



PROJECT REF: P2970

APPENDIX 8.6

BREEDING BIRD SURVEY CAVAN

REGIONAL SPORTS CAMPUS

CLIENT: MCADAM DESIGN

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Contents

1.0	INTRODUCTION	1
1.1	Site Description	1
1.2	Proposed Development	2
1.3	Rationale of Breeding Bird Survey	3
2.0	LEGISLATION	3
3.0	METHODOLOGY	5
3.1	Surveyors/Qualifications	5
3.2	Desk Study	6
3.3	Field study	7
3.4	Criteria for evaluation	7
3.5	Evaluation assessment	8
3.6	Limitations	8
4.0	RESULTS	9
4.1	Desk Study	9
4.2	Field study	9
4.3	Field survey results	10
5.0	MITIGATION	10
6.0	CONCLUSIONS & RECOMMENDATIONS	12
7.0	REFERENCES	13

FIGURES

Figure 1: Site location

Figure 2: Site Boundary

TABLES

Table 1: Schedule A1 species

Table 2: Summary of the survey dates and weather from each visit

Table 3: Evaluation criteria for bird assemblage assessment

Table 4: NPWS database results

APPENDICES

Appendix I: Table describing all species observed across surveys

Appendix II: Key describing the symbology used for all survey maps

Appendix III: May Breeding Bird Results Maps

Appendix IV: June Breeding Bird Results Maps

Appendix V: July Breeding Bird Results Maps

Appendix VI: August Breeding Bird Results Maps

1.0 INTRODUCTION

MCL Consulting Ltd (MCL) was appointed by McAdam Design to undertake a Breeding Bird Survey on behalf of Cavan County Council for the proposed development of a sports campus to be located on lands north, south and west of Royal School Cavan and west of Breffni Park GAA grounds, County Cavan. Currently there are three options are proposed for the development of these lands.

1.1 Site Description

The proposed project relates to circa 28ha situated to the Southwest of Cavan Town, located between Kingspan Breffni Park and the Royal School, Cavan. The site incorporates existing sporting facilities used by the Royal School for physical education; this including one shale gravel hockey pitch and adjoining soccer field. The remainder of the school lands are undeveloped. The site also includes lands to the southwest of Breffni Park. A site location map is presented in Figure 1.



Figure 1. Site location



Figure 2. Site boundary

1.2 Proposed Development

The development comprises the following components:-

- Indoor sports complex to include sports halls with spectator seating, fitness studios, changing facilities, reception, café and ancillary accommodation.
- 7 no. outdoor sports pitches.
- Covered sports arena with playing pitch, spectator seating and other ancillary accommodation.
- Ancillary sporting facilities include 8 lane athletics track and cricket practice nets.
- New vehicular access / junction and closure of Park Lane/Dublin vehicular junction, relocation of existing Breffni Park turnstiles to facilitate reconfiguration of Park Lane, bridge structure, internal roads, cycle/pedestrian paths, associated car/bus/cycle parking, electric charge points and streetlighting.
- Pedestrian access points of Kilnavara Lane and Dublin Road.

- Hard and soft landscaping including acoustic fencing, wildlife habitat area/corridors, artificial badger-sett, walking trails and other ancillary works such as spectator stands, retaining walls, fencing and ball stop fencing, team shelters, toilet block, floodlighting, signage, drainage infrastructure including attenuation tanks, SuDs and culverting of a minor watercourse, storage space, ESB Substation, ancillary accommodation and all associated site works to accommodate the development.
- The proposed bridge is a single span integral reinforced concrete bridge, supported on piled foundations.

1.3 Consultation

Consultation was carried out with Paul O’Doherty (Conservation Ranger), Chris Liu (Conservation Ranger) and Dr. Maurice Evans (Divisional Manager) of the National Parks and Wildlife Service (NPWS). A site meeting was attended by MCL Consulting, representatives from NPWS, McAdam Design and Cavan County Council on 15th February 2024. All relevant information has been integrated into this report.

1.4 Rationale of Breeding Bird Survey

The purpose of the breeding bird survey is to document the breeding bird community and estimate the abundance of the breeding bird species. This is required to assess the likelihood of any impacts upon the breeding bird community in association with the proposed development. The aim of this report is to: -

- Identify what birds are using the site for breeding and foraging purposes;
- Establish the habitat value for breeding and foraging birds;
- Identify the likely impacts on birds the development is likely to impose upon any local bird populations; and
- Recommend either further survey, mitigation or compensation measures either to protect local bird populations and to enhance the habitat in which they reside.

2.0 LEGISLATION

Breeding Nesting Birds

All wild birds are protected, particularly during the bird breeding season while nesting under the Irish Wildlife Act 1976 (as amended), the EU Habitats Directive of the Bern convention via the European Communities (Birds and Natural Habitats Regulations 2011 (S. I. No. 477 of 2011)). It is an offence to intentionally or recklessly:

- kill, injure or take any wild bird; or
- take, damage or destroy the nest of any wild bird while that nest is in use or being built; or
- at any other time take, damage or destroy the nest of any wild bird included in Schedule A1; or
- take or destroy an egg of any wild bird; or
- disturb any wild bird while it is building a nest or is in, on or near a nest containing eggs or young; or
- disturb dependent young of such a bird.

Additionally, any person who knowingly causes or permits to be done an act which is made unlawful by any of these provisions shall also be guilty of an offence.

Wild Birds

Most bird species return to the same general nesting location each year and build a new nest. However, some species return to the same nest sites year after year, re-using old nests. For these species it is an offence to damage or destroy their nests at any time of the year, even when they are not in use.

All wild birds are also subject to conservation measures under the Birds Directive (2009/147/EC). This requires European Member States to take conservation measures to maintain populations of all naturally occurring wild birds. Additionally, some bird species, which are particularly rare or vulnerable, are listed on Annex I of the Directive. These species are subject to special conservation measures and have additional legal protection as features of designated sites, such as Special Protection Areas (SPAs).

Local and national biodiversity action plans consider priority species within the local area of conservation concern.

Planning Policy

The Planning Policy Statement 2 (PPS 2), Natural Heritage, NH2 indicates that development proposals are required to be sensitive to all protected species and sited and designed to protect them, their habitats and prevent from deterioration and destruction of their breeding sites or resting places.

3.0 METHODOLOGY

3.1 Surveyors/Qualifications

Zachary Rose BSc MSc – Consultant Ecologist

This report was written by Zachary Rose, a consultant ecologist at MCL Consulting. He has an MSc in Ecological Management and Conservation Biology as well as a BSc (Hons) in Zoology both from Queen’s University Belfast. He has 3 years of experience volunteering with Ulster Wildlife, treating invasives, maintaining nature reserves and helping with the native oyster project at Bangor marina. During his time at Ulster Wildlife, he completed weeklong hedgehog surveys in the summer of 2021 and 2022 as well as gaining a LANTRA certification in the safe use of pesticides. He has 2 years of experience working for the consultancy company Tetra Tech as a seasonal field ecologist. During this time, he led several emergence and re-entry bat surveys alongside completing otter, badger, hare and smooth newt surveys. He also gained experience doing video analysis and writing PEA reports during this time. He has also led several guided bat walk and talk evenings for Newtownards Community group in the summer of 2022 and summer 2023. He also holds a Construction Skills Register (CSR) card.

Emily Taylor BSc MSc – Senior Ecologist

Fieldwork was carried out by Emily Taylor, a senior ecologist at MCL Consulting. She has an MSc in Ecological Management and Conservation Biology from Queen’s University Belfast and has a BSc (Hons) in Biological Sciences from Durham University. She has a range of experience in ecological field skills, having undertaken placements with both the RSPB and the Armagh, Banbridge and Craigavon Borough Council’s biodiversity department. She is a current regional surveyor for the Northern Ireland Amphibian and Reptile Group, a seasonal volunteer for the Bat Conservation Trust and a member of the Botanical Society of Britain and Ireland. She has regular experience in conducting biodiversity checklists, extended phase 1 habitat surveys, bat roost potential surveys, bat activity surveys and breeding bird surveys. She also has experience in surveying for otters, badgers, lizards, and newts. She is a qualified tree climber, with a LANTRA qualification in tree access using a rope and harness and aerial rescue.

Peter McKnight BSc MSc – Consultant Ecologist

Fieldwork was assisted by Peter McKnight, a consultant ecologist at MCL Consulting. He graduated from Queen’s University Belfast with a bachelor's degree (BSc) in Planning,

Environment and Development as well as a master's degree (MSc) in Ecological Management and Conservation Biology. He has previous employment experience with EcoSeeds where he assisted in the growing, cleaning and distribution of wildflower seeds including hydroseeding. He also worked for Ulster Wildlife as a Nature Reserve Assistant, treating invasive species and managing the bespoke needs of nature reserves across Northern Ireland including scrub removal, path/fence maintenance and botanical surveys. During this job he obtained LANTRA certification in the Safe Use of Pesticides, Brushcutters and Woodchippers as well as a Rescue Emergency Care certificate in Essential First Aid for the Outdoors including Emergency First Aid at Work. During his BSc, he went to Peru with Operation Wallacea to the Amazon Rainforest for 4 weeks, surveying varying tropical species including fishing bats, caiman and tropical birds. He also holds a Construction Skills Register (CSR) card.

Amy Skuce BSc (Hons) MCIEEM – Principal Ecologist

Report review was carried out by Amy Skuce, a Principal Ecologist at MCL Consulting. She has a BSc (Hons) in Countryside and Environmental Management from Harper Adams University and is a Full Member of the Chartered Institute of Ecology and Environmental Management (CIEEM). She has nine years of experience as a professional ecologist undertaking extensive survey work as well as designing appropriate mitigation for a range of schemes. Amy holds a Level 4 Field Identification Skills Certificate (FISC) and is an experienced botanical surveyor and is proficient in extended phase one habitat surveys, UKHABs and Biodiversity Net Gain assessments as well as National Vegetation Classification (NVC) surveys. She also has experience in undertaking bat roost potential surveys, bat activity surveys, badger surveys as well as a range of riparian mammal and herptile surveys.

3.2 Desk Study

A desk study was undertaken with a view of gathering existing information in regard to species and habitat within and near the site. Sources used to gather information include:

- NPWS Natural Environment Map Viewer.
- Relevant NGO Websites.
- National Parks & Wildlife Service (NPWS)
- NBN Atlas.

3.3 Field study

The survey methodology broadly followed the 'Common Bird Census' (CBC) devised by the British Trust for Ornithology (BTO) and those described by Bibby *et al* 1992, 2000, where the site was slowly walked with each area of the site being covered within 100m of the transect. This technique records the location and movements of individual birds present within a defined survey area. The site was visited on 4 occasions with the surveys undertaken during the breeding season (May-August) by suitably qualified ecologists using high powered binoculars (42 x 8). All bird species were recorded (using the standard BTO codes) onto a scaled map. Birds that exhibited nesting or territorial behaviours such as singing, gathering nesting material, territorial displays or feeding of young were recorded.

The dates of each survey, along with survey start time and duration was recorded in Table 2. Weather conditions at the time of survey was also recorded included, temperature (°C), wind speed (Beaufort scale), cloud cover (Oktas) and precipitation.

Table 2. Summary of the survey dates and weather from each visit

Survey ID	Date	Start Time	Survey Duration	Weather
1	31/05/2023	05:00	3hrs	10°C, Beaufort 2, 0/8, 0% precipitation
2	21/06/2023	05:00	2hrs	12°C, Beaufort 2, 8/8, 0% precipitation
3	22/07/2023	05:30	2hrs 30mins	14°C, Beaufort 2, 6/8, 30% precipitation
4	26/08/2023	06:00	2hrs 30mins	11°C, Beaufort 2, 5/8, 25% precipitation

3.4 Criteria for evaluation

Protection is afforded to all birds and their habitats in Ireland by the EU Birds Directive and Habitats Directive, with species listed in Annex I being subjected to special conservation measures to protect them and their habitats. Other legislation includes the Wildlife (Amendment) Act, 2000.

In 2021 Birds of Conservation Concern Ireland 4: 2020-2026 (BoCCI) the Red List for Birds updated, the latest review/assessment that covers the island of Ireland, both the Republic of Ireland (ROI) and Northern Ireland (NI). Using standardised criteria 211 species with breeding, passage or wintering birds were assigned to either Red, Amber or Green lists of conservation concern in Ireland.

3.5 Evaluation assessment

Using evaluation techniques set out by Fuller (1980) the data collected can be assessed in order to define the importance of ornithological interest by the number of breeding Species found on site.

Table 3. Evaluation criteria for bird assemblage assessment

Level of Importance	Number of Breeding Species	
	Fuller (1980) Criteria	Adapted Criteria
Local	25-49	>25
District		25-49
County	50-69	50-69
Regional	70-84	70-84
National	<85	<85

Level of importance is defined using geographical levels; Local, District, County, Regional and National. To comply with CIEEM 2006 'Local has been adapted to >25 species and 'District' to 25-49 species.

3.6 Limitations

The entire site was accessible to the surveyor with all surveys undertaken under suitable weather conditions. No limitations while encountered during the survey period.

Some birds may be unnoticed and/or missed, this report only provides a portion of the bird activity occurring on site and that it is considered that ecological reports are valid for 1 year after they are produced, after which may need to be updated.

4.0 RESULTS

4.1 Desk Study

A written request was submitted to obtain data from the NPWS recorded species dataset, and the results obtained from the NPWS search provided a list of recorded species within a 2km radius of the site.

A total of 3 records were returned from this search, with a total of 3 different species being recorded.

This information included species that were both in the Amber and Red list of the Birds of Conservation Concern Ireland 4: 2020-2026 (BoCCI).

Table 4 highlights the date of the most recent recording, the total number of recordings, and the designation of each species within a 2km radius around the site. For the full list of recordings and locations, please see Appendix VII.

Table 4. NPWS database request for protected birds

Common Name	Scientific Name	Most recent recording	Total number of recordings
Mallard	<i>Anas platyrhynchos</i>	2005	2
Greenfinch	<i>Chloris chloris</i>	2006	1
Willow Warbler	<i>Phylloscopus trochilus</i>	2006	1

4.2 Field study

A pre-determined transect route was walked throughout the survey area which included all field boundaries within the site. Records were made of birds singing or calling, repeated territorial calls, territorial aggression, displaying, adults carrying food or nesting material, juvenile birds and family groups.

Instances where a nest was directly observed, an individual was carrying nesting material, or where an obvious male-female pair was present were all recorded as a breeding pair (BP).

4.3 Field survey results

Most registrations (23 species) recorded during the surveys were of species that were listed as green on the BoCCI scale (Birds of Conservation Concern in Ireland).

7 species are listed as amber: Mallard, Black-headed Gull, Linnet, Skylark, Starling, Lesser Black-backed Gull and Swallow.

1 species is listed as red: Golden Plover. x1 individual was observed flying across site, but not using the site.

In total, 31 bird species were observed on site during the breeding bird surveys. There was x1 species that displayed breeding behaviour: Jackdaw. A nest was identified for this species during the site walkover.

No individuals of any species were observed carrying nesting material during the x4 site visits.

Other species were observed displaying possible breeding behaviour in the form of singing males present in or within close proximity to suitable nesting habitats. These species include: Hooded Crow, Robin, Raven, Song Thrush, Blackbird, Wren, Jackdaw, Sedge Warbler, Woodpigeon, Rook, Blue Tit, Bullfinch, Chaffinch, Great Tit, Dunnock, Blackcap, Magpie.

5.0 ANALYSIS AND MITIGATION

A Golden Plover was observed flying across site during the June survey. No specific mitigation is needed on site for this species as it was not observed using the site only flying by. Golden plovers are declining in Ireland and are a more habitat specialist, and so may feel greater impacts of habitat removal on/around the site. Therefore, enhancement of habitat (already in plans to plant trees around the site) is recommended so the site can sustain high levels of biodiversity.

A jackdaw nest was observed during the surveys. If any scrub or trees to be removed in the area that this nest was identified, then an ecologist will need to do a pre-check of the habitat so that no nests or birds are damaged/destroyed. As for mitigation, the on-site plans to plant native trees along the boundaries of the site will provide sufficient habitat for jackdaws as they are a widespread generalist species, and so will be less sensitive to any on-site impacts.

The habitats that are found on this site provide opportunities for foraging and nesting due to the presence of scrub, hedgerow and mature trees throughout the site. As such development works on site and any removal of such habitats would be considered to have negative impact on bird species, and so will need appropriate mitigation measures to minimise these potential impacts.

It is recommended that replacement habitat be put in place, where this is not possible, bird boxes / nesting boxes should be installed in appropriate areas to cater for the diversity of birds found on site. Swift boxes are recommended on appropriate buildings, installed in line with best practice guidance (SNH, 2017). There is a wide variety of integral swift nestboxes available, which have been designed to fit in with building standards. Integral nestboxes are preferable to external boxes as they need no maintenance and will last longer. They should be fitted either on a side of the building that gets some shade during the day, under an overhang or under the eaves, to give protection from heat, but not over windows or near to vents. They should be sited at least 5 metres above ground, with clear adjacent airspace so the birds can access them in high-speed direct flight. Ensure predators do not have easy access (e.g. by climbing up creepers or flying in from close perches).

Trees, hedgerows and scrub are of importance to breeding and nesting birds and so the removal of hedgerows, trees and scrub during the breeding season will negatively impact upon nesting birds due to the abundant presence and activity of birds during the breeding season.

It is recommended that any scrub clearance should be kept to a minimum and undertaken outside of the breeding season (1st March – 31st August inclusive). It should be noted that **should** clearance of scrub/hedgerow's **during** the breeding season be required, this **must** be undertaken under the supervision of a qualified ecologist and appropriate surveys undertaken prior to any scrub clearance i.e. pre-working nest inspection/breeding bird survey to ensure no active nests are present. Any vegetation which is removed prior to the bird breeding season should be removed from the site completely, in order to prevent birds along with other species using stored debris as nesting/resting sites.

There are plans to plant new native tree species along a large majority of the site boundary and across the site within the current site plans, along with keeping many existing trees

where possible. Planting a mix of native species across the site such as conifer species, willow, hawthorn will provide habitat, shelter and food for the bird species using the site. This will help enhance the overall biodiversity within the site.

6.0 CONCLUSIONS & RECOMMENDATIONS

In conclusion, several species were probable breeding pairs due to males displaying breeding behaviours i.e. singing in or within close proximity to suitable nesting habitat. There were no male-female pairs observed for any of the species observed on any of the site visits. No individuals were observed carrying nesting material. x1 Red listed species (Golden Plover) was observed flying across the site. Furthermore, x1 visible nest was observed (Jackdaw) during the x4 surveys carried out across the season. Overall, it is recommended that the site implements native tree and shrub planting to replace lost habitat onsite as well as providing artificial nest boxes where possible on mature trees and buildings.

Report Prepared By: -



**Zachary Rose BSc (Hons), MSc
Consultant Ecologist**

Reviewed By: -



**Amy Skuce BSc (Hons), MCIEM
Principal Ecologist**

7.0 REFERENCES

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APPENDICES

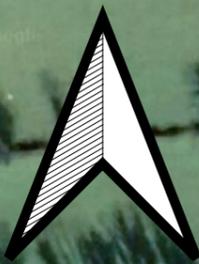
Appendix I: Table describing all species observed across the surveys

Species	Latin	BTO Code	BOCCI
Blackbird	<i>Turdus merula</i>	B.	Green
Magpie	<i>Pica pica</i>	MG	Green
Robin	<i>Erithacus rubecula</i>	R.	Green
Raven	<i>Corvus corax</i>	RN	Green
Mallard	<i>Anas platyrhynchos</i>	MA	Amber
Song Thrush	<i>Turdus philomelos</i>	ST	Green
Hooded Crow	<i>Corvus cornix</i>	HC	Green
Woodpigeon	<i>Columba palambus</i>	WP	Green
Blue Tit	<i>Cyanistes caeruleus</i>	BT	Green
Pied Wagtail	<i>Motacilla alba</i>	PW	Green
Black-headed Gull	<i>Chroicocephalus ridibundus</i>	BH	Amber
Linnet	<i>Linaria cannabina</i>	LI	Amber
Spotted Flycatcher	<i>Muscicapa striata</i>	SF	Green
Skylark	<i>Alauda arvensis</i>	S.	Amber
Rook	<i>Corvus frugilegus</i>	RO	Green
Bluethroat	<i>Luscinia svecica</i>	BU	Green
Grey Heron	<i>Ardea cinerea</i>	H	Green
Chaffinch	<i>Fringilla coelebs</i>	CH	Green
Blackcap	<i>Sylvia atricapilla</i>	BC	Green
Goldfinch	<i>Carduelis carduelis</i>	GO	Green
Wren	<i>Troglodytes troglodytes</i>	WR	Green
Great Tit	<i>Parus major</i>	GT	Green
Jackdaw	<i>Corvus monedula</i>	JD	Green
Starling	<i>Sturnus vulgaris</i>	SG	Amber
Golden Plover	<i>Pluvialis apricaria</i>	GP	Red
Carrion Crow	<i>Corvus corone</i>	C.	Green
Sedge Warbler	<i>Acrocephalus schoenobaenus</i>	SW	Green
Lesser Black-backed Gull	<i>Larus fuscus</i>	LB	Amber
Bullfinch	<i>Pyrrhula pyrrhula</i>	BF	Green
Swallow	<i>Hirundo rustica</i>	SL	Amber
Duncock	<i>Prunella modularis</i>	D.	Green

Appendix II: Key describing the symbology used for all survey maps

Symbol	Meaning
Arrow →	Depicts direction individual was travelling in when observed
Circle around BTO species code e.g. (R.)	Indicates individual was singing or vocalising
Asterisk *	Indicates individual was carrying nesting material when it was observed
Asterisk (x2) **	Indicates individual displaying breeding behaviour when observed
Asterisk (x3) ***	Indicates where a nest has been identified

Appendix III: May Breeding Bird Results Maps



HC

RN

H

WR

WP

R

0 75 150 m





JD

MG

SG
x10

MG

R

MG

ST

B.

WP

SL

WP

B.

SG
x5

PW

WP

ST

GT

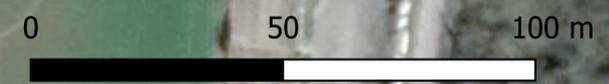
B.

R

HC

MA
x2

GT
x2





WR

ST

HC x3

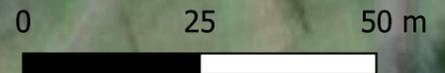
ST x2

WP

WR

WR

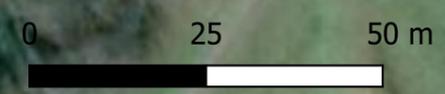
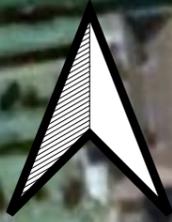
JD
x3***



Appendix IV: June Breeding Bird Results Maps







Appendix V: July Breeding Bird Results Maps





ST

GT

WR

LB x5

WR

WP

WP

WR

SG x10

R.

B.

PW

B.

BU x2

GO x3

B.

WR

MA x2

WP

HC

RO

WR

WP x2

HC x3

R.

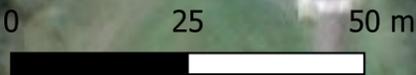
WR

WR

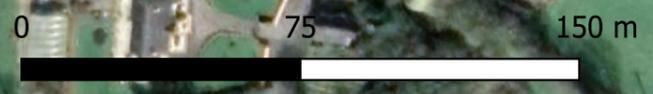
MA

SG x5





Appendix VI: August Breeding Bird Results Maps





GT

HC

WR

S. x2

CH

ST

GO x5

CH

WP x2

B.

WR

ST

WP

S.

R.

PW

SW

SG x10

WR

LB

R.

WR

0 50 100 m

