

# Phenology 2018

Chichester Natural History Society

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# Background Info

- ▶ 22 members submitted sheets (a 20% increase on last year).
- ▶ Given the method of collecting the data it is not possible to assign statistical certainty to the results.
- ▶ However each years results and the trends do make for interesting interpretation
- ▶ Numerous studies have shown that temperature is the main determining factor in phenology

# How to read the graphs

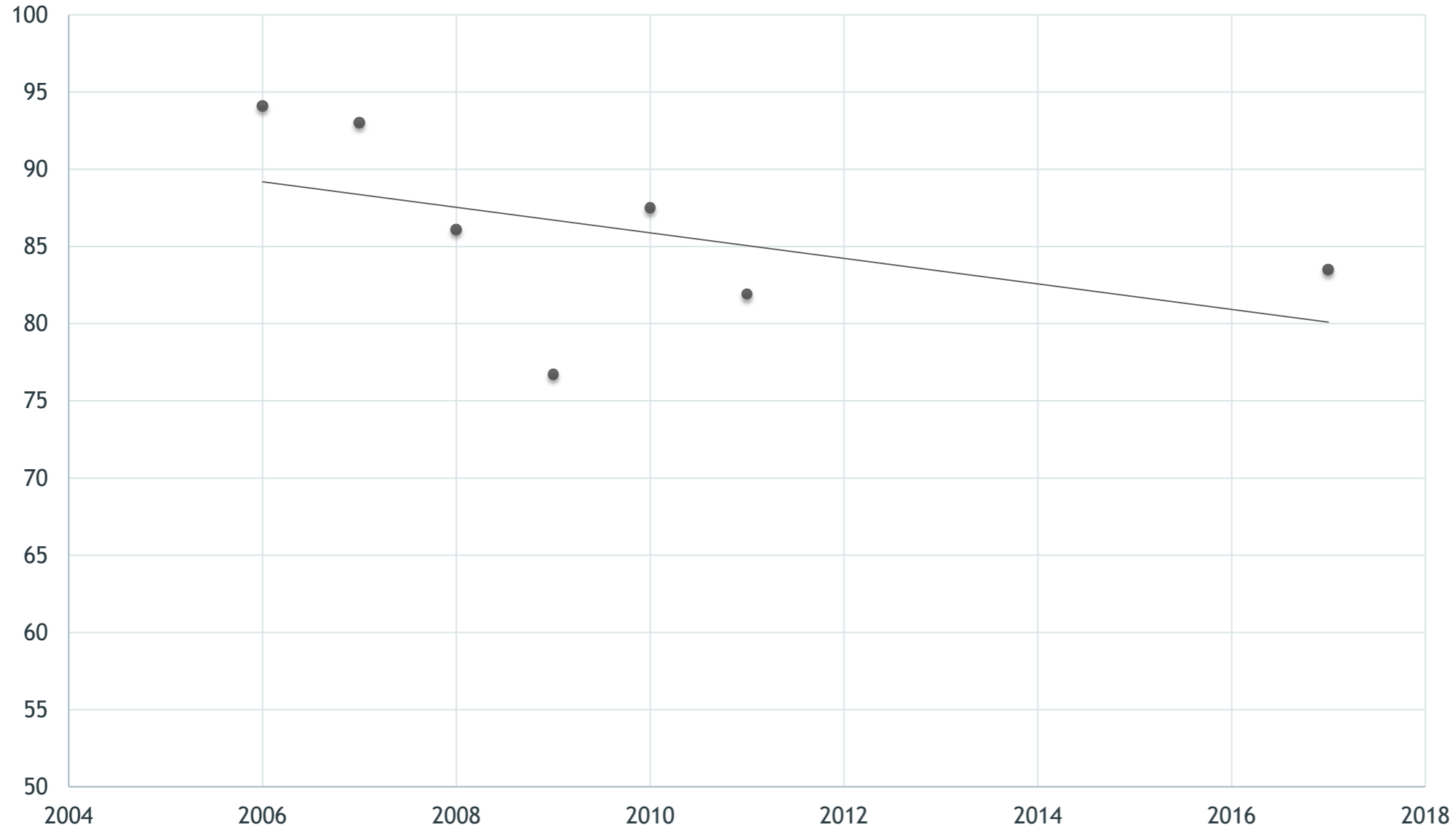
- ★ There is one graph per indicator species showing the mean day on which it was first recorded for each year
- ★ E.g.
  - ★ Day 60 is March 1st
  - ★ Day 91 is April 1st
  - ★ Day 121 is May 1st
- ★ A downwards sloping trend line shows the species is appearing earlier.
- ★ An upwards sloping trend line shows the species is appearing later.

# Chiff Chaff - First Appearance

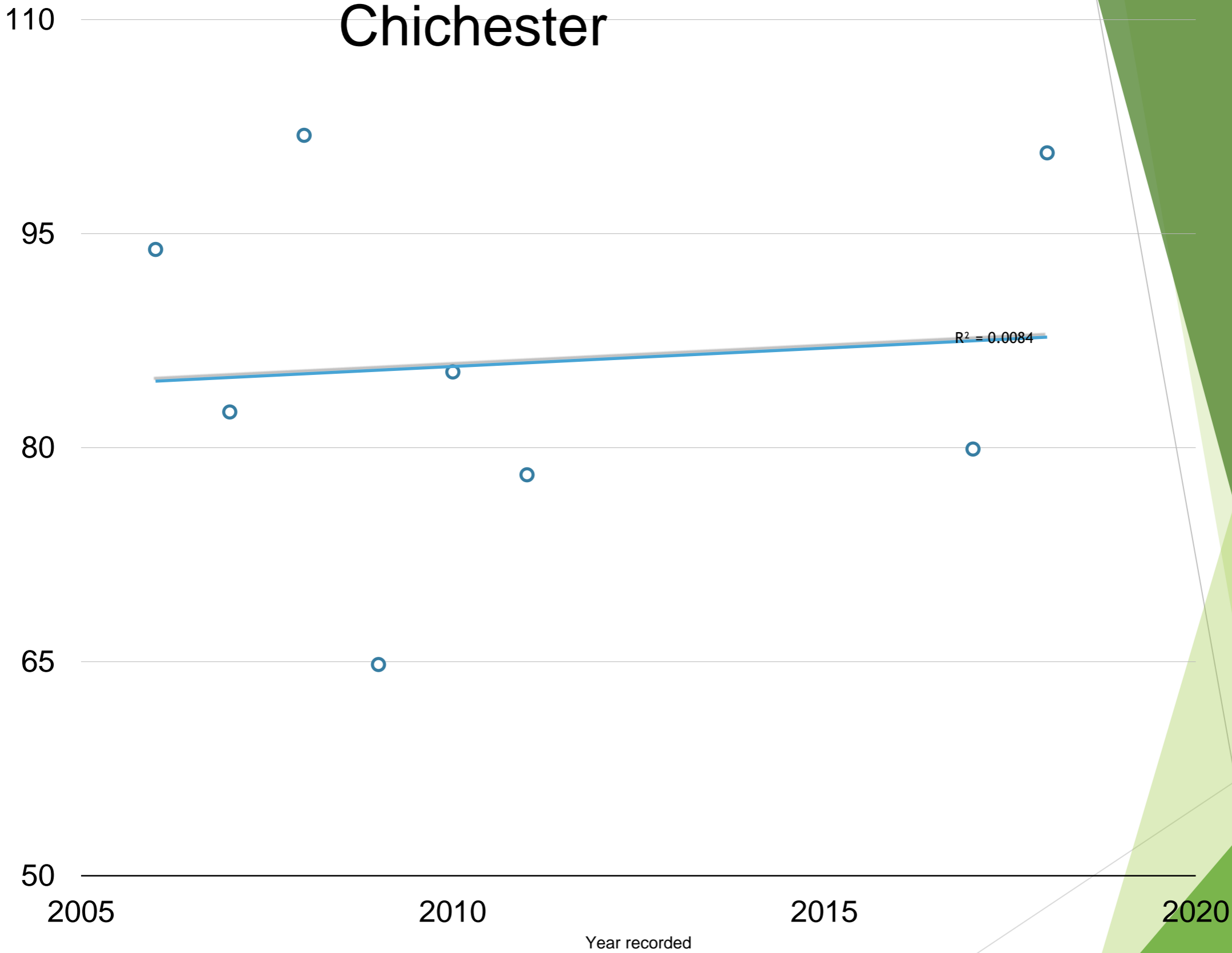


*“What a difference a year makes”*

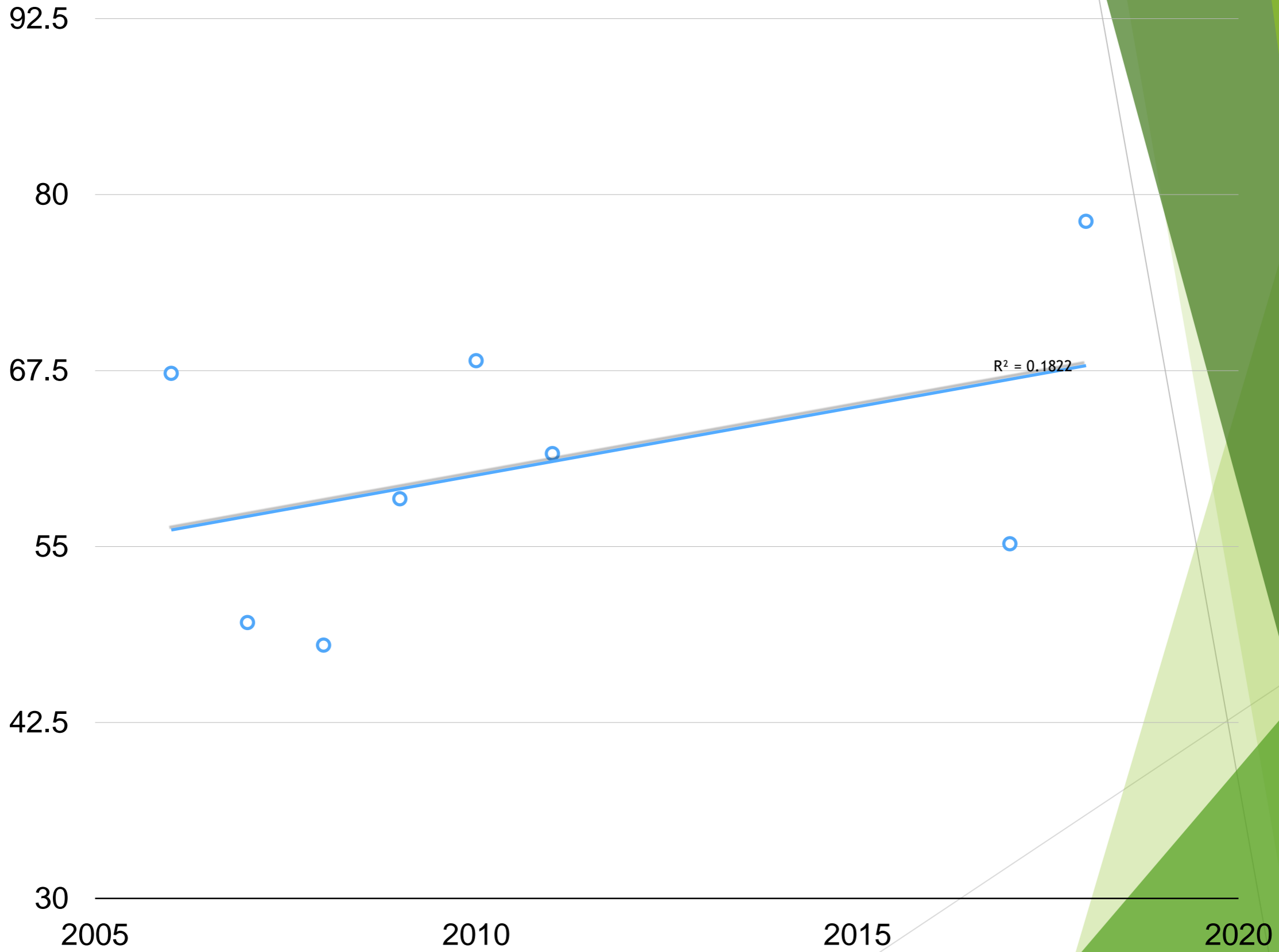
## Chiff Chaff - Average first day of recording in Chichester Last Years Graph



# Brimstone - First Appearance in Chichester

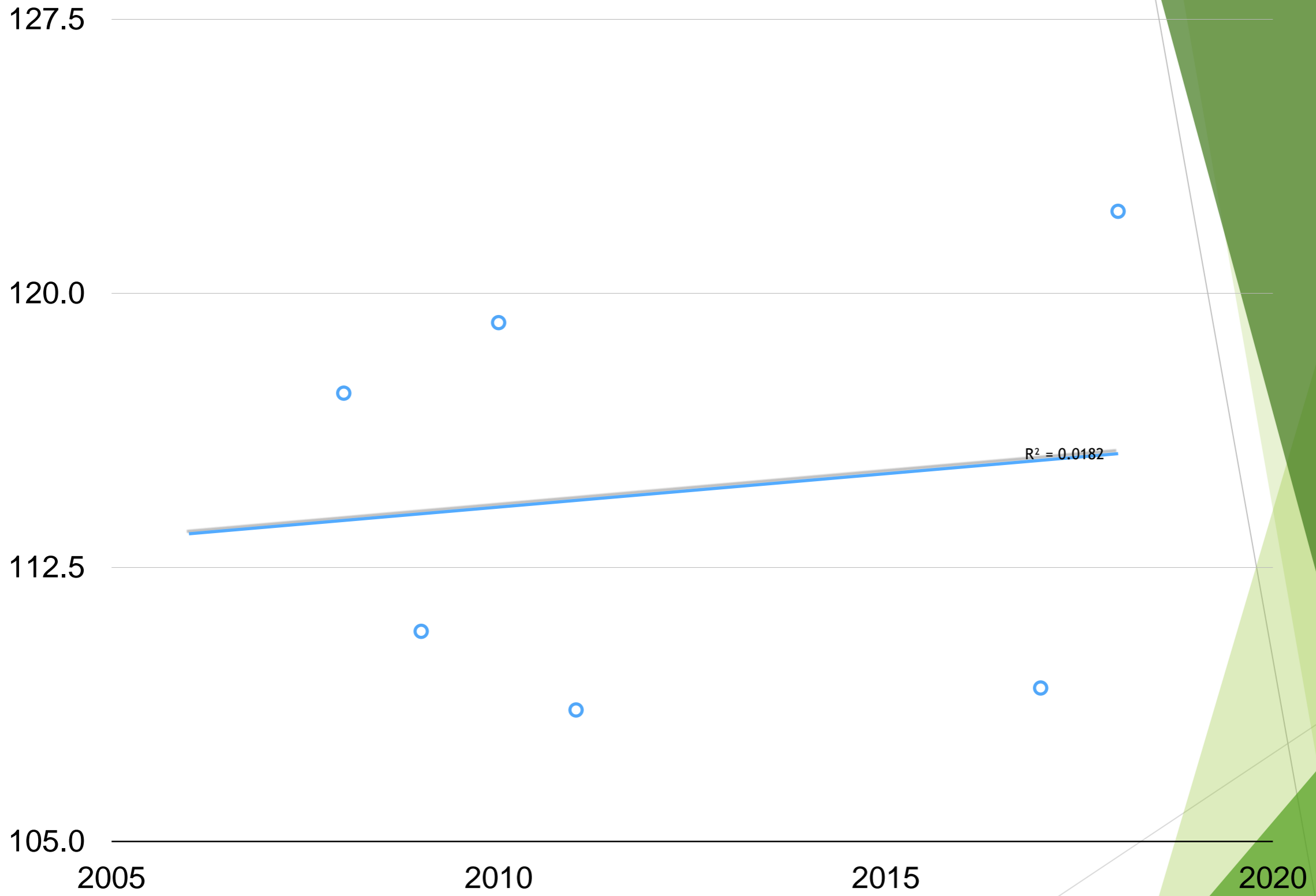


# Frog Spawn - First Appearance in Chichester Area

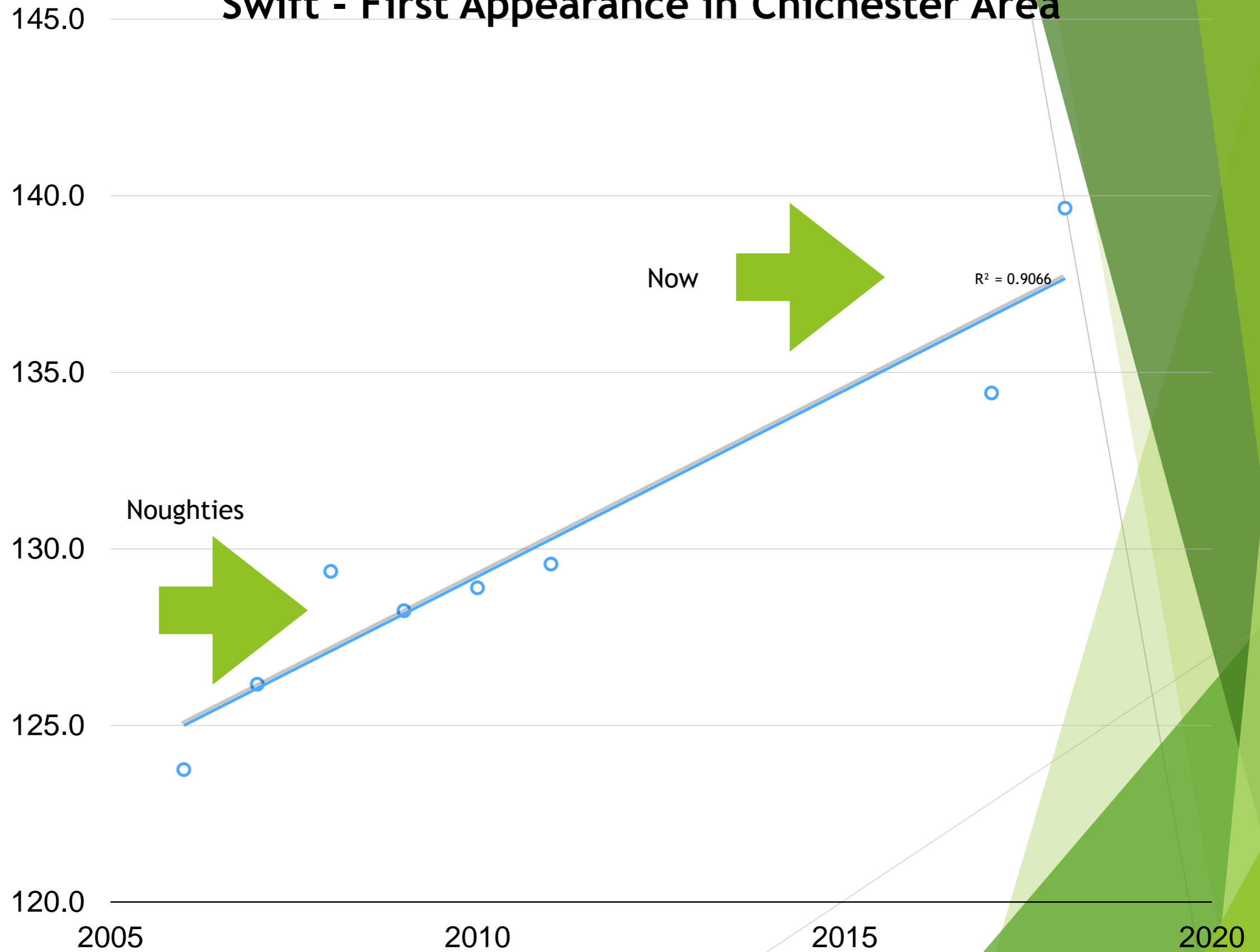




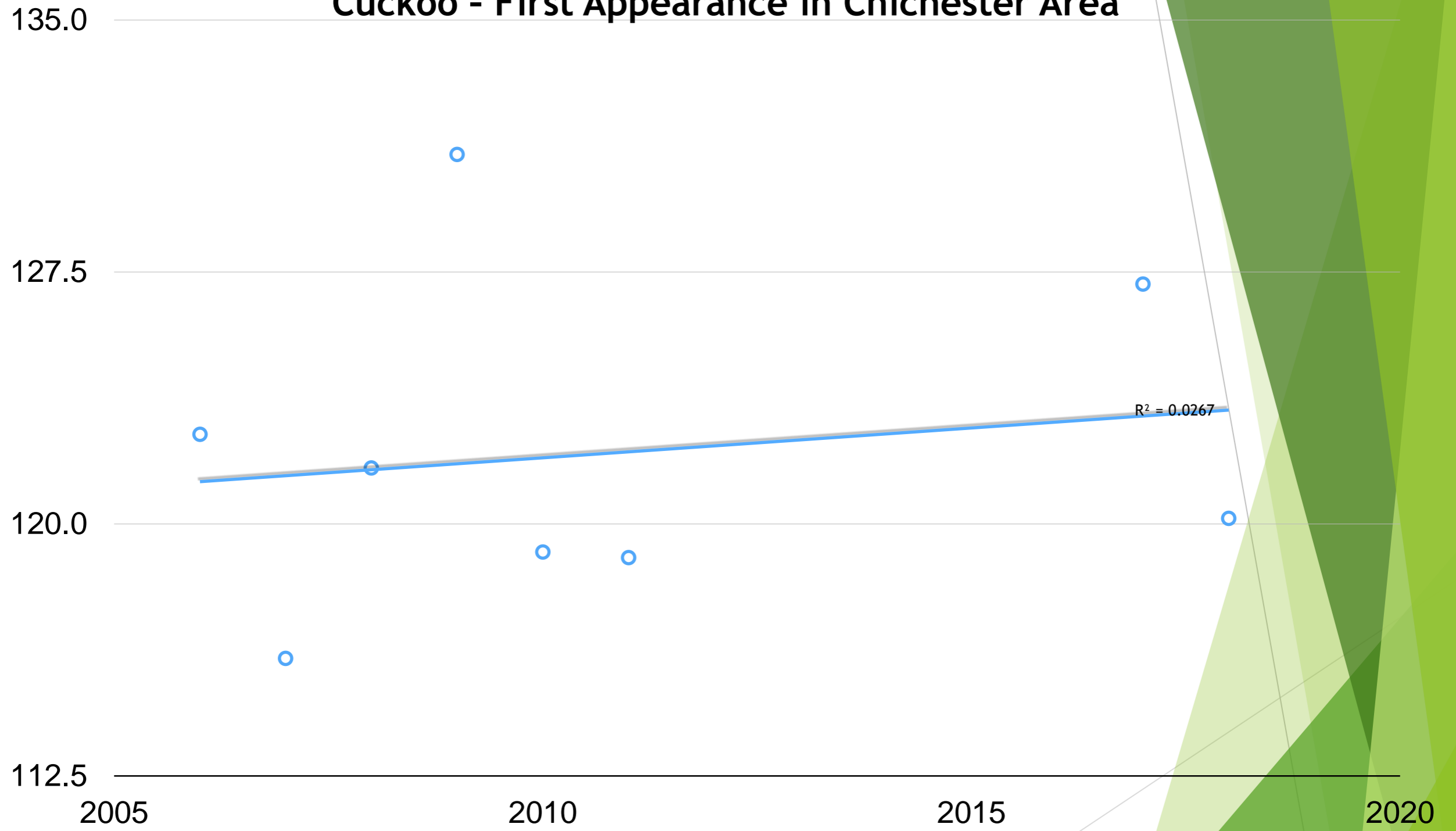
# Horse Chestnut in Flower- First Appearance in Chichester Area



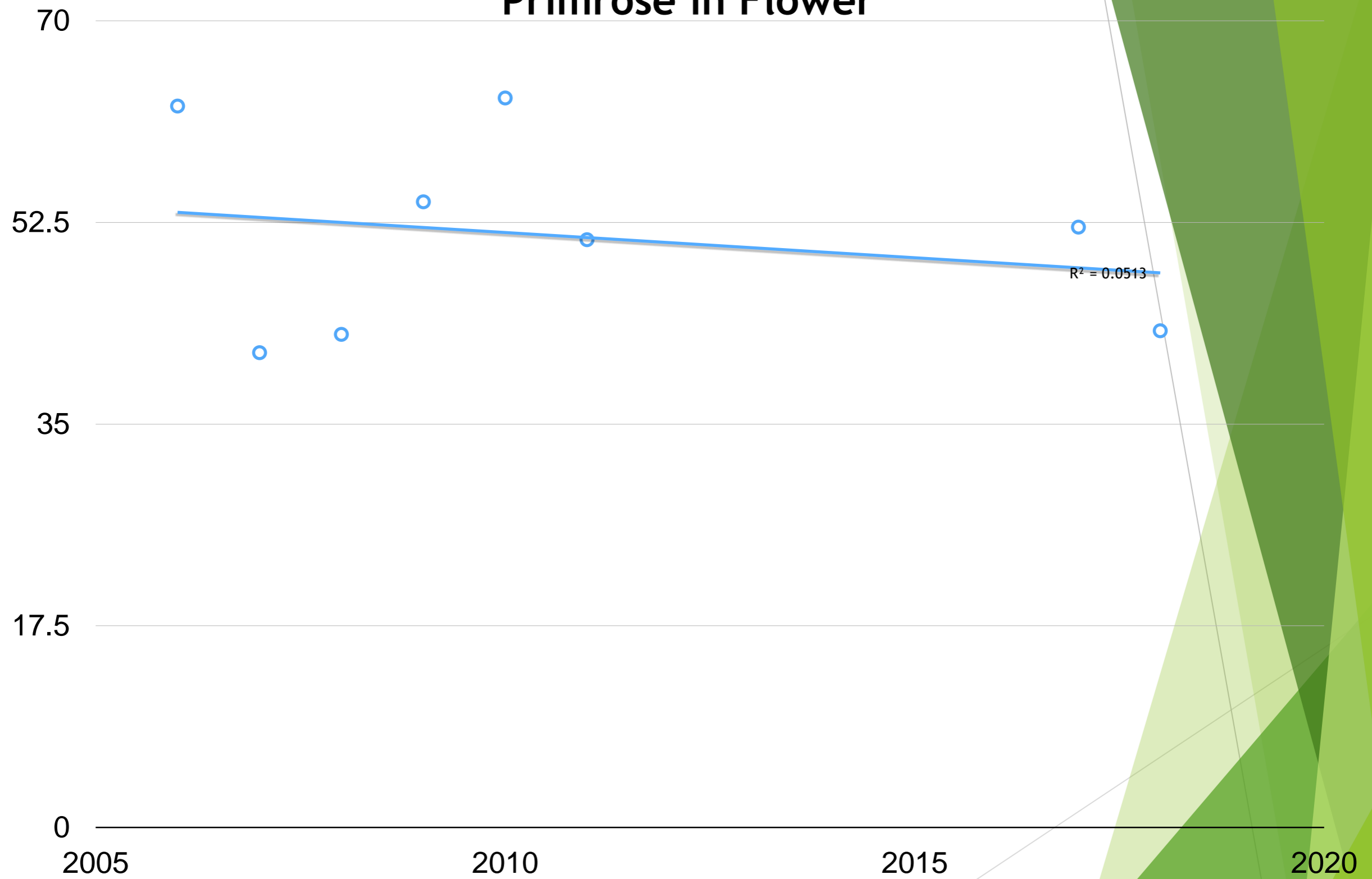
# Swift - First Appearance in Chichester Area



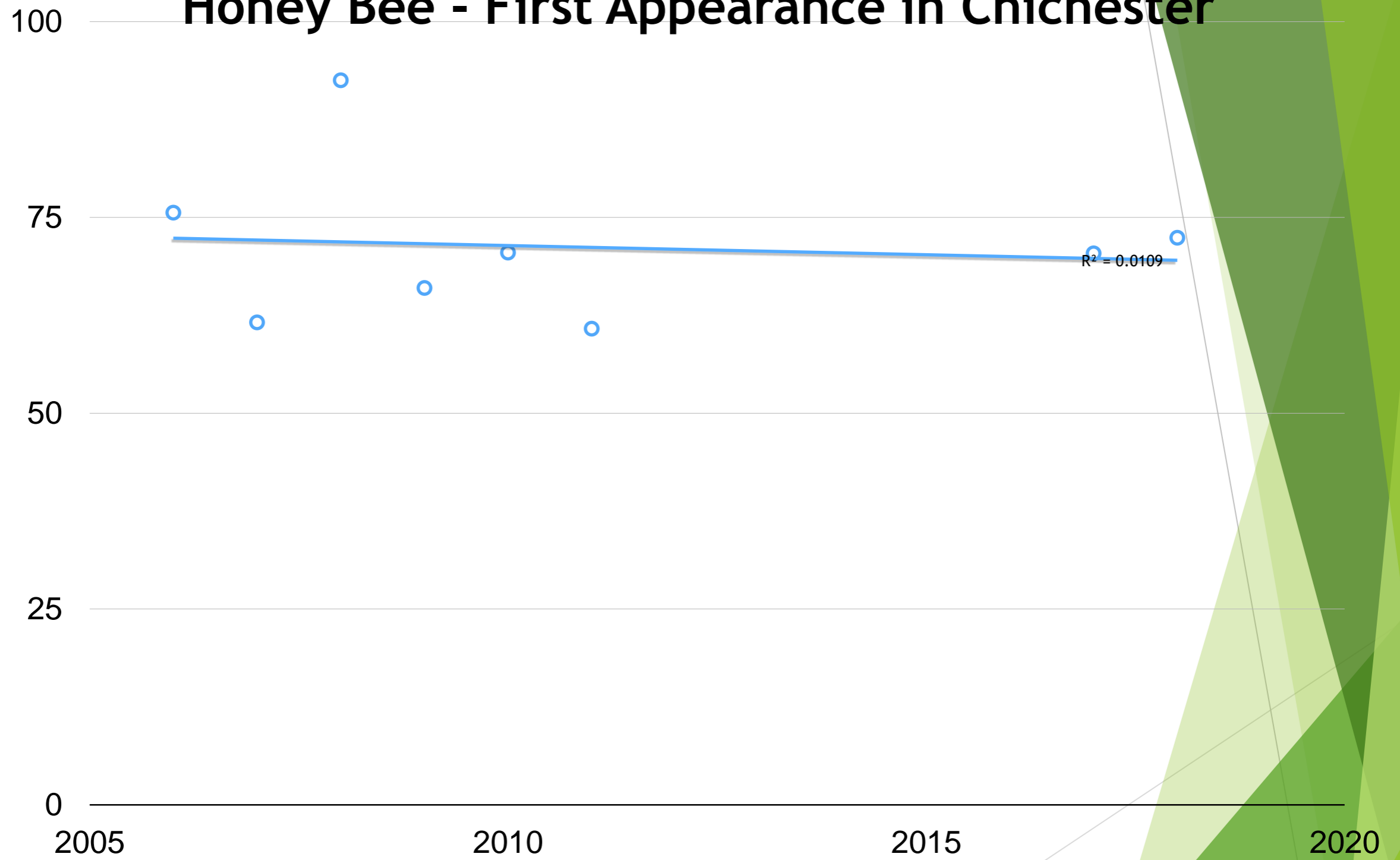
# Cuckoo - First Appearance in Chichester Area



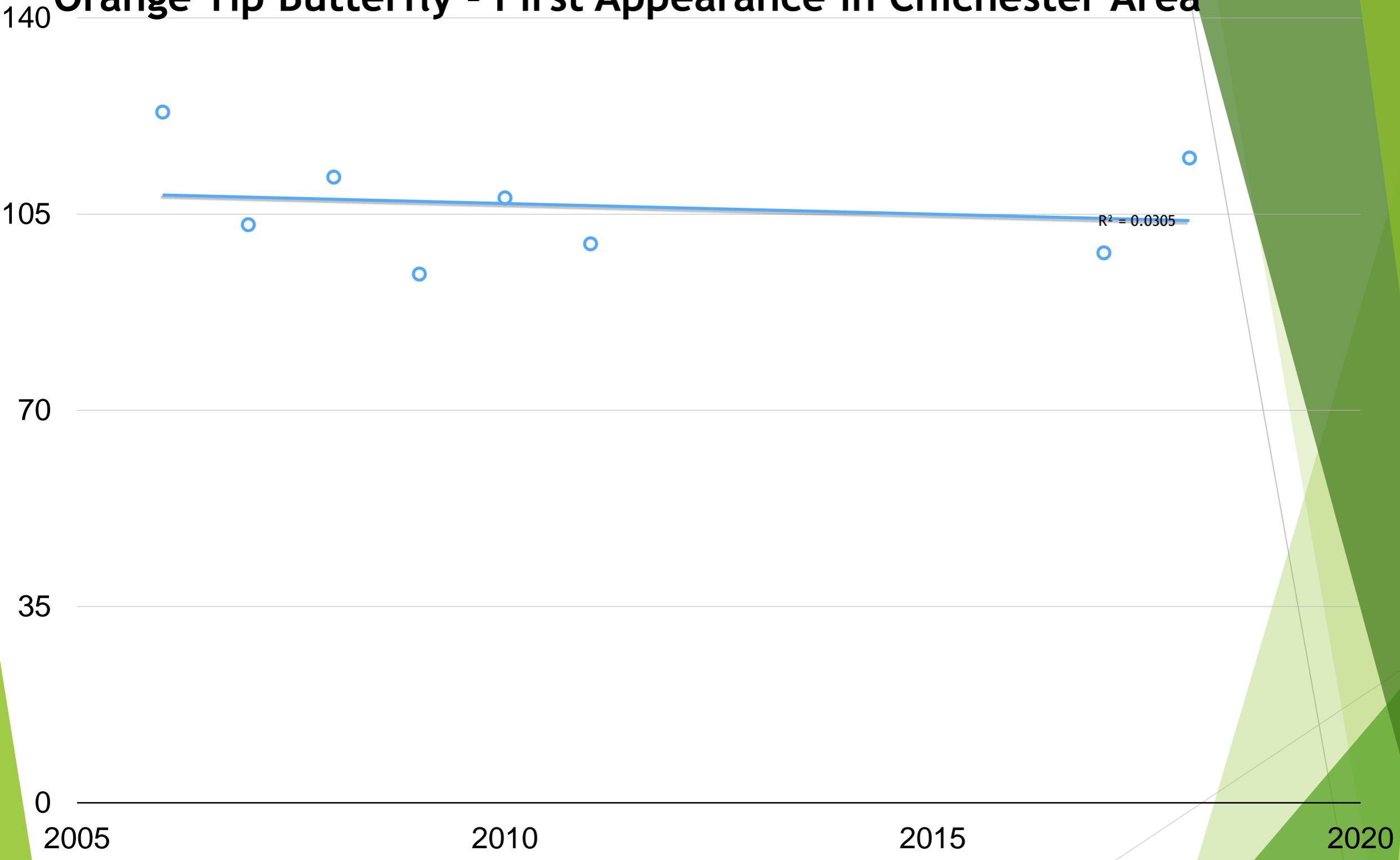
# Primrose in Flower



# Honey Bee - First Appearance in Chichester



# Orange Tip Butterfly - First Appearance in Chichester Area



# Swallow - First Appearance in Chichester Area

120

90

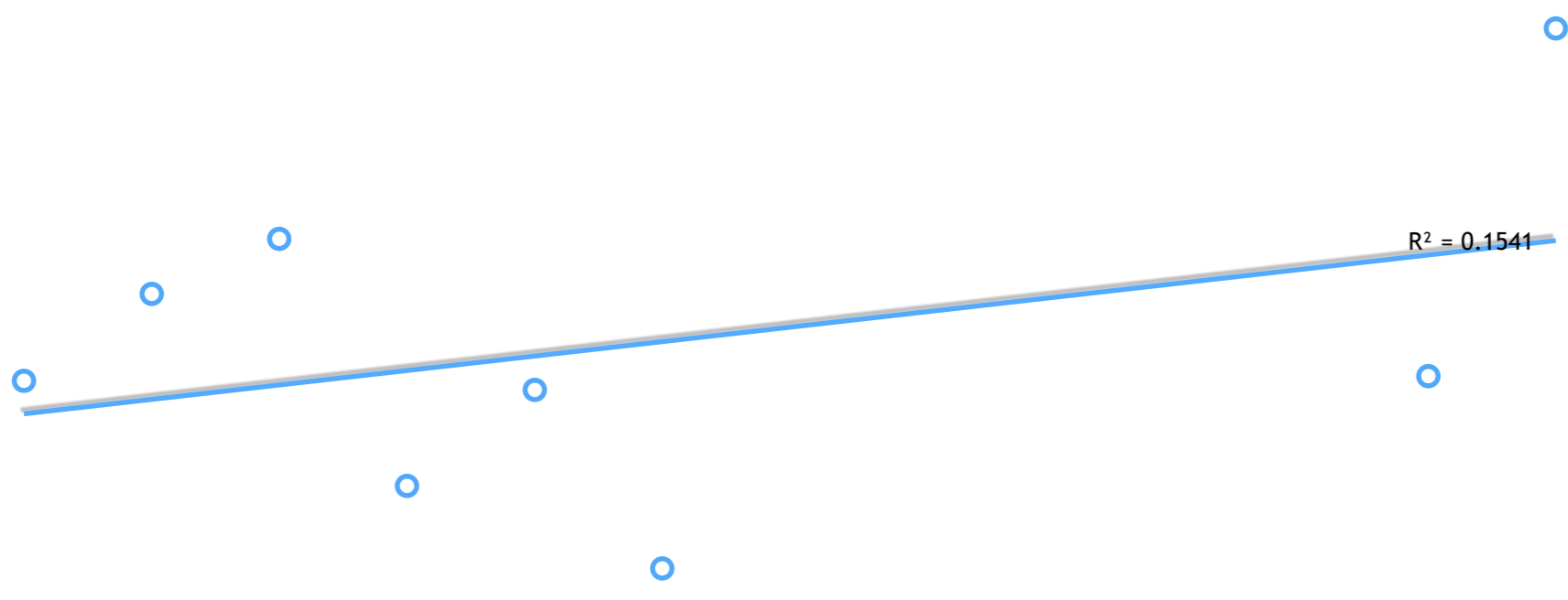
$R^2 = 0.1541$

2005

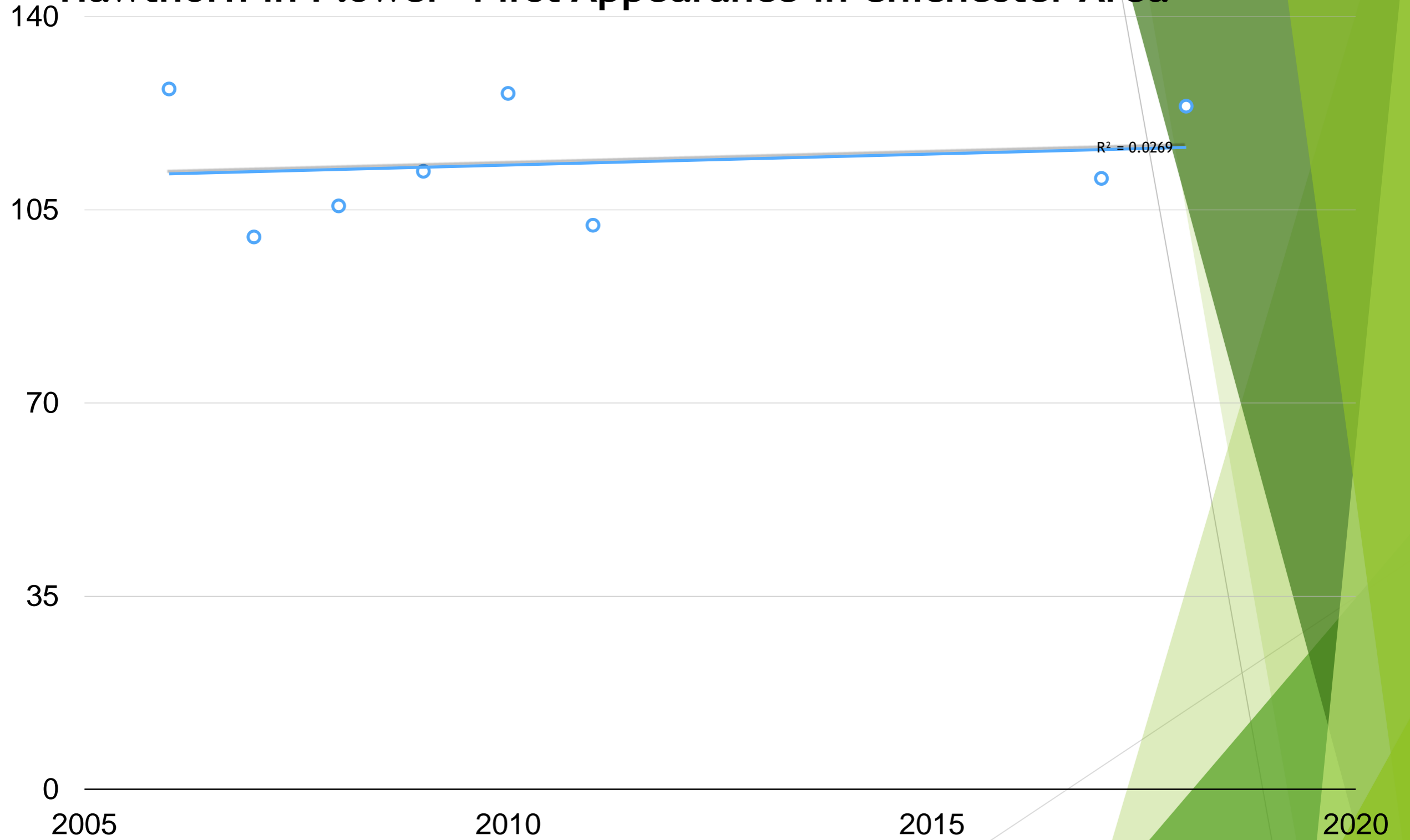
2010

2015

2020



# Hawthorn in Flower- First Appearance in Chichester Area





# Summary of results

- ★ Every species recorded in 2018 was later than last year with just 2 exceptions.
- ★ Flowering primrose & cuckoos appeared earlier in 2018 than in 2017
- ★ Flowering primroses were reported from late December 2017 onwards
- ★ Nearly twice as many records of Cuckoos were obtained in 2018 than in 2017
  - ★ Therefore earlier average appearance is possibly due to greater number of records
  - ★ Otherwise would need to understand conditions in Cuckoo over-wintering areas of West / Central Africa to try and explain earlier return.
- ★ So why were the other species later ?



EAST

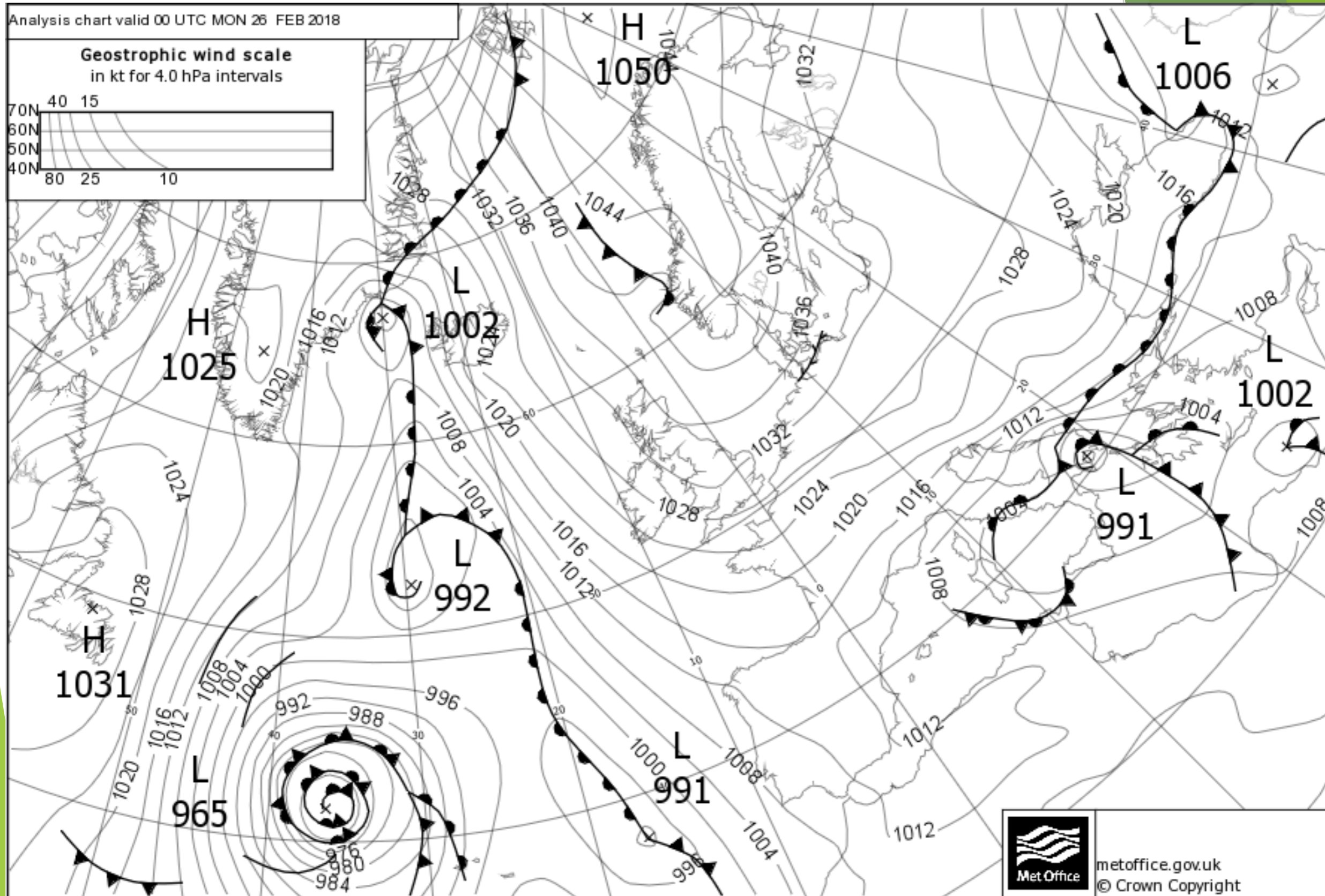
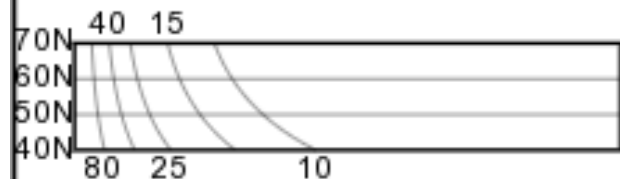
## Quotes from Met Office .....

**‘The UK experienced a spell of severe winter weather with very low temperatures and significant snowfalls from late February to early March 2018. Daytime temperatures remained widely below freezing on 28 February to 1 March with a strong east wind and significant accumulations of snow across much of the country. This was the most significant spell of snow and low temperatures for the UK overall since December 2010.’**

**‘From 17 to 19 March the UK experienced a further spell of snow and low temperatures. This was not as severe as the earlier spell but nevertheless still represented unusually cold and snowy conditions for the time of year.’**

Analysis chart valid 00 UTC MON 26 FEB 2018

Geostrophic wind scale  
in kt for 4.0 hPa intervals



metoffice.gov.uk  
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# Mean Temperature data for Southern England compared to period 1961-1990

(Source Met Office, Regional Data averages compared to 1961-1990)

[www.metoffice.gov.uk/climate/uk/summaries](http://www.metoffice.gov.uk/climate/uk/summaries)

- ▶ 2006 - Feb = (0.0); Mar < (-0.5); Apr > (1.0) Avg = 0.2
- ▶ 2007 - Feb > (2.5) ; Mar > (1.7) ; Apr > (3.7) Avg = 2.6
- ▶ 2008 - Feb > (1.8) ; Mar > (0.7) ; Apr > (0.4) Avg = 1.0
- ▶ 2009 - Feb > (0.5) ; Mar > (1.4) ; Apr > (2.2) Avg = 1.4
- ▶ 2010 - Feb < (-0.5); Mar > (0.5) ; Apr > (1.2) Avg = 0.4
- ▶ 2011 - Feb > (2.6) ; Mar > (1.2) ; Apr > (4.3) Avg = 2.7
- ▶ 2017 - Feb > (2.5) ; Mar > (3.2) ; Apr > (1.4) Avg = 2.4
- ▶ 2018 - Feb < (-0.8) ; Mar < (-0.5) ; Apr > (2.3) Avg = 0.3

# What next ?

- ▶ Will continue with this approach as its the continuity of recording that gives real value.
- ▶ The more years we can record values for the greater the value of the results.
- ▶ Many thanks to everyone who submitted a form this year
- ▶ Since species are analysed separately a form with just one recording on is valuable
- ▶ Please help us in 2019 by keeping a record ...
- ▶ Still have to analyse the Butterfly records - anyone interested in taking on this task please contact me.