



The British Model Flying Association

STUDY OF THE EFFECTS OF MODEL FLYING ON WILDLIFE AT NEWGROUND, TRING, HERTS

Owners

CHESHAM MODEL FLYING CLUB LTD

Report by Dr LEO BATTEN, MIEEM

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The following is a synopsis of the 2 reports from Dr Leo Batten, MIEEM of the 2003 and 2010 studies of the effects of model flying on wildlife at New Ground Farm, Tring, Herts. Commissioned by the British Model Flying Association.

Introduction

Chesham Model Flying Club Ltd bought 36 acres (14.6ha) of land at New Ground Farm near Aldbury in Hertfordshire in 1993, 10 acres (4ha) are used for model flying and the rest has been allowed to revert to nature. The site lies between the Grand Union canal and the 4 track railway line which runs between London and Manchester.

When the land was purchased it had been in use for arable purposes. The land is no longer being farmed but is gradually reverting back to chalk grassland and is not being fertilised. The grass is topped each year at the beginning of August.

With the club's permission the British Model Flying Association commissioned a study of this land, undertaken by Biodiversity Consultant Dr Leo Batten MIEEM, to determine the effect that model aircraft flying has on the wildlife with particular emphasis on birds. Observations were also made on groups of animals and plants.

The initial study was carried out in 2003 and revisited in 2010 to assess any long term change.

In order to quantify the size of the breeding bird population on the study area a mapping technique was used based on the Common Birds Census methodology whereby all the positions of territory holding birds were marked on a large scale map of the area.

The number of territories was determined from the mapped distribution of registrations for each species using standard rules for analysis as recommended by the British Trust for Ornithology.

This method was used to look for differences in numbers of territories in relation to where the planes were being flown.

Results of the census on that part of the site where model aircraft are not being flown can be used as a control for comparing with that part where they are, provided the habitat is similar.

Breeding Bird Assessment

In 2003 a total of **49** bird species were recorded, including **15** territories for **Amber List** species and **11** territories for **Red List** species.

In 2010 a total of **50** bird species were recorded, including **17** territories for **Amber List** species and **12** territories for **Red List** species.

Red Listed birds are those thought to be in rapid decline (50% or more) in the UK breeding population over the last 25 years.

Those listed in 2003 were Skylark, Song Thrush, Starling, Linnet, Bullfinch, Yellow Hammer and Reed Bunting.

Those listed in 2010 were Skylark, Yellow Wagtail, Song Thrush, Starling, House Sparrow, Linnet and Yellow Hammer.

Amber Listed birds are those considered to be in moderate decline (from 25 to 49%) in the UK breeding population over the last 25 years.

Those listed in 2003 were Common Kestrel, Lapwing, Stock Dove, Green Woodpecker, Swallow, House Martin, Sand Martin, Meadow Pipit, Dunnock, Mistle Thrush, Willow Warbler and Goldcrest.

Those listed in 2010 were Common Kestrel, Lapwing, Common Tern, Stock Dove, Green Woodpecker, Swallow, House Martin, Sand Martin, Meadow Pipit, Dunnock, Mistle Thrush, Willow Warbler and Bullfinch and Reed Bunting.

In 2003 a total of **105** territories were detected on the whole site, which works out at a density of **72** territories per 10ha.

In 2010 a total of **138** territories were detected on the whole site, which works out at a density of **95** territories per 10ha.

It is unfair to compare this density with other agricultural land as the hedgerow and woodland along the canal supports a large proportion of the birds present which is not typical of farmland as a whole.

In 1969 two local farms, Pendley and Grove Farm, were studied and showed an average of 43.3 pairs per 10ha involving 46 species. At nearby Ivinghoe Beacon 36 species gave a total density of 64.6 territories per 10ha. At Pitstone Hill the equivalent figures were 29 species and 54.7 territories per 10ha.

A further analysis was carried out by dividing up the site into two. The top five hectares which are not disturbed, and the remaining 9.6 hectares, which include the flying area and car park as well as the access road to the flying area.

The results of this analysis revealed that in 2003 26 species held territory in the top section with a density of 89 territories per 10ha, whilst the bottom section held 25 species with a total density of 61 territories per 10ha.

In 2010 27 species held territory in the top section with a total density of 116.0 territories per 10 ha, while the bottom section also held 27 species with a total density of 84.2 territories per 10 ha. The difference may be exaggerated by edge effect and the large copse of trees in the top section. It does show that even the disturbed section maintains a very good population of birds.

The results show that the study area supported a very good breeding bird population in 2003, and this population has increased between the initial study of 2003 and the 2010 study.

Reactions of Birds to Activities on Site

When people appear on site most birds which are feeding on the short grass flying area leave even before planes are being flown. Some species may stay and on one visit a family party of Carrion Crows ignored a plane even when it flew within forty feet of them. On a visit in 2010 a Red Kite was circling over the flying area when a model aircraft was launched. It showed no reaction to the aircraft until it flew within about 10 metres of the bird when the bird gave a brief roll and then kept on circling over the flying area.

A territory holding Skylark adjacent to the flying area carried on singing whilst planes were being flown. It would appear that the present level of activity is not enough to cause desertion of adjacent territories of Skylark or Meadow Pipits which are field species, as the mapping census showed that they maintained their territories throughout the survey period.

Some of the feeding birds such as Magpie, which left the immediate flying area were seen to return within 10 minutes after flying was over. On one occasion, when flying took place between 17.20 and 17.50 on 3rd July 2010, about 80 Jackdaws and 100 Rooks were feeding in the flying area at 09.15 am the next morning, however it is not known how soon these arrived after flying ceased.

Species which held territory in the hedgerows on site as well as in the copses and along the canal bank appeared not to be affected as they carried on singing when planes were in the air and most maintained their territories throughout the season.

It would appear that the present level of flying activity is compatible with territory holding birds being able to maintain their territories and observations showed that some species at least were able to breed successfully. Examples being Pheasant, Pied Wagtail, Robin, Mistle Thrush, Whitethroat, Blue Tit, Great Tit, Carrion Crow, Goldfinch and Bullfinch.

Intensity of Model Aircraft Flying on the Site.

The land is available for model flying for 365 days a year, weather permitting.

In 2003 on flying days people were present for an average of 4 hours 23 minutes with models in the air for an average of 1 hour 53 minutes.

In 2010 on flying days people were present for an average of 5 hours 56 minutes with models in the air for an average of 2 hours 46 minutes.

It is clear from the results that there has been a 1.9 times increase in the hours members spent on site in 2010 (458hrs.25min) compared with 2003 (241hrs. 15 min). The number of hours flying time more than doubled from 105 hrs 46 min in 2003 to 213 hrs 14 min in 2010.

However, despite this increased intensity of use there was an increase from 105 to 138 breeding bird territories detected from 2003 to 2010 on the site.

It is clear that the increased level of intensity of use is still compatible with the site maintaining a good breeding birds community with 49 species in 2003 and 50 in 2010.

Other Wildlife.

The following mammals have been observed at Newground.

Muntjac Deer	One believed to be of this species reported by Dave Humphrey in June 2001. Two were seen on 16 th April 2010 in the clump of trees near to the flying area. One seen near the central hedge on 27 th April 2010.
Fox	Regularly seen on site.
Badger	An active set on site.
Stoat	One seen near entrance on 16 th April 2010.
Grey Squirrel	Regularly seen on site.
Common Pipistrelle	<i>Pipistrellus pipistrellus</i> (45kHz genotype)
Soprano Pipistrelle	<i>Pipistrellus pigmaeus</i> (55kHz genotype)
Noctule/Leisler's Bat	<i>Nyctalus noctula/leisleri</i>
Rabbit	Including at least one black individual.

Butterflies

All the following species were seen in 2003 and again in 2010 except for Painted Lady. The total of 22 is about a third of the species occurring in the British Isles.

Small Skipper	Very common
Essex Skipper	A few seen in July
Large Skipper	A few seen June -July
Brimstone	A few in May
Large White	Regularly seen May-June
Small White	Regularly seen May-June
Green Veined White	Regularly seen May-June
Orange Tip	Regularly seen May-June
Small Copper	A few in July
Common Blue	A few in June and July, common in August 2003
Holly Blue	A few in May and June
Red Admiral	Several in July
Painted Lady	One on 8 th August 2003
Small Tortoiseshell	A few in July
Peacock	A few in July and 8 th August 2003
Comma	Regularly seen July
Speckled Wood	Common in June
Marbled White	Very common from late June to August
Gatekeeper	A few in July to August 2003
Meadow Brown	Frequent from mid June
Small Heath	A few 11 th July
Ringlet	Abundant late June to July, most common species, still some on 8 th August 2003.

Conclusion

Given the number of species and birds involved and the substantial increase in the number of territories detected in 2010 compared to 2003 no evidence of any detrimental impact could be detected on the birds of New Ground by model aircraft flying at the increased current intensity.

The number of breeding species and density of territories compares very favourably with nearby farmland, chalk grassland and scrub areas, which have been studied in a similar way in the past.

The complete 2003 report is 46 pages long, 26 of which are maps of New Ground Farm showing breeding territories for between 1 and 3 species. Page 21 showing the Chiff Chaff, Willow Warbler and Sedge Warbler is attached as an example.

Andy Symons
BMFA Club Support Officer
April 2012

**CHESHAM
MODEL FLYING CLUB
LIMITED**

*Chief Clerk
Willow Warbler 1 (low)
Sedge Warbler 1 (low)*

