

ROYAL ORDNANCE, BISHOPTON



REMEDIATION AND RECLAMATION EARTHWORKS

ENVIRONMENTAL STATEMENT

APPENDIX 14.7

REPORT ON BADGERS, OTTERS, WATER VOLES, BARN OWLS AND WATER FOWL OVER WINTER 2004 - 2005

October 2006



Ecological & Wildlife
Consultancy

ROYAL ORDNANCE BISHOPTON

REPORT ON BADGERS, OTTERS, WATER VOLES, BARN OWLS AND WATER FOWL OVER WINTER 2004/05.

(INCLUDES MITIGATION AND HABITAT ENHANCEMENT RECOMMENDATIONS)

April 2005

For

Cass Associates

on behalf of

Redrow and BAE Systems

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Refer to Tables**Table 1** ***Bird Records Winter 2004/05*****Refer to Figures****Figure 1** ***Ecological Mitigation*****Refer to Appendices****Appendix 1** ***Bird Data Jan-March 2005***

SUMMARY

Monitoring of the BAE Bishopton site was undertaken from November 2004 to March 2005 with regard to badgers, otters, water voles, barn owls, and wintering birds using the existing ponds near Dargavel House.

All badger social groups and main setts are still active. There is an increase in badger activity in the north of the site, and setts may be established here in due course. As the northern area will be subject to the main impact of development this area in particular will require regular monitoring.

Signs of otters have been recorded both throughout the recording period and all along the course of the Dargavel burn. It is clear that they enter the site and leave the site along the course of the burn and visit the ponds for forage. Future developments on the site should ensure continuity of access to and from the site and unrestricted access throughout the area both during and post any developments. The watercourse should be maintained free from any contamination, and opportunities taken to enhance the riparian corridor by physical restoration of past canalising operations, and appropriate planting (applicable to both Dargavel and Craigton burns).

Water voles have been recorded on site (although not by JDC Ecology). Further surveys for water voles should take place from April 2005 and be completed preferably by September 2005.

These species may further benefit from the Landuse Framework proposals for additional water bodies on the site, subject to appropriate siting, design, and maintenance.

Barn owls are breeding, roosting and foraging on the site. Their requirements are hollow trees or suitable buildings for nesting and roosting, and a supply of forage, usually in open rough grassland. Demolition and arboricultural works will need to take account of this species and no work undertaken without ecological consultation.

The variety and number of water fowl species is relatively low for mature ponds. The Landuse Framework shows the creation of 8 additional water bodies, and this can only be of benefit to those species that use lochs and ponds. All water fowl are however unwelcome close to an airport and liaison with BAA will be required with regard to the creation and management of water fowl habitats.

Large numbers of crows were recording roosting, in particular rooks, jackdaws, and carrion crows, and to a lesser extent magpies and one pair of ravens (flying over). As with waterfowl, corvids present a hazard to aeroplanes and consultation should take place with BAA with regard to management of these birds and their roosts. The ravens are not thought to be nesting on site whilst the other species (that may also include jays) are doing so.

The large heronry (30-35 nests) represents a significant ornithological feature and is likely to rank within the top few such sites in the region. It is likely that the presence of such a heronry would feature in scoping responses and the planning authority may also be required to address a heronry of this size under its obligations as arising from the Nature Conservation (Scotland) Act 2004. BAA is unlikely to welcome its presence.

Whilst geese were recorded flying over the site they were not recorded either grazing in the fields or roosting on the water bodies.

1.0 INTRODUCTION

This report was commissioned by Cass Associates on behalf of Redrow Homes with regard to monitoring of the BAE site a Bishopton over the winter of 2004/2005.

Monitoring was concerned specifically with the current status of badgers, otters, water voles, barn owls, and wintering birds using the existing ponds near Dargavel House.

2.0 METHODOLOGY

2.1 Badgers

Badgers were surveyed during November and December. An extensive survey and baitmarking exercise had previously been undertaken in 2002 and established several main setts and territories within the site, mainly to the south.

Monitoring consisted of a walkover of the site to identify new badger setts that may have established since that time, and confirm the current status of the main setts located in 2002. The walkover was not a comprehensive search of the entire site but targeted the known main setts and core territory areas, and re-checked the northern part of the site where development is most likely to occur.

2.2 Otters and Water Voles

There will be a requirement for further work on water voles in spring 2005, from late April, as water vole checks in the winter period are not sufficient to determine use of the site. Monitoring therefore focused on a spot check of the areas where water voles were found in 2002, and a check around the Dargavel ponds. Check was made for any signs of mink.

Otters were similarly monitored by a walkover of selected stretches of the major watercourses and the ponds for signs of otter and potential holts. The two watercourses are the Dargavel Burn and Craighton Burn

2.3 Barn Owl

Various nest sites were located in 2002. As barn owls are faithful to a site and will use it for roosting over winter as well as nesting, these nest sites were checked for signs of current activity ie sightings, pellets. Areas where barn owls were located in 2002 were also checked for signs of use such as perches.

2.4 Water Fowl

Five visits were made to the Dargavel ponds, one in each month of November 2004 to March 2005. The purpose of the visits was to identify which birds either resident or winter visitors are present, numbers, location on the ponds, and any use of adjacent areas.

3.0 RESULTS

3.1 Badger

3.1.1 *Known Main Setts*

Five main setts were recorded during 2003. These remain the main setts (MS) on site.

MS1: Dargavel Sett (south of Dargavel House)

The sett is still active, with freshly dug spoil outside several entrances, as is the single entrance close to Dargavel House (under the Lime tree) at NS 43306 69208. Two main latrines were

noted with fresh dung pits. The first at NS 43492 69243 and the second at NS 43564 69314. No new entrances were noted

MS2: Picrite Sett

This sett is still active with freshly dug spoil and a fresh dung pit noted in an established latrine. No new entrances have been formed.

MS3: Grey Clay

This sett is still active with movement of spoil from six entrances. No new entrances have been formed.

MS4: Raised Road

This sett is still active with freshly dug spoil from several entrances. A latrine with fresh dung was noted at NS 44747 67817, and another with 7 dung pits (not fresh) at NS 44512 68252.

MS5: Building Sett

Another active sett with movement of spoil and a latrine with five dung pits at NS 43713 67801. A latrine was also noted under spruce with three dung pits at NS 43665 67794. Several entrances (4) lie across the burn/drain from the above sett at NS 43655 67773. They are currently in use by rabbit, but badgers may be using two holes on an occasionally basis.

3.1.2 Checks In The North Of The Site

As this is the proposed development area and badgers are known to occur out with the site to the north, a check was made of the main areas of woodland, the perimeter, and other areas with potential sett locations as far as possible within the allocated time.

Badgers were not previously significantly active in this area, but evidence now suggests that they are accessing the site on a more regular basis, most likely for the forage available in the grazed fields (earthworms).

Rabbit burrows were located on the banked-up ground of a former bunker/building at NS 41477 70020. Some entrances are larger than would usually be expected for rabbit and could indicate a badger investigating these entrances, most likely in terms of predation on young rabbits.

A latrine was located by the mesh fence leading to the plantation at NS 41539 70674. Three gaps are in the concrete fence wall directly opposite, but no evidence of badgers at this time, ie hairs or tracks.

Another latrine was found by the side of a small burn, close to the fence at NS 41875 70910. The dung pits were large and actively used.

Badger hair was noted on the fence at NS 41875 70910 and NS 42213 69079

3.2 Water Vole

No signs of water vole were recorded. However, this is a period when field signs are difficult to detect and further checks would need to be carried out from April 2005.

3.3 Otter

Otter activity is clear throughout the site, with spraints noted on Dargavel Burn where it enters the site to the north, and the bridges at NS 43474 68697 (and 90m downstream), at NS 43279 70109 and at NS 43271 70083.

There are potential couch/lying up places frequently along the burn. Otter and mink tracks were found at the two bridges by the ponds at NS 43357 70123.

No holts were found at this time.

3.4 Barn Owl

Previous survey had identified one nest site and one potential nest site for barn owl. Checks of those two sites revealed no evidence of them being used by barn owl. However, the main nest site was identified as being in the building known as the 'Cathedral', which has now had its roof removed and this will have changed the conditions. The second was within a large building(s) and could not be verified.

A third breeding site was located on the 13 January 2005 at building 34/209 – NS 43943 69780, close to the Picrite badger sett.

Potential roosts indicated by presence of pellets were located at the following buildings:

- 28/206A – NS 43526 6821
- 52 ND CC RF Accom – NS 42651 69866
- Swing Cylinder Press 28/107A – NS 42439 70045 (this building links with additional buildings via a long covered conveyor belt. The main roost appears to be close to the main building but pellets were located elsewhere along the conveyor belt route and it would appear that the bird(s) is/are using several parts) ,.
- 29/104 – NS 42240 70377. Only one pellet was found and the building would appear to be favoured by jackdaws, possibly for nesting
- 42/101 – NS 43320 70088
- 30/506 – NS 42836 70746
- 22/115 – NS 42715 70974
- 43/304A – NS 42625 69133
- 24/101c – NS 42366 70934. The barn owl was in the roost at the time. This roost was re-visited on the 13 January 2005 – the owl was again in the roost at the time of the visit.

Barn owls have a large number of roost and nest opportunities in the buildings around the site. Site development will need to follow a strict working method that checks buildings (and any suitable trees) ahead of an area being impacted and undertakes mitigation work, ie nest box erection, at a suitable period before such impact.

3.5 Water Fowl

The table below lists the birds recorded over the three ponds (P1-3) over the five visits. Pond 1 (P1) is the smallest of the three and lies to the east. P2 lies to the south of P1 and is the longest of the three. P3 lies to the west of P1. A summary of the three ponds from January to March is given in Appendix 1 and provides a breakdown of the numbers of males and females over a dawn and dusk count.

Numbers increased for most species from January. Species likely to remain and breed here are goldeneye, mallard, moorhen, a pair of mute swans, tufted duck, and potentially the dipper and snipe. The cormorant will have been using the site for foraging, as will the heron, which is likely to come from the on-site heronry.

Table 1: Bird Records Winter 2004/5

Common Name	Scientific Name	Pond Number	Month Recorded	Largest Number Recorded
Cormorant	<i>Phalacrocorax carbo</i>	P1	Nov, Dec, Jan	1
Dipper	<i>Cinclus cinclus</i>	P2	Feb	1
Goldeneye	<i>Bucephala cangula</i>	P1, P2, P3	Nov, Dec, Jan, Feb, Mar	11
Grey Heron	<i>Ardea cinerea</i>	P3	Nov, Dec	1
Little Grebe	<i>Tachybaptus ruficollis</i>	P1	Nov, Dec	1
Mallard	<i>Anas platyrhynchos</i>	P1, P2, P3	Nov, Dec, Feb, Mar	11
Moorhen	<i>Gallinula chloropus</i>	P1, P2, P3	Nov, Dec, Feb, Mar	2
Mute Swan	<i>Cygnus olor</i>	P1, P3	Nov, Dec, Feb, Mar	2
Snipe	<i>Gallinago gallinago</i>	P1	Feb	1
Tufted Duck	<i>Aythya fulligula</i>	P1, P2	Jan, Feb, Mar	28

3.6 Other Birds

3.6.1 Roosting Corvids

There is a large number of roosting corvids on the site. An estimated 2500 – 3000 corvids were recorded roosting on wires and trees to the south of Dargavel House over November and December. They were noted roosting in the same area on four of the survey visits, although numbers declined over February and March, probably as crows began to pair for breeding purposes. In January approximately 2000-3000 birds were present in the ETF area, which reduced to approximately 400-500 by March.

There is also a rookery at the site entrance where the two old houses are. Approx 13 nests were seen with an estimate of 20 potentially present during the nesting season. In March a group of approximately 100 corvids were roosting on the trees close to the site entrance, where the rookery is sited.

3.6.2 Geese

Several hundred geese (species unknown) were noted flying east to south towards the airport in December.

Approximately 300 geese (species unknown) were noted flying north to south towards the airport at dusk in February.

3.6.3 Herons

Two herons were seen flying east over the ponds towards the reported heronry in January. One was seen flying south to north over Pond 2 and another recorded on the burn east of the ponds at dusk in February.

In March during a dawn count the heronry in the woods behind ETF was visited. An estimated 30-35 pairs appear to be breeding at the site. Egg shells were noted below the trees, and their condition suggests that the young had been hatching the previous week. Some of the young birds could be heard calling when the parent birds approached the nests.

The number of nesting pairs makes this a substantial roost for Scotland. According to the Scottish Ornithologists Club (Clyde Birds 13, Clyde Bird Report 1999) a heronry was originally recorded in the trees on Barochan Moss. This was apparently displaced due to the practice of clay pigeon shooting.

3.6.4 Other Bird Records

Woodcock are present throughout suitable habitat areas.

Greater spotted woodpecker was recorded, potentially three individuals.

Bullfinch, Treecreeper, Goldfinch, flocks of Redwing and Fieldfare were all recorded.

Anecdotal evidence from the security personnel suggests that long-eared owls are at least roosting at the site. This habitat conditions would support this evidence, and it is likely that tawny owl would also be resident, with a further likelihood of both species breeding within the site.

Ravens were noted in December and January.

4.0 CONCLUSIONS

4.1 Badgers

Since 2003 the existing social groups within the site remain in situ. However there has been an increase in activity in the north part of the site. The badgers are likely to be coming into the site from outside the boundary for forage purposes, and, as social groups expand readily and young males need to seek out new territories, there is a possibility that setts could establish in due course. Outliers may already be present.

It is unlikely that badgers moving into this area and digging setts would create insurmountable problems in the future development of the site. It is more likely that any future badger situation can be dealt with by appropriate mitigation at the time. It is also impractical to try to stop badgers moving within this area and monitoring should continue on a twice yearly basis (or more frequently as planning approaches) in order to further inform master planning. Figure 1 (adapted from Cass Associates Landuse Framework dwg 715.25) indicated the proposed village extension which is the subject of the survey area plus a buffer zone of approximately 100m.

4.2 Otter and Water Vole

Otters and water voles are closely associated with but not restricted to water courses and water bodies. They require unrestricted access along these features to connect with other populations off site, a supply of forage resources, and suitable and sheltered locations to build their holts (otter) and burrows (water vole). Signs of otters have been recorded both throughout the recording period and all along the course of the Dargavel burn. The burns are highlighted on Figure 1 and numbered (3).

It is clear that they enter the site and leave the site along the course of the burn and visit the ponds for forage. Future developments on the site should ensure continuity of access to and from the site and unrestricted access throughout the area both during and post any developments. The watercourse should be maintained free from any contamination, and opportunities taken to enhance the riparian corridor by physical restoration of past canalising operations, and appropriate planting (applicable to both Dargavel and Craigton burns).

Water voles have been recorded on site (although not by JDC Ecology). Their requirements, in addition to those for otters above, are watercourse bank sides that allow for burrow construction and riparian vegetation, to give shelter and provide a forage resource. Further surveys for water voles should take place from April 2005 and be completed preferably by September 2005.

These species may further benefit from the Landuse Framework proposals for additional water bodies on the site, subject to appropriate siting, design, and maintenance.

4.3 Barn Owl

Barn owls are breeding, roosting and foraging on the site. Their requirements are hollow trees or suitable buildings for nesting and roosting, and a supply of forage, usually in open rough grassland.

At the present time there is a super abundance of suitable buildings for them to roost and nest in, and a large area of open rough grassland to hunt over. As almost all the buildings on the site are due to be demolished artificial nest boxes should be provided at the edges of the wooded area marked as dark green on the Landuse Framework drawing, indicating little or no past industrial activity. Figure 1 indicates potential locations for barn owl boxes, shown as (1). Boxes should be erected in loose groups of 3 with the addition of a tawny box per group (the latter to help prevent jackdaws taking all the boxes), and 8 such groups should be erected. The precise sighting should be subject to field visits, at which time suitable trees would be marked. An arborist would then erect the boxes to a method statement.

The woodland areas highlighted by (4) on Figure 1 and in which the barn owl boxes would be placed could be surveyed this year to inform long term woodland management.

4.4 Water Fowl

The variety and number of species is relatively low for mature ponds, and whilst it is not possible to scientifically qualify this statement within the scope of this work JDC Ecology has experience of numerous water bodies, and numbers at this site do appear relatively depressed. The habitat appears to be suitable for both more species and a higher population. The Landuse Framework shows the creation of 8 additional water bodies, and this can only be of benefit to those species that use lochs and ponds. All water fowl are however unwelcome close to an airport and liaison with BAA will be required with regard to the creation and management of water fowl habitats.

The waterbodies themselves (marked (2) on Figure 1) would benefit from a design statement geared to ecological improvements.

4.5 Corvids (Crows, rooks, jackdaws, magpie, jay, raven)

Very large numbers of crows were recording roosting, in particular rooks, jackdaws, and carrion crows, and to a lesser extent magpies and one pair of ravens (flying over). The birds prefer to roost in conifer plantations as these provide greater protection from the elements. As with waterfowl, corvids present a hazard to aeroplanes and consultation should take place with BAA with regard to management of these birds and their roosts. The ravens are not thought to be nesting on site whilst the other species (that may also include jays) are doing so.

4.6 Herons

The large heronry (30-35 nests) represents a significant ornithological feature and is likely to rank within the top few such sites in the region. It is likely that the presence of such a heronry would feature in scoping responses from organisations such as the Scottish Ornithological Club, Royal Society for the Protection of Birds, and others and that SNH would take the view that the heronry should be retained if possible. The planning authority may also be required to address a heronry of this size under its obligations as arising from the Nature Conservation (Scotland) Act 2004. BAA on the other hand is unlikely to welcome its presence.

4.7 Geese

Whilst geese were recorded flying over the site they were not recorded either grazing in the fields or roosting on the water bodies. The site therefore has no wintering goose population at this time. Significant goose flocks are known to use the wider area.

4.6 Other birds

The site with its mixture of habitats, contains a wide range of species, and future management should aim to maximise species diversity, especially those species that do not pose a threat to aerodrome security.

A variety of bird boxes (and bat boxes) should be erected around the site (see areas marked (6) on Figure 1). The bat boxes would be required to replace potential lost roost sites following demolition of buildings.

5.0 RECOMMENDATIONS

5.1 Survey Work

The following surveys should be implemented at this time. As proposals for the site are further developed additional work will be required, such as bat surveys of buildings pre-demolition, additional badger surveys in the existing territories if proposals suggest that setts may be affected, monitoring of the otter and water vole situation, and on-going bird monitoring.

- 1 A breeding bird survey should be carried out in May/June 2005 at least for the area of the proposed village extension.
- 2 Surveys for badgers should be carried out in the area of the proposed development at least on a 6 monthly basis.
- 3 A water vole survey should be carried out from April 2005 to confirm the status of this species on the site.
- 4 Woodland survey should be carried to inform long-term management planning of the woodland areas.
- 5 Otters should be surveyed on a 6-monthly basis.
- 6 Survey the watercourses with regard to preparing a design statement for river restoration works.

5.2 Habitat Maintenance/Improvements

The following suggestions are in response to Cass request for ideas to maintain the current ecological interest of the site in the short to medium term. Other suggestions may arise in due course and will be passed to Cass. It must be noted that site preparation will alter the habitats, and consequently the ecological interest will alter. It is not therefore possible to retain the existing ecological interest intact. Additionally, there is no way of preventing natural colonisation of the site by species not currently present, particularly birds, plants, amphibians, and invertebrates. Again, this would alter the ecological interest as it currently stands.

However, steps can be taken now to assist in retaining species that will be adversely affected by site preparation, and to prepare for impacts on other habitats and species in later years.

- 1 If proposals suggest that badger setts may be affected and that setts may need to be relocated within the existing territory then consideration should be given at the earliest date to locating suitable sites for artificial setts, and constructing these as soon as possible in order that badgers acclimatise to these setts. This would assist in any future sett closure and destruction that may be required.

However, sett closure and destruction should be a last resort option, and all attempts should be made to integrate the badgers into the development.

If proposals suggest that a badger social group may be threatened then courses of action must be discussed at the earliest date with Scottish Natural Heritage. If translocation (moving a social group to another area entirely) may be the only possibility, then this needs to be planned months, if not years in advance of the event, and the necessary sequence of legal, ecological, and animal welfare actions taken well ahead of any movement of the group.

- 2 Any site preparation works must consider free movement of the badgers throughout the site. Fences should not be erected that would prevent badgers moving under them, except after discussion with the ecologist.
- 3 Any site preparation works must not compromise any badger sett. As badgers are prolific on the site work, in particular earth moving works, should be preceded by a spot check for badgers. A Badger Management Plan was drafted in 2003 and this should be revisited, updated, and used with immediate effect.
- 4 Barn owl boxes should be erected at the soonest date (See Figure 1).
- 5 Bat and Breeding Bird Method Statements should be compiled for immediate use with regard to any impacts that may occur as a result of site preparation. Buildings and trees can contain bats at any time of the year. Buildings, tree, areas of scrub, grassland, and water can all contain nesting birds. All wild birds, their nests while active or being built, eggs, and young are protected by the Wildlife & Countryside Act 1981.
- 6 The Method Statements should be circulated to all personnel, including any contractors or sub contractors that would be involved in any works that could affect bats or breeding birds. No work such as demolition, tree felling, scrub clearance, or other arboricultural works, or soil stripping in grassland areas, should be undertaken without reference to and adherence with the Method Statements. The Method Statements and the Badger Management Plan should form part of the induction for all site personnel.
- 7 Bird and bat boxes should be erected around the site (See Figure 1).
- 7 During any site preparation works the two burns on site should be protected at all times from water pollution or contamination, and damage to the banksides or channels. A stand-off of 10m from either bankside should be applied, and any works necessary within this zone should be undertaken only after consultation with the ecologist. This will assist in maintaining the current interest of the burns until further detail is known about the plans for the site, and a riparian method statement can be produced.
- 8 As soon as the client has agreed what work can be done at this time, a Landscape and Habitat Management Plan should be drafted to ensure that the interests of the site and any habitat maintenance and/or improvement works are integrated and managed pre, during, and post development. The LHMP would include all of the above elements and others as further decided upon, such as a design statement for waterbodies, river restoration plans for the watercourses, and a woodland management plan. The LHMP would be an iterative document, subject to review on an on-going basis.

5.3 Other

- 1 A Bird Control Management Plan should be considered should BAA raise objections to the plans for the site.

Ends

APPENDIX 1**Bird Data Jan-March****Tuesday 25 January 2005**

Weather conditions: cold and dry

Dawn Count

P1	Goldeneye	2 (F)
	Tufted	5 (4F + 1M)
	Mallard	11(7M + 4F)
P2	Mallard	2 (1M + 1F)
P3	Mute Swan	2
	Goldeneye	3 (1F + 2M)
	Moorhen	1
	Mallard	9 (5M + 4F)
	Heron	1

Dusk Count

Cormorant	1 (flew northwards pre-dark)
Moorhen	2
Goldeneye	5 (4F + 1M)
Tufted Duck	4 (2F + 2M)
Mallard	3 (2F + 1M)
Moorhen	1
Mute Swan	2
Goldeneye	3 (2F + 1M)
Mallard	2 (1F + 1M)

Ice over P1 and P2. P1 approximately 50% cover, P2 approximately 94%.

P3 clear of ice.

Two herons were seen flying east over the ponds towards the reported heronry.

Several hundred geese (species unknown) flying east to south towards the airport.

Corvid (dusk) roost (ETF area) – approximately 2000 – 3000 birds

Wednesday 23 February 2005

Weather conditions: freezing cold, with light snow flurries

Dawn Count

P1	Goldeneye	2 (M)
	Tufted duck	1 (M)
	Mute Swan	2
P2	Mallard	4 (2M + 2F)
	Tufted duck	4 (2M + 2F)
	Goldeneye	4 (1M + 3F)
	Moorhen	2
P3	Goldeneye	8 (4F + 4M)

Dusk Count

Goldeneye	9 (5M + 4F)
Tufted duck	1 (M)
Moorhen	1
Snipe	1 (on fallen tree in pond)
Goldeneye	7 (4F + 3M)
Tufted Duck	4 (2F + 2M)
Mallard	2 (1F + 1M)
Dipper	1 (flew into scrub)
Goldeneye	3 (2M + 1F)
Mute Swan	2

Ice on P2 (small amount).

P1 and P3 clear of ice.

Heron (1) seen flying south to north over P2 and (1) on the burn east of the ponds (dusk count)

Approximately three hundred geese (species unknown) flying north to south towards the airport (dusk count).

Corvid (dusk) roost (ETF area) reduced in number – approximately 500 – 800 birds

Fox hunting around the margins of P2

Tuesday 15 March 2005

Weather conditions: cold, with light rain

Dawn Count

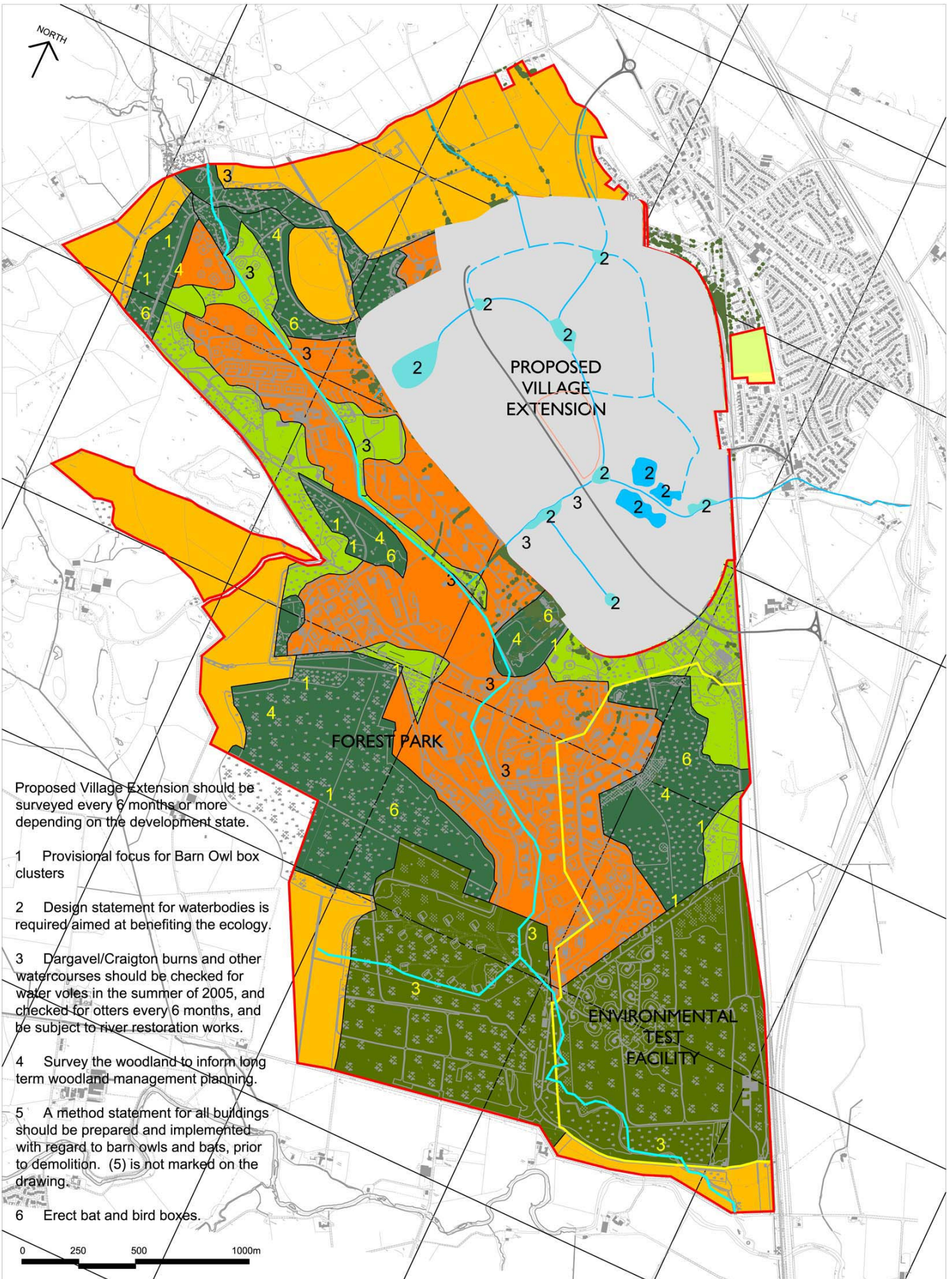
P1	Goldeneye	3 (1M + 2F)
P2	Goldeneye	1 (M)
	Tufted duck	14 (9M + 5F)
	Moorhen	1
P3	Goldeneye	6 (4M + 2F)
	Mute Swan	2

Dusk Count

Goldeneye	1 (M)
Goldeneye	6 (3M + 3F)
Tufted Duck	14 (9M + 5F)
Moorhen	1
Mallard	1 (M)
Mute Swan	2
Goldeneye	2 (M + 1F)

Corvid (dusk) roost (ETF area) – approximately 400 – 500

A group of corvids – approximately 100 appeared to be roosting on the trees close to the site entrance, where the rookery is sited.



Proposed Village Extension should be surveyed every 6 months or more depending on the development state.

- 1 Provisional focus for Barn Owl box clusters
- 2 Design statement for waterbodies is required/aimed at benefiting the ecology.
- 3 Dargavel/Craigton burns and other watercourses should be checked for water voles in the summer of 2005, and checked for otters every 6 months, and be subject to river restoration works.
- 4 Survey the woodland to inform long term woodland management planning.
- 5 A method statement for all buildings should be prepared and implemented with regard to barn owls and bats, prior to demolition. (5) is not marked on the drawing.
- 6 Erect bat and bird boxes.

PROPOSED VILLAGE EXTENSION		FOREST PARK	
 Housing	 Employment	 The Georgetown area	 Largely open mainly grassland areas heavily affected by past industrial activity
 Commercial	 Development related greenspace	 Mature woodland, with little or no past industrial activity	 Open agricultural land
 Community		 Mixed woodland in areas affected by past industrial activity	

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ROYAL ORDNANCE BISHOPTON

drawing title
SHORT TERM ECOLOGICAL MITIGATION MEASURES

scale 1:15,000 @ A3
 date 26.04.05
 dm CD

FIGURE 1
 715/R-32