

### Introduction

In the last few decades there have been many studies of a potential influence of squirrels on bird populations. Most scientists share the opinion that except for local cases squirrels don't have any significant effect on birds populations because their diet is predominantly vegetarian and occasional "bird nest (eggs and/or fledglings) predation" occurs only in considerably adverse situations like local scarcity of food. Below we'll analyse the results of scientific research about the relationship between squirrels' presence in the area and the diversity and size of bird populations.



can be one of the main (responsible for about 15%) "bird egg predators" (Nour et al. 1993). **These studies however cannot be looked at without earlier analysis of the reasons** (habitat quality, population density, etc.) that lead to such unnatural increase in the interest of

this squirrel species in bird eggs and fledglings and in some cases even adult birds (Hewson & Fuller 2003).

### Scientific research about the effect of squirrels on bird populations in the UK

The most recent – and biggest so far – studies conducted by two independent teams of British scientists about a potential influence of squirrels (grey squirrels, *Sciurus carolinensis*) on birds populations showed that **grey squirrels don't have significant effect on birds populations in the UK** (Newson et al. 2009) **and often their presence was positively linked with diversity and density of the birds most vulnerable to predation** (Bonnington et al. 2014).

The first quoted study (Newson et al. 2009) is especially important due to the huge amount of data collected and analysed by scientists and environmentalists from British Trust for Ornithology and Natural England – practically from the whole area of England.

That's why the results of this research – because of its wide "range" – are especially representative when it comes to the *lack of significant effect of squirrels' presence on populations of wild birds*. As the main reasons of some bird species population declines in the UK the scientists listed agricultural changes, habitat destruction by humans, climate changes, pollution (Newson et al. 2009).

Similar results come from the other study of potential effect of grey squirrels (*Sciurus carolinensis*) on urban bird populations (Bonnington et al. 2014). Results of this study in fact confirmed the results of the previous one, adding however very valuable conclusions like:

1. Woodland coverage and quantity has the biggest influence on the diversity and size of birds populations
2. There is no evidence that grey squirrels presence can have significant effect on the diversity and size of birds populations
3. The presence of grey squirrels was positively related to the diversity and populations size of birds most vulnerable to predation.

### Squirrel diet

Main food source for squirrels are tree seeds, berries, mushrooms, leaves. Squirrels also eat small insects and larvae although these are definitely lesser part of their diet. (Gurnell 1987, Koprowski 1994, Lee 2002, Hewson & Fuller 2003, Harris et al. 2006). Very rarely – most often in times of hunger in the area – there are situations when squirrels, like other mammals and many birds not to mention predators like hawks, eagles, owls, also eat bird eggs or fledglings (Nour et al. 1993, Koprowski 1994, Hewson & Fuller 2003).

### Scientific research vs myths

The myth about alleged huge negative impact of red squirrels (*Sciurus vulgaris*) on the UK bird population was created a long time ago and at the beginning of 20th century was quite commonly repeated. It was typically used – mainly by organisations killing red squirrels in great numbers – as one of the main excuses to carry out not so ecological "pest control" of red squirrels in the UK (Ritchie 1920, Shorten 1954, Tittensor 1975). Among other things on the basis of this myth red squirrels were in the UK (even until 1970ties) legally classified as "pest" and were – often in hundreds of thousands – killed for decades.

### Potential local effect on bird populations

Some scientific research and papers suggest that high density of red squirrel (*Sciurus vulgaris*) populations living in Europe can have locally a serious negative effect on reproduction success (a few-fold decrease in reproduction rates) of some bird species (Tomialojc in.litt.\*, Hewson & Fuller 2003). In other study the researchers tried to support this hypothesis\* with an experiment proving that locally red squirrels (*Sciurus vulgaris*)

Both studies evidently lack – although it was not their main goal – conducting research about the positive effect on bird population of forest regeneration by squirrels. The process of forest regeneration by squirrels is perfectly known to scientists for decades (Steele et al. 1993, 1996, Vander Wall 1990, 2001, Goheen & Swihart 2003). And as demonstrated by the above research a *good quality habitat* – of which trees are the most important part – is of priority importance to the diversity and size of wild and urban bird populations.

**Summary**

Even though these studies proved only that grey squirrels (*Sciurus carolinensis*) don't have

significant effect on birds populations in the UK, considering similarities in the diet and patterns of behaviour of red squirrels (*Sciurus vulgaris*) we can put forward a hypothesis that also red squirrels shouldn't have significant effect on birds populations in the UK. However because of quite strong evidence of considerable "bird egg predation" by red squirrels (Nour et al. 1993) it would be advisable to conduct similar research about potential influence of red squirrels (*Sciurus vulgaris*) on bird populations in the area bigger than included in studies so far. We are convinced that the future studies will support our hypothesis that also European red squirrels (*Sciurus vulgaris*) *shouldn't have significant effect on birds populations in the areas the inhabit.*

---

References and more about squirrels: [www.i-csrs.com/effect-squirrels-birds](http://www.i-csrs.com/effect-squirrels-birds)

Visit the Facebook page and sign the petition to stop grey squirrel cull: [www.facebook.com/StopSquirrelCull](http://www.facebook.com/StopSquirrelCull)

Photo credit: Andrew Lejoger Moon