

# ROYAL ORDNANCE, BISHOPTON



## REMEDICATION AND RECLAMATION EARTHWORKS

# ENVIRONMENTAL STATEMENT

## APPENDIX I 4.4 ECOLOGICAL SURVEY INITIAL REPORT OF FINDINGS

October 2006

# Cass Associates

ARCHITECTURE • LANDSCAPE ARCHITECTURE • PLANNING • LAND REMEDIATION

ROYAL ORDNANCE, BISHOPTON

**ENVIRONMENTAL IMPACT ASSESSMENT STUDY**

**ECOLOGY SURVEY  
INITIAL REPORT OF FINDINGS**

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October 2002

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## **1. INTRODUCTION**

### **1.1 Purpose of Report**

1.1.1 BAE SYSTEMS, owners of the Royal Ordnance site at Bishopton, Renfrewshire, propose the redevelopment of this site following cessation of the factory's operation. This report represents the initial findings of the ecological survey to determine the features of interest which may be impacted in the process of redevelopment and an examination of the likely mitigation measures and their implications for design.

1.1.2 A starting point of this exercise was an examination of the Phase 1 habitat survey and earlier examination of the Georgetown area of the site by R. Bunce, ecological surveyors, and survey by Cass Associates to identify species and habitats of potential value and sensitivity.

### **1.2 Requirement for Environmental Impact Assessment (EIA)**

1.2.1 The primary aims of EIA are to assess the potential environmental impacts of development projects and to suggest means of mitigating these impacts. The findings of an EIA are reported in an Environmental Statement (ES). EIA is covered in European law by EC Directive 97/11/EEC and in United Kingdom law by The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2002.

1.2.2 These legislative documents list a number of project types for which an EIA is required. An EIA is always required for Schedule I projects, whilst an EIA is required for Schedule II projects if the competent authority believe that the project may result in 'significant' environmental effects.

1.2.3 The proposed development is not covered by any Schedule I project descriptions but is included within the Schedule 2 (10b) urban development projects. Renfrewshire Council – the Competent Authority – has confirmed that an EIA is required.

### **1.3 Purpose of Scoping**

1.3.1 The primary purpose of the scoping exercise is to define the extent of the subsequent EIA, to ensure that all potentially significant ecological impacts are adequately addressed in the EIA. The outcome of scoping should be that only potentially significant impacts are

carried forward to the assessment stage and that other impacts are not assessed further. In this way resources and time are focused on the key issues.

1.3.2 Scoping also ensures that mitigation and enhancement measures are identified at an early stage in the design process, thereby minimising the need for subsequent design amendments and ensuring that environmental protection and sustainability are key factors in the project design.

1.3.3 The scope to the study was presented to and agreed, with minor amendments, with Scottish Natural Heritage (SNH) and Renfrewshire Council in advance of the survey works.

## **1.4 The Scope and Content of the Environmental Statement**

1.4.1 The initial stages of the Environmental Assessment were to:

- Identify and scope the nature and scale of the likely impacts, both beneficial and adverse, of the proposed development to refine the analysis;
- examine the environmental character of the area likely to be affected by the proposed development (through baseline study);
- predict and estimate the magnitude of impacts as accurately as possible;
- examine the impacts during both the construction and operational phases;
- assess significance in the context of existing development and the site surroundings.

1.4.2 Following completion of the above, the remediation strategy and design options need to be re-examined and adjusted to achieve the best practicable environmental option.

## **2. RESULTS OF SURVEY**

### **2.1 Scope of Survey**

2.1.1 The habitat and species identified for survey during the summer months included:

- Birds
- Floristic survey (habitats, vegetation and plant communities)
- Insects

- Small mammals
- Reptiles
- Amphibia

The following were to be examined in greater detail later in the year:

- Badgers
- Otters
- Water voles
- Fungi
- Bats

2.1.2 Because of the very late start to the summer survey, September of this year, and the putting back of the programme for the final report production, some of the findings and conclusions should be reviewed against further targeted survey in spring of next year when a clearer, fully co-ordinated programme can be worked out within the constraints of health and safety concerns for surveyors on site.

2.1.3 The survey period crossed the two seasons of autumn and summer, with some of the autumn work being completed in time for this report. The conclusions and recommendation of these surveys are given below.

## **2.2 Birds**

2.2.1 Peter Lancashire Vice Chairman of the Wirral and Ellesmere Port Barn Owl Trust, Consultant Ornithologist and licensed small mammals and amphibian surveyor was commissioned by Cass Associates on behalf of BAE SYSTEMS to carry out an ornithological survey as an element in the Environment Statement for the Royal Ordnance Site at Bishopton, Renfrewshire, Scotland. The survey was to identify resident/migrant species and their numbers. The potential impacts of development were also to be assessed and mitigation measures were to be proposed. Particular attention was paid to species that carry special protection under the Wildlife & Countryside Act (1981) with a view to their protection, conservation and the mitigation procedures.

2.2.2 Wildlife Protection: Peregrine falcon / barn owl / kingfisher and all nesting birds are protected Under Section 4 of the Protection of Birds (amended) 1967 Act, if any person wilfully disturbs any wild bird included in Schedule 1 of the Protection of Birds Act 1954 while it is on or near a nest containing eggs or un-flown young, he or she shall be guilty of an offence and liable to a special penalty. With the introduction of the Wildlife &

Countryside Act (1981), all nesting birds receive protection once a single piece of nesting material is placed into position. This Act also makes it an offence to cause damage to the bird or its nest, eggs, or chicks and immediate habitat when it is likely to result in the bird deserting its nest. This covers all bird species with the a few exceptions (pest species; these can only be controlled under special license). In any development works affecting these species, permission for 'unavoidable' loss of habitat can be granted through a planning application. The Planning Authority, with advice from SNH, would assess the proposals and mitigation package before granting permission under an exemption.

- 2.2.3 In 2001, the Countryside & Rights of Way Act 2000 (CROW Act), was made law, strengthening the legal protection for many species. The inclusion of reckless disturbance as an offence also brings the Wildlife & Country Act up to date. Certain offences are now 'arrestable' with stronger search and seizure powers; the Courts can impose heavier fines and prison sentences for virtually all wildlife offences.
- 2.2.4 Where monitoring is required, English Nature, Scottish Natural Heritage and the Countryside Council for Wales can issue special licenses for scientific research, conservation, photography, ringing of young at the nest and mitigation for Schedule 1 species.
- 2.2.5 In respect of disturbance of Scheduled species, such as the Peregrine Falcon, Kingfisher and Barn Owl, the individual must hold a current Schedule 1 license for the specific site if the disturbance is essential and likely to occur during these birds' breeding season. The work should be scheduled outside the breeding season. With this in mind, the nesting sites should be monitored from a safe distance for a number of days before approaching to ensure unnecessary disturbance will not occur.
- 2.2.6 Site description and significance as bird habitat: there are in excess 2,000 structures (buildings) spread over the whole site, of varying sizes, offering nesting habitat to a range of birds, resident and migrant, from barn owls to swallows. There are numerous coniferous plantations of varying ages and a lot of small self-seeded willow and birch scrubbed areas providing habitat for a wide range of birds. There are also a small number of avenues of tall, mature trees, comprising principally lime, ash, beech and oak, providing a diversity of food, principally insects, and nest sites for birds.
- 2.2.7 The grassy areas that dominate the site contain a high density of small mammals. This is largely due to the end of the manufacturing and phased decommissioning of the plant resulting in a change of land management. In particular, this has ended the thorough and regular grass-cutting regime, which was necessary to avoid the hazard of fire within long

grass. The changes have benefited many bird and mammal species in the area which feed off the grasses, which, in turn, has benefited the raptor population.

- 2.2.8 As the grassland gives way to scrub, so the small mammal population will decrease and shift in species composition from, for example, short-tailed voles to wood mice and pygmy shrew.
- 2.2.9 There are three ponds to the central eastern side of the site and a reservoir to the north. The lakes, open drains and the burn have mixed vegetation with a number of tall herbs and provide feeding and nesting habitat for a wide range of birds.
- 2.2.10 To the east there are a number of large sedimentation lagoons with thick crusts on them. The lagoons show colonization through various stages from sparse grassland to birch scrub. The former is typical wader / plover nesting habitat.

## **SURVEY RESULTS**

- 2.2.11 The survey identified 55 different species of birds (Table 1, Appendices) in and around the site at the time of a continuous four day survey. The results derive from visual sightings, signs (old nests, pellets and droppings) and bird song - the dawn and evening chorus being a very productive part of the survey with numerous birds and their calls being identified. The use of a vehicle and a guide during the four days, with the vehicle doubling up as a hide, was extremely beneficial to the survey. A lot of third party sighting information was collected from Royal Ordnance employees and local residents of Bishopton on species not seen during the survey. The survey results have been supplemented by the incidental sightings recorded by Chris Balling in September, another of the species surveyors and former surveyor for the Scottish Wildlife Trust.
- 2.2.12 Three Schedule 1 species were observed during the survey. The first, a male peregrine falcon, was observed hunting along the western perimeter track. When the bird saw the survey vehicle it flew up onto the high cliffs of the old quarry (that is being used as a landfill site) to the west of the site. Even with the landfill operations and the disturbance generated, this is the most probable nest site for the falcons.
- 2.2.13 Of the structures on site, there are two or three of the large buildings that could be utilized by a pair of peregrine falcons. Barn owl (the second Scheduled species) pellets and droppings were observed in a number of the buildings. Also, barn owls were heard calling on three evenings after nightfall. Many of the workers on site have witnessed barn owls either roosting or flying out of buildings they have worked in. Findings suggest that

there are two to three breeding pairs of barn owls on site, representing a very significant portion of the breeding birds within the Renfrewshire. The other Scheduled 1 species recorded (a third party sighting), is the Kingfisher. This was also observed by one of the Royal Ordnance workers perched on a branch over an open drain near the eastern entrance to the site and on Dargavel Burn, to the north west of the site. Along the south-eastern stretch of the Dargavel Burn there are a number of suitable vertical banks that could be used for nesting by kingfishers, but no old nest burrows were observed during the survey.

- 2.2.14 Barn owl pellets have been analysed for prey contents. From twelve pellets checked, the remains of short-tailed-field voles, bank voles, wood mice, one juvenile brown rat three common shrews and one pygmy shrew were found. A number of frog bones were also identified along with bones of a single water vole. The short-tailed-field voles made up most of the diet of these owls.
- 2.2.15 Another notable finding of the survey was the first sighting of a lesser-spotted woodpecker in the County of Renfrewshire. At 6.45 am, 7<sup>th</sup> September the bird was observed to fly in an easterly direction from the site over the main railway line by the southern edge of the town of Bishopton.

### **Mitigation Proposals**

- 2.2.16 **Barn owls:** the first objective of the mitigation proposals would be to entice the barn owls away from the buildings to be demolished. This would entail erecting barn owl nest boxes or incorporating barn owl attic spaces in suitable buildings that are not scheduled for demolition. The ideal locations for such boxes would be in the open grassy areas close to their food source (short-tailed voles). The relocation of the barn owls' nesting site further from the area of redevelopment can be achieved by the gradual relocation of barn owl boxes outside of the nesting season.
- 2.2.17 The boxes should be in pairs within 100 metres of each other. Two boxes would accommodate one pair of barn owls for the reason that the female barn owl becomes aggressive towards the male owl once the chicks start to hatch and only allows him bring prey to the nest.
- 2.2.18 As the site is so large and because there are at least two pairs of barn owls in the study area, it would be sensible to erect boxes in as many suitable sites as possible. These should be away from the buildings, in a 'green' corridor that will aid the owls in adverse weather and create alternative roost sites for the young barn owls once they start fledge

and disperse from their nest sites. Another reason why several boxes should be used is that other birds may try and use the boxes (e.g., kestrel, tawny owl stock dove and jackdaws) and barn owls often alternate nest sites on a yearly basis.

- 2.2.19 The barn owl's nesting season is considered to start from the beginning of April to the end of September. However, it must be stressed that this is not always the case. There have been some nest sites with chicks found as late as December and one site in Germany with chicks on New Years Day. So, when a building is earmarked for major works it would be prudent to check that no owls are nesting out of the 'normal' breeding season. Weather and disturbance are the usual reasons for such occurrences but there are also examples of double brooding.
- 2.2.20 If its thought that barn owls are breeding in a building, any disturbance within 300 metres of the nest site should cease, otherwise an offence would be committed. A qualified licensed person in the breeding behaviour of barn owls should investigate and calculate incubation, fledging, dependency periods on the birds and their immediate nesting habitat so work details can be addressed.
- 2.2.21 The dimensions and specifications for the barn boxes are as Hawk & Owl Trust recommendations.
- 2.2.22 While in the short term the accommodation of the barn owls outside of the development area may be achieved, adequate feeding habitat for three pairs (to be confirmed) of breeding birds would be harder to achieve. Provision of extensive areas of managed rough grassland, feeding poles and boxes at strategic positions in relation to the grassland and watercourses and flight paths through wooded areas would assist. The well-being of the birds and their breeding success should, therefore, be monitored throughout the mitigation works.
- 2.2.23 **Kingfishers:** Kingfishers are a Schedule 1 species and have the same level of protection as the Barn Owl and the Peregrine Falcon. If a kingfisher nest site is discovered close to any work site, a 300 metre exclusion zone should be implemented to ensure that its flight paths are not obstructed along any ditch or brook which it uses.
- 2.2.24 A qualified licensed person in the breeding behaviour of kingfishers should investigate and calculate incubation, fledging, dependency periods on the birds and their immediate nesting habitat so that work details can be addressed.

- 2.2.25 **Peregrine Falcons:** it is unlikely that falcons are breeding on site. However, there is a possibility that they may utilize one of the taller structures on the site if the disturbance in the old quarry (landfill site) continues. It is recommended, therefore, to inform the quarry operator of the fact that peregrine falcons are in the area and that the quarry face may be the nesting place of these birds. Disturbance to the birds, whilst nesting is an offence and to ignore it could result in heavy fines, impounding of equipment or up to six months imprisonment. In some cases all of these can be imposed by a Judge.
- 2.2.26 In agreement with the quarry operator, a qualified licensed person in the breeding behaviour of the Peregrine Falcon should investigate and calculate incubation, fledging, dependency periods on the birds and their immediate nesting habitat. In this way, a mechanism to avoid the nesting of birds on site may be achieved or a suitable location with nesting structure found.
- 2.2.27 **Nesting birds:** from observations made during the four-day survey, swallows, blackbirds, song thrushes, wrens, blue tits, great tits and tawny owls showed signs of nesting in a variety of old buildings on the site. Although they are not scheduled species they do receive limited protection during the breeding season and, if the breeding season cannot be avoided, all buildings should thoroughly be searched in advance of demolition works. Because the majority of trees on site are still relatively young, with few hollows and cavities, the provision of nesting boxes throughout the site would provide a degree of mitigation for the regeneration works.
- 2.2.28 Discussion with local ornithologists and site workers suggest that the site has been the source of outward colonisation by, first, buzzards and, later, barn owls. The undisturbed nature of the site and the rapid increase in small mammal population over the last ten years has provided a centre for feeding and reproduction of these birds of prey. Mitigation measures for the regeneration of the site should recognise the role the site has played and continues to play as a haven for wildlife.
- 2.2.29 Reedbeds and other shallow waterbodies provide important feeding and nesting habitat for a wide range of birds, both resident and migrant species. This habitat is also relatively easy to create and rapid to establish. In addition to the creation and management of rough grassland areas – an increasingly rare habitat - it is, therefore, recommended that wetland/reedbed is created as mitigation for the loss of habitat following redevelopment of the site and may provide the permanent location for barn owl pole boxes.

## 2.3 Small Mammals

- 2.3.1 The survey to identify the small mammals on site was shared between Peter Lancashire and Chris Balling, former surveyor with the Scottish Wildlife Trust. The two surveyors looked in detail at the distribution of water voles but also looked for signs of otters, badgers and other terrestrial small mammals
- 2.3.2 Legal Protection: three protected species were encountered throughout the survey. These are water voles (*Arvicola terrestris*), badgers (*Meles meles*) and otters (*Lutra lutra*). There were, additionally, unconfirmed third party sightings of red squirrel to the north-west of the site
- 2.3.4 In the UK, Scottish Natural Heritage, English Nature, and the Countryside Council for Wales can issue special licenses for scientific research, conservation, photography, and mitigation translocation works of schedule species. In Scotland, in the cases of bats and otters, the Scottish Executive would also be involved and have to issue the relevant licenses.
- 2.3.5 In the cases of water voles, Schedule 1 birds and badgers, Scottish Natural Heritage and the Local Planning Authority should be notified of the methodology to be used in any translocation works in order to gain approval and agreement with the plans, with permission granted through planning. Scottish Environment Protection Agency (SEPA) can provide advice on any habitat management and restoration plans.
- 2.3.6 The water vole received legal protection on the 16<sup>th</sup> April 1998 through its inclusion on Schedule 5 of the Wildlife and Countryside Act 1981 (as amended) under Section 9 (4). Inclusion on Section 9 (4) does not provide direct protection for the water voles themselves but protects their places of shelter and protection. Legal protection makes it an offence to damage, destroy or obstruct access to any structure or place which water voles use for shelter or protection or to disturb water voles while they are using such a place (Strachan, 1998; English Nature, 1999).

### Badgers

- 2.3.7 Legal protection of otters and badgers: The Wildlife & Countryside Act (1981) gives protection from interference to badgers and their setts and otters and their holts throughout Great Britain. The CROW ACT (2000) made it an offence to act with *reckless behaviour* towards wildlife.

2.3.8 During survey and mitigation works, where a badger sett has been identified and is within a proposed development site area, strict procedures must be followed:

- Positively identify the burrows as a badger sett, and determine whether it is active or not.
- Where there is to be translocation, devise a workable methodology statement from the data collected along with maps with a view to mitigation.
- Notify and ask for relevant license application forms from Scottish Natural Heritage.
- On completion of the above apply to DEFRA for the license.

2.3.9 An alternative badger sett should be constructed before the issue of any licence. This usually takes place during the badgers' breeding season, and works to close down the existing sett can only take place once breeding is complete. The end of July is normally when the translocation mitigation licenses are issued.

2.3.10 The closing down of a sett is done in stages by means of fencing around the whole sett, with a number of gates that would be locked in an open position to allow access and egress.

2.3.11 Peanut trails towards and at the newly constructed sett can help the badgers find the new sett, and will encourage them to move under their own volition.

2.3.12 Once it is established that the young badgers are venturing out of the existing sett to forage with their parents, the gates can be put into the one way position, allowing egress out but not access to the old sett.

2.3.13 After careful monitoring of the old sett, a careful destructive search of the entire sett should then take place. If any straggler is found, care should be taken when handling the badger to avoid harm to it or the handler. The use of a dark hessian sack can help keep the animal calm during relocation.

2.3.14 Survey for badger (*Meles meles*): as with all other information on protected or scheduled species, the information on badgers was passed directly on to staff at the BAE SYSTEMS Bishopton site, which was then added to the main 'hazards' map of the site.

- 2.3.15 The main focus of effort was placed on surveying for signs of badger. Signs include setts, latrines, paths, tracks and hairs. Evidence of badger activity was located at a number of areas across the site with a major amount of activity to the south of the site. This ties in with some historical information of badger presence, with several setts already noted in that area.
- 2.3.16 Survey findings for badgers are shown in fig. 1. Due to the hidden dangers of the site the surveyor's were chaperoned and chauffer driven around the site. Although not all of the site was walked, the key areas and a large percentage of the site was surveyed. The survey was sufficiently thorough to provide evidence of the extent of the badger distribution and their population. In respect of the mitigation measures, a more thorough survey, to include for the population dynamics and identification of the tribes present will have to be undertaken in advance of any translocation works.
- 2.3.17 The survey shows that the badgers are distributed across the entire site, with some of the older setts being associated with Dargavel House and the Georgetown area. A thorough survey of the Georgetown area by R. Stebbings (March 1996) ecological surveyors, found that there were 6 active setts in this area. The level of activity recorded appeared to be relatively uniform across the site, with a peak of activity in the south. Extrapolating from this figure would suggest that there will be in the region of 20 setts across the entire site.
- 2.3.18 Areas beneath the foundation of buildings and concrete drainage pipes have both been recorded as badger setts. As badgers are largely nocturnal, they can often live along side human activity, and so, are not restricted to any particular area of the site. Because of the high degree of protection from disturbance that the site offers and the range of habitat suitable for setts, it is likely that the badgers are also foraging beyond the boundaries of the site.
- 2.3.19 Insufficient detail has been gathered to formulate mitigation recommendations. It is clear, however, that there will be great difficulty in finding suitable uninhabited regions of the site to translocate the badgers following the clearance of a significant portion of the site for development. It is recommended, in the first instance, however, that dialogue is commenced with SNH who will advise the Local Planning Authority on the proposals for development and help with advice on the appropriate mitigation package.

### **Otters and Mink**

- 2.3.20 The requirements for the translocation of otters are controlled under license from the Scottish Executive, with, again, the SNH acting as advisors to the Executive and SEPA

able to provide guidance on any habitat restoration and management within the mitigation methodology.

- 2.3.21 Signs of mink (*Mustela vison*) were found early in the survey of the water course. Because their movement and distribution is very similar to that of otter (*Lutra lutra*), though often more widespread, the survey was conducted simultaneously for both animals.
- 2.3.22 During the course of the surveys, evidence of mink (tracks and scats/droppings), was recorded on a regular basis, along and around the watercourses and ponds. It is apparent that mink are well established at the site, which can only mean that any water vole population on the site is under enormous pressure from this animal.
- 2.3.23 Loss and the fragmentation of habitat are regarded as two of the major problems leading to the massive reduction in water vole numbers. Alongside these problems is the issue of mink predation. A range of predators feed off the water vole population – heron, owls, stoats, weasels, fox, to name a few. However, since the release and escape of American mink into the ecosystem, there has been a close correlation of water vole decline. Female mink, in particular, are well suited to enter into the water vole burrow system, to devastating effect.
- 2.3.24 Mink signs were located along Dargavel Burn, Craigton Burn and around the Dargavel Ponds, the main areas with potential for a water vole population, considering the ditches are generally unsuitable. There were also found in areas where water vole signs were previously noted, which may mean that the situation is extremely serious, with threat of local extinction.
- 2.3.25 Before the survey began there was a reported sighting (later confirmed) of an otter close to Dargavel Ponds. During the course of the survey, tracks were noted below a bridge crossing Craigton Burn, close to the ponds and otter slides were noted on the banks of the ditch between the ponds. Further to this, two otters were noted swimming in Pond 3, on Thursday 19<sup>th</sup> September.
- 2.3.26 It is believed that when otters move into a territory occupied by mink, that they will displace this animal. Signs of mink were noted by the ponds during the survey but it may be that they will be forced out into the ditch and burn network away from the fish-rich pond habitats. This, again, would have serious consequences for any existing water vole population, at the site.

## Water Voles

2.3.27 Water voles (*Arvicola terrestris*): standard methods were utilized in the water vole survey in line with the guidelines given in the Water Vole Conservation Handbook (Strachan, English Nature, 1998). The loss of habitat for development will only be , accepted by the regulatory authorities where it is 'unavoidable', and where there are adequate mitigation measures in place. The signs of water vole activity examined for included:

- latrine sites – water voles use their droppings to indicate territorial activity, by revisiting the same site, over and over, and by scenting the accumulating mass of droppings with scent from glands on their flanks.

NOTE: Special emphasis was placed on locating latrine sites. Latrine sites are the most useful sign, for recording purposes. Not only do they indicate, whether there is a definite presence of water voles at a site, they are also used for determining the number of animals, within the colony.

- holes/burrows – water voles create a system of tunnels, which may or may not interlink but can be extensive where a clan or family territory is held.
- feeding signs – evidence of water vole activity can be determined from feeding signs, particularly from feeding stations, a place where they gather food together for feeding purposes.
- tracks – tracks can be useful, if clear.
- runs – as they move through the vegetation, the voles create wide, open, passageways or runs, which, due to their size, can be distinguished from other small mammal runs.

2.3.28 The purpose behind the survey was twofold:

1. to determine where voles were present within the site
- and
2. to estimate the actual population(s), at that time

2.3.29 As the survey was carried out relatively late in the breeding season, it is probable that the number of water voles may be reflective of the population at the peak of their number. Signs had already been noted at locations on the Dargavel Burn, from survey work carried out during the 4<sup>th</sup> – 8<sup>th</sup> September 2002. Anecdotal information from staff within the site had also identified a possible sighting on the Craigend Burn, to the east of the site. However, further work was required to fully cover all of the watercourses and additional water bodies within the site and to establish colony numbers and clan or family territories.

2.3.30 The main points of any relocation methodology are set out below. In addition to following the guidelines, the excavation of burrows and a final destructive search should be implemented to ensure no water voles are left underground in their burrows.

- First stage: will be the scrub removal. On completion, a detailed survey of the burrow systems can take place. Marker canes will be installed to indicate their locations (for all ditch sections).
- Second stage: will be the erection of the exclusion movement corridor fencing. This will create corridors along each of the ditch sections.
- Third stage: will be the strimming of the ditch sections. Suitable vegetation will be translocated to the release sites (undertaken in ditch sequence).
- Fourth stage: consisting of a four-day migration period on each section of ditch. This will allow the water voles to move out of the danger area of their own accord (undertaken in ditch sequence).
- Fifth stage: will be a five-day trapping session on each ditch with the closing and securing of each ditch section. Any water voles that are caught are to be relocated to the receptor areas (undertaken in ditch sequence). (This should be extended for a further five day period if a lactating female water vole is caught in any given ditch section. This extension of time is to allow the water vole to move her litter of young voles out of the work area to safety.)
- Sixth stage: to implement a full destructive search and de-vegetation of each of the ditch sections. This will be carried out after each trapping session (fifth stage) is concluded (undertaken in ditch sequence).

- Seventh stage: will be the securing of the mitigation work area, by ensuring the exclusion fence creates a barrier. This will be done on completion of the above works (from stage 1 to stage six).

2.3.31 Additionally, weekly fence maintenance checks should be carried out. Implementation of periodical checks will allow the relocated water voles to be monitored. Their progress will be assessed in their new environment (in the receptor areas).

2.3.32 The above mentioned species will also have to have safe corridors connecting other similar habitats for their movement and colonization of new suitable areas. Research has shown that few fragmented populations of animals do well and more often than not die out after a period of time.

2.3.33 The survey showed that A small population of water voles has been colonizing the Dargavel Brook and connecting ditches. In total, three burrow systems were located. The first was towards the eastern perimeter, and had signs of feeding remains and grazing. The second was approximately 500 metres upstream on the bend, there were five burrows observed. The third burrow system was observed three-quarters of the way upstream, where water vole footprints were also observed.

2.3.34 The presence of mink, as reported above, can have a serious consequences for the water vole population. The influence of the mink will, however, be moderated by the presence of otters, which discourage the mink. The status of the water vole is presently in flux and would greatly benefit from efforts to remove the mink.

### **Mitigation Proposals**

2.3.35 Water voles are an endangered species in the UK, and are protected under law for this reason. The conditions on the Bishopton site, though not ideal, are clearly suitable for the colonisation and spread of this animal. However, the presence of mink is threatening the local population. It is recommended, therefore, that Best Practice Guidelines for the control of mink (Environment Agency) is applied and commences as soon as possible.

2.3.36 In terms of the development of the site for water voles and otters, the early creation of additional waterbodies and drainage channels on site would provide very valuable habitat that could accommodate and encourage these two endangered species as well as a wide range of other, less rare animals.

## Bats

2.3.37 Bats and their legal protection: The Wildlife & Countryside Act (1981) and the CROW Act 2000 give protection to all bats and their roost sites found in Great Britain. This made many improvements on the previous legislation, bringing our laws in line with most of Europe. Under this legislation:

- It is illegal to intentionally or recklessly kill or injure any bat.
- It is illegal to intentionally or recklessly disturb a bat roost. All roosts are covered: trees, caves, buildings, including houses.
- It is also illegal to obstruct, damage or destroy the entrances used by bats to any given roost site.

2.3.38 In some cases, Health & Safety or Public Health issues are in conflict with the conservation of a given species: bats and barn owls are relevant in this instance. There are provisions in the Act to combat such problems. Cases where such work is to be carried out and it is likely to disturb or damage a nest or bat roost, Scottish Natural Heritage must be informed, who will freely give safe, sound advice on such matters. The Scottish Executive is responsible, with advice from SNH, for the issue of licenses. It is recommended that a qualified wildlife person who is fully conversant with these animals needs and legal requirements, be employed to devise a workable mitigation package which will be submitted to Scottish Natural Heritage along with DEFRA who are the bodies designated to promote nature conservation. They have the special responsibility for the implementation and policing the Wildlife & Countryside Act.

2.3.39 Only licenced surveyors are allowed to handle bats.

2.3.40 The bat group for Renfrewshire were invited to assist in surveying the site. Because of the lateness of the season and health and safety concerns of coordinating a large-scale, across-site survey, the surveyors were asked to concentrate on surveying around buildings due for limited demolition work and at strategic points within the site.

2.3.41 The initial survey findings indicate that there are a number of bats on site, associated mainly with the older avenue trees, the ponds and some of the buildings. The pipistrelle is the species represented in largest numbers.

2.3.42 The survey is incomplete and will be followed up in spring of next year. However, a methodology has been established to clear buildings and other structures in advance of limited advance demolition work.

## **2.4 Amphibians and Reptiles**

- 2.4.1 Peter Lancashire and Chris Balling were commissioned to carry out a reptile and amphibian survey of the site. The survey was to identify which species were present, their habitats and what numbers of these species occurred within the site. Particular attention was paid to species that carry special protection under the Wildlife & Countryside Act 1981 with a view to future mitigation procedures.
- 2.4.2 Legal protection for adder, grass snake, snake, slow-worm and common lizard. Common lizards are protected by the Wildlife and Countryside 1981 under Part of Section 9 (1) and all of Section 9(5). This does not specifically cover protection of habitat. The common lizard received a greater level of protection along with the slow-worm (*Anguis fragilis*), adder (*Vipera berus*) and grass snake (*Natrix natrix*) following the reviews of the schedules published in 1988 and 1991. These now have a greater level of protection than when the Wildlife & Countryside Act first came into force in 1981. Under the Wildlife & Countryside Act, common lizards are protected against intentional killing and injuring (but 'not' taking) and against sale, transporting for sale.
- 2.4.3 The Countryside and Rights of Way (CROW) Act 2001 also offers the above species a high level of protection. It is now an offence to 'recklessly' kill or injure any of the aforementioned species. However, where a site occupied by common lizards or any of the other three reptiles is threatened, for example, by development then the developer must take reasonable measures to prevent the killing or injuring of animals. This may require avoiding harmful activities on parts of the site and/or, as is often the case, the translocation of the snakes or lizards from unsafe areas to a suitable receptor area near to the original location.

### **SURVEY RESULTS**

- 2.4.4 The species of reptile that have been encountered during the time of the September survey are 3<sup>rd</sup> party sightings of common lizard amongst one of the old magazines on the southern side of the site.
- 2.4.5 The great variation of habitat and the large extents of the habitats suggest that all four of the reptiles mentioned (common lizard, slow-worm, grass snake and adder) may be present. Reptiles are cold-blooded and have to thermo-regulate their body temperatures, which make them very inactive in cold weather. The inclement weather throughout the survey period made it, unfortunately, very unlikely to locate any reptiles, even where they were present.

2.4.6 Common frog (*Rana temporaria*), palmated newt (*Triturus helveticus*), smooth newt (*Triturus vulgaris*) and common toad (*Bufo bufo*) were all observed in many different parts of the site. The common frogs were widespread throughout the whole site. Toads were observed under wood and old canvas sheeting in all corners of the site. The palmate and smooth newts were found in many parts of the site where standing water was present, in areas such as the old cooling tower pools and flooded concrete based outdoor floor spaces of de-commissioned magazines of which there are many. No great crested newts (*Triturus cristatus*) were observed during the time of the survey and records suggest that there are none in the area.

### **MITIGATION METHODOLOGY FOR AMPHIBIANS & REPTILES**

2.4.7 The methods to be implemented in locating and capturing adders, grass snakes, slow-worms and common lizards, adders and grass snakes are as follows:

- The common lizards' refuges and sunning stones, logs or tree-trunks, must first be identified.
- Thermo-regulating plates are placed in suitable habitats around the site for the given species in late February / early March to allow vegetation to die off under them. The placing of plates early in the season also allows the animals to become accustomed to them. The monitoring should take place during the optimum time for survey, which is April and early May. This technique can also act as an aid for trapping and translocating the animals.
- Once the lizards or snakes have been found, great care has to be taken when catching them, due to the fact that lizards they can lose their tails (a survival defense mechanism) and adders have a mild venomous bite. The use of a container or very fine net (silk/material) for the capture of the lizards is more acceptable and is less likely to cause accidental loss of their tails. Capture of snakes by hand should only be done by an experienced handler.
- On catching snakes or lizards they should be quickly relocated to the safe receptor area. These areas must meet all the animals' requirements (food, shelter and sunlight). The journey from the capture area to the receptor areas should be quick and quiet. This will help reduce the amount of stress to the snakes or lizards', which is detrimental to them.

## **2.5 Invertebrates**

- 2.5.1 There was very little invertebrate activity observed, partly due to the inclement weather and lateness in the season.
- 2.5.2 Much of the habitat was found not to be conducive to large numbers and variety of invertebrates. Most of the grasslands are in transition from mown grass to wild grasslands, and are dominated by a few robust species, with little floristic diversity. The woodlands are similarly largely monoculture and dense planting, preventing the development of a woodland ground flora.
- 2.5.3 Despite these limitations, there was a general lack of invertebrates. The undersides of many logs and stones throughout the site were examined without seeing any invertebrate activity. Possibly a combination of regular ground disturbance and unusual soil chemistry may be of influence on species numbers.
- 2.5.4 The river and drains system was examined as well as could be within the limitations of time, access and site size. Again, findings were lower than might have been expected given the size and range of habitats.
- 2.5.5 At the entry point to the site Dargavel levels of aquatic invertebrate fauna appeared to be low. In several other parts the substrate was silty or largely fine gravel, not ideal for the colonization by invertebrate fauna.
- 2.5.6 Despite this, the presence of numerous predators, including bats, foxes, owls etc., indicates that adequate invertebrate food supplies are, overall, present.
- 2.5.7 The opportunities for mitigation/ improvement for invertebrates across the site are, generally, significant and not dependant on preserving large areas of existing habitat. Full assessment of the significance of the species present and mitigation measures cannot be formulated, however, without further, timely, targeted survey in warmer weather in late spring/summer.

## 2.6 Flora

2.6.1 The September 2002 vegetation survey was, unfortunately, restricted in its effectiveness in missing spring and early-flowering plants. However, sufficient information was gathered to confirm the basic floristic value of the site and the main vegetation types.

2.6.2 There are few areas of relict vegetation and few of floristic interest, principally of a calciphilous flora associated with 'spoil' materials. Most of the woodlands are plantation, with uniform age structure and very limited species number. Much of the value of the site lies in the role of sanctuary and the diverse mosaic of habitats, from peat bog to mature oaks, from young plantation to a diverse lichen flora over fly-ash tips. The major habitats in terms of the ecological interest and surface area covered include the following (fig. 2):

- Conifer plantation: largely comprising Sitka spruce, larch and Scots pine. These cover large portions of the site, with some 30+ years and other more recent planting. The density of the planting, which appears not to have been subject to thinning, is such as to suppress the ground flora in the more mature plantations. Only the grey squirrel was found to utilise these tree blocks, with no protected species recorded as benefiting directly.
- Birch/willow scrub: several areas of the site that appear to have been abandoned relatively recently have been colonised by birch and willow scrub, with grey willow more apparent in poorly drained areas. The scrub, which is of low to marginal interest, is giving way to broad-leaved woodland.
- Mossland: Barochan and Fulwood Moss represent an extensive area of relict flood-plain raised bog. Although now extensively covered by woodland and birch scrub, with little true bog, the area remains of considerable, potential nature conservation value. Improvement of the area to achieve this potential can only be achieved by the implementation of a carefully considered management plan, with particular attention paid to the water table and drainage. These areas may prove beneficial as refuge for some of the protected species identified on site.
- Alder woodland: the flora of the area surrounding the Dargavel Burn at its northern limit is characterised by alder, with occasional ash and hawthorn, nettle and meadow sweet in the field layer. The flora is one typical of site that have been enriched by the deposition of allochthonous mineral matter and on flood-plain mires. Generally, there was an observed transition from the alder domination adjacent to the Burn to a more mixed deciduous woodland and plantation in better

drained areas, with occasional garden escapes, suggesting some previous cultivation of this area. This woodland gives way to tall herbs and coarse grass further south along the Burn.

- **Mature Trees:** There are a number of old avenue trees, mainly oak, lime and beech, on the roads connecting to Dargavel house, and a screen of yews to the garden, the height and girth of which suggest an age in excess of 300 years. There are also a number of very old hedgerow trees, mainly oak, along old tracks to the north of the site. The size and spread of a yew and a hornbeam within the grounds of Dargavel house are exceptional and merit special protection. There were also, notably, a number of very large, mature oak trees (*Quercus robur*) within the coniferous plantations to the north of the site.
- **Fly ash vegetation:** is typically open, with some birch scrub, and characterised by a very rich lichen flora, including several *Cladonia* species and a diverse range of bryophytes. Wild strawberry and great mullein represent the alkaline flora more typical on better drained areas. There are likely, also, to be a number of orchids in this area, not apparent at the time of investigation, which together with the lower-plant flora warrant more detailed study.
- **Tufted hair grass grassland:** the tufted hair grass (*Deschampsia cespitosa*), together with soft rush, dominates over extensive areas but grades into shorter grassland of Yorkshire fog and common bent and areas of cocksfoot toward the north of the site. Yorkshire fog and common bent and false oat are particularly abundant over the recently abandoned mown grassland areas that lie between buildings. These grasslands and associated hedgerows and lines of scrub along the drainage ditches are unexceptional as a result of their uniformity, but provide valuable habitat for small mammals, which, in turn, support raptors and other predatory animals.

## MITIGATION PROPOSAL

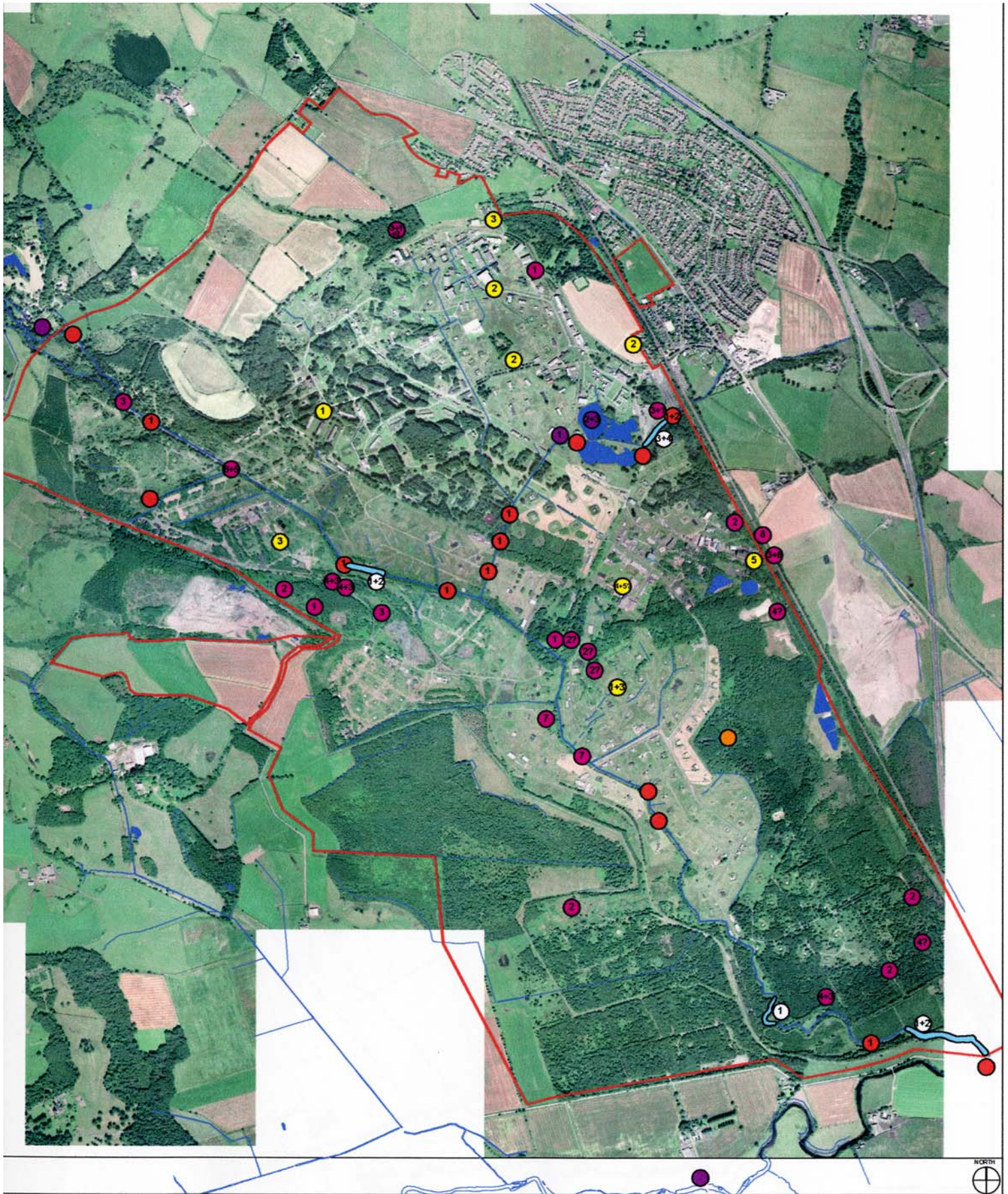
- 2.6.3 Generally, the value of the vegetation on site lies in the extent of the grasslands, a rapidly diminishing wildlife resource. The changes in the vegetation are, however, relatively rapid, with the grassland moving, without further management, through to scrub and woodland. It will be important, therefore, in order to maintain the level of species on site, to apply maintenance to chosen areas. In terms of habitat creation, the most easily created and beneficial in terms of species diversity would be wetland/shallow water. Translocation of

the more valuable elements of the flora may be applicable with many of the plants of the disturbed, alkaline habitats.

### **3.0 SUMMARY AND CONCLUSIONS**

- 3.1 The value of the site for wildlife is improving (and reflected in the number of rare, protected species present) with the cessation of operation and landscape management, resulting in extensive areas of rough grassland and improving water quality.
- 3.2 Over the last ten years there has been an apparent rapid rise in the number of small mammals inhabiting the site, principally associated with the unmanaged grassland. This in turn, has provided ideal condition for raptors, including barn owls, kestrels, falcons and buzzards. The buzzards and barn owls, in particular, have exploited the relatively undisturbed environment of the site for outward colonization.
- 3.3 The relatively recent colonization by water voles, perhaps attracted by improvement of water quality within the burns, is only being halted by the incursion of mink, which displace them. The ditch system across the site would, otherwise, with some limited reprofiling, provide good habitat for this endangered species. Any mitigation measures should take account of this potential in the control of mink and creation of new water bodies and channels. The ideal situation would be extensive water vole habitat, with a large, stable population, which would, in turn help support the barn owl population, in the absence of mink.
- 3.4 The otters recorded on site are, clearly, attracted to the fish-rich ponds toward the eastern entrance. Their continued presence on site, following redevelopment, will be contingent on the presence of a continued food source (fish) and the proximity of the feeding habitat to human habitation. While otters have been known to appear in cities and other urban areas, they are, generally, shy animals and would retreat on sight or smell of approaching human beings.
- 3.5 Both the barn owls and badgers are present on site in relatively large numbers, apparently close to saturation, given their typical feeding territories. The latter suggests that they are also feeding beyond the boundaries of the site. Provision of sufficient habitat to sustain the relocated animals (assuming suitable areas can be found) will, with little doubt, prove to be difficult within the boundaries of the surveyed site.
- 3.6 The major challenge in the regeneration of the site will be both avoiding detrimental disturbance of protected species and the creation, where appropriate, and management of habitat sufficient to accommodate them. It is clear that, even in areas beyond the proposed development zone, that there are numerous and several large structures, which would cause extensive damage to the vegetation with their removal. It is clear, therefore, that

there will have to be phased clearance of these areas and intensive management of the others, with nest boxes, roost sites etc provided to begin to maintain this balance.



**BARN OWL**  
 1 Sighting  
 2 Call  
 3 Pellet  
 4 Roost  
 5 Nest Site

**BADGER**  
 1 Sighting  
 2 Sett  
 3 Snuffle  
 4 Latrine  
 5 Tracks  
 6 Path  
 7 Droppings  
 8 Exit Site Path

**WATER VOLE**  
 1 Burrow  
 2 Latrine  
 3 Potential Feeding  
 4 Sighting

**OTTER**  
 1 Tracks  
 2 Sighting  
 3 Two Sighted

**HERONRY**

**MINK**  
 1 Tracks  
 2 Scat

Revision

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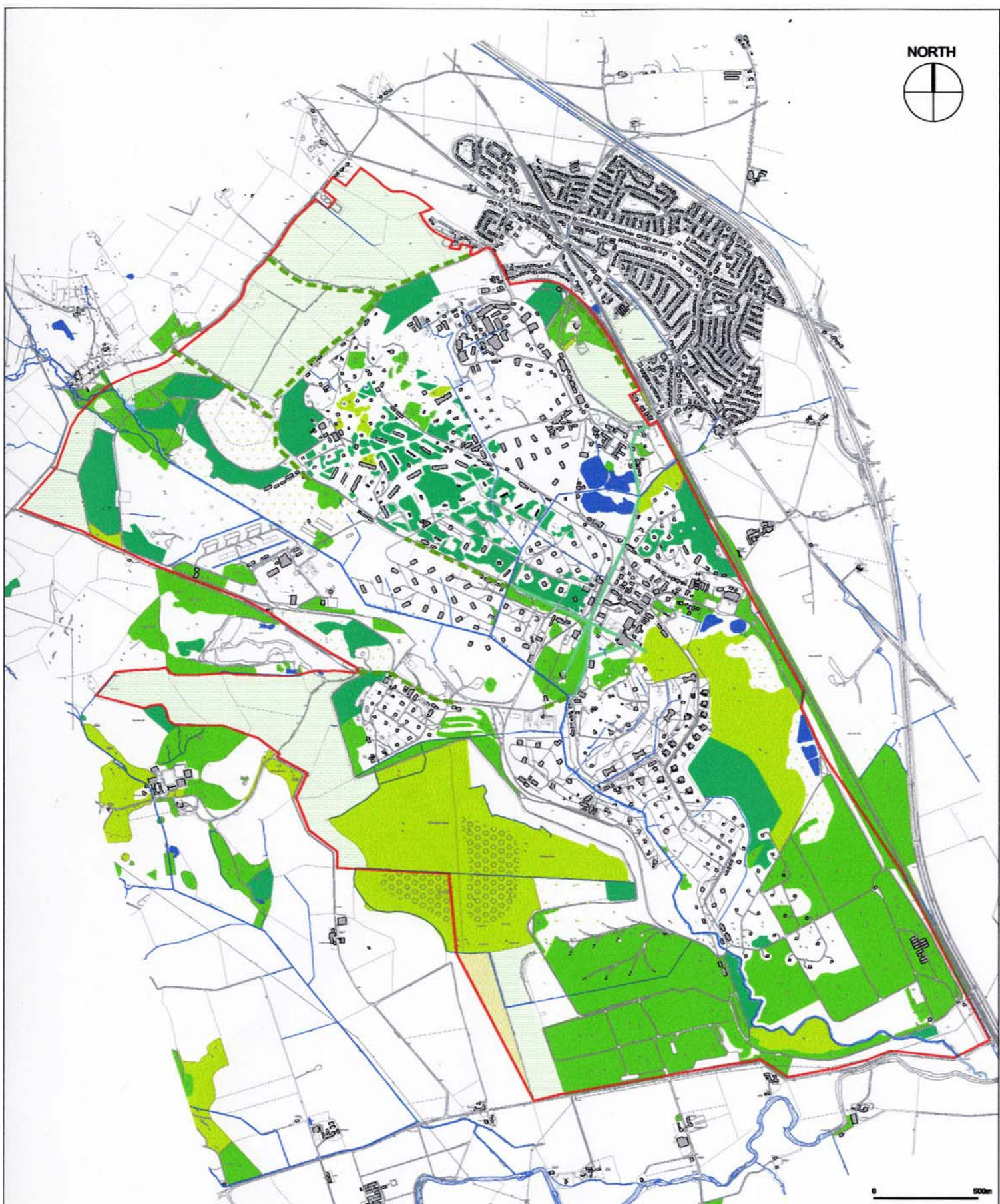
project name  
**BAE SYSTEMS,  
 Royal Ordnance Bishopton,  
 Renfrewshire**

drawing title  
*Ecological Survey  
 September 2002*

scale 1:22,000@A4  
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**FIG. 1**

NORTH



Woodland Broad	Woodland Coniferous	Woodland Mixed	Watercourse	Waterbodies
Avenue of Trees	Mossland	Mature Hedgerow	Pastural Grassland	Unmanaged Grassland
Arable Grassland	Existing Buildings	Rough Grassland	Main Waterbody	RO Boundary

## Appendices

**TABLE 1 BIRDS IDENTIFIED DURING THE SURVEY**

<b>Common Name</b>	<b>Scientific Name</b>	<b>Resident/ Migrant</b>	<b>Numbers</b>	<b>Comments</b>
BARN OWL	<i>Tyto alba</i>	R	2 Pair	CALLS+PELLETS
BLACK HEADED GULL	<i>Larus ridibundus</i>	R	12 Birds	ON LAKES
BLACKBIRD	<i>Turdus merula</i>	R	30+	COMMONSONG THRUSH
BLUE TIT	<i>Parus caeruleus</i>	R	30 +	WHOLE SITE
BULLFINCH	<i>Pyrrhula pyrrhula</i>	R	5	BY PONDS
BUZZARD	<i>Buteo buteo</i>	R	6 Pair	BIRDS + NEST SITES
CARRION CROW	<i>Corvus corone</i>	R	30+	COMMON
CHAFFINCH	<i>Fringilla colebs</i>	R	6 Birds	NORTH PERIMETER
CHIFF-CHAFF	<i>Phylloscopus collybita</i>	M	2 Birds	PART SONG
DIPPER	<i>Cinclus cinclus</i>	R	1 Bird	BURN TO NORTH
COAL TIT	<i>Parus ater</i>	R	5 Birds	MATURE FIRS/NORTH
COMMON GULL	<i>Larus canus</i>	R	10 Birds	ON PONDS
COOT	<i>Fulica atra</i>	R	1 Bird	ON PONDS
DUNNOCK	<i>Prunella modularis</i>	R	3 Birds	BY SITE ENTRANCE
GOLDCREST	<i>Regulus regulus</i>	R	6 Birds	NORTH PERIMETER
GOLDFINCH	<i>Carduelis carduelis</i>	R	30 +	NORTH PERIMETER
GREAT TIT	<i>Parus major</i>	R	20 +	WHOLE SITE
GREENFINCH	<i>Carduelis chlois</i>	R	30 +	BY SITE ENTRANCE
GREY WAGTAIL	<i>Motacilla cinerea</i>	R	1 Bird	SOUTH/END BROOK
G-S-WOODPECKER	<i>Dendrocopus major</i>	R	8 Birds	5 SEEN 3 CALLING
HERRING GULL	<i>Larus argentatus</i>	R	50 +	FLYING OVER SITE
HOUSE SPARROW	<i>Passer domesticus</i>	R	20 Birds	BY SITE ENTRANCE
JACKDAW	<i>Corvus monedula</i>	R	60 Pair+	MANY NESTS
JAY	<i>Garrulus glandarius</i>	R	4 Birds	DENSE PLANTATIONS
KESTREL	<i>Falco tinnunculus</i>	R	2 Pair	GOOD HABITAT
KINGFISHER	<i>Alcedo atthis</i>	R	2 Birds	3 <sup>rd</sup> PARTY SIGHTING
L-B-B GULL	<i>Larus fucus</i>	R	50+	FLYING OVER SITE
LINNET	<i>Carduelis cannabina</i>	R	20 +	SITE ENTRANCE
LONG-TAILED TIT	<i>Aegithalos caudatus</i>	R	10 Birds	NORTH PERIMETER
L-S WOODPECKER	<i>Dendrocopus minor</i>	R	1 Bird	RARE
MAGPIE	<i>Pica pica</i>	R	20+	COMMON
MALLARD	<i>Anus platyrhychos</i>	R	6 Birds	ON PONDS
MEADOW PIPIT	<i>Anthus pratensis</i>	R	12 Birds	ALL GRASS AREAS
MISTLE THRUSH	<i>Turdus viscivorus</i>	R	5 Pair	COMMON
MOORHEN	<i>Gallinula chloropus</i>	R	3 Pair,	ON PONDS
MUTE SWAN	<i>Cygnus olor</i>	R	1 Pair	ON PONDS
PEREGRINE FALCON	<i>Falco peregrinus</i>	R	1 Bird	MALE BY QUARRY
PHEASANT	<i>Phasianus colchicus</i>	R	6 Birds	AROUND PERIMETER
PIED WAGTAIL	<i>Motacilla alba</i>	R	12 Birds	MAIN OFFICE AREA
RAVEN	<i>Corvus corax</i>	R	1 Bird	LOCALISED
RED GROUSE	<i>Lagopus lagopus</i>	R	1 Bird	SEEN IN JUNE/ D.H.
REDPOLL	<i>Carduelis flammea</i>	R	10 Birds	NORTH EAST SIDE
REED BUNTING	<i>Emberiza schoeniclus</i>	R	8 Birds	PONDS + BROOK
ROBIN	<i>Erithacus rubecula</i>	R	30+	COMMON
ROOK	<i>Corvus frugilegus</i>	R	20+	ON PLOUGHED FIELD
SISKIN	<i>Carduelis spinus</i>	R	12 +	NORTH EAST SIDE
SONGTHRUSH	<i>Turdus philomelos</i>	R	1	NORTH WEST SIDE

SPARROWHAWK	<i>Accipiter nisus</i>	R	3 Birds	GOOD HABITAT
STARLING	<i>Sturnus vulgaris</i>	R	60+	COMMON
SWALLOW	<i>Hirundo rustica</i>	M	100 Birds	IN MOST BUILDINGS
TAWNY OWL	<i>Strix aluco</i>	R	3 Birds	SIGHTINGS+PELLETS
TREE CREEPER	<i>Certhia familiaris</i>	R	12 Birds	ALL MATURE WOODS
TUFTED DUCK	<i>Aythya fuligula</i>	R	2 Pair	ON PONDS
WILLOW WARBLER	<i>Phylloscopus trochilus</i>	M	1 Bird	EAST PERIMETER
WREN	<i>Troglodytes troglodytes</i>	R	20+	COMMON

Whooper swans (*Cygnus cygnus*) are known to frequent fields adjacent to the site from autumn to spring. Barn owl (*Tyto alba*) – a mummified body of a barn owl was found by staff, within a building on the site inside some ducting – to the west of area FA24.

**TABLE 2 MAMMAL SPECIES IDENTIFIED DURING THE SURVEY**

COMMON NAME	SCIENTIFIC NAME	No / SIGNS	COMMENTS
BADGER	<i>Meles meles</i>	10 sets identified	common
BANK VOLE	<i>Clethrionomys glareolus</i>	burrows/latrines	common / ditches
BROWN HARE	<i>Lepus capensis</i>	3 <sup>rd</sup> party sightings	localised
BROWN LONG EARED BAT	<i>Plecotus auritus</i>	identified in buildings	
BROWN RAT	<i>Rattus norvegicus</i>	droppings seen	common
COMMON SHREW	<i>Sorex araneus</i>	1 dead found	common
DAUBENTON'S BAT	<i>Myotis daubentoni</i>	identified in buildings	
DOMESTIC CATS	<i>Felix domesticus</i>	3 seen	N fence by Bishopton
GREY SQUIRREL	<i>Sciurus carolinensis</i>	15 seen	small population
HEDGE HOG	<i>Erinaceus europaeus</i>	1 heard	north perimeter fence
MINK	<i>Mustela vison</i>	tracks, scats/droppings	burn and ponds
MOLE	<i>Talpa europaea</i>	15 mole hills	around p fence
OTTER	<i>Lutra lutra</i>	sighting/prints/slipway	1 pair
PIPISTRELLE BAT	<i>Pipistrellus pipistrellus</i>	identified in buildings	
PYGMY SHREW	<i>Sorex minutus</i>	1 under canvass	common
RABBIT	<i>Oryctolagus cuniculus</i>	sightings /warrens	common
RED FOX	<i>Vulpes vulpes</i>	12+ sightings / calls	common
ROE DEER	<i>Capreolus capreolus</i>	60+ sightings	common
S-T FIELD VOLE	<i>Microtus agrestis</i>	sightings/latrines	very common
WATER VOLE	<i>Arvicola terrestris</i>	burrows/prints/FR	low in numbers
WEASEL	<i>Mustela nivalis</i>	6 scats found	common
WOOD MOUSE	<i>Apodemus sylvaticus</i>	burrows/droppings	widespread

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