Quakers Coppice nest box report - 2010

2010 is the 26th year that Quakers Coppice has been monitored for Tit and Stock Dove nesting success. This year has thrown up a couple of surprises for Bill and me: -

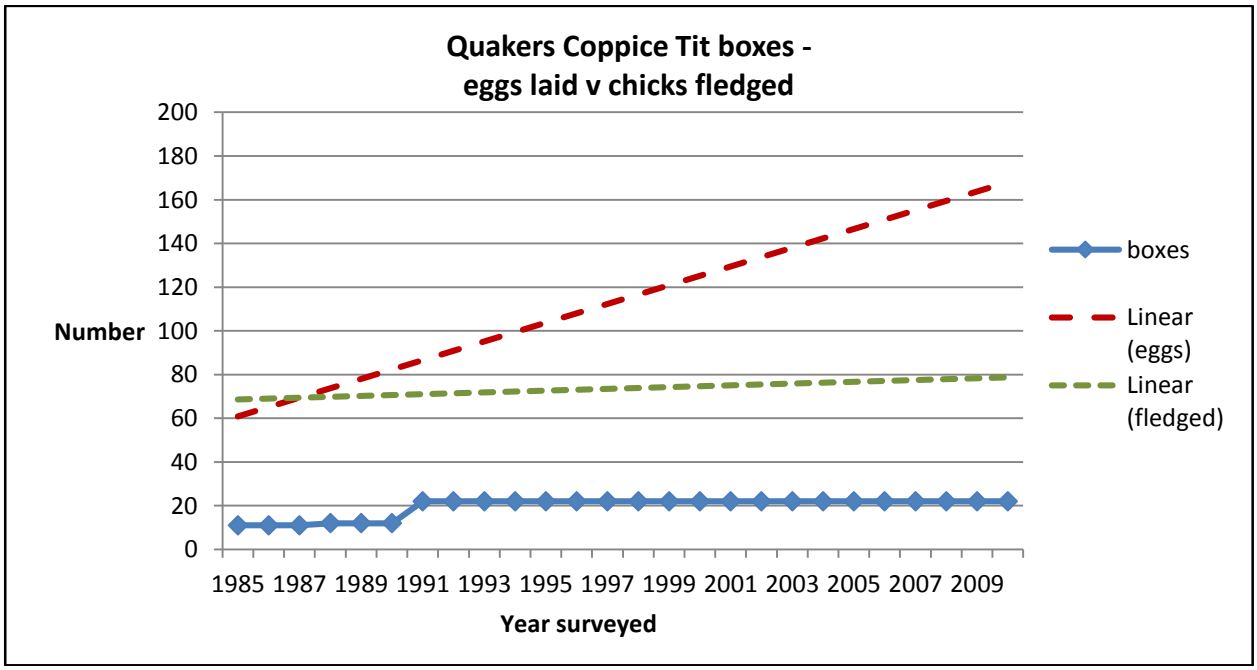
- while doing our early season 'spring clean' of the boxes, we discovered a Tawny Owl sitting on four eggs in one of the Stock Dove boxes - last reported Tawny Owl nest was in 2003.
- one of the small hole boxes had mud around the hole and bark flakes (not grass / moss) in it - typical signs that we had a Nuthatch pair occupying it.

Our bird books suggest that Tawny Owls usually lay eggs in March to April. So this owl started rather early. We first found the adult sitting on four eggs on 2nd February. The adult was still sitting on 20th March, but had abandoned the nest by 17th April. Witherby says "interval between eggs may be from 48hrs to a week", so first egg may have been laid about mid January. With the particularly cold winter, it must have been pretty cold to be brooding eggs from January to March! As the breeding season progressed, the Tawny Owl eggs failed to hatch, but the Nuthatches chicks fledged; (close by, a pair of Great Spotted Woodpeckers were raising young). This is the second record for Nuthatches using nest boxes on the reserve - in 2005. 4 eggs were laid in a Tit box, but none fledged. Nuthatches usually modify old Woodpecker cavities by plastering mud around the entrance hole to reduce its size.
The Stock Doves breeding season exceeds well beyond our reporting period, so although we have data for this species, it is not for the complete season.

This year's results: -

Species	Nests	Eggs	Hatched	Fledged	Productivity	1st egg date
Blue Tit	15	149	135	83	5.5	19th Apr
Great Tit	4	27	25	14	3.5	17th Apr
Stock Dove	9	19	10	7	0.7	28th Mar
Nuthatch	1	8	8	4	4	19th Apr
Tawny Owl	1	4	0	0	0	approx. mid Jan

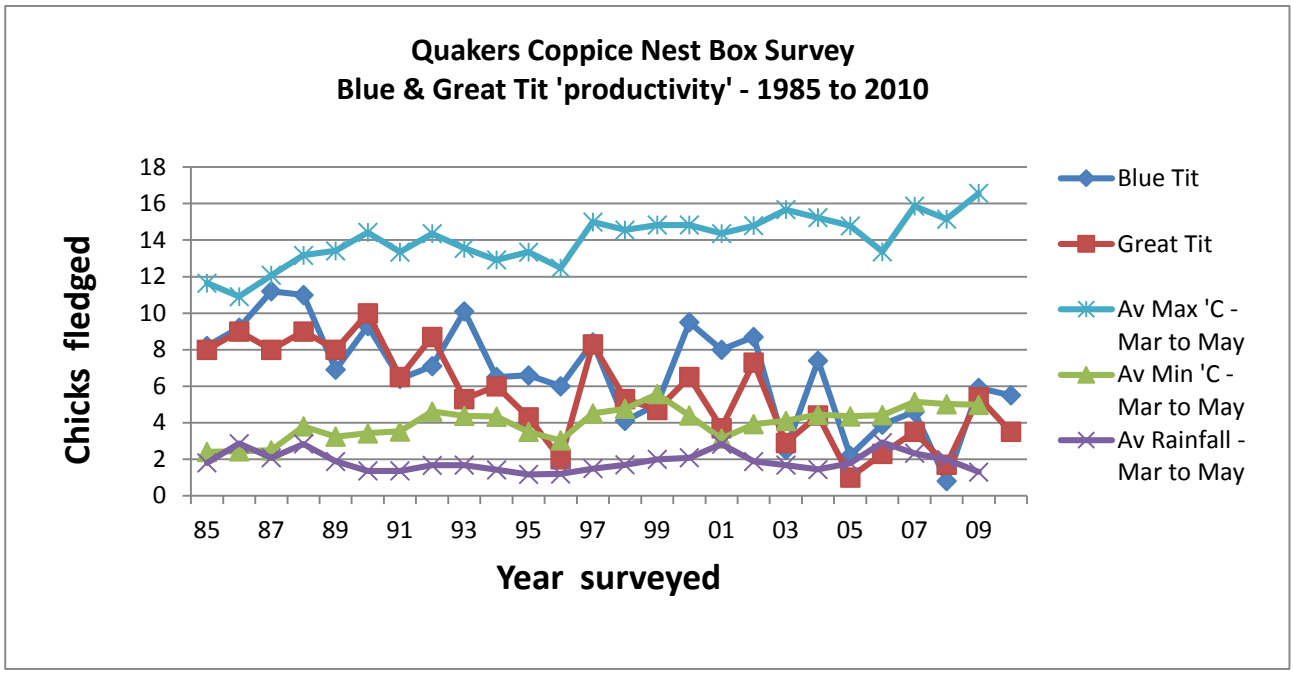
Bill and I have done some 'number-crunching' from the data we have added to that previously collected by Colin and Bryan. Firstly following a comment from Colin to me last summer about the biomass possibly having reached capacity, the first graph appears to support that theory.



As more Tit boxes were erected, pairs occupied them and their success recorded. It would be expected that as more pairs were recorded and the number of eggs laid would rise. The graph confirms that. However, unexpectedly, the number of chicks fledged appears to be only marginally higher - interesting?

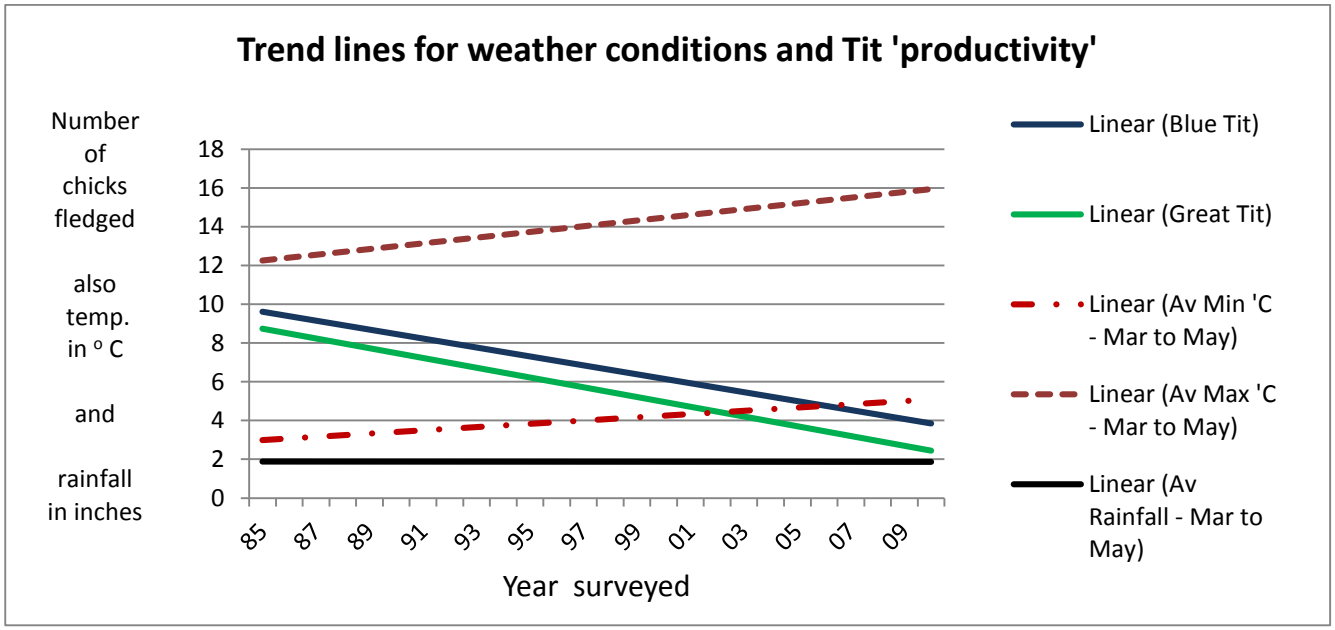
As last year's was the 25th anniversary, we also thought it would be interesting to consider if we could get weather related data covering the same period. I am extremely grateful to David Cookson of the Cheshire Swan Study Group[1] for supplying me with the information.

The rather 'busy' graph below shows the productivity (i.e. fledges ÷ nests) of the Blue and Great Tits using the nest boxes over the 26 years and we have overlaid the max. and min. temperatures, plus av. rainfall for the months of March to May.



The graph below shows the same data, but uses trend lines[2] to represent the information and it reveals some 'disturbing' results: -

- that even though more boxes have been made available and more pairs are using them, productivity has dropped at a similar rate for both Blue and Great Tits over the period
- average temperature and rainfall for the breeding season has remained constant or risen slightly over the 26 years - suggesting 'climate change' may not be a factor or if the slight rise in the average min. and max. °C is having an effect, it is having a detrimental one!



What conclusions can we draw from this information?

Before doing so, consider some extracts from last year's item on the subject: -

- the following extract from a leaflet produced by Cheshire Wildlife Trust in 1985 is interesting. *"The reserve is closed during the main nesting season March to June inclusive. Damage and disturbance to birds and other wildlife is minimised at other times of the year if visitors would please keep to the paths. Please note that dogs are not allowed on the reserve."*

- When Colin first visited the area in the early 1980s there were no paths, ground vegetation was mainly dense brambles and it was difficult to walk in the wood!

Not all of the boxes erected are used each year. So it is also likely that the species we have been monitoring over the years have also been nesting in natural nest sites on the reserve. We have not been able to identify any recently (apart from the odd Goldcrest found by Bryan a couple of years ago) to record their successes. We have no way of checking how they are faring.
While on our Spring weekly visits to the reserve we often hear and see the migrants - Chiffchaff, Willow Warbler, Blackcap, etc. They, too, will be wanting the feed themselves and their brood.

What is contributing to the decline in productivity?
Could it be: -

- the weather conditions (although relatively constant) were unfavourable
- the biomass can only support a certain number of fledged chicks
- human disturbance -
  - encroachment of industrial units / business park
  - dog walkers and others visiting the wood
- man-made nests distort the productivity of the total population
- has the feeding station been regularly 'topped up? Have some birds been depending on it?
- decline in recent years of the biomass surrounding the reserve due to change of land use from farmland to industrial and commercial premises

Bill Fox and John Thompson

References: -

1 Cheshire Swan Study Group Website - http://www.record-lrc.co.uk/Group.aspx?Mod=Article&ArticleID=G0012001 and the Forum site is http://www.record-lrc.co.uk/forum/viewforum.php?f=30. On behalf Cheshire Swan Study Group (including North Wales Swan Study Group) British Swan Study Group, Cheshire and Wirral Ornithology Society and Wildfowl and Wetlands Trust.

2 a trend line is (usually a straight line) used to depict trends in your existing data or forecasts of future data