

St George's Barracks
Ecological Appraisal
April 2018

COMMISSIONED BY
Fabrik
Lenten House,
16 Lenten Street,
Alton, Hampshire
GU34 1HG

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Derek Finnie Associates Ltd
20 Soames Place
Wokingham
Berkshire
RG40 5AT

info@derekfinnie.com

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1 INTRODUCTION

1.1 Background

- 1.1.1 Derek Finnie Associates Ltd was commissioned by Fabrik on behalf of the RegenCo to undertake an ecological assessment of St George's Barracks in Rutland, herein referred to as the Site. The Site, which covers approximately 290ha, centred on OS Grid Ref SK937047, can be split into three distinct zones: St George's Barracks itself to the east, including the officers' mess, North Luffenham Golf Course and North Luffenham Airfield which occupies the eastern section of the Site.
- 1.1.2 In November 2016, the Government announced through 'A Better Defence Estate', a commitment to invest in a more efficient built military estate that will reduce in size by thirty per cent by 2040. The Ministry of Defence (MOD) is required to maximise value through the disposal of sites and has a target to provide land for 55,000 dwellings this Parliament. Within the November announcement it was confirmed that St George's Barracks would be surplus to operational requirements and programmed for disposal in 2020.
- 1.1.3 In recognition of this, Rutland County Council (RCC) and the MOD (Defence Infrastructure Organisation - DIO) have agreed a Memorandum of Understanding that builds upon their willingness to jointly explore the opportunities for the future of the St George's Barracks site post 2020/21 and an appetite to work together in a new and innovative way to maximise Government growth and efficiency objectives for the site. There are currently proposals to re-develop part of the Site. A masterplanning exercise is currently being undertaken, exploring several potential re-development proposals for the Site. As part of this process it is essential the value of the ecological resource within the Site is assessed and used to inform the masterplanning process.
- 1.1.4 The following report, therefore, presents the findings of a desk based data search, previous ecological surveys undertaken across the Site in 2014 and 2015, and the results of an Extended Phase 1 Habitat survey completed in March 2018 by Derek Finnie Associates. The report continues with an evaluation of the ecological resource encountered within the Site and highlights the areas within the Site that may produce the greatest ecological constraints.

2 LEGISLATION, PLANNING POLICY AND GUIDANCE

2.1 Legal Framework

2.1.1 The applicable legislative framework is summarised below.

International Conventions and Directives

- Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora (EC Habitats Directive);
- Council Directive 2009/147/EC on the Conservation of Wild Birds (Birds Directive);
- The Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention) 1979;
- The Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) 1983; and
- Convention on Biological Diversity 1992.

National Legislation

- The Wildlife and Countryside Act 1981 (WCA);
- The Conservation of Habitats and Species Regulations 2017;
- The Countryside and Rights of Way Act 2000 (CROW);
- Natural Environment and Rural Communities Act 2006 (NERC);
- The Protection of Badgers Act 1992; and
- The Hedgerow Regulations 1997.

2.2 Planning Policy

National Planning Policy

National Planning Policy Framework

2.2.1 The following objectives relating to biodiversity conservation are considered relevant to this assessment, as the National Planning Policy Framework (NPPF) seeks to

- Protect and enhance valued landscapes, geological conservation interests and soils;
- Recognise the wider benefits of ecosystem services;
- Minimise impacts on biodiversity and provide net gains in biodiversity, where possible, contribute to the Government's commitment to halt the overall decline in biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures;
- Prevent both new and existing development from contributing to or being put at unacceptable risk from, or being adversely affected by unacceptable levels of soil, air, water or noise pollution or land instability;
- Remediate and mitigate despoiled, degraded, derelict, contaminated and unstable land, where appropriate; and
- Prevent the loss or deterioration of irreplaceable habitats, including ancient woodland and the loss of aged or veteran trees found outside ancient woodland, unless the need for, and benefits of, the development in that location clearly outweigh the loss.

2.2.2 The draft revised NPPF (March 2018) has also been considered.

Local Planning Policy

Rutland Core Strategy Development Plan Document (July 2011)

- 2.2.3 The following policy from Core Strategy relates to nature conservation and is considered relevant to this proposal:

Policy CS21 - The natural environment

Development should be appropriate to the landscape character type within which it is situated and contribute to its conservation, enhancement or restoration, or the creation of appropriate new features.

The quality and diversity of the natural environment of Rutland will be conserved and enhanced. Conditions for biodiversity will be maintained and improved and important geodiversity assets will be protected.

Protected sites and species will be afforded the highest level of protection with priority also given to local aims and targets for the natural environment.

All developments, projects and activities will be expected to:

- a) Provide an appropriate level of protection to legally protected sites and species;*
- b) Maintain and where appropriate enhance conditions for priority habitats and species identified in the Leicestershire, Leicester and Rutland Biodiversity Action Plan;*
- c) Maintain and where appropriate enhance recognised geodiversity assets*
- d) Maintain and where appropriate enhance other sites, features, species or networks of ecological interest and provide for appropriate management of these;*
- e) Maximise opportunities for the restoration, enhancement and connection of ecological or geological assets, particularly in line with the Leicestershire, Leicester and Rutland Biodiversity Action Plan;*
- f) Mitigate against any necessary impacts through appropriate habitat creation, restoration or enhancement on site or elsewhere;*
- g) Respect and where appropriate enhance the character of the landscape identified in the Rutland Landscape Character assessment;*
- h) Maintain and where appropriate enhance green infrastructure.*

- 2.2.4 Policy CS6 is also considered partially relevant:

Policy CS6 – Re-use of redundant military bases and prisons

The Council will seek to ensure that any re-use or redevelopment of former military bases or prisons is planned and developed in a comprehensive and co-ordinated manner.

Proposals will be subject to a development brief or masterplan setting out the main requirements. This will form part of a supplementary planning document or development

plan document to be prepared in consultation with the prospective developers and local communities.

The key requirements for any proposals are that they should:

- a) re-use existing land and buildings and where appropriate minimise any built development on undeveloped airfield land;*
- b) not lead to undue disturbance to nearby local communities through traffic, noise, aircraft activity or other uses;*
- c) protect and where possible enhance the countryside and character of the landscape, natural and cultural heritage;*
- d) be accessed satisfactorily and not generate unacceptable traffic on the surrounding road network*
- e) be accessible by public transport and include measures to encourage walking and cycling;*
- f) incorporate high quality design and construction including the need for energy efficiency, renewable energy and waste management.*

3 METHODOLOGY

3.1 Desk Study

- 3.1.1 The Government's Multi- Agency Geographical Information for the Countryside (MAGIC) database was reviewed for the presence and extent of statutory designated sites within a 5km distance.
- 3.1.2 Leicestershire and Rutland Environmental Records Centre (LRERC) was contacted for data it may hold on non-statutory designated sites, specially protected species, or species of a raised conservation status, within 2km of the Site.
- 3.1.3 Previous survey reports produced by Mott MacDonald (2014), and WYG (2015) as well as a Wildlife Report of North Luffenham Airfield in 2016 and 2017 (Tim Collins).

3.2 Habitat survey

- 3.2.1 An 'extended' Phase 1 Habitat Survey was carried out across the Site on the 7th and 8th March 2018; this followed the methodology presented by the JNCC (2010). The Phase 1 technique aims to classify each habitat into categories based on the assemblage of plant species present, with the dominant plant species for each habitat being noted. In some cases, sub-divisions or modifications of the standard categories can be made where this is useful in providing further detail.
- 3.2.2 An 'extended' form of the basic methodology was employed to determine whether any notable or protected species of fauna utilise the study area, in particular badgers, bats, amphibians, reptiles and birds. In the absence of direct evidence of these species, an assessment was made on the potential for the site to support such species.

3.3 Ecological Zone of Influence

- 3.3.1 When reviewing the value of ecological features within a site and the potential impact of any proposed development, it is necessary to consider the Ecological Zone of Influence (EZol). The EZol is an area defined by the assessment in which there may be receptors subject to impact as a result of the Proposed Development. Such receptors are likely to include designated sites, notable habitats and protected species, and these could be affected directly, e.g. works affecting a receptor within the Site such as removal of a building occupied by bats, or indirectly, e.g. a designated site downriver of a development being affected by sediment deposition. The EZol is defined as the areas/resources that may be affected by the biophysical changes caused by activities associated with the Proposed Development.

3.4 Survey Constraints

- 3.4.1 Access was available to all external areas of the Site. March is deemed a suitable time to carry out an extended Phase 1 survey, although species which flower later in the year may have been missed or under recorded. Due the nature of the habitats present, and the species previously identified there, an evaluation of the flora based on a March site visit is likely to underestimate the value of the Site. However, sufficient information has been collected to provide a preliminary assessment of the habitats present and their likely ecological value.

- 3.4.2 The survey was undertaken in line with the latest sectoral guidance from the Chartered Institute of Ecology and Environmental Management (CIEEM) and BS 42020: 2013 *Biodiversity – Code of Practice for Planning and Development*.

4 SITE DESCRIPTION

4.1 Desk Study

Statutory Sites

- 4.1.1 No part of the Site, or the immediate surrounding area, is subject to any statutory designation on ecological grounds.
- 4.1.2 Rutland Water, which holds the multiple designation of Special Protection Area (SPA), Ramsar Site and Site of Species Scientific Interest (SSSI), lies approximately 450m to the north of the Site at its closeted point. The 1555ha SPA is designated due the internationally important number of winter waterfowl it supports, as shown in Table 1.

Table 1. Minimum and Maximum number of recorded waterfowl at Rutland Water SPA.

Species	Population	
	Min	Max
Shoveler	526	526
Teal	1420	1420
Wigeon	4236	4236
Gadwall	1156	1156
Tufted duck	2289	2289
Goldeneye	399	399
Mute swan	285	285
Coot	3962	3962
Goosander	48	48
Great crested grebe	762	762

* - data from Natura 2000 Standard Data Form, JNCC (2015).

- 4.1.3 The SPA also regularly holds more than 25000 over wintering waterfowl.
- 4.1.4 There are an additional six SSSIs within 5km of the Site as summarised in Table 2.

Table 2. SSSIs within 5km of the Site

SSSI Name	Distance and Direction from Site	Main reason for designation
Wing water treatment works	3.7km to SW	Designated for geological reasons.
Luffenham Heath Golf Course	2.0km to SE	The site includes fine examples of calcareous grassland developed on soils derived from the Jurassic Lower Lincolnshire Limestone.
Noth Luffenham Quarry	1.4km to SE	A disused limestone quarry which contains a rich flora characteristic of calcareous grassland.
Ketton Quarry	1.5km to E	A complex mosaic of grassland, scrub and woodland vegetation has developed in disused pits and on spoil heaps.
Sacklewell Hollow	3.5km to NE	The site comprises a complex of semi-natural habitats and contains

SSSI Name	Distance and Direction from Site	Main reason for designation
		some of the best examples of species-rich neutral marsh remaining in Leicestershire
Empingham Marshy Meadows	3.3km to N	The site contains some of the best remaining examples of base-rich marsh and fen in Leicestershire and is representative of marsh communities in Central and Southern England

Non-Statutory Sites

- 4.1.5 LRERC provided the description and location of several Local Wildlife Sites (LWS) within 2km of the Site which comprise four road verges to the north east of the Site which support important areas of calcareous grassland, a species rich hedge some 1.8km to the west of the site and several ancient crack willow trees 1.9km to the south west.
- 4.1.6 More significantly, the airfield section of the Site has been highlighted as a potential LWS due to the large area of moderately species-rich calcareous/mesotrophic grassland it supports. The area is also said to be important for ground nesting birds, including curlew as well as migrating wheatear.

Species Records

- 4.1.7 LRERC provided over a thousand reports of specially protected species, or species of a raised conservation status for the Site, or the immediate surrounding habitat. However, the majority of these relate to relatively common bird species with multiple records. For example, over 400 of the one thousand records are for sightings of red kite, with a further one hundred relating to grey partridge.
- 4.1.8 Of note, however, are confirmed records of breeding barn owl, curlew, grey partridge, lapwing, swallow and spotted flycatcher, with probable breeding hobby.
- 4.1.9 There are also records of common pipistrelle and brown long-eared bat for the area. Great crested newt and smooth newt have been recorded breeding some 275m east of the site boundary.

Previous surveys

- 4.1.10 A Preliminary Ecological Assessment of an area that more or less corresponds with the current Site boundary was undertaken by Mott MacDonald on behalf of the MoD and DIO in 2014. The habitats described in the 2014 survey report are consistent with those encountered throughout the 2018 Phase 1 survey. Although no species-specific surveys were completed as part of the 2014 survey, the potential for areas of the Site to support bats, great crested newts, common reptile species and breeding birds was noted. The authors concluded that the Site does not have any suitable dormouse habitat, and no evidence of badgers was encountered.

- 4.1.11 In 2015 a further survey was undertaken by WYG of a smaller area surrounding the main kennel area, free running training area and secure training area. The 2015 survey were undertaken as part of a previous proposal to expand the current canine facilities and comprised a walk over survey and an assessment of the armoury building to support roosting bats.
- 4.1.12 Wildlife Reports for the Airfield produced by a local naturalist, Tim Collins, for 2016 and 2017 have also been reviewed. Collins has been ringing birds within Airfield since 2008 as part of the BTO's national bird ringing scheme. Although no systematic data are presented within these reports, Collins does give an insight to the value of the Site for its bird assemblage, as well as information on the diversity of butterflies and some data on the botanical interest within the grassland.

4.2 Phase 1 Habitat Survey

Habitats

- 4.2.1 St George's Barracks is located between of North Luffenham village and Rutland Water. The village of Edith Weston lies immediately to the north west, whilst more or less open agricultural and surrounds the Site on the remaining three sides.
- 4.2.2 In ecological term, the Site can be spilt into three distinct areas: St George's Barracks itself including the Officers' Mess, North Luffenham Golf Course in the central area and North Luffenham Airfield to the west (Figure 1). Although the three areas are contiguous with one another and all form part of the Site, they are described separately below for ease.

St George's Barracks

- 4.2.3 St George's Barracks occupies the western section of the Site; the Officers' Mess is contiguous with the Barracks on the western side of Edith Wilson Road. Both sites are typified by numerous two storey building, predominantly supporting flat roofs, set amongst relatively open areas of amenity grassland. There are numerous scattered trees throughout. The majority of the buildings, and associated tree planting, dates from the late 1940s and early 1950s.
- 4.2.4 The following Phase 1 Habitat types were encountered within the Barracks and Officers' Mess section of the Site:
- Semi-mature woodland;
 - Scattered trees;
 - Ornamental shrub;
 - Waterbodies;
 - Amenity grassland; and
 - Buildings and hardstanding.

- 4.2.5 Each habitat is depicted on Figures 2 and described in turn below, along with the more prominent species being given.

Semi-mature woodland

- 4.2.6 Towards the south of the Barracks are two areas of woodland (W1 & W2, Figure 2). Woodland W1 comprises is dominated by silver birch *Betula pendula*, with ash *Fraxinus excelsior* and sycamore *Acer pseudoplatanus* also present, as is the occasional pine *Pinus* sp. The understorey comprises elder *Sambucus nigra* and hazel *Corylus avellana*. The ground flora is more or less bare.
- 4.2.7 W2 (Figure 2) consists of a thin strip of larch *Larix* sp mixed with pine species.

Scattered trees

- 4.2.8 There are numerous scattered individual trees within the Barracks and Officers' Mess, many of which appear to have been planted as landscaping features during the various construction phases of the Site. Mature cherry *Prunus* sp. is perhaps the most frequent species present, although oak *Quercus* sp., ash, sycamore, horse chestnut *Aesculus hippocastanum*, lime *Tilia* sp. and willow *Salix* sp. are also abundant.

Ornamental shrub

- 4.2.9 Beds of non-native ornamental shrub are present around many of the buildings within the Barracks and Officers Mess.

Waterbodies

- 4.2.10 There are two Emergency Water Storage (EWS) tanks within the Site which are highly artificial in nature.

Amenity grassland

- 4.2.11 Amenity grassland, in the form of formal lawn areas, sports pitches and dog training areas, is the most abundant habitat within both the Barracks and Officers' Mess. The sward appears to be subject to regular intense management throughout, with the grass being approximately 30 – 50mm across the Site during the March 2018 survey.
- 4.2.12 The sward is relatively species poor, as is typical of this habitat type, with the graminoid species perennial rye grass *Lolium perenne*, creeping bent *Agrostis capillaris*, smooth stalked meadow grass *Poa pratense* and cock's-foot *Dactylis glomerata* noted; towards the west of the site, fine leaved grasses, such as red fescue *Festuca rubra* become frequent. Forbs are infrequent within the sward, but where they are present, they include daisy *Bellis perennis*, creeping buttercup *Ranunculus repens*, ribwort plantain *Plantago lanceolata*, dandelion *Taraxacum officinale* agg. and common mouse ear *Cerastium fontanum*.

Buildings and hardstanding

- 4.2.13 Buildings and hardstanding are frequent throughout the Barracks and Officers' Mess. Within the north western end of the Barracks the buildings are typified by two storey residential dwellings and offices set out around a grid structure of internal hardstanding

roads; the majority of the buildings support flat roofs, although several buildings do possess pitched, tiles roofs.

4.2.14 The central area of the Barracks contains three curved-roof, former military, as well as associated smaller scale built form with pitched roofs. The south eastern portion of the barracks contain fewer buildings, which comprise dog kennels in the main.

4.2.15 The buildings within the Officers' Mess are similar to the north western section of the Barracks with the exception that a greater proportion of the buildings support pitches, tiled roofs.

4.2.16 The sub-area includes the dog kennels, outdoor assault and fitness courses / structures in areas of amenity grassland.

North Luffenham Golf Course

4.2.17 North Luffenham Golf Course is situated toward the centre of the Site, between the Barracks and the Air Field. The nine-hole course, which was established over 30 years ago, contains habitat typical of similar golf course, comprising well maintained amenity grassland interspersed with linear tree belts; there are two waterbodies within the course.

4.2.18 The following Phase 1 Habitat types were encountered within the Golf Course:

- Scattered trees;
- Scrub;
- Waterbodies;
- Semi-improved grassland;
- Amenity grassland; and
- Buildings and Hardstanding.

4.2.19 Each habitat is depicted on Figure 2 and 3 and described in turn below, along with the more prominent species being given.

Scattered trees

4.2.20 Linear lines of scattered trees, which form more or less continuous belts in places, separate the main fairways with the course; additional planting is also present around the periphery. Again, cherry is frequent with silver birch, willow, larch, pine, ash and sycamore also recorded.

Scrub

4.2.21 Around the edge of the course there are several areas of continuous scrub dominated by hawthorn *Crataegus monogyna* and elder *Sambucus nigra*, with hazel and blackthorn *Prunus spinosa* also present.

Waterbodies

- 4.2.22 There are two waterbodies within the golf course. Pond P1 (Figure 2) is located close to the Golf Club house at the north of the course. It is approximately 30m by 15m and surrounded by willow. At the time of the March 2018 survey aquatic plants were scarce, however, reedmace *Typha latifolia* was evident as was soft rush *Juncus effusus*.
- 4.2.23 The second waterbody, P2 (Figure 2) appears to be a relatively new feature. Indeed, on recent aerial photographs it appears as sand bunker. The waterbody is artificially lined and is devoid of aquatic vegetation.

Semi-improved grassland

- 4.2.24 Around the periphery of the golf course and either side of the main tree lines, a species poor, semi-improved grassland community has developed. Within these areas, the swards are relatively rank due to a reduced intensity in management and comprises species such as false oat grass *Arrhenatherum elatius*, cock's-foot, Yorkshire fog and *Holcus lanatus* with some tall ruderal species present including common nettle *Urtica dioica* and creeping thistle *Cirsium arvensis*.

Amenity grassland.

- 4.2.25 As would be expected, the majority of the golf course comprises intensely managed amenity grassland. Again, the sward is relatively species poor, comprising typical amenity grassland species such as perennial rye grass, red fescue, creeping bent, smooth stalked meadow grass and Yorkshire fog. Due to the intense management of the golf course, forbes are uncommon within the sward with daisy, creeping buttercup and ribwort plantain being recorded only occasionally.

Building and Hardstanding

- 4.2.26 A single building, the club house, which comprised a single storey, timber clad pavilion style building, is located towards the north of the golf course.

North Luffenham Airfield

- 4.2.27 The Airfield occupies the eastern two thirds of the Site. It is typified by expansive areas of open grassland. Areas of woodland, scrub and hedgerows are present around the periphery.
- 4.2.28 The following Phase 1 Habitat types were encountered within the Airfield:
- Semi-mature woodland;
 - Scrub;
 - Hedgerows;
 - Semi-improved grassland;
 - Improved grassland; and

- Buildings and hardstanding.

4.2.29 Each habitat is depicted on Figure 3 and described in turn below, along with the more prominent species being given.

Semi-mature woodland

4.2.30 A small block of woodland, W3 (Figure 2), is located along the south western side of the Airfield; it is similar in composition to W1.

4.2.31 W2 at the south of the Airfield is a small area of semi-mature, broad-leaved woodland dominated by ash and sycamore with an understorey of hawthorn, blackthorn and elder. The ground flora is limited, but where it is present it comprises Lords-and-Ladies *Arum maculatum*, common nettle, ivy *Hedera helix* and cleavers *Galium aparine*. A further, small block of woodland, W5, is located at the eastern extreme of the Site.

Scrub

4.2.32 Several areas of continuous scrub are present around the edge of the Airfield (Figure 3). The scrub comprises hawthorn and blackthorn in the main, although the area to the north of the Site are slightly more diverse, containing hazel and blackthorn as well as several individual trees.

Hedgerows

4.2.33 Several species poor hedgerows, containing a mix of hawthorn and blackthorn with the occasion hazel and holly *Ilex aquilinum* are present around the periphery of the Site. They are generally well managed, being boxed flailed to approximately 1.2m in height.

Semi-improved grassland

4.2.34 Semi-improved grassland is the most abundant habitat within the Airfield, occupying approximately 90% of the land area. Although March is not an ideal time to survey grassland, given the underlying geology of the Site and the composition of the sward, which appears to contain varying amounts of fine leaved grasses, it is likely that much of the Airfield supports relatively species rich calcareous grassland, although some areas may tend towards mesotrophic grassland. Indeed, surveys undertaken in 2017 (Tim Collins) identified as species rich sward containing several uncommon and locally scarce species including bee orchid *Ophrys apifera* and knapweed broomrape *Orobanche elatior*.

Improved grassland

4.2.35 At the western end of the Airfield, outside the perimeter fence, is an agriculturally improved grass field, whilst towards the north of the Site are several small fields used for horse grazing.

Building and hardstanding

4.2.36 The Airfield supports derelict runways with several large scale commercial buildings towards the north and historic MoD building towards the south east. Additional, brick built MoD properties are also located towards the west of the Airfield.

4.3 Fauna

Reptiles

- 4.3.1 Suitable habitat exists within the golf course and Airfield for common reptile species; common lizard, grass snake and adder have all been recorded previously from the Airfield (Tim Collins 2017).

Amphibians

- 4.3.2 Great crested newts have been recorded within 275m of the eastern boundary of the Site and suitable terrestrial habitat is present within the part of the Site. Pond P1 within the Golf Course provides potentially good habitat for amphibians; a previous Habitat Suitability Index (HSI) for the pond returned an index of 0.77, which places it in the 'good' category. The two EWS are less suitable for breeding amphibians.

Birds

- 4.3.3 Through work undertaken by Collins, it would appear that the Airfield provides breeding habitat for numerous bird species, including barn owl, curlew, grey partridge, lapwing, swallow and spotted flycatcher. It also supports an important number of several migratory species on passage.
- 4.3.4 The Barracks and Officers' Mess would appear to be of little importance for breeding birds, although commoner species associated with urban environments may exploit the limited breeding opportunities.

Bats

- 4.3.5 The Site is likely to support roosting and foraging bat species. Although the majority of the buildings within the Barracks support flat roofs, hence are unsuitable for roosting bats, some do have pitched tiles roofs which may provide roosting opportunities. Some of the more mature trees within the Barracks were noted as possessing potential roost features in the form of holes and splits in the trunks.

Badger

- 4.3.6 A main badger sett, with up to 12 active holes, was encountered within the Airfield, with additional evidence of badger activity noted within the Golf Course (See Confidential Annex).

Other mammals

- 4.3.7 Brown hare was noted to the south of the Airfield during the March 2018 survey. Evidence of fallow deer, fox and rabbit was also encountered. No habitat suitable for dormouse was identified within the Site.

5 EVALUATION

5.1 Definition of ecological value

- 5.1.1 While some level of subjectivity is unavoidable when apportioning value to ecological features and resources, certain parameters and points of reference can be used to help ensure consistency. Those used in this appraisal are explained below.
- 5.1.2 Sites already possessing statutory or non-statutory nature conservation designations will have been subjected to some form of evaluation process in the past, and their importance defined at a geographical scale (e.g. international, national, local). For these, evaluation will generally reaffirm their qualifying attributes, or in some cases may identify where designation may no longer be appropriate.
- 5.1.3 Factors such as extent, naturalness, rarity, fragility and diversity are all relevant to the determination of ecological value, and for the evaluation of sites and habitat features outside designated sites, these and other criteria as described by Ratcliffe (1977), may be applied. Ratcliffe's criteria are integral to the procedure for selecting both Sites of Special Scientific Interest and many non-statutory designation systems in the UK, and therefore remain an accepted standard for site evaluation.
- 5.1.4 In applying these criteria, attention may be drawn to the relative scarcity or abundance of features within the survey area and in the wider geographical context. Some criteria are however absolute and not relative to scale. Ancient woodland, for example, is fragile irrespective of whether it is being considered in an international or local context. Similarly, the value of an otherwise poor habitat may be elevated if it is central to the survival of a rare species.
- 5.1.5 Where evaluation is important for the purposes of informing decisions related to land-use planning and development control, the above approach needs to be supplemented by consideration of whether individual species are subject to legal protection, or whether habitats or species are present which have been identified as 'priorities' for biodiversity conservation in the UK. Planning authorities have a statutory duty to further biodiversity objectives and the presence of such resources may be material to the determination of development control decisions.
- 5.1.6 Further indications of conservation status for individual species are provided by reference to the Red Data Book system, the Vascular Plant Red Data List for Great Britain (Cheffings and Farrell 2006) or for birds by reference to the Birds of Conservation Concern (Eaton et al. 2015) This divides birds into three lists; Red List (birds of high conservation concern), Amber List (birds of moderate conservation concern) and Green List (not of conservation concern).
- 5.1.7 Scales of comparison varying from the international to the context of the local area may be used to define the measure of importance attached to individual features. The definition of geographic terms can vary, but in this evaluation the geographic frame of reference contained within the CIEEM guidelines (CIEEM 2016) is used.

5.2 Evaluation of the ecological resource of the site

Designated Sites

- 5.2.1 Rutland Water, SPA, Ramsar and SSSI lies approximately 450m to the north of the Site at its closest point. Rutland Water is of international importance for the winter waterfowl populations it supports. Rutland Water also supports England's first breeding osprey population (since they went extinct in England in 1840), with eight pairs breeding in 2017; in 2014, this represented one of only three known breeding sites.
- 5.2.2 The remaining SSSIs identified within 2km of the Site are likely to be outside the Ecological Zone of Influence of any redevelopment, hence are not considered further.
- 5.2.3 The entire Airfield has been identified as a potential LWS due to the large extent of moderately species-rich calcareous/mesotrophic grassland it supports. Although no detailed botanical survey data exists for the Airfield, from the species presented by Collins (2017) much of the Site would appear to meet the criteria for selection as a LWS for calcareous grassland (LCC 2011). It is also likely that the grassland would qualify as a Habitat of Principal Importance Under Section 40 and 41 of the NERC Act 2006. Hence, the Airfield would be assessed as being of County Importance due to the grassland community it supports.

Habitats

- 5.2.4 With the exception of the grassland community within the Airfield, the habitats encountered throughout the Site are of limited ecological value. Within the Barracks and Officers' Mess the habitats comprise mainly built structure, hardstanding and amenity grassland. All of these are intensely managed and artificial in nature, hence are of Negligible value. There are numerous semi-mature broad-leaved trees throughout the Barracks and Officers' Mess which may offer some limited foraging and breeding opportunities for birds, as well as providing roost sites for bats. Hence, the scattered trees would be assessed as being of Site value.
- 5.2.5 The Golf Course also supports intensely managed habitats in the form of amenity grassland and tree belts. The amenity grassland has been assessed as being of Negligible value, whilst the tree belts are considered of Site value at best. The Pond P1 increases the habitat diversity within the Golf Course, but again has been assessed as being of Site value only. If it is shown to contain breeding great crested newts, its value would increase to Local.
- 5.2.6 As discussed in Section 5.2.3, the grassland within the Airfield is likely to be of County value. The woodland blocks are of Site value only, being limited in extent, displaying a paucity of ground flora and dominated by few canopy species.
- 5.2.7 All the hedgerows within and around the Site are species poor and highly managed. Although, they may classify as HPis (the JNCC estimate that 84% of countryside hedgerows in GB would be included as HPis (Maddock 2008)), they are of negligible ecological value.

Species

- 5.2.8 No specially protected species, or species of a raised conservation status have been recorded from within the Barracks, Officers' Mess or Golf Course. It is reasonable to assume

that these areas may well support some of the commoner bat species, as well as common widespread bird species associated with urban environments. If this is confirmed through species specific surveys, then they would be assessed as being of Site value.

- 5.2.9 The pond of the Golf Course has the potential to support great crested newts; if this were shown to be the case, this would be assessed as being of Local value.
- 5.2.10 Suitable habitat exists within the Golf Course to support common, widespread reptile species such as common lizard and grass snake. These would be assessed as being of Local value.
- 5.2.11 The Airfield has also been shown to be an important resource for breeding and passage birds. This re-enforces the assessment of the Airfield being of County value.
- 5.2.12 In summary, the Barracks, Officers Mess and Golf Course have limited ecological value, collectively being no more than Site value at best. In contrast, the Airfield is likely to be of County value due to the potential presence of moderately species rich grassland and important bird assemblages. An internationally important site, Rutland Water SPA, lies to the north of the Site and is likely to be within the EZol.

6 CONSTRAINTS TO RE-DEVELOPMENT

- 6.1.1 Any re-development of the Site will have to ensure there is no negative impact upon Rutland Water SPA, Ramsar and SSSI. Measures will need to be put in place to avoid an increase in recreational disturbance in and around Rutland Water, as well as ensuring there is no disruption to flight lines used by waterfowl over the Site. Any proposal for the Site will need to be accompanied by a Habitat Regulations Assessment which will need to identify and address potential negative impacts upon the SPA.
- 6.1.2 Although it is yet to be confirmed, it is likely that a detailed botanical assessment of the grassland within the Airfield will establish that is a moderately species rich calcareous grassland which would be classified as a HPI. Under Section 40 of the NERC Act 2006, a Local Authority must have regard to the presence of such a habitat a when determining a planning application. Furthermore, although not implicit with Policy CS21 of Rutland Core Strategy Development Plan, it may be reasonable to assume the a potential LWS is afforded the same level of protection in policy as a LWS, hence the Airfield would be afforded some level of protection.
- 6.1.3 The redevelopment of the Site would likely lead to the temporary loss of the majority of the grassland within the Airfield through the extraction of mineral content, with a significant extent lost permanently. Whilst the re-establishment of some areas of grassland may be possible within ecological enhancement areas post mineral extraction, an overall reduction in the extent of the grassland community would need to be accepted.
- 6.1.4 The Barracks, Officers' Mess and Golf Course have the potential to support protected species such as bats, great crested newts and reptiles. If these species groups are shown to be present, it is likely that suitable mitigation can be provided within any redevelopment of the Site. Hence, their presence is not considered a major constraint to re-development of the Site.
- 6.1.5 Badger activity has been recorded throughout the Site. Although fully protected under the Protection of Badgers Act 1992, badgers are still considered one of Britain's more common large mammal species; the legal protection is principally for animal welfare reason. Whilst any re-development of the Site will have to consider the presence of active badger clan(s) within the Site, their presence should present any constraint to re-development.

7 SUMMARY AND RECOMMENDATIONS

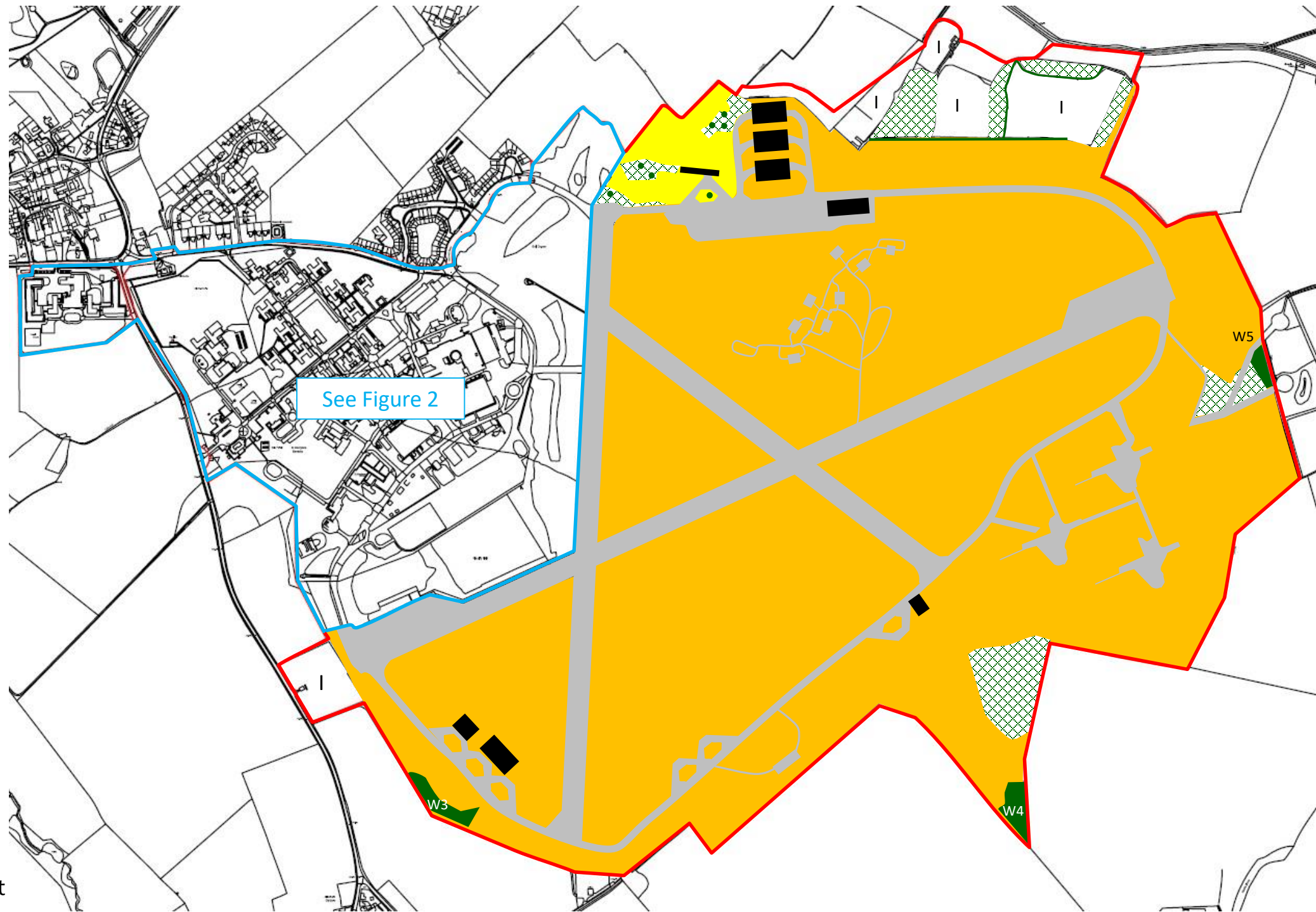
- 7.1.1 An Extended Phase 1 Habitat survey, in conjunction with a Desk Study data search, was undertaken across St George's Barracks in March 2018. Previous survey data was also reviewed. The Site can be split into three separate, although contiguous, areas:
- St George's Barracks and Officers' Mess;
 - North Luffenham Golf Course; and
 - North Luffenham Airfield.
- 7.1.2 The Barracks and Officers' Mess was found to comprise a variety of buildings ranging from residential blocks and offices through to large hangers, set amongst formal amenity grassland with numerous semi-mature scattered trees. The habitats within the Barracks and Officers' Mess were assessed as being of limited ecological value, although the buildings and more mature trees may provide some limited foraging and breeding opportunities for common bird species associated with urban environments, as well as potential bat roosting features.
- 7.1.3 The habitats within North Luffenham Golf Course are typical of such an area, being dominated by intensely managed amenity grassland, with less intensely managed areas around the periphery. Numerous linear tree belts act as barriers between the fairways. Two waterbodies were also identified within the golf course, one of which has presents suitable habitat to support great crested newts. The golf course also has the potential to support common reptile species, common widespread breeding birds and bats; limited evidence of badger activity was also identified during the March 2018 survey.
- 7.1.4 The ecological features within the Barracks, Officers Mess and Golf Course have limited biodiversity value, collectively being no more than Site value at best.
- 7.1.5 North Luffenham Airfield is typified by an expansive area of grassland, which on further detailed survey, is likely to be a mixture of moderately species rich calcareous and mesotrophic grassland. The area has also been shown to be important for breeding and passage birds. The entire Airfield has been classified as potential Local Wildlife Site and it reasonable to assume that detailed botanical surveys undertaken the appropriate time of year would support the proposed designation. The grassland communities are also likely to be classified as HPI under Section 40 and 41 of the NERC Act 2006. For these reasons, the Airfield has been assessed as being of County value.
- 7.1.6 Immediately to the north of the Site lies Rutland Water, which holds the multiple designation of SPA, Ramsar Site and SSSI. Rutland Water is of international importance due the winter waterfowl population it supports. It also holds a nationally important population of breeding ospreys, representing one of only three sites in England.
- 7.1.7 Additional species specific survey would be required to fully evaluate the ecological resources within the Site. However, based on the information collected to date, it is likely that any re-development of the Barracks, Officers' Mess and Golf Course would be able to provide adequate mitigation and/or compensation for any specially protected species that

may be present. Hence, there would be no significant ecological constraint to re-development.

- 7.1.8 The Airfield is likely to support habitats of County value and would no doubt qualify as a LWS, as well as being classified as HPI. Whilst the designation as a LWs and classification as HPI does not provide strict protection of the habitats or site as whole, it does represent a material consideration in the planning process. Opportunities will exist within the masterplan to re-create or re-instate the grassland areas and with the correct management regime in place, it would be possible to improve the composition of sward and ensures its long-term sustainability. However, the overall extent of the grassland area would be significantly reduced.
- 7.1.9 Any re-development of the Site would need to ensure that there is no adverse impact upon the integrity of Rutland Water SPA and its qualifying features, in line with Regulation 63 of the Conservation of Habitats and Species Regulations 2017. Potential impacts may include an increase in recreational disturbance due to an increase in the number of residents in the local area, an increase in noise and visual impact levels during any construction period, potential alteration to local hydrological regimes and an increase air pollution. Careful consideration would need to be given the potential impacts with adequate avoidance measures put in place to ensure the integrity of the SPA is maintained.

REFERENCES

- BCT 2016. *Bat Surveys – Good Practice Guidelines, 3rd Edition*. Bat Conservation Trust, London.
- Bibby, C.J., Burgess, N.D., Hill, D.A. and Mustoe, S.H. 2000. *Bird Census Techniques. Second Edition*. Academic Press
- Charter Institute of Ecology and Environmental Management (CIEEM) 2016. *Guidelines for Ecological Impact Assessment in the United Kingdom and Ireland Second Edition*. CIEEM, Winchester.
- Cheffings, C.M. & Farrell, L. (eds), 2005. *The Vascular Plant Red Data List for Great Britain*. Joint Nature Conservation Committee.
- Collins, T. 2017. *North Luffenham Airfield Wildlife Report 2017*. Unpublished Report for the MoD.
- Eaton MA, Aebischer NJ, Brown AF, Hearn R, Lock L, Musgrove AJ, Noble DG, Stroud D, and Gregory RD. 2015. Birds of Conservation Concern 4: the population status of birds in the United Kingdom, Channel Islands and the Isle of Man. *British Birds*. **108**: 7080-746.
- English Nature. 2001. *Great crested newt mitigation guidelines*. Peterborough, English Nature.
- Froglife 1999. *Reptile Survey. Froglife Advice Sheet 10*. Froglife
- JNCC 2010. *Handbook for Phase 1 habitat survey - A technique for environmental audit*. Joint Nature Conservation Committee, Peterborough.
- LCC. 2011. *Guidelines for the selection of Local Wildlife Sites in Leicester, Leicestershire and Rutland*. Leicestershire County Council.
- Maddock, A. (Ed) 2008. (Updated 2011) *UK Biodiversity Action Plan; Priority Habitat Descriptions*. BRIG
- Ratcliffe. D.R. 1977 *A Nature Conservation Review (Volumes 1 & 2)*. Cambridge University Press.
- Thornton, P. S. 1988. Density and distribution of badgers in south-west England - a predictive model. *Mammal Review*. **18**: 11-23.



Legend:
See attached sheet

Drawing No: Figure 3
 Title: Phase 1 Habitat Map (eastern section)
 Date: April 2018
 Project: St George's Barracks
 Client: RegenCo



20 Soames Place
 Wokingham
 Berks RG40 5AT

info@derekfinnie.com



Legend:
See attached sheet

Drawing No: Figure 2
 Title: Phase 1 Habitat Map (western section)
 Date: April 2018
 Project: St George's Barracks
 Client: RegenCo



20 Soames Place
 Wokingham
 Berks Rg40 5AT

info@derekfinnie.com

Legend for Figures 2 and 3:

-  Semi-mature woodland
-  Scattered tree
-  Scrub
-  Hedgerow
-  Improved grassland
-  Species poor, semi-improved grassland
-  Amenity grassland
-  Semi-improved grassland
-  Waterbody
-  Hardstanding
-  Building
-  Site Boundary (Approx.)



20 Soames Place
Wokingham
Berks RG40 5AT

info@derekfinnie.com