	
RO627	COMPLEX KILBARRY BALLYMAGRINE BOG	206061	281578	Main Site	Undesignated site	
RO628	KILBARRY BOG SOUTH	205801	280511	Main Site	Undesignated site	
RO629	KILBARRY BOG EAST	207376	280853	Main Site	Undesignated site	
RO631	CLOONOGHIL TURLOUGH	193230	238971	Main Site	Undesignated site	
RO632	OONAG TURLOUGH	190276	241274	Main Site	Undesignated site	
RO634	TURLAGH	192309	253835	Main Site	Undesignated site	
RO635	STONEPARK TURLOUGH	185200	262350	Main Site	Undesignated site	
RO636	KINITTY TURLOUGH	184757	272511	Main Site	Undesignated site	
RO638	BALLYBEG TURLOUGH		280013	Main Site	ŭ	
		181594			Undesignated site	
RO639	KNOCKALEGAN EAST	175540	278180	Main Site	Undesignated site	
RO640	TONROE TURLOUGH	178867	281384	Main Site	Undesignated site	
RO641	CORRABEG KILCOLEY TURLOUGH	186081	280121	Main Site	Undesignated site	
RO642	KILCLARE	180955	288798	Main Site	Undesignated site	
RO643	KILNAMRYALL TURLOUGH	182150	288709	Main Site	Undesignated site	
RO644	LISSERGOOL TURLOUGH	164754	291574	Main Site	Undesignated site	
RO645	KNOCKROE TURLOUGH	186866	294353	Main Site	Undesignated site	
RO646	CARROWMORE TURLOUGH	185842	294646	Main Site	Undesignated site	
RO647	LISSERDREA BREANDRUM TURLOUGH	178079	301087	Main Site	Undesignated site	
DO649		105071	201117	Main Cita	Undesignated site	
RO648	CARROWNAGASHEL TURLOUGH ARDCONRA TURLOUGH	185271	301117	Main Site	Undesignated site	
RO649		188012	301202	Main Site		
RO650	ARDCARN TURLOUGH	187506	301696	Main Site	Undesignated site	
RO651	BLACK LOUGH	186444	304526	Main Site	Undesignated site	
RO652 RO653	LOUGH CORRY (ROSCOMMON) DERRYCREEN LOUGHS (ROSCOMMON)	194291 153354	296699 283952	Main Site Main Site	Undesignated site Undesignated site	
RO654	LOUGHANNAMONA AND BOG (ROSCOMMON)	151852	284365	Main Site	Undesignated site	
RO655	URLAUR LAKES SAC (ROSCOMMON)	152800	287620	Main Site	SAC	0001571
RO656	CLUAIN AIRNE	189584	265941	Main Site	Undesignated site	
RO657	CLUAIN AIRNE NORTH	189342	266290	Main Site	Undesignated site	
RO658	ANTOGHER	187662	263568	Main Site	Undesignated site	
RO659	ROSCOMMON TOWN MARSH EAST	188249	264655	Main Site	Undesignated site	
RO660	ABBEY MARSH	187498	263943	Main Site	Undesignated site	
RO661	CASTLEREA WET WOODLAND	167339	280358	Main Site	Undesignated site	
RO662				Main Site	Undesignated site	
NU002	TARMON MANOR MARSH	168213	280296			
DOCCO	KILKEEVAN PARK MARSH	167599	279736	Main Site	Undesignated site	
RO663		400000				
RO664	LONGFORD LOWER MARSH	168240	278808	Main Site	Undesignated site	
		168240 163366 189656	278808 295216 227464	Main Site Main Site Main Site	Undesignated site Undesignated site Undesignated site	

ROWS	ROWS Site Name	Centre	Centre	Site Type	Designation	Designated Site
Site Code		Easting	Northing			Code
	COMPLEX					
RO667	CORNAVEAGH CUTAWAY BOG COMPLEX	195729	227181	Main Site	Undesignated site	
RO668	RARAGHBEG BOG CUTAWAY COMPLEX SOUTH	194565	225669	Main Site	Undesignated site	
RO669	CLONBURREN CUTAWAY BOG COMPLEX	196925	230057	Main Site	Undesignated site	
RO670	CAPPAYUSE CUTAWAY BOG COMPLEX	197536	230920	Main Site	Undesignated site	
RO671	DERRINEEL BOG AND CUTAWAY COMPLEX	198466	231679	Main Site	Undesignated site	
RO672	DRUMLOSH CUTAWAY BOG COMPLEX	200023	233982	Main Site	Undesignated site	
RO673	CREAGGAN CALLOWBEG CUTAWAY BOG COMPLEX	201518	234074	Main Site	Undesignated site	
RO674	CLOONADRA CUTAWAY BOG COMPLEX	197135	270682	Main Site	Undesignated site	
RO675	CLOONTUSKERT CUTAWAY BOG COMPLEX WEST	197948	271864	Main Site	Undesignated site	
RO676	ERENAGH CUTAWAY BOG COMPLEX WEST	198295	273402	Main Site	Undesignated site	
RO677	MOUNTDILLON WEST CUTAWAY BOG COMPLEX	199245	276264	Main Site	Undesignated site	
RO678	SLATTAGH CUTAWAY BOG COMPLEX	203495	284163	Main Site	Undesignated site	
RO679	CLOONCRAFF CLOONGLASNEY CUTAWAY BOG COMPLEX	197261	289999	Main Site	Undesignated site	
RO680	ROCKINGHAM SPRING	184970	302880	Main Site	Undesignated site, SGI	
RO681	BOYLE ROAD CUTTING SPRINGS	181689	305071	Main Site	Undesignated site, SGI	
RO682	CLOONSHANNAGH BOG NORTH - CAUL CLOONMORE CUTOVER COMPLEX	203638	281091	Sub-site	Undesignated site, PNR	
RO683	BALLYDANGAN BOG NORTH - CLOONBOLEY BOG COMPLEX	190187	236186	Sub-site	SAC, Undesignated site	002191
RO684	MOUNTDILLON EAST CUTAWAY BOG COMPLEX	200503	273692	Main Site	Undesignated site	
RO685	WILLIAMS LOUGH	198673	247663	Main Site	Undesignated site	
RO686	CARROWNDERRY TURLOUGH	196808	250535	Main Site	Undesignated site	
RO687	DERRANE FEARMORE CUTOVER BOG	190878	268008	Main Site	Undesignated site	
RO688	DYSART TURLOUGH COMPLEX	185844	246335	Main Site	Undesignated site	

Appendix 6

Counties Longford & Roscommon Wetland Study (LFROWS) 2017 CD ROM

by Peter Foss, Patrick Crushell and Mary Catherine Gallagher

Contents

- **1. Counties Longford and Roscommon Wetland Study 2017** by Foss, P.J., Crushell, P. & Gallagher, MC. (2017). Report for Longford and Roscommon County Councils. (In PDF format, requires Adobe Acrobat to view).
- 2. LFWS and ROWS Wetland Site & Survey Filemaker Pro Databases Version 1.0 (requires FilemakerPro 9 or later to view).
- 3. Selected Excel tables to accompany the Counties Longford and Roscommon Wetland Study report including appendices.
 - 1. Summary list of all wetlands in Counties Longford and Roscommon held in the LFWS and ROWS Site Database.
 - 2. Total data export on all site records and fields from the list of wetland sites held in the LFWS and ROWS Site Database
- 4. GIS Shape files from the County Longford and the County Roscommon Wetland Study 2017.
- a. ArcView GIS dataset with Heritage Council mapping convention (Requires ArcView 10 GIS Software)
- b. MapInfo GIS dataset with Longford and Roscommon County Council mapping convention (Requires MapInfo GIS Software)
- 5. CD box cover for the Counties Longford & Roscommon Wetland Study 2017 (PDF format)

An Action of the County Longford Draft Heritage Plan 2015-2020 & the County Roscommon Heritage Plan 2012-2016

Appendix 5a. Counties Longford and Roscommon Wetland Study 2017. List of sites held within the Longford Site Databases, with selected site information.

For a complete list of all data held on each of the sites within the Site Database see the Excel file (LFWS2017_Total_Site_List.xls) included on the Project CD Rom.

List is presented sorted by site code.

LFWS Site Code	LFWS Site Name	Centre Eastin g	Centre Northi ng	Site Type	Site Source	Wetlan d Areas on the Site		Designation	Designated Site Code	Indicative Site Wetland Conservation Ranking	Total site area ha from GIS
LF1	LOUGH REE SAC SPA (LONGFORD)	200800	258764	Main Site	National Parks and Wildlife Service	YES	2002	SPA, ASI, SAC	000440 / 004064	A Rating: Internationally Important	4340.53
LF2	LOUGH FORBES COMPLEX SAC SPA (LONGFORD)	208539	279878	Main Site	National Parks and Wildlife Service	YES	2013	SPA, SAC, ASI	001818 004101	A Rating: Internationally Important	1179.74
LF3	BROWN BOG SAC	209677	275823	Main Site	National Parks and Wildlife Service	YES	2013	SAC, pNHA	002346 000442	A Rating: Internationally Important	76.68
LF4	CLOONEEN BOG SAC	207000	284000	Main Site	National Parks and Wildlife Service	YES	2013	SAC, pNHA	002348 / 000445	A Rating: Internationally Important	215.03
LF5	LOUGH GOWNA pNHA (LONGFORD)	228912	288490	Main Site	National Parks and Wildlife Service	YES		ASI, pNHA, cNHA	000992	B Rating: Nationally	1194.41
LF6	LOUGH SLAWN pNHA	203352	258921	Main Site	National Parks and Wildlife Service	YES		pNHA, ASI	001443	B Rating: Nationally	82.05
LF7	LOUGH KINALE AND DERRAGH LOUGH NHA SPA (LONGFORD)	238765	280575	Main Site	National Parks and Wildlife Service	YES	2015	NHA , SPA, ASI, SGI	000985 / 004061	A Rating: Internationally Important	213.82
LF8	DERRY LOUGH pNHA	209558	259984	Main Site	National Parks and Wildlife Service	YES		ASI, pNHA	001444	B Rating: Nationally	37.49

LF9	GLEN LOUGH SPA (LONGFORD)	228069	266803	Main Site	National Parks and Wildlife Service	YES		SPA, ASI, pNHA, RAM , cNHA	004045 / 001687	A Rating: Internationally Important	24.42
LF10	LOUGH BAWN pNHA	210300	264000	Main Site	National Parks and Wildlife Service	YES	2005	pNHA, ASI	001819	B Rating: Nationally	49.09
LF11	ARDAGULLION BOG SAC	231500	275000	Main Site	National Parks and Wildlife Service	YES	2016	SAC, pNHA	002341 / 002069	A Rating: Internationally Important	117.33
LF12	ROYAL CANAL (LONGFORD)	211158	263579	Main Site	National Parks and Wildlife Service	YES		ASI	002103	C+ Rating: County Conservation value	190.61
LF13	DERRAGHAN FEN cNHA	206500	262500	Main Site	National Parks and Wildlife Service	YES		Undesignated site, cNHA	002945	F Rating: Unknown value - survey required	203.93
LF14	AGHNAMONA BOG NHA (LONGFORD)	206846	285513	Main Site	Irish Peatland Conservation Council 2012	YES	2002	NHA	000422	B Rating: Nationally Important	62.56
LF15	CLOONAGEEHER BOG NHA (LONGFORD)	210252	284832	Main Site	Irish Peatland Conservation Council 2012	YES	2002	NHA , De- designated NHA	Former site code: 001423	B Rating: Nationally Important	147.97
LF16	CORLEA BOG	210179	262643	Main Site	Irish Peatland Conservation Council 2012	YES	2016	Undesignated site, SGI, PNR		B Rating: Nationally Important	230.30
LF17	DERRYMORE BOG pNHA	215500	272200	Main Site	Irish Peatland Conservation Council 2012	YES		pNHA	000447	B Rating: Nationally Important	328.69
LF18	FORTHILL BOG NHA	206000	259000	Main Site	Irish Peatland Conservation Council 2012	YES	2002	NHA , De- designated NHA	Former site code: 00142300144	B Rating: Nationally Important	124.88
LF19	FORTWILLIAM TURLOUGH FEN SAC	201498	263146	Main Site	Irish Peatland Conservation Council 2012	YES		SAC, ASI	000448 005104	A Rating: Internationally Important	51.51
LF20	LEHERY BOG	207000	265000	Main Site	Irish Peatland Conservation Council 2012	YES	1991	Undesignated site		F Rating: Unknown value - survey required	3.13
LF21	LOUGH BANNOW pNHA	202878	268596	Main Site	Irish Peatland Conservation Council 2012	YES	2013	ASI, pNHA	000449	B Rating: Nationally Important	331.82

LF22	MOUNT JESSOP BOG NHA	212700	270000	Main Site	Irish Peatland Conservation Council 2012	YES	2014	NHA , ASI	001450	B Rating: Nationally Important	147.54
LF23	RINN RIVER NHA (LONGFORD)	209247	284038	Main Site	Irish Peatland Conservation Council 2012	YES	2013	NHA	000691	B Rating: Nationally Important	235.09
LF24	DERRAGH LOUGH - LOUGH KINALE AND DERRAGH LOUGH NHA	239374	279490	Sub-site	WESTMEATH FEN STUDY	YES	2007	NHA	00985	B Rating: Nationally Important	
LF25	BALLYKENNY FISHERSTOWN BOG SAC - LOUGH FORBES COMPLEX SAC SPA	207877	278603	Sub-site	NPWS Service Conservation Worthy site list (on- line resource)	YES	2013	SPA, SAC	004101 001818	A Rating: Internationally Important	
LF26	BARLEY HARBOUR / PORTANURE LODGE - LOUGH REE SAC SPA (LONGFORD)	202000	256000	Sub-site	An Foras Forbartha 1981 National Heritage Inventory. Areas of Scientific Interest	YES		ASI	000440 / 004064	C+ Rating: County Conservation value	
LF27	CLOONDARA BOG CUTAWAY	207346	273741	Main Site	An Foras Forbartha 1981 National Heritage Inventory. Areas of Scientific Interest	YES		ASI	NPWS non_NHA 001441	C+ Rating: County Conservation value	266.65
LF28	CLOONSHANNAGH MOSTRIM BOG	229885	274963	Main Site	An Foras Forbartha 1981 National Heritage Inventory. Areas of Scientific Interest	YES	2010	ASI	NPWS non- NHA 001442	C+ Rating: County Conservation value	450.81
LF29	CORDARA TURLOUGH pNHA	202782	263591	Main Site	An Foras Forbartha 1981 National Heritage Inventory. Areas of Scientific Interest	YES		ASI, pNHA	001821	B Rating: Nationally Important	20.00

LF30	DERRYMACAR LOUGH - LOUGH REE SAC SPA	208464	258409	Sub-site	An Foras Forbartha 1981 National Heritage Inventory. Areas of Scientific Interest	YES		ASI, SAC, SAC	001445 000440 004064	A Rating: Internationally Important	
LF31	LOUGH NABACK pNHA	224832	294638	Main Site	An Foras Forbartha 1981 National Heritage Inventory. Areas of Scientific Interest	YES		ASI, pNHA	001449	B Rating: Nationally Important	13.07
LF33	CLOONBRIN ABBEYSHRULE BOG NORTH	224272	258820	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	49.20
LF34	CLOONBRIN BOG	224435	260114	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	7.10
LF35	ABBEYSHRULE BOG	223657	258029	Main Site	Aerial Photographic Survey Discovery	YES	NA	Undesignated site		F Rating: Unknown value - survey required	74.51
LF36	CLOONEEN BOG (LONGFORD)	222424	257407	Main Site	Aerial Photographic Survey Discovery	YES	2010	Undesignated site		F Rating: Unknown value - survey required	309.40
LF37	PALLAS BEG	220204	257658	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	23.10
LF38	FORGNEY BOG WOODLAND	220060	254188	Main Site	NPWS Native Woodland Survey	YES	2005	Undesignated site		F Rating: Unknown value - survey required	4.99
LF39	BALLYCLAMAY BOG (LONGFORD)	221489	253505	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	5.42
LF40	CLONWHELAN BOG SOUTH			Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	14.35
LF42	LOUGH NABELWY (LONGFORD)	219160	293766	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	24.15

LF43	CLOONCOSE LOUGH (LONGFORD)	218024	292698	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site	F Rating: Unknown value - survey required	5.30
LF44	LOUGH SALLAGH (LONGFORD)			Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site	F Rating: Unknown value - survey required	21.88
LF45	DRUMSHANBO LOUGH (LONGFORD)			Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site	F Rating: Unknown value - survey required	3.83
LF46	DRUMHASS (LONGFORD)	215424	290856	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site	F Rating: Unknown value - survey required	9.07
LF47	SHANMULLAGH TAWNAGH BOG	219903	290380	Main Site	Aerial Photographic Survey Discovery	YES	2006	Undesignated site	D Rating: Local conservation value (moderate value)	61.20
LF48	BEAGHMORE LOUGH (LONGFORD)	222692	298697	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site	F Rating: Unknown value - survey required	3.67
LF49	GULLADOO LOUGH (LONGFORD)	223973	298795	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site	F Rating: Unknown value - survey required	12.13
LF50	LOWER LOUGH (LONGFORD)	226349	297757	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site	F Rating: Unknown value - survey required	15.67
LF51	GUINIKIN LOUGH (LONGFORD)	226972	296689	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site	F Rating: Unknown value - survey required	4.33
LF52	FIHORAGH WEST	224277	297887	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site	F Rating: Unknown value - survey required	16.47
LF53	BLACK LOUGH	222908	297809	Main Site	Aerial Photographic Survey Discovery	No Data - wetland possible		Undesignated site	F Rating: Unknown value - survey required	1.56
LF54	TULLY SOUTH LOUGH (LONGFORD)	222036	297636	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site	F Rating: Unknown value - survey required	5.40

LF55	GORTERMONE LOUGH (LONGFORD)	221704	296653	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	7.76
LF56	CORGLASS NORTH			Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	10.61
LF57	CORGLASS LOUGH	221622	294687	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	9.60
LF58	KILTYCON	221612	294363	Main Site	Aerial Photographic Survey Discovery	YES	2006	Undesignated site		D Rating: Local conservation value (moderate value)	1.54
LF59	DOOGARY LOUGH (LONGFORD)	220514	295149	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	7.70
LF61	LEGGAGH	223458	295382	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	18.91
LF62	ENAGHAN LOUGH (LONGFORD)	227906	294700	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	9.49
LF63	ROSSDUFF - LOUGH GOWNA pNHA (LONGFORD)	227158	292799	Sub-site	Aerial Photographic Survey Discovery	YES		pNHA	000992	B Rating: Nationally Important	
LF64	CROTT NORTH	224550	293482	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	71.55
LF65	CROTT SOUTH	224692	292728	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	11.73
LF66	SMEAR NORTH	224171	292329	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	19.33
LF67	CARRICKMAGUIRK	223768	292694	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	13.52

LF68	ANNAGH	222689	292090	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	35.68
LF69	ANNAGH LOUGH			Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	30.69
LF70	ANNAGH NORTH			Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	46.62
LF71	CLOONELLY BOG	221223	292934	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	37.81
LF72	GARVARY BOG	221332	291474	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	31.03
LF73	SHANMULLAGH BOG	220319	291161	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	24.26
LF74	CAMAGH BOG NORTH	220883	290989	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	15.97
LF75	CAMAGH EDENMORE BOG	221385	290103	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	68.89
LF76	CLOONBACK ANNAGHDANIEL	223441	291352	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	13.69
LF77	ANNAGH SOUTH	222658	291135	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	28.36
LF78	SMEAR MOLLYGLASS	224081	291500	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	21.65
LF80	LARKFIELD EAST WET WOODLAND - LOUGH GOWNA pNHA (LONGFORD)	229050	288862	Sub-site	NPWS Native Woodland Survey	YES	2005	pNHA	000992	B Rating: Nationally Important	

LF81	LARKFIELD WEST WET WOODLAND - LOUGH GOWNA pNHA (LONGFORD)	228101	288846	Sub-site	NPWS Native Woodland Survey	YES		pNHA	000992	B Rating: Nationally Important	
LF83	DRUMMARD BOG WOODLAND	221979	295776	Main Site	NPWS Native Woodland Survey	YES	2005	Undesignated site		F Rating: Unknown value - survey required	6.10
LF84	DRUMURY BOG WOODLAND	223174	298634	Main Site	NPWS Native Woodland Survey	YES		Undesignated site		F Rating: Unknown value - survey required	3.72
LF85	LISRAHERTY BOG WOODLAND	228758	295150	Main Site	NPWS Native Woodland Survey	YES	2005	Undesignated site		F Rating: Unknown value - survey required	5.49
LF86	LISRAHERTY RIPARIAN WOODLAND	229144	294832	Main Site	NPWS Native Woodland Survey	YES	2005	Undesignated site		F Rating: Unknown value - survey required	3.72
LF87	KILTYCREEVAGH BOG WOODLAND	219500	292808	Main Site	NPWS Native Woodland Survey	YES	2005	Undesignated site		F Rating: Unknown value - survey required	2.93
LF88	TOOME WETLAND NORTH - LOUGH GOWNA pNHA (LONGFORD)	234420	289393	Sub-site	Aerial Photographic Survey Discovery	YES		pNHA	000992	B Rating: Nationally Important	
LF89	TOOME WETLAND SOUTH	234507	288593	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	4.22
LF90	KILMORE	233081	288042	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	2.31
LF91	KILMORE NORTH - LOUGH GOWNA pNHA (LONGFORD)	233174	289123	Sub-site	Aerial Photographic Survey Discovery	YES		pNHA	000992	B Rating: Nationally Important	
LF92	TOOME WETLAND WEST - LOUGH GOWNA pNHA (LONGFORD)	233413	289500	Sub-site	Aerial Photographic Survey Discovery	YES		pNHA	000992	B Rating: Nationally Important	
LF93	AGHANORAN NORTH	230955	288285	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	6.49

LF94	LARKFIELD WETLAND	230333	288378	Main Site	Aerial Photographic Survey Discovery	YES	Undesignated site		F Rating: Unknown value - survey required	5.66
LF95	AGHANORAN SOUTH	231246	287468	Main Site	Aerial Photographic Survey Discovery	YES	Undesignated site		F Rating: Unknown value - survey required	13.40
LF96	DURRACAUN LOUGH - LOUGH GOWNA pNHA (LONGFORD)	230301	287134	Sub-site	Aerial Photographic Survey Discovery	YES	pNHA	000992	B Rating: Nationally Important	
LF97	DERRYCASSAN	231474	286002	Main Site	Aerial Photographic Survey Discovery	YES	Undesignated site		F Rating: Unknown value - survey required	7.76
LF98	KILMORE	232709	287580	Main Site	Aerial Photographic Survey Discovery	YES	Undesignated site		F Rating: Unknown value - survey required	4.46
LF99	CLOONAGH KILMORE CULLEENMORE	232767	287162	Main Site	Aerial Photographic Survey Discovery	YES	Undesignated site		F Rating: Unknown value - survey required	52.85
LF100	MULLINROE LOUGH	232392	286202	Main Site	Aerial Photographic Survey Discovery	YES	Undesignated site		F Rating: Unknown value - survey required	11.99
LF101	CORBAUN DRUMINACREHIR (LONGFORD)	234863	286739	Main Site	Aerial Photographic Survey Discovery	YES	Undesignated site		F Rating: Unknown value - survey required	48.77
LF102	CLOONEEN EAST	234527	285285	Main Site	Aerial Photographic Survey Discovery	YES	Undesignated site		F Rating: Unknown value - survey required	11.08
LF103	CLOONEEN WEST	233995	285695	Main Site	Aerial Photographic Survey Discovery	YES	Undesignated site		F Rating: Unknown value - survey required	11.20
LF104	CLOGHCHURNEL	234381	284240	Main Site	Aerial Photographic Survey Discovery	YES	Undesignated site		F Rating: Unknown value - survey required	17.70
LF105	DALYSTOWN	232503	284737	Main Site	Aerial Photographic Survey Discovery	YES	Undesignated site		F Rating: Unknown value - survey required	51.50

LF106	MULLINROE	232333	285015	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	49.89
LF107	GALLID	231693	282425	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	0.98
LF108	BALLYBRIN	231160	280183	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	0.41
LF109	DUNBEGGAN BOG AND WOODLAND - LOUGH GOWNA pNHA (LONGFORD)	227280	289467	Sub-site	Aerial Photographic Survey Discovery/NPWS Native Woodland	YES	2006	Undesignated site	000992	F Rating: Unknown value - survey required	
LF110	LEEBEEN LOUGH	226399	289455	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	14.37
LF112	EDENMORE CUTOVER	221589	289021	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	7.03
LF113	TAWNAGH	220716	288894	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	5.81
LF114	CREELAGHTA GAIGUE	218718	289667	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	12.24
LF115	TAWNAGH GAIGUE	220014	289167	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	4.98
LF116	AGHADOWRY	222326	287375	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	5.70
LF117	AGHADOWRY NORTH	222021	287889	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	37.51

LF118	AGHAMORE UPPER CARRICKADORRISH	224778	286996	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	32.04
LF119	AGHACORDRINAN	225014	286303	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	7.95
LF120	CULRAY NORTH BOG - LOUGH GOWNA pNHA (LONGFORD)	227895	286734	Sub-site	Aerial Photographic Survey Discovery	YES		pNHA	000992	B Rating: Nationally Important	
LF121	CULRAY WET WOODLAND - LOUGH GOWNA pNHA	228287	287080	Sub-site	NPWS Native Woodland Survey	YES	2004	pNHA	000992	B Rating: Nationally Important	
LF122	SONNAGH CULRAY	227099	285982	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	6.92
LF123	DERRYCASSAN WET WOODLAND - LOUGH GOWNA pNHA (LONGFORD)	229983	286075	Sub-site	NPWS Native Woodland Survey	YES	2004	Undesignated site	000992	F Rating: Unknown value - survey required	
LF124	BALLINROOEY	228473	284701	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	17.39
LF125	AGHAKEERAN CULRAY	227298	284875	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	19.26
LF126	DRUMDERG	222708	285802	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	3.13
LF127	AGHAWARD	223101	283546	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	19.56
LF128	KILLEEN SOUTH	229381	280021	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	10.33
LF129	KILLEEN BALLYMORE	228748	281159	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	1.64

LF130	KILLEEN PONDS	228082	280932	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site	F Rating: Unknown value - survey required	20.89
	KILLEEN LOUGH			Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site	F Rating: Unknown value - survey required	7.61
LF132	BALLIN LOUGH	227132	281887	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site	F Rating: Unknown value - survey required	3.28
LF133	KILLEEN BOG	227208	280982	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site	F Rating: Unknown value - survey required	83.61
LF134	AGHAGREAGH BOG	226269	281537	Main Site	Aerial Photographic Survey Discovery	YES	NA	Undesignated site	F Rating: Unknown value - survey required	43.98
LF135	CLONBRONEY BOG WOODLAND	226505	279982	Main Site	NPWS Native Woodland Survey	YES	2005	Undesignated site	F Rating: Unknown value - survey required	3.18
LF136	CLOONFIN LOUGH	226581	280222	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site	F Rating: Unknown value - survey required	1.13
LF137	KNOCKMOODY BOG	225372	281139	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site	F Rating: Unknown value - survey required	11.21
LF138	DRUMNAHARA	224024	281928	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site	F Rating: Unknown value - survey required	12.42
LF139	AGHNASHANNAGH LEITRIM	223180	281412	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site	F Rating: Unknown value - survey required	21.31
LF140	SORAN BOG	221798	281315	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site	F Rating: Unknown value - survey required	6.04
LF141	ESKER SOUTH	220782	280651	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site	F Rating: Unknown value - survey required	5.84

LF142	BROCKLAGH CROWDRUMMAN BOG	217682	288702	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site	F Rating: Unknown value - survey required	60.29
LF143	BREANRISKCULLEW BOG	215502	289229	Main Site	Aerial Photographic Survey Discovery	YES	2005	Undesignated site	D Rating: Local conservation value (moderate value)	57.29
LF144	MELKAGH MONADUFF	216667	287445	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site	F Rating: Unknown value - survey required	5.38
LF145	CORRABAUN BOG (LONGFORD)	214118	285303	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site	F Rating: Unknown value - survey required	41.54
LF146	DERRYNACRIT BOG (LONGFORD)	212375	285528	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site	F Rating: Unknown value - survey required	11.77
LF147	BRISKIL	211368	283302	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site	F Rating: Unknown value - survey required	7.04
LF148	OGHIL EAST	217084	282462	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site	F Rating: Unknown value - survey required	13.17
LF149	OGHIL WEST	216309	282578	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site	F Rating: Unknown value - survey required	40.29
LF150	CLONTUMPHER	219350	281357	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site	F Rating: Unknown value - survey required	7.84
	AGHABOY KILLETER CUTOVER	218752	280169	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site	F Rating: Unknown value - survey required	8.90
LF152	AGHNAMADDOO			Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site	F Rating: Unknown value - survey required	20.31
LF153	LISMOY CUTOVER	212678	280503	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site	F Rating: Unknown value - survey required	6.90

LF154	CASTLEFORBES DEMESNE LAKE	209930	279853	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	0.31
LF155	TULLY BOG WOODLAND - BROWN BOG SAC	209350	276299	Sub-site	Aerial Photographic Survey Discovery	YES		SAC		A Rating: Internationally Important	
LF156	BRIANSTOWN BOG WOODLAND - LOUGH FORBES COMPLEX SAC SPA	208252	276432	Sub-site	Aerial Photographic Survey Discovery	YES		SAC, SPA, pNHA	001818 004101	A Rating: Internationally Important	
LF157	CLOONDARA SOUTH	205650	277387	Sub-site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	9.02
LF158	CLOONDARA NORTH	206325	278032	Sub-site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	1.76
LF159	KNAPPOGE CLOONARD NORTH	204534	275014	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	5.48
LF160	KNAPPOGE CLOONARD SOUTH	204412	274371	Main Site	Aerial Photographic	YES	2006	Undesignated site		B Rating: Nationally	23.71
LF161	AGHNAGORE LAKE	206502	275323	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	2.69
LF162	KILMORE UPPER	208022	274431	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	4.42
LF163	CARTRONLEBAGH	209042	274630	Sub-site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	
LF164	BALLYNAKILL SOUTH	204473	272178	Sub-site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	
LF165	BALLYNAKILL NORTH	204510	272668	Sub-site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	

LF166	CLOONKEEL KNAPPOGE BOG	203637	273478	Main Site	Aerial Photographic	YES	2006	Undesignated site	C+ Rating: County Conservation value	27.11
LF167	GOWLAN CLOONTURK BOG	210608	271398	Sub-site	Aerial Photographic	YES	2006	Undesignated site	C+ Rating: County Conservation value	
LF168	DRUMURE BOG	216285	279696	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site	F Rating: Unknown value - survey required	31.50
LF169	KILTYREHER WET WOODLAND	217634	278322	Main Site	NPWS Native Woodland Survey	YES	2005	Undesignated site	F Rating: Unknown value - survey required	4.49
LF170	RHINE	219394	279049	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site	F Rating: Unknown value - survey required	18.19
LF171	MUCKNAGH	219310	278783	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site	F Rating: Unknown value - survey required	6.28
LF172	TOORFIN	219050	274545	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site	F Rating: Unknown value - survey required	30.92
LF173	LISFARELL RESERVOIR	219855	273371	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site	F Rating: Unknown value - survey required	1.31
LF174	DRUMBAUN BOG WOODLAND	219085	271680	Main Site	NPWS Native Woodland Survey	YES	2005	Undesignated site	F Rating: Unknown value - survey required	3.87
LF175	CARTRONAWAR EAST	218741	272077	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site	F Rating: Unknown value - survey required	8.04
LF176	CARTRONAWAR WEST	217418	272839	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site	F Rating: Unknown value - survey required	14.89
LF178	CLOONTIRM	211512	273924	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site	F Rating: Unknown value - survey required	44.22
LF179	KILNACARROW	220864	279719	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site	F Rating: Unknown value - survey required	5.69

LF180	RHINE EAST	220636	279418	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	4.37
LF181	GARVAGH	221189	279201	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	16.97
LF182	CURRYGRANGE WET WOODLAND	223380	278150	Main Site	NPWS Native Woodland Survey	YES	2005	Undesignated site		F Rating: Unknown value - survey required	6.89
LF183	CURRYGRANE LOUGH	223645	278005	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	18.66
LF184	GORTEEN LOUGH cNHA	222921	279571	Main Site	Aerial Photographic	YES		Undesignated site	002854	B Rating: Nationally	32.05
LF185	DRUMMEEL	224904	278317	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	39.43
LF186	CLOONFIN SOUTH	227799	279526	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	9.81
LF187	ROOS BALLYNASCRAW	226903	278068	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	70.16
LF188	LAUGHIL (EDGEWORTH)	227701	278395	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	19.07
LF189	COOLAGHERTY	228209	278107	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	21.02
LF190	COOLAGHERTY LAKE	228833	278292	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	0.44
LF191	TULLY FARM POND	227997	276335	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	0.33

LF192	MOATFARRELL NORTH	223899	276411	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site	F Rating: Unknown value - survey required	5.10
LF193	MOATFARRELL SOUTH	224322	275300	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site	F Rating: Unknown value - survey required	46.99
LF194	CARTRONREAGH	225915	274609	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site	F Rating: Unknown value - survey required	11.67
LF195	RINVANNY	227386	274773	Main Site	Aerial Photographic Survey Discovery	YES	2006	Undesignated site	D Rating: Local conservation value (moderate value)	24.91
LF196	LISNANAGH	222535	273137	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site	F Rating: Unknown value - survey required	11.89
	CLONWHELAN BOG NORTH	229812	270169	Main Site	Aerial Photographic	YES	2006	Undesignated site	C+ Rating: County Conservation value	37.23
LF198	CAM BOG	229251	270423	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site	F Rating: Unknown value - survey required	2.77
LF199	CARTRON FARM POND	231804	279722	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site	F Rating: Unknown value - survey required	0.16
LF200	CARTRON EAST POND	233273	279357	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site	F Rating: Unknown value - survey required	0.16
LF201	RINCOOLAGH BOG (LONGFORD)	237179	276532	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site	F Rating: Unknown value - survey required	198.73
LF202	COOLCRAFF BOG	239773	277458	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site	F Rating: Unknown value - survey required	366.19
LF203	TONYWARDEN FARM POND WEST	230538	277559	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site	F Rating: Unknown value - survey required	4.71

LF204	TONYWARDEN FARM POND EAST	230911	277345	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	4.05
LF205	ARDAGULLION FARM POND EAST	231536	276228	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	1.66
LF206	ARDAGULLION FARM POND WEST	231168	276655	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	0.59
LF207	ROSSAN BOG (LONGFORD)	235683	275702	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	24.82
LF208	MONEYHOOLAGHAN BOG WOODLAND	234240	274119	Main Site	NPWS Native Woodland Survey	YES	2005	Undesignated site		F Rating: Unknown value - survey required	1.82
LF209	CORCLARAGH LOUGH	230641	271442	Main Site	NPWS Native Woodland Survey	YES		Undesignated site		F Rating: Unknown value - survey required	1.13
LF210	BALLINROODY	221314	269797	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	40.46
LF211	LISSANURE BOG	227589	268205	Main Site	Aerial Photographic Survey Discovery	YES	2006	Undesignated site		D Rating: Local conservation value (moderate value)	75.05
LF212	TENNALOUGH	220774	264036	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	70.22
LF213	CLONTYMULLAN NEWPORT BOG	228010	264023	Main Site	Aerial Photographic	YES	2006	Undesignated site	NPWS non- NHA 000444	B Rating: Nationally	58.56
LF214	NEWPORT	227891	262811	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	8.35
LF215	AGHNAVEALOGE KINARD	226981	263113	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	23.33

LF216	AGHARRA CUTOVER BOG	224645	261470	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site	F Rating: Unknown value - survey required	19.07
LF217	LISDUFF (MORTGOMERY)	216485	269237	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site	F Rating: Unknown value - survey required	40.32
LF218	CARROWMANAGH	211095	269067	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site	F Rating: Unknown value - survey required	13.17
LF219	CORLAGAN	211331	268160	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site	F Rating: Unknown value - survey required	6.98
LF220	KNOCKATARRY	210884	267202	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site	F Rating: Unknown value - survey required	5.26
LF221	ABBEYDERG BOG	212879	266162	Main Site	Aerial Photographic Survey Discovery	YES	2006	Undesignated site	C Rating: Local conservation value (high value)	39.95
LF222	KEEL BALLYBEG	219043	264563	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site	F Rating: Unknown value - survey required	45.36
LF223	MORNIN	216879	264023	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site	F Rating: Unknown value - survey required	29.18
LF224	GLENMORE BOG AND CUTOVER	213900	264057	Main Site	Aerial photographic screen	YES		Undesignated site	F Rating: Unknown value - survey required	28.98
LF225	ABBEYDERG BOG WOODLAND	212797	265473	Main Site	NPWS Native Woodland Survey	YES	2005	Undesignated site	F Rating: Unknown value - survey required	3.78
LF226	CORNAHOO			Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site	F Rating: Unknown value - survey required	13.69
LF227	CLOONBREANY BOG	211303	262281	Main Site	Aerial Photographic Survey Discovery	YES	2006	Undesignated site	C Rating: Local conservation value (high value)	67.00

LF228	GLENMORE BOG WOODLAND	214192	263897	Main Site	NPWS Native Woodland Survey	YES	2005	Undesignated site	F Rating: Unknown value - survey required	4.78
LF229	LOUGHAN LAKE			Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site	F Rating: Unknown value - survey required	0.35
LF230	TORBOY FARM POND	215528	264157	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site	F Rating: Unknown value - survey required	0.24
LF231	LISGLASSOCK LISLEA BOG WOODLAND	215585	261443	Main Site	NPWS Native Woodland Survey	YES	2005	Undesignated site	F Rating: Unknown value - survey required	9.12
LF232	CORRYENA LAKE	213720	260586	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site	F Rating: Unknown value - survey required	0.60
LF233	MAGHERAVEEN BOG - LOUGH BANNOW pNHA	204200	267601	Sub-site	Aerial Photographic	YES	2013	pNHA	B Rating: Nationally	
LF234	LEDWITHSTOWN BOG	210821	260280	Main Site	Aerial Photographic Survey Discovery	YES	2006	Undesignated site	C Rating: Local conservation value (high value)	52.26
LF235	DERRYGEEL CORRALOUGH	204768	266379	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site	F Rating: Unknown value - survey required	33.09
LF236	CLOONTAMORE BOG	207996	266000	Main Site	Aerial Photographic Survey Discovery	YES	2006	Undesignated site	D Rating: Local conservation value (moderate value)	17.53
LF237	DERRAGHAN BEG	208113	262407	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site	F Rating: Unknown value - survey required	25.61
LF238	LISTOBIT BOG	217388	259617	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site	F Rating: Unknown value - survey required	14.49
LF239	DRUM LOUGH	212783	259378	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site	F Rating: Unknown value - survey required	0.78

LF240	LEDWITHSTOWN SOUTH	210700	258420	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	20.84
LF241	BALLYMULVEY BOG	217309	257748	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	44.79
LF242	FORTHILL BOG EAST - LOUGH REE SAC SPA			Sub-site	Aerial Photographic Survey Discovery	YES	2013	SAC, SPA, cNHA	000440 / 004064	A Rating: Internationally Important	
LF244	DERRYNAGALLIAGH BOG AND CUTAWAY	209350	257287	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	253.67
	KILLINAGH BOG (LONGFORD)	226274	265859	Main Site	NPWS Raised Bog NHA Review 2014	YES	2013	NHA , cNHA, Undesignated	000895	B Rating: Nationally	235.04
	CORCLARAGH BOG (LONGFORD)	230766	271249	Main Site	NPWS Raised Bog NHA Review 2014	YES	2010	NHA , cNHA, Undesignated	000820	B Rating: Nationally	72.49
LF247	CLERAUN BOG - LOUGH REE SAC	202863	256371	Sub-site	Aerial Photographic Survey Discovery	YES		SAC, pNHA	000440 / 004064	A Rating: Internationally Important	
LF249	CARRIGEENS TURLOUGH cNHA	201570	265100	Main Site	NPWS Turlough Study 2008	YES	2007	cNHA	002468	B Rating: Nationally	8.51
LF250	FEARGLASS LOUGH (LONGFORD)	217297	291825	Main Site	Aerial Photographic Survey Discovery	YES		Undesignated site		F Rating: Unknown value - survey required	8.21
LF251	CLONCA CUTOVER (LONGFORD)	231793	273356	Main Site	Aerial photographic screen 2017	YES		Undesignated site		F Rating: Unknown value - survey required	79.23
LF252	TINODE NORTH BOG (LONGFORD)	231551	272207	Main Site	Aerial photographic screen 2017	YES		Undesignated site		F Rating: Unknown value - survey required	22.08
LF253	DERRYDOOAN LOWER BOG AND CUTOVER (LONGFORD)	228485	269296	Main Site	Aerial photographic screen 2017	YES		Undesignated site		F Rating: Unknown value - survey required	74.30
LF254	BALLYBRIEN WETLAND	230638	280490	Main Site	Aerial photographic screen 2017	No Data - wetland possible		Undesignated site		F Rating: Unknown value - survey required	5.43

LF255	DERRAGH BOG	240205	280173	Main Site	Aerial photographic screen 2017	YES	NA	Undesignated site	F Rating: Unknown value - survey required	17.35
LF256	FIHORAGH EAST	224828	297544	Main Site	Longford Peatland Study 2006	YES		Undesignated site	F Rating: Unknown value - survey required	19.02
LF257	FIHORAGH NORTH	225441	298546	Main Site	Longford Peatland Study 2006	YES		Undesignated site	F Rating: Unknown value - survey required	2.77
LF258	MOYNE WEST	224516	295417	Main Site	Longford Peatland Study 2006	No Data - wetland possible		Undesignated site	F Rating: Unknown value - survey required	4.63
LF259	MOYNE EAST	225029	295430	Main Site	Longford Peatland Study 2006	No Data - wetland possible		Undesignated site	F Rating: Unknown value - survey required	2.10
LF260	KILTYCREEYAGH BOG	218245	290737	Main Site	Longford Peatland Study 2006	No Data - wetland possible		Undesignated site	F Rating: Unknown value - survey required	15.68
LF261	BARRAGHMORE CUTOVER	216159	286833	Main Site	Longford Peatland Study 2006	No Data - wetland possible		Undesignated site	F Rating: Unknown value - survey required	15.71
LF262	SONNAGH NORTH	226043	287429	Main Site	Longford Peatland Study 2006	No Data - wetland possible		Undesignated site	F Rating: Unknown value - survey required	21.86
LF263	AGHNASKEA CORNAFUNSHION CUTOVER	220916	284448	Main Site	Longford Peatland Study 2006	No Data - wetland possible		Undesignated site	F Rating: Unknown value - survey required	41.31
LF264	KILMANON CUTOVER	219900	286085	Main Site	Longford Peatland Study 2006	No Data - wetland possible		Undesignated site	F Rating: Unknown value - survey required	17.96

LF265	DERRYHEELAN DERRYNACROSS CUTOVER	218687	285603	Main Site	Longford Peatland Study 2006	No Data - wetland possible	Undesignated site	F Rating: Unknown value - survey required	5.19
LF266	DERAWLEY	217547	285861	Main Site	Longford Peatland Study 2006	No Data - wetland possible	Undesignated site	F Rating: Unknown value - survey required	4.93
LF267	CURRYGRANNY	210671	283302	Main Site	Longford Peatland Study 2006	No Data - wetland possible	Undesignated site	F Rating: Unknown value - survey required	11.05
LF268	CASTLENUGENT CUTOVER	233332	277409	Main Site	Longford Peatland Study 2006	No Data - wetland possible	Undesignated site	F Rating: Unknown value - survey required	3.16
LF269	CLOGHER AND RINN CUTAWAY	205696	274224	Main Site	Longford Peatland Study 2006	No Data - wetland possible	Undesignated site	F Rating: Unknown value - survey required	314.72
LF270	CLOONEENY CUTAWAY	209750	273129	Main Site	Longford Peatland Study 2006	No Data - wetland possible	Undesignated site	F Rating: Unknown value - survey required	349.74
LF271	CARN CUTOVER	220679	265667	Main Site	Longford Peatland Study 2006	No Data - wetland possible	Undesignated site	F Rating: Unknown value - survey required	67.10
LF272	GARRYCAM CUTOVER	218033	267567	Main Site	Longford Peatland Study 2006	No Data - wetland possible	Undesignated site	F Rating: Unknown value - survey required	6.22
LF273	CLOONANNY CUTOVER	212061	268416	Main Site	Longford Peatland Study 2006	No Data - wetland possible	Undesignated site	F Rating: Unknown value - survey required	8.26

LF274	DERRYAROGE CUTAWAY COMPLEX	203829	270830	Main Site	Longford Peatland Study 2006	No Data - wetland possible		Undesignated site	F Rating: Unknown value - survey required	1060.34
LF275	CLOONSELLAN CUTAWAY	206755	270935	Main Site	Longford Peatland Study 2006	No Data - wetland possible		Undesignated site	F Rating: Unknown value - survey required	116.94
LF276	CLOONSELLAN BOG SOUTH	206121	269814	Main Site	Longford Peatland Study 2006	No Data - wetland possible		Undesignated site	F Rating: Unknown value - survey required	28.35
LF277	ANNAGHBEG CUTAWAY COMPLEX	206737	267483	Main Site	Longford Peatland Study 2006	No Data - wetland possible		Undesignated site	F Rating: Unknown value - survey required	1706.36
LF278	DERRYSHANNAGE CUTAWAY COMPLEX	204334	264066	Main Site	Longford Peatland Study 2006	No Data - wetland possible		Undesignated site	F Rating: Unknown value - survey required	454.60
LF279	DERRYMANY DERRINDIFF CUTAWAY COMPLEX	207172	261202	Main Site	Longford Peatland Study 2006	No Data - wetland possible		Undesignated site	F Rating: Unknown value - survey required	554.11
LF280	CARRICKBOY QUARRY LAKE	221389	264320	Main Site	Longford Geological Survey 2015	YES	2015	Undesignated site, SGI	F Rating: Unknown value - survey required	5.34
	MULLAWORNIA QUARRY LAKE			Main Site	Longford Geological Survey 2015	YES	2015	Undesignated site, SGI	F Rating: Unknown value - survey required	2.00
LF282	BALLYBRIEN POND (SOUTH)			Main Site	GIS Aerial photographic screen 2017	YES		Undesignated site	F Rating: Unknown value - survey required	0.18
LF283	KILLEEN POND (NORTH)	227138	281745	Main Site	GIS Aerial photographic screen 2017	YES		Undesignated site	F Rating: Unknown value - survey required	0.27

LF284	LISTRAGHEE LOUGH	224340	280084	Main Site	GIS Aerial photographic screen 2017	YES		Undesignated site		F Rating: Unknown value - survey required	0.32
LF285	LEITRIM POND	230104	278708	Main Site	GIS Aerial photographic screen 2017	YES		Undesignated site		F Rating: Unknown value - survey required	0.05
LF286	DRINAN POND	214632	258250	Main Site	GIS Aerial photographic screen 2017	YES		Undesignated site		F Rating: Unknown value - survey required	0.08
LF287	KILMAHON	218564	286833	Main Site	GIS Aerial photographic screen 2017	YES		Undesignated site		F Rating: Unknown value - survey required	44.53
LF288	BALLYREAGHAN QUARRY POND	224544	280641	Main Site	GIS Aerial photographic screen 2017	YES		Undesignated site		F Rating: Unknown value - survey required	3.24
LF289	DRUMMEEL FARM POND NORTH	224369	279415	Main Site	GIS Aerial photographic screen 2017	YES		Undesignated site		F Rating: Unknown value - survey required	1.97
LF290	FORTHILL BOG AND CUTAWAY EAST	207541	258358	Main Site	Aerial Photographic	YES	2013	Undesignated site	NA	C+ Rating: County Conservation value	43.58