

APPENDIX 9.2

ECOLOGICAL SURVEY UPDATE REPORT

CRIANLARICH PROPOSED BYPASS

Ecology Survey Update



Pine Marten Scat, Ewich Forest, June 2009

Version 1, 20th July 2009

**REPORT
TO
NATURAL CAPITAL**

ECOS COUNTRYSIDE SERVICES

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SUMMARY

1. *During the period March – July 2007 David Bell of ECOS Countryside Services undertook breeding bird and protected species surveys on, and adjacent to, the route of the proposed Crianlarich road by-pass.*
2. *These surveys were up-dated by a walkover survey on 14th June 2009.*
3. *The area surveyed is dominated by non-native conifer plantations and a wet heath/acid grassland mosaic between the village and the forest. The proposed new road will be placed in the open ground, adjacent to the village.*
4. *No signs were recorded of either Black Grouse or Merlin, the two main target bird species for the walkover surveys.*
5. *Red and Amber List birds were recorded in small numbers, mainly associated with the plantations and pockets of native scrub.*
6. *Signs of probable Red Squirrel and Pine Marten were recorded in the Ewich Forest on the west of the route.*
7. *There were no signs of Otter, Badger or Water Vole during the 2009 walkover.*

INTRODUCTION

This report is divided into six sections, five reporting surveys undertaken by David Bell, ECOS Countryside Services, in 2007, with an update from a 2009 walkover survey.

SECTION 1. BACKGROUND

1.1 Background.

David Bell, Principal, ECOS Countryside Services was invited in 2007 by Natural Capital, Edinburgh to undertake a series of ecology surveys at Crianlarich, Stirlingshire. The surveys cover an area on the west side of Crianlarich that has been identified for a new bypass, see Figure 1. The route and options for the bypass have been under review since 1994, continues with the recent 2006 Environmental Impact Assessment (EIA) consultation which included Scottish Natural Heritage (SNH) and Loch Lomond and the Trossachs National Park Authority. Both identified a range of potential nature conservation interests that would require to be addressed in an EIA.

1.2. Terms of Reference and Scope of Report.

This report updates results of the breeding bird and protected species surveys undertaken in 2007 by David Bell over the area identified in Figure 1. The scope of 2007 works was agreed with Natural Capital and SNH prior to commencement of surveys and aimed to provide the first tranche of baseline data for an EIA. The 2009 update is based on a single walkover survey informed by previous surveys.

The 2009 survey update was 14th June, an appropriate time of year for the target species and there are no known constraints on the adequacy of the data.

1.3 Location and General Description.

The survey site covers a relatively large area of land to the south west of the A85(T) divided into two parts by A82(T) and a main railway line to Glasgow. The north west is bounded by the West Highland Way marked long distance footpath and in the south east by a small burn, the Allt Coire Ardrain. The land adjacent to the route is dominated by non-native conifer plantations that form Inverardran and Ewich Forests. Open ground east of the railway is managed by the local community for recreation and wildlife and features include an informal footpath network linking viewpoints, features of interest and the village.

A Phase 1 habitat survey was undertaken and reported in 1994, see Figure 2 and this is still valid as an accurate representation of the habitats present today. The survey showed that the wider land was dominated by coniferous woodland with an open land buffer between the plantations and the village of Crianlarich. The buffer was dominated by a mosaic of wet heath and acid grassland with pockets of semi-natural woodland and bracken.

SECTION 2. BREEDING BIRD SURVEY.

2.1 Bird survey methodology.

In 2007 the site was surveyed targeting all raptors, Schedule 1⁽¹⁾ species, Red List⁽²⁾ Species of High Nature Conservation Concern and those priority species that are listed in either the UK Biodiversity Action Plan⁽³⁾ or Stirling Area Local Biodiversity Action Plan⁽⁴⁾. The remaining common species e.g. Blue Tit, Chaffinch, Meadow Pipit, Willow Warbler, Wood Pigeon were recorded as present or absent and included in the summary of status, Appendix 1. During surveys a special effort was made to record Black Grouse and Merlin, species previously highlighted during statutory consultations as perhaps being on site. A four visit Common Bird Census (CBC)⁽⁵⁾ was agreed to be appropriate for the site and potential level of bird interest and results are provided Appendix 1.

The 2009 survey was based on a single walkover targeting two main species, Black Grouse and Merlin, but also recording Red and Amber List species, as encountered.

2.2 Baseline habitat conditions for breeding birds.

- Figure 2 illustrates the location and relative extent of the 17 habitats along the potential bypass construction corridor.
- In general the resources for resident, breeding and wintering birds are restricted by the extensive non-native conifer plantation and by the narrowness of the non-planted area between the plantations and the village, likely to accommodate the new bypass.
- The conifers tend to favour larger numbers of very common birds.
- The lack of extensive native broad-leaved woodland, mature trees, running water and natural waterbodies adds to the lower quality of bird habitat.

2.3 Results of 2007 survey.

Appendix 1 summarises the breeding bird data whilst Figures 3 and 4 illustrates the distribution of the key species of conservation importance.

- A total of 38 species were recorded using or flying over the survey site.
- Of these 38 species, 26 were not associated with breeding.
- Three recorded species were Red List and biodiversity priority species. Namely Common Bullfinch, Song Thrush, and Wood Warbler, only the latter two species were likely to be breeding.
- A further eight species were Amber List birds of medium conservation concern, but only four were likely to be breeding.
- No records were made of Black Grouse.
- All potential plucking posts for Merlin were visited during each breeding bird survey. No Merlin were seen nor were there any signs of any regular use of any rock, post or knoll by birds of prey.
- No upland wading birds e.g. Curlew, were recorded during surveys.

(1) Wildlife & Countryside Act 1981 (& later amendments). HMSO.

(2) RSPB et al (2002). The population Status of Birds in the UK: Birds of Conservation Concern (2002-2007)

(3) Anon. (1994). The UK Biodiversity Action Plan. HMSO.

(4) Stirling Area Local Biodiversity Action Plan.

(5) Williamson, K. (1964). Bird Census work in woodland. *Bird Study* **11**, 1-22.

2.4 Survey update 2009.

- No records of Merlin or Black Grouse were made during the walkover, nor were there any signs of any recently plucked prey items at potential perching and or/plucking sites.
- No records were made of any upland wading birds in, or adjacent to, the proposed route.
- Two Red List species were recorded, namely, Spotted Flycatcher and Lesser Redpoll with one record of each, as shown on Figure 6.
- Three Amber List species were noted. Willow Warbler were most frequent with six records of singing males in native self-seeded willow and birch scrub. Swallows are breeding at the Railway Station and a single Wood Warbler was recorded singing in the south west of the site.
- Other species recorded included: Blackbird, Carrion Crow, Chaffinch, Chiffchaff, Coal Tit, Goldcrest, Long-tailed Tit, Meadow Pipit, Robin and Sand Martin.
- The Robin is a Scottish Biodiversity 100 priority species due to nationally adverse changes in its population.

2.5 Implications of birds update for the route.

- The records for 2009 are less numerous and with a lower range of species, which is partly attributable to there being only one visit in 2009.
- The records do confirm the previous survey and raise no significant issues regarding birds.

SECTION 3. OTTER SURVEY

3.1 Otters and the law.

Otters in the UK are protected by a raft of legislation, both European and UK that underlines international and national obligations.

3.2 Methodology.

The field survey was undertaken to the following standard methodology.

- Otters: Ward D, Holmes N. & Jose P. (1994). The New Rivers & Wildlife Handbook, RSPB et al.

This methodology involved making sightings of Otter and searching for signs of Otter activity by walking at least one bank of all suitable watercourses and the circumference of all water bodies. The locations of any records of Otter activity were recorded as six-figure grid references and, where possible, a 10-figure grid reference using a hand held GPS.

The signs to be recorded were:

- Couches;
- Footprints;
- Holts;
- Rest areas;
- Slides; and
- Spraints.

Otters are rarely sighted but spraint marking is frequent, more so in winter, and these droppings are the commonest sign of Otter activity.

3.3 Survey information.

3.3.1. Field survey results, 2007.

- The Otter surveys were undertaken on 30 March and 18 April 2007, with incidental recording on four further occasions, to early July.

Table 3.1. Otter Field Records Summary.

NGR	Description.
NN 37721 25540	Two old and one fresh spraint in a private water supply on a dammed stream immediately to the west of the village.

- Otter are clearly resident in the Crianlarich area and occasionally make use of the watercourse that leads to the water supply where the spraints were found. This

watercourse outfalls north under the A82T and links with the River Fillan. Surprisingly there were no spraints recorded on the lower water course during the survey period of March-July.

- It is likely that they will make use of all ponds and watercourses at some time of the year, but activity levels are surprisingly low.
- No holts or rest areas were identified and signs were limited to a single early season record of spraints at a single site outwith the bypass corridor.

3.3.2 Field survey results, 2009.

- The 2007 survey was repeated in 2009 with no signs of Otter recorded.

3.4 Implications for development.

The surveys of 2007 and 2009 suggest that the site is not regularly used by Otter and is therefore likely to be of low importance to sustaining the local population. However as the population is increasing⁽⁶⁾ there is an obligation to maintain up to date surveys in order to track any future changes in local status.

(6) SNH. Scotland's Wildlife. Otters and Development

SECTION 4. RED SQUIRREL SURVEY.

The road development will be centred on the open ground and will therefore result in a minimal loss of trees in the adjacent plantations, which are extensive. However Red Squirrel are a UK protected, a biodiversity priority species and therefore a material consideration.

4.1. Results of survey, 2007.

The feeding resource for squirrels is poor due to the young age of the stand with less than 30% of all trees fruiting. The species mix includes Norway Spruce, Sitka Spruce, Scots Pine and Larch, the latter is a major component of both forests.

4.1.1 Survey results.

Sightings

- No sightings were made of either Red or Grey Squirrels on any of the sighting surveys, or on three other survey days.

Feeding signs

- Inverardran Forest has some local pockets of older Norway Spruce and one or two Scots Pine, both species were fruiting profusely but no signs were recorded of any feeding.
- Ewich Forest was more productive with feeding signs at three locations, see Table below.

Table 4.1. All feeding records for Ewich Forest

Date	NGR	Description
30/3/07	NN 38265 24875	Six recently eaten Sitka Spruce cones.
	NN 38350 25100	Large pile of Sitka cones mostly old some recently eaten.
28/4/07	NN 37952 25108	Eaten Sitka Spruce cones, mainly but including a few that had been recently eaten.
11/6/07	NN 38347 25122	Several freshly eaten Sitka cones.

Dreys

- No dreys were recorded although they may have been overlooked due to the size of the plantations and the density of planting.

Calls

- Neither adults or young were heard calling in either plantation.

On the basis of this survey it seems that there is a small population of Squirrels that are most likely to be Red.

4.2 Updated survey 2009.

- The 2007 survey was repeated as a single walkover recording no sightings, calls or dreys.
- Recently eaten cones were noted at NGR 38225 24919 and assumed to have been eaten by Red Squirrel.

4.3 Implications for development.

These are as recommended in 2007:

1. Current FC guidelines should be followed with regard to felling.
2. All trees to be felled should be inspected for dreys prior to felling;
3. To minimise short term effects any tree felling should be undertaken outwith the breeding season Feb-Sept;
4. Small losses of habitat should be compensated for by re-planting with Scots Pine, which crops more reliably than the other confers in the plantations; and
5. Overall it would seem that the effect of the loss of small sections of such large plantations would have a negligible effect on sustaining the local population.

SECTION 5. WATER VOLE SURVEY

5.1 Background.

As a UK protected species and a priority species in the UK, Scottish and Local Biodiversity Action Plan there is a legal obligation to survey for Water Vole.

5.2 Methodology.

The appropriate standard methodology ⁽⁷⁺⁸⁾ was followed in 2007 and repeated in 2009.

5.3 Water Vole.

In outline this methodology survey involved:

- Walking one bank of all watercourses, and the margins of adjacent waterbodies to record signs of use by Water Vole;
- Survey to extend 300m beyond the known footprint of the bypass;
- Signs to be searched for include sightings, faeces, latrines, feeding stations, burrows and footprints;
- Effort was concentrated in the zone within 3 metres of any water's edge, but also included small areas of adjacent rushy wetland; and
- Incidental searches of suitable habitat were carried out during the breeding bird and Red Squirrel surveys.

5.4 Survey Information.

- The 2009 repeat of the 2007 survey found no signs of Water Vole on any of the surveyed watercourses or wetlands.

5.5 Implications for development.

1. On basis of available data there were no signs of Water Vole on the survey site or immediately adjacent to it. As a result there would appear to be no obligations towards this UK protected species arising from development.
2. It is possible that Water Vole may have been overlooked if there is a tiny population. They could have been missed during a June survey as signs and activity peak in late summer and early autumn. As a precaution suitable habitat should be checked again at the same time as updating any future Otter survey.

(7)Ward D, Holmes N. & Jose P. (1994). *The New Rivers & Wildlife Handbook*, RSPB et al.

(8 Strachan R. (1998). *Water Vole Conservation Handbook*. English Nature et al.

SECTION 6. OTHER WILDLIFE.

6.1 Badger

Badger are a UK protected species and surveys were justified on the basis of an old record. A Badger road casualty record was provided by Perth Museum and this was on the A82T one kilometre north of Crianlarich in 1998. The grid reference was NN376258 and approximately two hundred and fifty metres west of the furthest likely extent of the bypass.

A walkover survey was carried out along the bypass corridor, including accessible land 100 metres either side of the route, on 30th March 2007. No signs were found of any recent Badger activity, at a time of year when they are most active. This was repeated in June 2009.

It is clear that there was a locally active social group and as a precaution the walkover survey should be repeated prior to any site investigation or construction works to ensure legal compliance. This survey may include a wider survey corridor to establish the presence or absence of a local population and is best carried out in late February/early March.

6.2 Pine Marten.

Pine Marten are protected under UK legislation and would typically be found in native woodland and plantations. A rare animal in the UK, it is recovering from long term persecution and has a national stronghold in Perthshire.

6.2.1 Results of survey, 2007.

A special walkover survey was undertaken on the 30th March 2007 with particular attention being paid to recording signs of Pine Marten. No scats were found that could be attributed to this species. One site on the West Highland Way, at NGR NN37612 25178, was suitable as a shelter for Pine Marten. It is a small outcrop with lush ledge vegetation, mainly Great Woodrush and a few Silver Birch and Rowan. There were few other suitable shelter sites due to lack of old trees and other rock exposures. Signs of Pine Marten were searched for during all other surveys without any records. There have been anecdotal records of Pine Marten in Crianlarich, however on the basis of this survey the population is likely to be low and any impact negligible.

6.2.2 Results of survey, 2009.

The 2007 survey was repeated in 2009 and on this occasion a scat was located at NN 37879 24897, at a height of 790 feet. This record supports anecdotal records. Identification of Marten scats can be problematic and a sample has been kept, should there be a need to confirm the integrity of the record by DNA analysis.

6.3 Amphibians and reptiles.

6.3.1 Results of survey, 2007.

Four breeding sites for Common Frog were identified during the walkover surveys of 30th March 2007 and these are illustrated on Figure 5. Very small numbers of adults and only a few spawn masses were recorded in each location. The grid references for Frog breeding ponds are: NN38860 25161; NN38757 25140; NN38729 25137; and NN38387 25182 and they lie within the construction footprint and could be lost to the road construction.

No signs were recorded of Common Lizard, Slow Worm or Adder during the survey period.

6.3.2 Results of survey, 2009.

- No amphibians or reptiles were encountered during the 2009 walkover survey.

Appendix 1. Summary status of all recorded bird species during 2007 surveys.

N/C = Non=classified

V = Visitor to site

Br = Breeder

Ps Br = Possible Breeder

Pr Br = Probable Breeder

Species	Biodiversity Status	Conservation Status	Breeding Status	No of pairs	Description
Barn Swallow	-	Amber	V	-	Local breeder. Not breeding on the survey site but feeds over the open grassland , scrub and heath
Blackcap	-	Green	Ps Br	1	Singing male 9/7/07 in shrubs at the railway station.
Black-headed Gull	-	Amber	V	-	Occasional birds seen overflying the site
Blue Tit	-	Green	Pr Br	N/A	Occasional birds seen singing in the scrub and plantations.
Carrion / Hooded Crow	-	Green	Ps Br	N/A	Occasional birds seen in the plantations and overflying the site
Chaffinch	-	Green	Br	N/A	Commonly recorded in all scrub and plantations.
Coal Tit	-	Green	Br	N/A	Commonly recorded in the plantations.
Collared Dove	-	Green	V	N/A	At least two pairs breeding in the village and occasionally seen on the survey site.
Common Bullfinch	-	Red	V	N/A	Small party of four recorded in Ewich Forest
Common Buzzard	-	Green	Ps Br	1	The survey site was within the territory one breeding pair. No nest was found within the survey site.
Common Crossbill	-	Green	Ps Br	1+	Crossbills were regularly seen and heard during the survey. A small party of 1 male and 3 females seen on 3/6/07 was the peak count.

Species	Biodiversity Status	Conservation Status	Breeding Status	No of pairs	Description
Common Cuckoo	-	Green	V	-	A single bird flew south over the site 11/6/07
Common Whitethroat	-	Green	Ps Br	1	Single bird singing on site
Common Swift	-	Green	V	-	Local breeder, small parties seen feeding over the plantations.
Common Wood Pigeon	-	Green	Br	N/A	Frequent in the plantations.
Eurasian Siskin	-	Green	Br	2	At least two pairs bred on the northern edge of both plantations.
Eurasian Sparrowhawk	-	Green	Ps Br	1	Single bird seen once and a newly plucked Siskin was found on another survey visit. Kill was at NN38367 252117
European Robin	-	Green	Br	5-10	Territorial birds recorded from most areas.
Goldcrest	-	Amber	Br	3+	Recorded singing in the plantations.
Great Spotted Woodpecker	-	Green	Br	1	Single birds seen and heard in the plantations.
Great Tit	-	Green	Br	N/A	Frequently recorded in scrub and plantations.
Greenfinch	-	Green	V	-	Pair bred at the west end of the village and was recorded over the survey site.
Herring Gull	-	Green	V	-	Small numbers recorded flying over the site.
House Martin		Amber	V	-	Local breeder, up to four birds recorded feeding over the site, usually opposite the railway station.
Jackdaw	-	Green	V	-	Several birds were recorded overflying the site.
Lesser Redpoll	-	Red	V	1+	Occasionally recorded in the plantations.
Long-tailed Tit	-	Green	V	-	A large flock of 31 birds was seen in the west of Ewich Forest on 9/7/07

Species	Biodiversity Status	Conservation Status	Breeding Status	No of pairs	Description
Mallard	-	Green	V	-	Three birds flew over the site , having arisen from the river,
Meadow Pipit	-	Green	Br	5+	Two nests found and a small number of singing birds recorded open ground.
Mistle Thrush	-	Green	Br	1	Pair bred successfully at the north end of the village. Adults seen carrying food on 28/4/07.
Northern Wheatear	-	Green	V	-	Female recorded alongside the A82(T) on 9/7/07
Raven	-	Green	V	-	Local breeder, seen and heard overflying the site.
Sand Martin	-	Amber	V	-	Small feeding parties of up to three recorded feeding over open ground. Probably breed on the River Fillan.
Song Thrush	UKBAP; SBL; SALBAP	Red	Pr Br	5-7	Up to seven pairs breeding all singing males on the edge of the plantations.
Tree Pipit	-	Amber	Ps Br	1	Sing in male recorded in birch scrub west of the railway station.
Willow Warbler	-	Amber	Br	20+	Recorded in all areas.
Winter Wren	-	Green	Br	-	Frequent in all habitats.
Wood Warbler	-	Red	Ps Br	2	Two singing males, one in each plantation.

Figure 1. Survey information, 2007 and 2009.

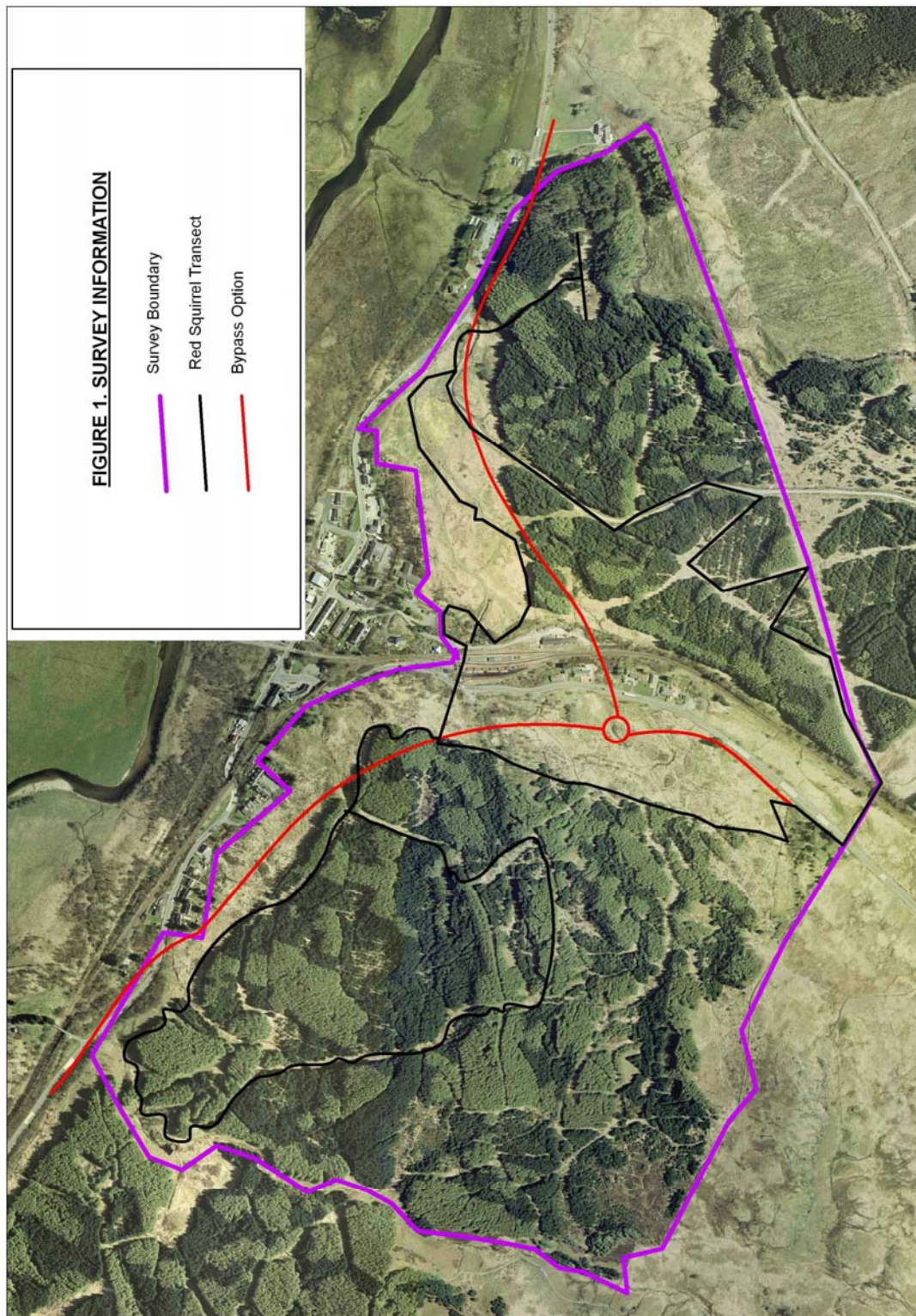


Figure 2. Habitat key and map.

From previous studies, but still accurate 2007 and 2009.



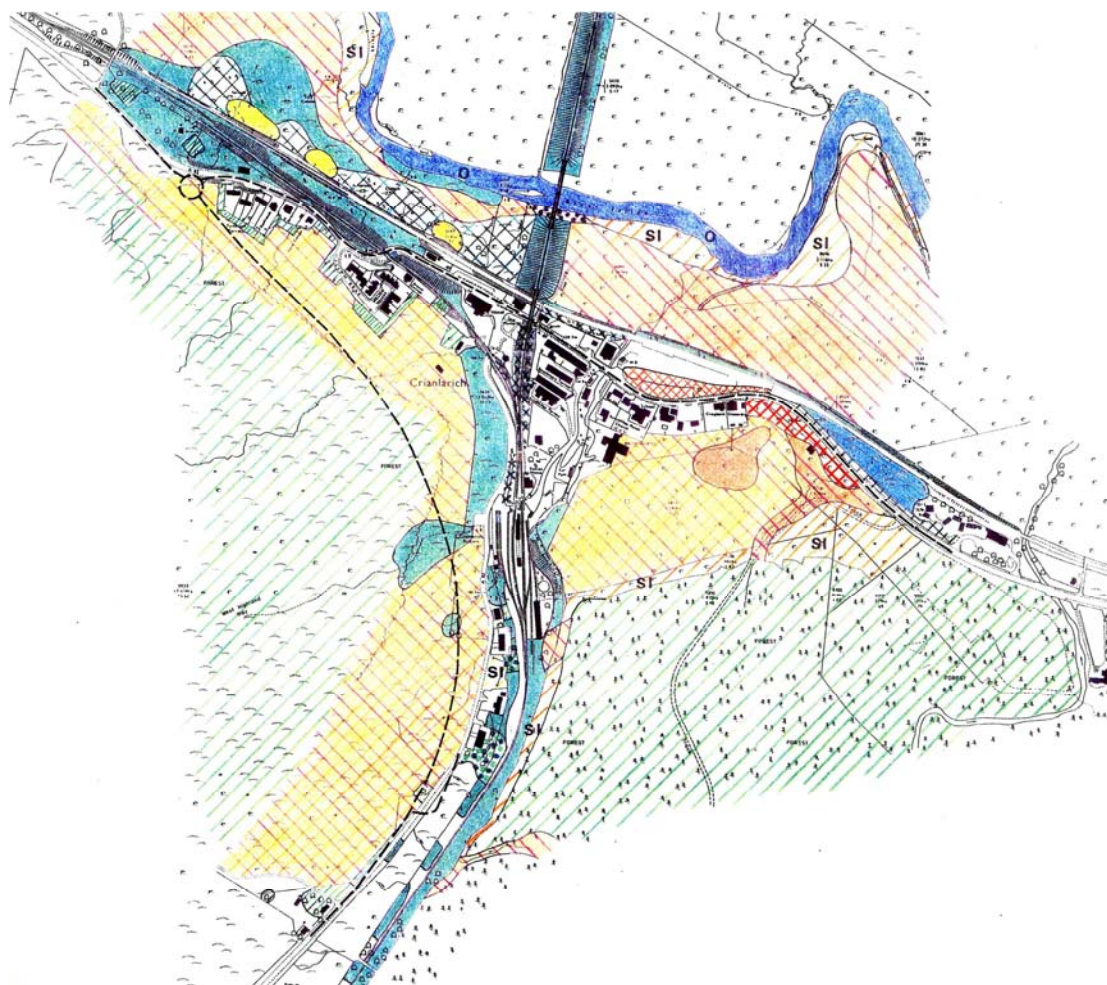


Figure 3. Red List birds, 2007

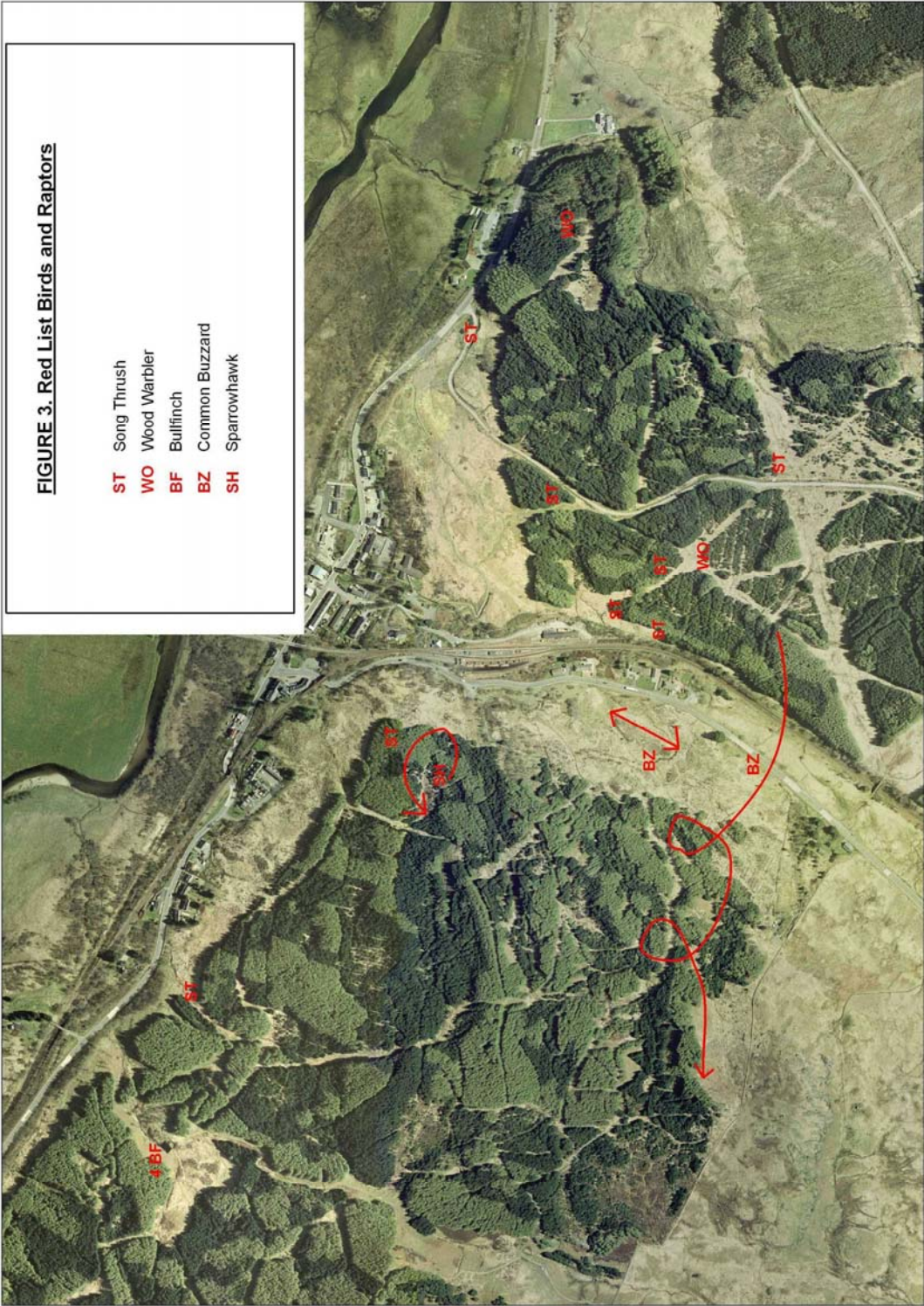


Figure 4. Amber List birds, 2007.

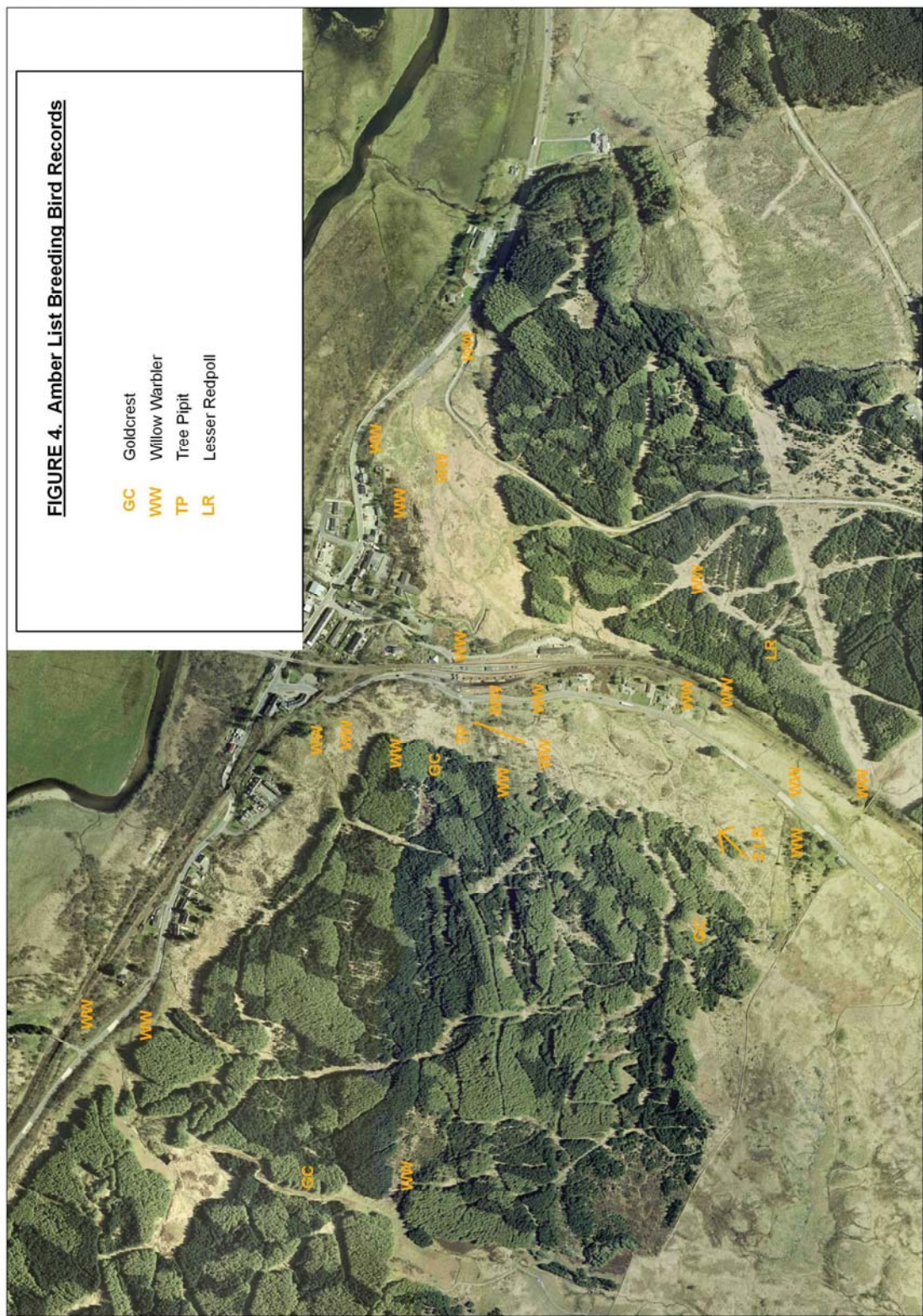


Figure 5. Non-avian nature conservation interest, 2007.

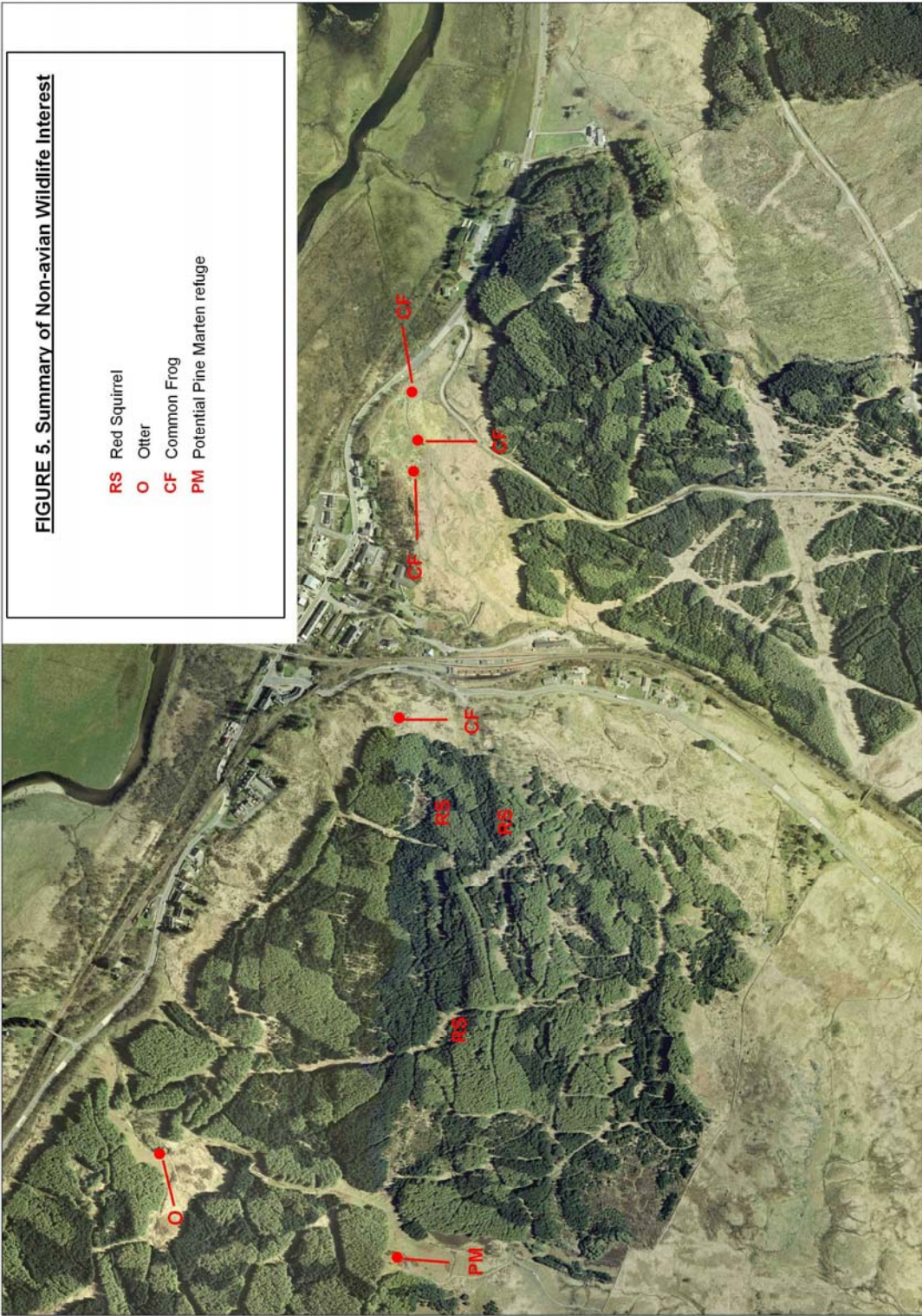


Figure 6. Recorded nature conservation interest, 2009.

- Protected mammals species
- Red List bird species
- Amber List bird species

